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Organizational factors associated with quality perinatal care

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Organizational Factors Associated with Quality Perinatal Care

Lisa H. Akers

A dissertation submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

In

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Dedication

This dissertation is dedicated to those who have supported me through my PhD program. I could not have completed this chapter of my life without the encouragement of my family and friends and the motivation of the perinatal healthcare professionals that work tirelessly to ensure that all mothers and babies are offered the best quality of care.

To Jeremy, thank you for believing in me, encouraging me, and inspiring me. You have provided a solid foundation of love for our family. Thank you for carrying the weight of parenting so that I could succeed in my dream.

To Asher, I know that it has not always been easy to not have mommy around as much as you'd like, but thank you for being patient with mommy as she completed something that she set out to do when you were still a thought in her mind. Mommy loves you!

To my mother, thank you for always telling me that I can do anything that I set my mind to. Thank you for instilling confidence in my leadership abilities even as a young "strong-willed" child. Thank you for always lifting me in prayer.

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Abstract

Provisions for perinatal care are an integral part of quality healthcare and are increasingly moving to the forefront of quality care measures in the healthcare setting (Agency for Healthcare Research and Quality, 2012; National Quality Forum, 2012; & The Joint Commission, 2010). Previous literature specifically focused attention to general quality of care, but recently there has been a call for a more comprehensive approach to measuring quality in the perinatal care setting, which necessitates the need for a better understanding of what is currently being offered (Collins & Draycott, 2015). Until now the literature has remained limited on the association between certain organizational factors and perinatal quality (Barragato, 2002; Colombo, 2006; Weisbrod & Schlesinger, 1986; Roomkin & Weisbrod, 1999). In this study multiple regression analysis was used to examine how organizational factors such as ownership type, healthcare provider type, organizational setting, hospital policy, and continuing lactation education influence perinatal quality of care. The full model, which included all five organizational factors, was found to be statistically significant. Additionally, having an infant feeding policy in place within the hospital setting was found to positively affect perinatal quality of care. It is inherent that hospital leaders develop and implement organizational policies that are consistent, not only with industry perinatal standards, but also claimed hospital values for care of the mother/baby dyad (Caldwell, Hayes, Bernal, & Karri, 2008; Chemers, 1997). Congruency in the development and implementation of such policies at all levels of leadership will not only positively affect the quality of perinatal care that is offered, but also create a sustainable competitive advantage that would be difficult to imitate.

Keywords: perinatal, hospital, nonprofit, leadership, quality, policy, lactation education, rural, setting, healthcare, breastfeeding

Chapter 1: Introduction

Organized healthcare developed during the thirteenth to eighteen centuries out of growing concern for the public's health in overpopulated cities (Boonen, Severens, & van der Linden, 2004). . The provision for medical and health-related services has traditionally been provided in large part by private nonprofit hospitals, which have played a significant role in America's healthcare and social welfare. Today approximately 51% of all U.S. registered hospitals are designated nonprofit while 18.6% are investor-owned, for-profit entities and the remainder are government-owned entities (American Hospital Association, 2017). Additionally, 38% of today's U.S. registered community hospitals operate in a rural setting while the majority operate in an urban setting (American Hospital Association, 2017).

Legal requirements necessitate that hospitals, like all other organizations, maintain a board of directors that act as the governing body and leadership of the overall organization (Epstein & McFarlan, 2011; Powell & Steinburg, 2006). There are often differences in the size and make-up of these governing bodies depending on ownership type, but overall they are responsible for quality and safety of care at their facility (Schyve, 2009). As the leadership of the hospital, the board of directors set the tone for organizational priorities and are considered the most influential in the quality of care offered within their organization (Epstein & Jha, 2010).

The focus on quality of care began in 1917 with the American College of Surgeons' (ACS) development of Hospital Standardization Program (HSP), which focused on continuous learning through peer case review (Merry & Crago, 2001). Donabedian maintained the emphasis on continuous learning with the development of the

structure-process-outcome quality model while Weisbrod attempted to simplify the measurement of quality by defining two varying aspects of quality (Donabedian & Attwood, 1963; Donabedian, 1966; Weisbrod, 1988). Public pressure forced the medical community (e.g. clinicians) to follow suit with the focus of the quality of care that is provided to patients with the development the Maintenance of Certification (MOC) program (Iglehart & Baron, 2012).

Provisions for perinatal care are an integral part of quality healthcare and are increasingly moving to the forefront of quality measures in the healthcare setting (Agency for Healthcare Research and Quality, 2012; National Quality Forum, 2012; & The Joint Commission, 2010). Perinatal care is defined by the World Health Organization (WHO) as the period of time surrounding childbirth (World Health Organization, 2016). By focusing attention on perinatal quality of care hospital leaders inherently reflect the organizational value in supporting the mother/baby dyad. Given the “social medical complexity of (today’s) pregnant population” (p. 25) it is imperative that the quality of services offered be better understood (Smith, Dixon, & Page, 2009). The Baby-Friendly Hospital Initiative (BFHI) is one measure that has been empirically evaluated based on perinatal outcomes. The BFHI is considered a perinatal quality assessment and improvement system whereby hospitals earn accreditation by proof of adherence to The Ten Steps to Successful Breastfeeding (The Ten Steps) (World Health Organization/UNICEF, 2009; Perez-Escamilla, Martinez, & Segura-Perez, 2016). To begin understand quality perinatal services, scholars must first recognize the colorful history of the American hospital and the specific focus on the quality of services offered within the hospital environment.

History of American Hospital Ownership

The nonprofit sector has historically played a significant role in America's healthcare and social welfare, however that wasn't always the case. Prior to the thirteenth century the ill were cared for by their families, or in the case where there was no family, the church provided charity care (Boonen, Severens, & van der Linden, 2004). It wasn't until the thirteenth to eighteen centuries that municipalities organized parish-provided health care out of growing concern for public health in overpopulated cities (Boonen, Severens, & van der Linden, 2004). In the early nineteenth century charity health care became secularized and in the later portions of the century began to be provided by hospitals (Boonen, Severens, & van der Linden, 2004). During this time the care of the ill and the use of medicine was increasingly being driven by science and hospitals grappled with changing their image from a "house of death" (p. 35) to a "work place for the production of health" (p.35) (Arndt & Boonen, 2007). The number of hospitals in the U.S. grew exponentially from "149 in 1873 to 6,665 in 1913" (p. 35) with the majority existing in urban settings (Arndt & Boonen, 2007).

Since the later portion of the 19th century provision for medical and health-related services has traditionally been provided in large part by private nonprofit hospitals, which were historically operated as a joint venture between private "lay or religious boards and their government-owned counterparts as public trusts by county or municipal government" (Josephson, 1997, p. 65). The nonprofit healthcare organization is one of the oldest and most profitable arms of the nonprofit sector, today representing almost 60% of all nonprofit revenue (Salamon, 2012). Nonprofit hospitals were initially solely supported by donors and were known for providing charity, unreimbursed care. For-

profit healthcare organizations gained ground in 1890 and were “operated by physician partnerships or outside corporations” (Josephson, 1997, p. 65). For-profit hospitals at the time were very small and failed to evolve to meet the general medical needs of the population (Josephson, 1997). It wasn’t until Medicaid and Medicare expansion that the for-profit ownership status was able to flourish (Josephson, 1997).

Today approximately 38% of U.S. registered community hospitals operate in a rural setting while the remainder (62%) operate in an urban setting (American Hospital Association, 2017). Additionally, 51% of all U.S. registered hospitals today are designated nonprofit while 18.6% are investor-owned, for-profit entities and the remainder are government-owned entities (American Hospital Association, 2017).

Scholars ascertain that there are economic reasons for the cohabitation of for-profit and nonprofit hospitals in today’s market (Needleman, 2001; DiMaggio & Powell, 1983).

For example at any given time the market will favor one ownership type over the other, which necessitates the existence of both for-profit and nonprofit types (Needleman, 2001). This timing creates asymmetric advantages for both types, which “adapt each form to different market niches” (Needleman, 2001, p. 1117). Additionally,

isomorphism, which posits that organizations will emulate the behaviors of other successful organizations, creates the opportunity for newly emerging organizations to mimic those that reflect legitimacy claims, providing competition within the same niche (Needleman, 2001; DiMaggio & Powell, 1983; Powell & Steinberg, 2006).

Nonprofit Hospital Designation

The Internal Revenue Service (IRS) Code 501(c) encompasses most nonprofit healthcare organizations. According to data gathered from the American Hospital

Association on the 2015 Annual Survey, there are 2,845 nongovernmental “not-for-profit hospitals” in the United States, which have been granted 501(c) status in the United States (American Hospital Association, 2017). Section 501(c) was developed as part of the 1954 IRS Code that granted tax exempt privileges for non-proprietary organizations (Powell & Steinburg, 2006). The IRS published Revenue Ruling 69-545 in 1969 that abandoned charity care and integrated the definition of *community benefit* to reflect *promotion of health* to the general benefit of the community. The definition now emphasizes serving the community at large (i.e., community benefit standard), providing a variety of health promotion and disease prevention activities not related to providing free or reduced services for the needy (Salamon, 2012). In 2008 the IRS revised Form 990 for tax-exempt organizations to include a special section (i.e., Schedule H) for hospitals to report their expenditures on community benefit and community building activities. Schedule H includes a standardized set of categories and reporting rules. It also requires nonprofit hospitals to assess community needs and develop plans to address them and/or report on the amount of charity care provided. In addition, the Affordable Care Act requires tax-exempt hospitals to conduct community health needs assessment every three years and develop an implementation strategy to address the findings (Salamon, 2012). Currently, there are no threshold requirements for any kind of charitable activity.

The non-distribution constraint restricts nonprofit hospitals from issuing shares of their stock or returning excess cash to shareholders, including boards of directors. In other words, those associated with the healthcare organization have no claim to financial surplus; however, this does not mean that the organization is not able to make a profit

(Schlesinger, Gray, & Bradley 1996). The difference resides in the fact that unlike for-profit hospitals, nonprofit hospitals put earned profit back into supporting the organization through their employees and facility maintenance (Colombo, 2006). The non-distribution constraint, coupled with the composition of nonprofit hospitals' boards of directors reflect the fact that they are thought to be stewards of the community, displaying ethical leadership rather than acting in their own self-interest (Brown & Mitchell, 2010; Trevino, Brown & Hartman, 2003; Weaver, Trevino & Agle, 2005; Caldwell, Hayes, Bernal, & Karri, 2008; Davis, Schoorman, & Donaldson, 1997).

Governance as Overall Leadership of the Hospital

The boards of directors set the overall tone and direction for the organization while the hospital administrators and unit directors are charged with carrying out the hospital's daily affairs (Arndt & Boonen, 2007). Legal requirements necessitate that hospitals, like all other organizations, maintain a board of directors that act as the governing body and leadership of the overall organization (Epstein & McFarlan, 2011; Powell & Steinburg, 2006). There are often differences in the size and make-up of these governing bodies depending on ownership type, but in most cases for-profit boards of directors are paid in cash and stock and the Chair of the board of directors is often the Chief Executive Officer (CEO) of the organization (Barney, 2011). Nonprofit boards of directors are volunteer positions and although the CEO does usually hold a position on the board of directors, he or she does not typically act as the Chair (Barney, 2011). Additionally, many for-profit hospitals have more than one board of directors including, but not limited to national, regional, and local boards of directors while their nonprofit counterparts only have one board of directors (Epstein & Jha, 2010).

The boards of for-profit hospitals are often smaller than that of their nonprofit counterparts (Epstein & McFarlan, 2011). The larger size of hospital nonprofit boards of directors is attributable to the fact that they attempt to ensure that they incorporate community representation, which act as the hospital's "eyes and ears in the community" (Epstein & McFarlan, 2011, p. 33). Although there appears to be no difference in their prospective mission statements, nonprofit hospitals are thought to be more connected with the community due to the fact that they have community representation on their boards of directors (Bolon, 2005; Colombo, 2006). This structure also leads to the argument that nonprofit hospitals will act in the best interest of the community by providing better quality of care of their patrons (Bolon, 2005; Colombo, 2006).

The governance structure represents the leadership of the hospital whereby administrators and medical staff are directly accountable to the boards of directors for the care that is provided. The board of directors has the "overall responsibility for the quality and safety of care, and has an oversight role in integrating the responsibilities and work of its medical staff, chief executive, and other senior managers into a system that that achieves the goals of safe, high-quality care, financial sustainability, community service, and ethical behavior" (Schyve, 2009, p. 2).

In most cases the hospital board of directors are considered the most influential in the quality of care offered at their organization (Epstein & Jha, 2010). Epstein and Jha (2010) examined this further and reflected that three quarters of hospital boards of directors were trained in quality of care and more than half of all hospitals surveyed consider quality of care as part of their leadership responsibilities.

Hospital Quality

Despite remarkable advances in medical technology in the U.S. healthcare system the Institute of Medicine (IOM) reported that this same healthcare system is responsible for 44,000 to 98,000 deaths annually (Kohn, Corrigan, & Donaldson, 2000; Institutes of Medicine, 2005). This significant call to action for the medical community is not new. In 1917 the American College of Surgeons (ACS) attempted to address variations in medical education and medical quality that ultimately effected mortality rates with the development of the Hospital Standardization Program (HSP). The HSP was developed as a “set of uniform, high standards to apply to physicians practicing at hospitals seeking the distinction of achieving the standards” where the unit of “assessment was peer case review” (Merry & Crago, 2001, p. 31). By allowing physicians to discover mistakes that could have been preventable, the HSP created a valuable learning experience for physicians. In 1951 the HSP was transferred by ACS to The Joint Commission (previously known at the Joint Commission on Accreditation of Hospitals), which today functions as the accrediting organization for the majority of hospitals in the U.S. (Merry & Crago, 2001).

Avedis Donabedian maintained the emphasis on continuous learning that ACS set in place with the development of the structure-process-outcome quality model in 1963 (Donabedian & Attwood, 1963; Donabedian, 1966). Donabedian’s model defines *structure* as “the settings, qualifications of providers, and administrative systems through which care takes place” (p. 206), which are today reflected in physician board certification and hospital accreditation. His model also defined *process* as “the components of care delivered” and *outcome* as “recovery, restoration of function, and

survival” (p. 206), which are today reflected as quality measures endorsed by the National Quality Forum (Ayanian, & Markel, 2016).

During the years 1987-1995 hospitals began to combine management science, which is the use of statistical methods to problem solve within organizations, with continuous learning (Merry & Crago, 2001). This allowed for the simultaneous improvement of quality while controlling for costs. The continuous quality improvement movement is one of the only ways that hospital leaders are able to address economic issues while maintaining a focus on the quality of services provided (Merry & Crago, 2001). Today, the healthcare system is and likely will remain market-driven. Therefore, it is essential to provide the quality of care and value to the consumers as they define it (Merry & Crago, 2001; National Academy of Sciences, 2000).

Quality Measures. Donabedian’s (1966) work was most influential in creating the theory and practice of hospital quality (Ayanian, & Markel, 2016). Quality, however, is not something that is easily measured in the healthcare setting. For this reason, Weisbrod (1988) attempted to simplify this by defining two varying aspects of quality: Type I and Type II. Type I quality is that which is easy and less costly to monitor and assess. An example of this is the electrical usage in a healthcare facility. Conversely, Type II quality is that which is more difficult and costly to monitor, such as clinical practices by hospital personnel. Nonprofit hospitals pursue both types of quality measures, but have been shown to seek Type I and Type II measures that offer prestige and other social benefits in the eyes of their peers such as becoming a national leader in the development of a new technique to identify and correct problems within the hospital setting (Schlesinger, Gray, & Bradley, 1996). These quality measures allow the ability to compare a given set of

Type I and Type II measures across healthcare settings. The Joint Commission, makes an implicit distinction between Type I and Type II quality measures in their accreditation process (Viswanathan & Salmon, 2000; Weisbrod, 1991). Empirical research indicates that Type I and Type II quality measures are more broadly addressed in nonprofit healthcare organizations overall (Weisbrod & Schlesinger, 1986; Roomkin & Weisbrod, 1999; Barragato, 2002).

Focus on Quality by the Medical Community. Public pressure forced the medical community (e.g. clinicians) to take action in improving the quality of care that was provided to patients (Iglehart & Baron, 2012). The American Board of Medical Specialties (ABMS) initiated the Maintenance of Certification (MOC) program in 2000 to acknowledge the need for quality improvement in the medical field (Iglehart & Baron, 2012). The program requires that evidence of quality improvement be documented for physicians to maintain board certification in their specialty. The MOC process contains four parts, each of which are reflected in the Donabedian model (1966) and the Weisbrod definitions (1988). Part one is proof of licensure and certification of the healthcare professional, which reflects *structure* in the Donabedian model (1966) and Type I quality according to Weisbrod (1988). Part two is lifelong learning and self-assessment and Part three is cognitive expertise. Both represent *processes* in the Donabedian model (1966) and Type II quality according to Weisbrod (1988). Part four of the MOC program examines the quality of care that is provided by the healthcare professional and compares scores with that of peers and national benchmarks reflecting both *processes* and *outcomes* in the Donabedian model (1966) and Type II quality according to Weisbrod (1988) (Iglehart & Baron, 2012). Part four has been recently examined in an international

setting and found to be the most effective in changing the quality of care that is offered in the perinatal setting (Lumala, Sekweyama, Abaasa, Lwanga, & Byaruhanga, 2017).

Although the MOC process is required for physicians to maintain board specialty, it can be completed by any healthcare professional providing direct care to patients. A relatively large number of MOC initiatives of varying topics, including but not limited to perinatal care are available through private institutions and national organizations (American Academy of Pediatrics, 2017; American Board of Family Medicine, 2017).

Perinatal Quality. Provisions for perinatal care are an integral part of quality healthcare and are increasingly moving to the forefront of quality measures in the healthcare setting (Agency for Healthcare Research and Quality, 2012; National Quality Forum, 2012; & The Joint Commission, 2010). In fact, improving the quality of perinatal services is now high on the UK governmental health agenda (Davies, Fletcher, & Reeves, 2016). Perinatal care is defined by the World Health Organization (WHO) as the period of time surrounding childbirth (World Health Organization, 2016). Improving hospital perinatal care practices is a recognized area of need around the world to decrease maternal and infant morbidity and mortality (World Health Organization, 2016). In 2008 the National Quality Forum, an independent, nonprofit organization dedicated to setting national standards for healthcare quality improvement, endorsed standards related to the care of mothers and babies (National Quality Forum, 2012). Two years later in 2010, The Joint Commission, an independent nonprofit organization, which is also the largest accrediting organization for healthcare organizations in the United States, implemented a new set of Perinatal Care Core Measures (The Joint Commission, 2010). In 2012, the Agency for Healthcare Research and Quality (AHRQ) developed a set of indicators that

supported several areas of maternity care (Agency on Healthcare Research and Quality, 2012). Quality of care in the perinatal setting is also being examined outside of the United States through the National Maternity Survey, launched in 1998 in England and through AHRQ indicators that have been piloted in the UK, Canada, Spain, and Australia (Raleigh, Cooper, Bremner, and Scobie, 2008). Each of these sets of standards included indicators for breastfeeding.

Recently, there has been a call for a more comprehensive approach to measuring quality in the perinatal care setting (Collins & Draycott, 2015). According to Collins and Draycott (2015), this comprehensive approach should incorporate process and system measures, clinical indicators, and patient-reported outcomes similar to that of the Donabedian model (1966). Perinatal process measures would include such indicators as rates of cesarean sections and rates of exclusive breastfeeding. System measures in the perinatal setting would include the size of the labor and delivery unit and the number of attending physicians. Perinatal clinical indicators would include adverse outcomes such as maternity or infant mortality. Patient-reported outcomes in the perinatal setting would include satisfaction with the quality of services and duration of breastfeeding beyond that of the hospital stay (Collins & Draycott, 2015).

The Baby-Friendly Hospital Initiative. In 1991 the World Health Organization (WHO) and UNICEF launched The Baby-Friendly Hospital Initiative (BFHI) to ensure that hospital policies, procedures, and routines were supportive of normative infant feeding (World Health Organization/UNICEF, 2009). The Baby-Friendly Hospital Initiative is a designation for hospitals to prove adherence to The Ten Steps to Successful Breastfeeding (The Ten Steps) and the International Code of the Marketing of Breast-

Milk Substitutes, and integrates facility and community perinatal services (World Health Organization/UNICEF, 2009; Perez-Escamilla, Martinez, & Segura-Perez, 2016). The BFHI has been implemented in over 152 countries and over 400 U.S. hospitals in 49 states and the District of Columbia (Baby-Friendly USA, 2017). The BFHI is considered a quality assessment and improvement system whereby hospitals earn accreditation by proof of adherence to the guidelines including The Ten Steps. According to Collins and Draycott (2015) the BFHI includes process and system measures, clinical indicators, and patient-reported outcomes.

Prior to the development of BFHI, infants were routinely separated from their mothers, given infant formula that was not medically warranted, offered pacifiers within the first few hours of life, and mothers were sent home with a gift bag full of infant formula (Salera-Vieira & Zembo, 2016). Each of these practices was detrimental to the early and continued success of breastfeeding. In 2007, The Ten Steps gained momentum in the U.S. when the Centers for Disease Control and Prevention (CDC) began to monitor the status of U.S. hospitals through its Maternity Practices in Infant Nutrition and Care (mPINC) survey (Centers for Disease Control and Prevention, 2015). Additionally, the federal *Healthy People 2020* goals include perinatal practices that are supportive of breastfeeding, including The Ten Steps (Centers for Disease Control and Prevention, 2015). Empirical investigation of The Ten Steps have reflected increases in breastfeeding duration and exclusivity internationally (Salera-Vieira & Zembo, 2016; de Carvalho, Boccolini, de Oliveira, & Leal, 2016; Perez-Escamilla, Martinez, & Segura-Perez, 2016; Bartick, Stuebe, Shealy, Walker, Grummer-Strawn, 2009; Perrine, Scanlon, Li, Odom, Grummer-Strawn, 2012; Martens, 2012; Merten, Dratva, Ackermann-Liebrich,

2005). These empirical investigations of The Ten Steps exhibit *processes* and *outcomes* in the Donabedian model (1966) and Type II quality according to Weisbrod (1988).

Where Do We Go From Here?

Previous literature specifically focused attention to general quality of care. There has been on-going debate over hospital ownership type and organizational setting in relation to the general quality of care that patients receive. Some scholars believe that nonprofit hospitals provide better quality of care than do their for-profit and governmental counterparts, but current data are limited and remain mixed with this regard (Barragato, 2002; Colombo, 2006; Weisbrod & Schlesinger, 1986; Roomkin & Weisbrod, 1999). Additionally, new evidence posits that rural hospitals are in a better position to deliver better quality of care than urban hospitals (Infantino, 2016).

Today, interprofessional medical teams and interprofessional continuing medical education are emphasized in the medical environment to provide more inclusive care to patients (Leathard, 2003; Hammick, Freeth, Koppel, Reeves; & Barr, 2007). Further, organizational policies are said to reflect overall organizational values and as such are posited to be the strongest factor in ensuring that recommended practices are implemented in overall hospital practice (Foote, Seipel, Johnson and Duffy 2005; Dennison, Hawke, Ruberto, and Gregg, 2015). Until now the literature has remained limited on the organizational factors associated with quality perinatal care. To that end, the following research question will be explored in this paper:

- What organizational factors influence quality perinatal care?

Utilizing the collective strength of multiple variables in a quantitative design, I wish to posit a different perspective on the study of hospitals and quality perinatal care –

one that examines the differences in quality perinatal care services based on organizational factors such as hospital ownership type, policy, healthcare provider type, setting, and continuing medical education. This paper which began by reviewing the history and emphasis on quality of care in the U.S. hospitals, will be followed by a review of literature surrounding organizational behaviors based on organizational type and setting, differences in quality of care based healthcare provider type and continuing medical education, and influences of hospital policy on perinatal quality of care. The findings of this study will indicate practical implications for hospital leadership regarding organizational change through governance models, policy development, and healthcare provider education that will subsequently reflect the nature of leadership that hospitals offer in advancing quality perinatal services.

Chapter 2: Literature Review and Hypothesis Development

A thorough literature review is necessary to understand organizational factors as they pertain to quality of care in the hospital setting. Much of the literature on organizational factors is limited on its empirical examination of the relationship with perinatal quality. Therefore, in some cases the literature review was forced to focus on broader measures of quality of care. My intent is to present and synthesize the empirical evidence associated with ownership type, setting, healthcare provider type, continuing medical education, and hospital policy and their relationship with quality of care. These organizational factors will be empirically examined in relation to perinatal quality of care to provide a more comprehensive understanding of the quality of services offered to women during their reproductive years.

Behavioral Differences and Ownership Type

Rich historical literature is focused on the differences between hospital ownership-type and various organizational behaviors (Barragato, 2002; Colombo, 2006; Weisbrod & Schlesinger, 1986; Roomkin & Weisbrod, 1999). Many of the results were mixed regarding costs (Singh & Wheeler, 2012; Sloan, Picone, Taylor, & Chou, 2001), fiscal and operational efficiencies (Wood, Bhuian, & Kiecker, 2000), managerial compensation (Roomkin & Weisbrod, 1999), profitability (Horwitz, 2005), and market orientation (Wood, Bhuian, & Kiecker, 2000); however two themes, quality and trust, emerged that did show promise in articulating the differences more clearly (Rose-Ackerman, 1997; Barragato, 2002; Colombo, 2006; Weisbrod & Schlesinger, 1986;). Quality and trust have been examined separately and together in reference to the healthcare sector. Their overlap is where nonprofit healthcare organizations lie.

Financial behaviors. Trust has been emphasized as antecedent to quality (Colombo, 2006). Colombo (2006) claims that differences in nonprofit healthcare organizations are reflected in the provision for intangible benefits to the community that are difficult to measure, such as trust and community orientation. Trust in nonprofit healthcare organizations stems from the non-distribution constraint, which explains that nonprofit healthcare organizations are restricted from issuing shares of their stock or returning excess cash to shareholders. Also, due to the community benefit standard of the IRS Code, nonprofit healthcare organizations are seen to be responsive to community needs (Colombo, 2006). Although Colombo does not empirically study the differences in ownership type himself, the strength of this article is that it offers a structured argument around hospital ownership type, calling into account both quality and price differences.

Price was examined in relation to quality by as expansion of Colombo's (2006) argument (Sloan, Picone, Taylor, & Chou, 2001). In their study, Sloan, Picone, Taylor, and Chou (2001) used Medicare payments as a proxy for cost while survival rates were used as a proxy for quality of care. While for-profit hospitals charged more for services during the six month period referenced, the authors found no differences in quality of care based on ownership type (Sloan, Picone, Taylor, & Chou, 2001). Although they articulate evidence and argue in favor of the lower costs provided by nonprofit hospitals, the differences in quality of care were mixed at best. Price was also examined by Rosenau and Linder (2003) as they investigated performance of individual healthcare providers in the U.S. based on hospital ownership type. In their study performance was defined based on access to healthcare, quality of care provided, pricing, and care for the

uninsured. The findings of their study reveal that healthcare providers in nonprofit settings outperformed their for-profit counterparts across all outcomes. Although a limitation to this study was the relatively small number of empirical studies that were examined in the systematic analysis, it expands the literature on ownership type by examining performance at the individual level.

Profitability is often questioned in the nonprofit hospital setting. Adding to the study of price and ownership type Horwitz (2005) empirically examined the profit making abilities of for-profit, nonprofit, and governmental hospitals. She posits that for-profit hospitals choose a mix of services based on profitability. After using sensitivity testing to examine the profitability of specialty medical services and controlling for setting, she examined the mix of services provided by each facility and the profitability of each. The findings of her study supported her hypothesis that for-profit hospitals were more likely to offer specialty services that allow them to charge more for services and thus provide more revenue to the facility (Horwitz, 2005). Although Horwitz doesn't specifically examine perinatal care as a profitable service, we can extrapolate based on the type of services that she did examine in the diagnosis related groups (DRGs) that perinatal care would be considered a profitable service based on the fact that care is being provided for two entities – mother and baby. One major limitation of her study was that she didn't specifically examine the mix of services offered based on organizational setting. We must also read between the lines to understand that in order to offer a mix of profitable services the facility must first have the revenue to do so, which could become a vicious cycle for small, rural hospitals with little financial means to make such decisions.

Hospital ownership type may have impact on fiscal and operational efficiencies. McCay, Deily and Dorner (2002) found that overall levels of inefficiency rose from 1986-1991, but government and for-profit hospitals' efficiency suffered more than that of nonprofit hospitals (McCay, Deily & Dorner 2002). Nonprofit hospitals also showed more improvement in fiscal efficiency over the time period thus supporting their tax exempt status (McCay, Deily and Dorner, 2002). Wood, Bhuian, and Kiecker (2000) suggest that quality of care is tied to operational efficiencies rather than fiscal efficiencies to enhance market orientation. Essentially, when faced with external pressures from competition, nonprofit hospitals focus specifically on their orientation to enhance their presence in the market (Wood, Bhuian, & Kiecker, 2000). Neither study, however, examined efficiency differences in relation to quality of care, which reflects a gap in the literature with this regard (Wood, Bhuian, & Kiecker, 2000; McCay, Deily and Dorner, 2002).

For-profit healthcare organizations have the ability to issue shares of their stock as well as to return excess cash to shareholders (Singh and Wheeler, 2012). The ability to issue shares, in turn, can increase equity for for-profit healthcare organizations. For-profit healthcare organizations are thought to be well-versed in their ability to maximize profits and diminish costs by engaging in healthcare services that allow them to charge more for services, which often equates to potential sacrifices made at the cost of diminished quality (Singh, & Wheeler, 2012). Due to the restrictions of the nonprofit healthcare organizations' 501(c) status, nonprofit healthcare organizations are unable to raise external equity by issuing shares or profits to those who control the organization. They must build equity on their internal operations, which more often than not includes

increases in quality of care (Singh & Wheeler, 2012). Singh & Wheeler, 2012 specifically emphasis revenue cycle management as an exogenous variable to financial performance in their findings, but they do not examine quality of care explicitly.

Quality. The study of fiscal behaviors and profitability yielded little to no results on the differences in quality, but several additional authors specifically focused on quality in the hospital setting. Executives of nonprofit organizations have the distinct advantage of hiring employees who share “their vision” (p. 126) as well as the organization’s mission, which is posited to lead to superior employees who provide a higher quality of services (Rose-Ackerman, 1997). Roomkin and Weisbrod (1999) examined compensation based on hospital ownership type and found that nonprofit hospitals emphasized collective goods as incentives for altruistic behavior, which reflects that their focus may be less on financial means and more on quality. Empirical investigation reflects strong evidence for higher quality in nonprofit nursing homes and childcare centers, but results were mixed for hospitals (Rose-Ackerman, 1997).

Quality improvement initiatives, although not reflective of overall quality, have also been examined based on ownership type. Miller, Yasin, and Zimmerer (2006) found that for-profit hospitals reported more success in the implementation of “total quality improvement (TQI) business process reengineering (BPR), and job reengineering (JR) than their non-profit counterparts” (Miller, Yasin, & Zimmerer, 2006, p. 543). These findings do not necessarily reflect that for-profit hospitals exhibit higher quality of care, but do reveal that they are working on improving quality in some way. One major limitation of this study was the sampling method, which included only 110 hospitals in the State of Tennessee (Miller, Yasin, & Zimmerer, 2006). These results should be taken

lightly given the small and limited sample size but do provide evidence of the need to further examine the relationship between hospital ownership type and organizational factors.

Laamanen, Øvretveit, Sundell, Simonsen-Rehn, Suominen, and Brommels (2006) argued that quality of care and care of the uninsured are one of the most substantial differences reflected in for-profit and nonprofit healthcare organizations. The authors explain that primary healthcare in Finland is provided by health centers, which offer general medical care, preventative services, and maternity care. The majority of the health centers in this study are owned by one or more municipalities while only one was a nonprofit organization. The authors found that the main differences in the nonprofit organizations were higher levels of accessibility, comprehensiveness, and quality of care. Additionally, trust was ranked very high among those who were provided care at the nonprofit healthcare organization, which again adds to the understanding that trust is an integral component of quality.

Literature reflects mixed results with regard to ownership type and quality of care offered (Rose-Ackerman, 1997; McCay, Deily & Dorner, 2002; Miller, Yasin, & Zimmerer, 2006) however, the theme that nonprofit hospitals provide higher quality of services emerges from several studies (Colombo, 2006; Laamanen, Øvretveit, Sundell, Simonsen-Rehn, Suominen, & Brommels, 2006; Singh & Wheeler, 2012; Rosenau & Linder, 2003). Much of the attention in the literature focused specifically on general healthcare settings and is limited on the examination of specialty care. A specialty area that merits greater attention regarding organizational factors that are associated with quality of care is women's healthcare.

Ownership Type and Women's Healthcare. Women face significant barriers in access to quality healthcare, particularly during reproductive age (Khoury, Weisman, and Jarjoura, 2001). In fact, during their reproductive years women spend considerably more than men in out-of-pocket healthcare expenses. For this reason many hospitals have been strategic in the development of reproductive health centers in order to appeal to women and their families. Reproductive health centers offer a variety of services which vary among facilities and include services related to breast health, maternity care, primary care, and other specialties (Khoury, Weisman, and Jarjoura, 2001). Research indicates that the nonprofit reproductive health centers are older and larger, which is reflective of legitimacy claims of nonprofit healthcare organizations (Khoury, Weisman, and Jarjoura, 2001). Khoury, Weisman, and Jarjoura, (2001) found that nonprofit women's health centers outperformed their for-profit counterparts in providing access to care for women, offering services at reduced rates, offering a broader range of primary care services, providing training to healthcare providers, and involving women in health center governance. Based on these results the authors concluded that nonprofit women's health centers were better able to meet the needs of the community.

There appears to be a difference in quality of care based on ownership type not only for general healthcare, but specific to women's healthcare. Based on this information I posit that nonprofit hospitals will offer better quality perinatal care than their for-profit counterparts.

- H1: Nonprofit hospitals will positively outperform for-profit hospitals in perinatal quality of care.

Behavioral Differences and Organizational Setting

Along with ownership type, the hospital setting has been examined as a factor that affects quality of care. Rural hospitals often rely on public subsidies, which put them at a financial disadvantage and ultimately affect their competitiveness (Roh & Jae, 2005). Additionally, most rural hospitals are small and lack the technology of larger urban hospitals, which has also been shown to affect their financial status since patients will often drive a farther distance to experience better technological medical advances (Buczko, 1992; McKay, Deily, & Dorner, 2002). Recently, this lack of competitive advantage has led to fiscal inefficiencies and ultimately the closure of many rural facilities (Roh & Jae, 2005). However, there is new evidence that rural hospitals are in a better position to deliver quality of care due to the familiarity with patients (Infantino, 2016).

In a non-emergency situation, patients are often faced with the choice to drive a further distance for specialty care. Escarenc and Kapur (2009) examined factors associated with rural and urban hospitals specifically related to patient choice. In their study Escarenc and Kapur (2009) reflect that patients chose small, rural nonprofit hospitals for general medical needs due to the quality of services offered and the proximity to their homes. Additionally, if the small, rural nonprofit hospital offered perinatal services this increased the likelihood they would be chosen over their for-profit counterparts (Escarenc and Kapur 2009).

Roh, Moon, and Jung (2010) evaluated trends in efficiencies in U.S. hospitals by using “data envelopment analysis (DEA), a flexible, mathematical programming approach for the assessment of efficiency to analyze hospital technical efficiency” (Roh,

Moon, & Jung, 2010, p. 23). Input variables in the DEA include such factors as total number of inpatient days for general medicine, total number of outpatient days for general medicine, OB/GYN inpatient days, and other specialty inpatient days. Output variables for DEA include such factors as average length of stay, total number clinicians, and the cost of the pharmaceutical supply. Input variables such as the total number of days that patients were provided care combined additional output variables such as the number of treating clinicians can be viewed as a measure of quality of care. Using this technique Roh and his colleagues found that urban hospitals had higher technological efficiency rates, but these rates were less significant when size was taken into account.

U.S. Department of Health and Human Services reported that rural hospitals performed better than urban hospitals on three federal quality initiatives: “the Hospital-Acquired Conditions Reduction Program (HACRP), the Hospital Readmissions Reduction Program (HRRP), and the Hospital Value-Based Purchasing Program (HVBP) (Infantino, 2016). The report suggested that rural hospitals outperformed their urban counterparts because of the high level of trust that the residents have in providers that are familiar with them and their community (Infantino, 2016). Alternatively, readmissions were higher in rural hospitals, citing the barriers of poor overall health and health professional shortage in those areas (Infantino, 2016).

Much like other areas of investigation around quality of care, focus has been on general healthcare organizations and examination of specialty areas has remained limited. While Roh and Jae (2005) found that many rural hospitals closed their facilities due to inefficiencies and inability to provide specialty care around the clock, a more recent study by Infantino (2016) found that rural hospitals provided better quality of care. With an

increasing focus on maternal and infant mortality empirical investigation is just beginning in quality of care in the perinatal setting.

Organizational Setting and Perinatal Care. Labor induction and cesarean sections conducted for reasons other than medical necessity indicate low quality of perinatal care (Kozhimannil, Law, & Virnig, 2013). Kozhimannil, Law, and Virnig (2013) investigated this measure of quality based on organizational setting. Over the past decade rates of cesarean section and labor induction for non-medical reasons have been climbing (Kozhimannil, Law, & Virnig, 2013). Using a national database of more than seven million births from 2002-2010 Kozhimannil and her colleagues examined the rates of cesarean section and labor induction that were not medically warranted in U.S. hospitals (Kozhimannil, Law, & Virnig, 2013). Approximately 15 percent of all of the births examined occurred in rural hospitals (Kozhimannil, Law, & Virnig, 2013). Dr. Kozhimannil (2013) attributes that the differences in quality of perinatal care specific to cesarean sections and labor inductions for non-medical reasons are attributable not to the specific hospital or patient, but rather to the organizational setting. After controlling for age, race, income, and pregnancy complications, the authors found that rates were similar based on size and teaching status; however when examining organizational setting, the results reflect a small and negligible difference (i.e. one percentage point difference) in rates of cesarean section and labor induction with urban settings displaying slightly lower rates of than rural settings (Kozhimannil, Law, & Virnig, 2013).

If rates of labor induction and cesarean section are indeed a measure of perinatal, the findings of Dr. Kozhimannil (2013) indicate that urban hospitals provide better quality of perinatal care than do rural hospitals. However, the U.S. Department of Health

and Human Services' more recent report reflects a higher level of routine quality of care among rural hospitals (Infantino, 2016). I posit that rural hospitals have built significant relationships within the community (i.e. connected with the community) and thus will offer better quality of care than urban hospitals.

- H2: Rural hospitals will positively outperform urban hospitals in perinatal quality of care.

Quality and Healthcare Provider Type

Although the origins of interprofessional medical care can be traced back to World War II, it wasn't until President Johnson's 'Great Society' and the "War on Poverty" in the 1960's that the concept of comprehensive and continuous care through the use of interprofessional medical teams was realized (Baldwin, 2007). In traditional medical care healthcare providers such as physicians and nurses often managed patients in silos and did not communicate with other healthcare providers outside of their specialty (Baldwin, 2007). This lack of communication led to medical errors and a lack of quality of care offered (Baldwin, 2007).

Today, interprofessional medical teams are emphasized in the medical environment to provide more inclusive care to patients (Leathard, 2003; Institutes of Medicine, 2005). Leathard (2003) posits that interprofessional collaboration in the medical field reflects more effective service provision and is most effective in surgical teams to "maximize resource use and planned quality of care" (p. 13). Additionally, Lumala and his colleagues (2017) found teamwork among clinicians to be the key component in offering effective quality care to patients.

Although work by Leathard (2003) focused attention to the specialty area of surgical teams, little attention is paid to areas of specialty. Perinatal teams that care for the mother/baby dyad are especially important for the management of pregnancy and child birth because this is the time that critical family bonds with the newborn baby are developed.

Healthcare Provider Type and Perinatal Care. A qualitative study of perinatal care as perceived by Mozambican midwives was conducted in 2006 by Pettersson, Johansson, Pelembe, Dgedge, and Christensson. The midwives described quality perinatal care as a supportive environment, interaction with women during labor, professional adequacy, and application of best practices in perinatal care. A supportive environment was described as one in which the management of pregnancy and childbirth is integrated, teamwork is utilized, and mother/baby dyads are cared for simultaneously (Pettersson, Johansson, Pelembe, Dgedge, & Christensson, 2006; Smith, Dixon, & Page, 2009).

Davies, Fletcher, and Reeves (2016) conducted a more recent systematic review of literature to examine interprofessional education in the maternity setting. They posited that interprofessional education will foster trust among the varying healthcare professionals that work closely together to care for the mother/baby dyad (Davies, Fletcher, & Reeves, 2016). Reflected in this review was that the lack of interprofessional teamwork created a breakdown of working relationships among the complex mix of healthcare professionals, which was exhibited in the lower quality of care that patients received (Davies, Fletcher, & Reeves, 2016). While each individual healthcare provider delivers care to patients, the breakdown reveals the importance of interprofessional teams

in the medical setting for the flow of communication that is necessary to produce high quality of care in the hospital setting.

In light of the fact that hospitals emphasize interprofessional care in the medical setting there should be no difference in perinatal quality of care based on provider type (physician, nurse, etc.).

- H3: Healthcare provider type will not have a statistically significantly relationship with perinatal quality of care.

Quality and Continuing Medical Education

Giving healthcare professionals the skills and knowledge necessary to change their own behavior is key to offering high levels of quality in the medical environment (Lumala, Sekweyama, Abaasa, Lwanga, & Byaruhanga, 2017). In fact, Hammick, Freeth, Koppel, Reeves and Barr (2007) suggest that continuing medical education, particularly interprofessional medical education, occurs because of a desire to improve quality of care and patient outcomes. Lee, Trence, Inzucchi, Lin, Haimowitz, Wilkerson, Williams, Mosier, and Dex (2016) agree that the amount and type of continuing medical education affects quality of care provided to patients. Hammick and his colleagues (2007) went a step further to show that there is no difference in outcomes between healthcare professionals who volunteered or were required to attend continuing medical education events as both improved the quality of care provided.

Dunn, Bass, Williams, Borgiel, MacDonald, and Spasoff (1988) examined the relationship between continuing medical education and quality of care by using three quality scores: one from physician questionnaires, one from patient surveys, and one from chart audits with physicians in Ontario, Canada. Each of these quality scores were

tested in relation to the amount and type of continuing medical education that each physician received. Dunn and his colleagues found no statistically significant relationship, but did realize several apparent trends (Dunn, et. al, 1988). First, having a personal library of references, regularly attending medical rounds in the hospital setting, and attending scientific conferences were marginally related to quality of care (Dunn, et. al, 1988). Second, their results reflected a small relationship between chart audits and better charting methods (Dunn, et. al, 1988). Although this study did reflect direct evidence for the lack of relationship between continuing medical education and quality of care, there was one major limitation that should be noted about their study - continuing medical education is self-reported and therefore can be perceived as an unreliable measure (Dunn, et. al, 1988).

Previous empirical investigation revealed that continuing medical education, improves the quality of care that patients receive as well as their health outcomes (Lumala, Sekweyama, Abaasa, Lwanga, & Byaruhanga, 2017; Hammick, Freeth, Koppel, Reeves & Barr, 2007; Lee, Trence, Inzucchi, Lin, Haimowitz, Wilkerson, Williams, Mosier, & Dex, 2016). Specific focus has been on the method by which the medical education was delivered but lacked attention to the area of specialty within the medical field. Several studies paid particular attention to the affect that continuing medical education has on perinatal quality of care.

Continuing Medical Education and Perinatal Care. Research indicates that there is not one measure of quality perinatal care, but rather numerous measures that are integrated together to form a broad measure of quality (Pettersson, Johansson, Pelembe, Dgedge, & Christensson, 2006; Collins & Draycott, 2015). Professional adequacy is one

such measure and is described as having the adequate tools and continuing education to manage the reality of caring for mother/baby dyads (Pettersson, Johansson, Pelembe, Dgedge, & Christensson, 2006).

In attempting to assess the reasons for maternal mortality in Uganda, Lumala and his colleagues (2017) examined the use of criteria-based audit as a method of continuous learning to improve the quality of care given in low income countries. Criteria-based audit is a chart audit that focuses on whether specific aspects of the medical chart (i.e. criteria) are present. They found that overall there were low adherence rates to clinical guidelines (Lumala, Sekweyama, Abaasa, Lwanga, & Byaruhanga, 2017). Additionally their findings indicated that visually displaying the clinical guidelines where the healthcare provider can easily refer to them and offering continuing medical education positively impacted the quality of care offered to perinatal patients (Lumala, Sekweyama, Abaasa, Lwanga, & Byaruhanga, 2017).

Lack of continuing medical education has been shown to create a breakdown of communication, which was reflected in the quality of maternity care services (Davies, Fletcher, and Reeves, 2016). Therefore, focusing attention to ensure that healthcare providers receive on-going interprofessional continuing medical education would improve knowledge and communication. A qualitative study conducted by Smith, Dixon, and Page (2009) suggested that earning a college degree did not necessarily improve the quality of care offered in the perinatal setting as much as hands-on continuing medical education in a practical, interprofessional setting.

Given that previous research reflects that the amount and type of continuing medical education affects the quality of care offered to perinatal patients, I posit that this will also hold true with continuing lactation education in the perinatal setting.

- H4: Total number of hours of continuing lactation education will positively influence quality of perinatal care.

Organizational Policy

Hospital organizational policies cover a broad range of topics from the use of interprofessional medical teams to the treatment of patients. The governing body, CEO, and the senior managers of hospitals are responsible for the overall safety and quality of care offered in their facility and as such create organization-wide policies for a just and transparent environment for staff and patients alike (Schyve, 2009). Simatupang and White (1998) found that employees who share a mutual understanding of the how the world around them works (i.e. a mental model) reflect a joint commitment to an organization. This mental model when coupled with organizational policies that exemplify the values of an organization, create an environment of superior quality according to Simatupang and White (1998).

Foote, Seipel, Johnson and Duffy (2005) defined organizational policies as “specific elements of the work environment that directly impact employees’ daily work activities” (p. 205) and “embody corporate values that guide the decision-making processes.....and shape employees” (p. 205). Foote and his colleagues examined employee commitment to organizational policy and found that having role clarity enables employees to exhibit positive commitment to the implementation of organizational policy (Foote, Seipel, Johnson & Duffy, 2005). Additionally, operating in a team atmosphere

reflected higher levels of commitment to policy thereby reiterating the positive outcomes of interprofessional teams (Foote, Seipel, Johnson & Duffy, 2005). Therefore, when developing organizational policies it is important for hospital leadership to ensure that policies represent organizational values that are communicated effectively to employees of various positions and emphasize interprofessional medical teams.

Hospital Policy and Perinatal Care. Successfully instituting organizational change requires developing a formal written policy that is effectively communicated to all hospital staff. Dennison, Hawke, Ruberto, and Gregg (2015) posit that having a written infant feeding policy is the strongest factor in ensuring that recommended perinatal care practices are implemented in overall hospital practice. Having a written infant feeding policy in place not only reflects the values of the hospital, but is also associated with a higher prevalence of breastfeeding (Dennison, Hawke, Ruberto, and Gregg, 2015).

Organizational policies represent the inherent values of an organization and their commitment to quality. Therefore, a formal infant feeding policy should positively influence quality of perinatal care.

- H5: Having an infant feeding hospital policy in place will positively influence quality of perinatal care.

Summary

Until now much of the focus of the literature has been on the quality of care offered at general healthcare organizations. There has, however, been a small but meaningful consideration of quality perinatal care in more recent empirical investigations. With provisions for perinatal care increasingly moving to the forefront of

quality measures, there is a call to action to bring awareness to the need for more research in this area (Agency for Healthcare Research and Quality, 2012; National Quality Forum, 2012; & The Joint Commission, 2010). Literature reflects that specific organizational factors such as hospital ownership type, hospital setting, healthcare provider type, continuing lactation education, and hospital infant feeding policy can have a potentially profound effect on perinatal quality of care. Utilizing the collective strength of over 10,000 audited medical records in a quantitative methodical design, I will collectively examine these organizational factors and their impact on perinatal quality of care.

Chapter 3: Research Methodology

Study Design

A quantitative design using multiple regression analysis was used to address the research question *What organizational factors influence quality perinatal care?* IBM SPSS 24.0 was used for the study analysis. Multivariate statistical methods allowed for the simultaneous examination of five hospital organizational factors in one model. The specific organizational factors examined in this model include hospital ownership type, hospital setting, healthcare provider type, continuing lactation education, and hospital infant feeding policy. These five predictors were regressed on a continuous aggregate quality perinatal score. Although univariate statistical methods could have been used to test each of the five predictors individually, Type 1 error rate would be inflated and thus bias the results of the study.

Data

In 2010 the Virginia Department of Health (VDH) collaborated with the University of Virginia's (UVA) School of Medicine, Office of Continuing Medical Education in the development and implementation of a web-based performance improvement initiative for healthcare professionals. The initiative, titled "*Breastfeeding Friendly Improvement Project: Meeting the Gold Standard in Infant Nutrition*," is a performance improvement, continuing medical education program designed to improve perinatal care practices that promote and support breastfeeding in U.S.-based maternity care facilities. The quality indicators used in the initiative were modeled after The Ten Steps and as such were used as proxy for quality perinatal care. With the attention of the initiative focused on perinatal quality, the initiative was subsequently approved by both

the American Board of Pediatrics (ABP) and the American Board of Family Medicine (ABFM) as an MOC Part two and Part four initiative as mentioned in Chapter 2.

Healthcare providers were solicited for the initiative through word-of-mouth, social media marketing, listing on medical specialty websites, and conference fliers from June 2011 through October 2015. One-thousand and forty healthcare professionals enrolled in the initiative. Descriptive statistics were used to report frequencies and characteristics of the healthcare providers (Tables 1 & 2). The majority of healthcare providers were physicians (e.g. 93.9%) followed by nurses (e.g. 3.6%). Additionally, the majority of these healthcare providers worked in a nonprofit facility (e.g. 50.4%).

Table 1:
Frequency of charts audited by healthcare provider type

<u>Type</u>	<u>Percentage</u>	<u>n</u>
Corpsman	0%	3
Health Service Administrator	0%	1
Intern	0.1%	17
International Board Certified Lactation Consultant	0.9%	88
Midwife	0.2%	25
Nurse	3.6%	530
Nurse Practitioner	0.3%	25
Nurse and International Board Certified Lactation Consultant	0.1%	22
Nutritionist	0.0%	5
Physician	93.9%	10,001
Physician Assistant	0.0%	2
Registered Dietitian	0.1%	7
Student	0.0%	3
Institution	0%	0
Other	0.7%	96
Total		10,825

Table 2:
Frequency and ownership type

<u>Setting type</u>	<u>Percentage</u>	<u>n</u>
Outpatient practice	26.3%	2,972
Private nongovernmental, nonprofit hospital	32.1%	3,552
Academic nonprofit hospital	18.3%	1,137
Birth center	1.5%	113
Home-based	.2%	20
Federal government hospital	.6%	93
Private for-profit hospital	3.9%	389
Federally qualified health center	1.0%	78
State or local government hospital	1.3%	140
Academic for-profit hospital	.2%	39
Other	7.1%	741
Unknown	7.4%	951
Total		10,825

The web-based MOC initiative was divided into three phases of data collection: identify, implement, and integrate. Upon registering for the MOC initiative, each healthcare provider answered a series of questions related to certain organizational factors such as their provider type, organizational setting, organizational ownership type, total number of continuing lactation hours acquired, and policy. During each phase, participants received individualized reports and comparisons with aggregated data of their peers to encourage self-reflection. Only data from the first phase (i.e. identify) was used in this analysis. The first phase (i.e. identify) required the healthcare provider to conduct a needs assessment by means of a chart audit. During the chart audit healthcare providers answered a series of questions about each patient's chart¹. The series of questions are based on previously established quality indicators developed from The Ten

¹ The proprietary list of questions is available at the University of Virginia, School of Medicine's Office of Continuing Medical Education.

Steps. Although the clinician completing the chart audit was required to be listed as the treating clinician of the patients whose charts were being examined, the chart audit reflects the nature of care provided by the hospital, not the individual clinician. The unit of analysis in this study was individual patient charts.

Patients included in the chart audit for the performance improvement initiative were selected based on the following criteria: they gave birth vaginally or by caesarean; the delivery occurred in a hospital setting, at home, or birth center; and the delivery occurred at least four weeks prior to inclusion in the audit. The chart audit excluded patients who delivered a stillborn or who experienced complications resulting in maternal death. In addition to meeting the patient selection criteria, all completed chart audits required the participating healthcare provider to be listed as the treating clinician. A maximum of fifteen patient charts were convenience sampled by each healthcare provider. The total sample of 10,825 audited charts were included in the analysis.

Variables

Archived quality indicator data. During the chart audit, treating clinicians reviewed patient charts in reference to thirteen quality perinatal indicators (Table 3). The total number of correct answers from the thirteen perinatal quality indicators were added to create the aggregate quality score for each provider. Additionally, if the treating clinician answered *yes* to quality indicator 5 they were given the opportunity to choose how many times that breastfeeding assessment was conducted during the hospital stay. This additional question allows for a single clinician to receive a perinatal quality score higher than thirteen. Four indicators were reverse coded to indicate that the use of

pacifiers and infant formula are not warranted in high quality perinatal care (Baby-Friendly USA, 2017).

This aggregate quality score was used as the dependent variable. This score was empirically examined in relation to specific organizational factors noted in the hypotheses. The quality indicators used to create the aggregate score include:

- whether or not prenatal patients received educational materials on breastfeeding
- whether or not patients exclusively breastfed
- whether or not newborns room-shared with their mothers
- whether or not patients received over all and ongoing breastfeeding assessment every 12 hours
- whether or not patients were taught to express milk if their infant was not feeding well
- whether or not infants were introduced to a pacifier in the hospital or within four weeks of birth (reverse coded)
- whether or not patients received follow-up support after discharge
- whether or not exclusively breastfed infants were exposed to infant formula (reverse coded)
- whether or not skin-to-skin contact between mother and infant was initiated within one hour of birth.

Table 3:
Frequency of positive answers for each perinatal quality indicators

Indicator	Title	Description Variables	Percentage	n
2	Patient Education	Were prenatal patients documented to have received training and educational materials regarding the benefits of breastfeeding?	98.2%	10,622
3	Exclusive Breastfeeding	Were patients documented that they exclusively breastfed their infant for their first feeding?	86%	9,312
4	Newborn Rooming-in	Were breastfeeding newborns allowed to room-in?	79%	8,547
5	Overall Breastfeeding Assessment	Were the staff monitoring and assessing the mother-infant breastfeeding session during the hospital stay? If yes, how many times was an assessment completed (one, two, three, or more than three)?	73.8%	7,986
6	Breastfeeding Assessment Every 12 Hours	Was breastfeeding assessment recorded at least twice every 24 hours?	35.1%	3,798
7	Hand Expression or Pumping	Were mothers taught to use hand expression or pump if the infant has not latched after 24 hours of birth, or not feeding well?	79.2%	8,577
8	Use of Pacifier and Artificial Nipples During Hospital Stay	Were full-term infants introduced to pacifiers and artificial nipples in the hospital? (Reverse coded)	68.9%	7,461
9	Use of Pacifier and Artificial Nipples Within the First 4 Weeks Postpartum	Were breastfed infants introduced to pacifiers and artificial nipples within the first 4 weeks postpartum? (Reverse coded)	93.3%	10,103
10	Follow-up within 48 Hours	Were mothers that experience problems with breastfeeding that are scheduled for a follow-up 24-48 hours after discharge?	82.9%	8,978
11	Ongoing Breastfeeding Support	Did maternity care staff provide ongoing support to discharged breastfeeding patients regarding the continuation of breastfeeding through face-to-face visits or telephone and/or e-mail contact?	88.7%	9,609
12	Switch to Infant Formula	Were infants that were exclusively breastfed at discharge switched to infant formula after discharge? (Reverse coded)	91.4%	9,895
13	Discharge Infant Formula Packs	Did mothers of exclusively breastfed infants receive a package containing formula and/or feeding bottles? (Reverse coded)	77.1%	8,343
14	Skin-to-Skin Contact	Was skin-to-skin contact between the mother and baby initiated within 1 hour of birth?	85.2%	9,219

Archived healthcare provider data. Along with the thirteen quality indicators that were used as the aggregate quality score, the analysis also included organizational factors that acted as the independent variables in the regression equation. These organizational factors include hospital ownership type, healthcare provider type, organizational setting, total number of continuing lactation education hours acquired by the healthcare provider, and whether or not there was a hospital infant feeding policy in place.

Fifteen healthcare provider types were included in the performance improvement initiative as reflected in Table 1. These were consolidated into three categories: physician (n=10,001), nurse (n=576), and *other* (n=248), which were dummy coded using the *other* category as a reference for analysis (Table 4). Twelve ownership types were included in the performance improvement initiative as evidenced by Table 2. These were collapsed into three categories: nonprofit (n=4,689), for-profit (n=428), and *other* (n=5,108), which were also dummy coded using the *other* category as the reference category for analysis (Table 5). The nonprofit category included private nongovernmental, nonprofit hospitals (n=3,552) and academic nonprofit hospitals (n=1,137). The for-profit category included private for-profit hospitals (n=389) and academic for-profit hospitals (n=39). The *other* category included outpatient practice (n=2,972), birth center (n=113), home-based practice (n=20), federal government hospitals (N=93), federally qualified health centers (n=78), other categories not specifically listed (n=741), and unknown (n=951). The organizational setting included urban (N=8,513), rural (n=1,899), and unknown (n=413) as reflected in Table 6. Again, these three setting categories were dummy coded using the unknown category as the reference category for analysis. The organizational policy status is reflected in three

categories: the hospital did have an infant feeding policy in place (n=1,685), the hospital did not have an infant feeding policy in place (n=709), and the policy status was unknown (n=8,431) as depicted in Table 7. These three categories were dummy coded using the unknown category as the reference category for analysis. The final variable requested the healthcare provider to report the total number of continuing lactation education hours acquired, which was treated as a continuous independent variable.

Table 4

Frequency and coding for healthcare provider type

	n	Percentage	Coding
Physician	10,001	92.4%	Yes = 1; No = 0
Nurse	576	5.3%	Yes = 1; No = 0
Other	248	2.3%	Yes = 1; No = 0
Total	10,825		

Table 5

Frequency and coding for ownership type

	n	Percentage	Coding
Nonprofit	4,689	45.9%	Yes = 1; No = 0
For-profit	428	4.2%	Yes = 1; No = 0
Other	5,108	50.0%	Yes = 1; No = 0
Total	10,825		

Table 6:

Frequency and coding of practice setting

	n	Percentage	Coding
Rural	1,899	15.3%	Yes = 1; No = 0
Urban	8,513	81.1%	Yes = 1; No = 0
Unknown	413	3.5%	Yes = 1; No = 0
Total	10,825		

Table 7:

Frequency and coding of policy

	n	Percentage	Coding
Policy	1,685	15.6%	Yes = 1; No = 0
No policy	709	6.5%	Yes = 1; No = 0
Unknown	8,431	77.9%	Yes = 1; No = 0
Total	10,825		

Although all fields were expected to be completed by each healthcare provider enrolled, four-hundred and twelve healthcare providers left the continuing lactation education field blank. Pairwise deletion was used for any fields left blank as reflected in the results of the full model, which resulted in the analysis of 10,413 charts in the full model (Tabachnick & Fidell, 2013). All other fields were completed.

Using multivariate analysis allowed for the simultaneous examination of all five organizational factors in relationship with the aggregate perinatal quality score. Multiple regression analysis answered the research question without inflating Type I error (Tabachnick & Fidell, 2013).

Chapter 4: Results

Multivariate statistical analysis was used to test the full model, which offered insight into the five previously mentioned hypotheses. While hypothesis 5 was supported, hypotheses 1-4 were not. Details on the examination of each hypothesis are offered in the following subsections of the paper. Descriptive statistics and a correlation matrix are provided in Table 8. Measures of central tendency were calculated for the two continuous variables in the dataset. The aggregate perinatal quality score reflected a mean of approximately 15 with a range of 23. The total number of continuing lactation education hours reflected a mean of approximately 43 with a range of 5,000, which is expected of continuing education hours based on the level of passion surrounding the topic. The correlation analysis resulted in several significant findings. As predicted, there is a statistically significant relationship between the aggregate perinatal quality score and nonprofit hospitals (Pearson's $r = -.101$) and rural hospitals (Pearson's $r = -.077$); however this is a negative correlation, which was unexpected. Additionally there is a significant positive correlation between aggregate perinatal quality score and hospitals that had an infant feeding policy in place (Pearson's $r = .123$). There is also evidence of a weak relationship between the aggregate perinatal quality score and nurse provider type (Pearson's $r = .056$) and physician provider type (Pearson's $r = -.052$), which was not originally predicted. Further, there is evidence of a very weak relationship between the aggregate quality score and number of continuing lactation education hours (Pearson's $r = .014$), but this was not statistically significant. The nature of the relationships was explored further using multiple regression analysis.

Measure	Mean	Range	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Aggregate quality score	14.898	23.00	3.6861	1.0									
2. For-Profit	----	----	----	.001	1.0								
3. Nonprofit	----	----	----	-.101**	-.680**	1.0							
4. Urban	----	----	----	.055**	-.042**	.097**	1.0						
5. Rural	----	----	----	-.0772	.039**	-.079**	-.885**	1.0					
6. Nurse	----	----	----	.056**	-.049**	.072**	-.102**	.062**	1.0				
7. Physician	----	----	----	-.052**	.069**	-.038**	.119**	-.070**	-.827**	1.0			
8. Policy -Yes	----	----	----	.123**	-.031**	-.009	.037**	-.057**	.030**	-.052**	1.0		
9. Policy - No	----	----	----	.147**	.010	-.040**	-.049**	.051**	.083**	-.093**	-.114**	1.0	
10.Number of continuing lactation education hours	42.88	5,000	205.292	.014	.019	-.021**	-.026**	.036**	.062**	-.083**	-.010	.044**	1.0

Notes: n=10,413; * $p < .05$; ** $p < .005$

The data was first confirmed to have met the required assumptions of multiple regression such as the absence of outliers, the absence of multicollinearity, normality of data, and independence of errors before progressing with the analysis (Tabachnick & Fidell, 2013). Due to the categorical nature of the predictors only the continuous variables were examined for the absence of outliers. The absence of such outliers was indicative that the remainder of the assumptions could be tested. The correlation matrix in Table 6 was used to examine multicollinearity. It was not surprising that the correlations between the setting categories of urban and rural (e.g. Pearson's $r = -.885$) and the healthcare provider types of physician and nurse (e.g. Pearson's $r = -.827$) were large. These correlations are expected among the categories and therefore do not indicate issues of multicollinearity. Additionally all data were examined for normality and independence of errors (Tabachnick & Fidell, 2013). The typical cause of error in surveys is time (i.e. time from beginning to end of the survey and time given to think about the questions being asked on the survey), but given this survey was a chart audit and only asked whether or not the data was present, errors due to time are minimal in the dataset (Tabachnick & Fidell, 2013).

Table 7 reflects the regression analysis for examining the relationship between the aggregate perinatal quality score and the five categorical variables - ownership type, setting, provider type, number of continuing lactation education hours, and hospital policy. Although there were a total of 10,825 audited charts included in the analysis, the full model only reflected 10,413 audited charts due to the fact that some fields requesting the total number of continuing lactation education hours were left empty. Pairwise deletion was used to remove the blank fields prior to testing (Tabachnick & Fidell, 2013).

The full model with all five predictor categories was found to be statistically significant [$R^2 = .071$, $F(8,10404) = 99.056$, $p = .000$]. This indicates that 7.1% of the variance in the aggregate perinatal quality score can be explained by the model; however not all predictors significantly contribute to the model, which leads to my hypothesis testing.

Table 9:

Full model regression results of organizational factors and their association with perinatal quality

	B	SE	β	t	p	95% CI
Ownership type						
For-Profit	-.937	.104	-.199	-9.006	.000	-1.141 to -.733
Nonprofit	-1.371	.098	-.186	-14.007	.000	-1.563 to -1.179
Setting						
Urban	-.939	.104	-.120	-9.029	.000	-1.143 to -.735
Rural	-.958	.092	-.099	-10.383	.000	-1.139 to -.777
Provider type						
Nurse	1.409	.277	.084	5.088	.000	.864 to 1.950
Physician	.412	.233	.029	1.769	.077	-.044 to .867
Policy						
Yes	1.851	.142	.124	13.033	.000	1.577 to 2.135
No	1.672	.098	.164	17.104	.000	1.481 to 1.864
Number of continuing lactation education hours	.000	.000	.007	.720	.471	.000 to .000

Notes: Grand mean quality score = 15.219; N= 10,413; $R^2 = .071$; $F(8, 10404) = 99.056$; $p < .001$

Hypothesis Testing

Hypothesis 1 posits that nonprofit hospitals will positively outperform for-profit hospitals in perinatal quality of care. Regression analysis of the full model indicates that both for-profit and nonprofit ownership types significantly contributed to the model when controlling for all other predictors. Dummy coding allowed for easy comparison among the ownership categories. *Other* ownership types were treated as the reference variable and used for comparison with the other two categories. The results reflect that there is a significant difference between the aggregate perinatal quality scores of for-profit hospitals ($\beta = -.199$, $t = -9.006$, $p < .001$, 95% CI -1.141 to -.733) and nonprofit hospitals ($\beta = -.186$, $t = -14.007$, $p < .001$, 95% CI -1.563 to -1.179) when compared with *other* ownership types. The raw regression coefficients indicate the difference between the aggregate perinatal quality scores of for-profit hospitals ($B = -.937$) and nonprofit hospitals ($B = -1.371$) compared to the grand mean (15.219). In other words for-profit hospitals displayed a slightly lower and statistically significant aggregate quality score when compared with *other* ownership types. Using the same comparison, nonprofit hospitals displayed an even lower and statistically significant quality score. This indicates that hypothesis 1 is not supported in that for-profit hospitals outperform nonprofit hospitals in perinatal quality of care.

Hypothesis 2 posits that rural hospitals will positively outperform urban hospitals in perinatal quality of care. Regression analysis of the full model indicates that only rural settings significantly contributed to the model when controlling for all other predictors. Again, dummy coding allowed for easy comparison among the setting categories. Hospitals where the setting is unknown were treated as the reference variable

and used for comparison with the other two setting categories. The results reflect that there is a significant difference between the aggregate perinatal quality scores of rural hospitals ($\beta = -.099$, $t = -10.383$, $p < .001$, 95% CI -1.139 to -.777) when compared with hospitals where the setting is unknown. The difference in the quality of scores of urban hospitals ($\beta = -.120$, $t = -9.029$, $p < .001$, 95% CI -1.143 to -.735) when compared with hospitals where the setting is unknown. The raw regression coefficients indicate the difference between the aggregate perinatal quality scores of rural ($B = -.958$) and urban settings ($B = -.939$) compared to the grand mean (15.219). Rural hospitals displayed a slightly lower and statistically significant aggregate quality score when compared with hospitals where the setting is unknown. Therefore, hypothesis 2 is not supported since urban hospitals display slightly higher quality scores than their rural counterparts.

Hypothesis 3 posits that healthcare provider type will not have a statistically significant relationship with perinatal quality of care. Regression analysis of the full model indicates that the category of *nurse* significantly contributed to the model when controlling for all other predictors. Dummy coding was again used to compare the categories of physician, nurse, and other types of healthcare providers. Other types of healthcare providers were treated as the reference variable and used for comparison with the other two provider categories. The results reflect that there is a statistically significant difference between the aggregate perinatal quality scores of nurses ($\beta = .084$, $t = 5.088$, $p < .001$, 95% CI .867 to 1.952) when compared with other types of healthcare providers. The difference in the quality of scores of physicians ($\beta = .029$, $t = 1.769$, $p = .077$, 95% CI -.044 to .867) when compared with other types of healthcare providers was not found to be statistically significant. The raw regression coefficients indicate the

difference between the aggregate perinatal quality scores of nurses ($B=1.409$) compared to the grand mean (15.219). In other words nurses display a higher and statistically significant aggregate quality score when compared with other types of healthcare providers. Therefore, hypothesis 3 is not supported as healthcare provider type does indeed influence perinatal quality scores.

Hypothesis 4 posits that the total number of hours of continuing lactation education will positively influence quality of perinatal care. Regression analysis of the full model indicates that number of continuing lactation education hours does not significantly contribute to the model ($\beta = .007$, $t = .720$, $p = .471$, 95% CI .000 to .000) when controlling for all other predictors. These results indicate that hypothesis 4 is not supported.

Hypothesis 5 posits that having an infant feeding hospital policy in place will positively influence quality of perinatal care. Regression analysis of the full model indicates that hospital infant feeding policy does significantly contribute to the model when controlling for all other predictors. Dummy coding allowed for easy comparison among the policy categories. Hospitals where the infant feeding policy status was unknown were treated as the reference variable and used for comparison with the other two categories. The results reflect that there is a significant difference between the aggregate perinatal quality scores of hospitals where there is an infant feeding policy in place ($\beta = .124$, $t = 13.033$, $p < .001$, 95% CI 1.577 to 2.135) when compared with hospitals where the status of an infant feeding policy is unknown hospitals. There is also a significant difference between the where there is not an infant feeding policy in place ($\beta = .164$, $t = 17.104$, $p < .001$, 95% CI 1.481 to 1.864) when compared with hospitals

where the status of an infant feeding policy is unknown. The raw regression coefficients indicate the difference between the aggregate perinatal quality scores of hospitals that did have an infant feeding policy ($B = 1.851$) and hospitals that did not have an infant feeding policy ($B = 1.672$) compared to the grand mean (15.219). In other words, hospitals that had an infant feeding policy in place displayed a slightly higher and statistically significant aggregate quality score when compared with hospitals where the status of the infant feeding policy is unknown. Using the same comparison, hospitals that did not have an infant feeding policy in place displayed a lower and statistically significant perinatal quality score. A test of robustness was conducted to allow for direct comparison of the perinatal quality scores between hospitals that had an infant feeding policy in place and those that did not have such a policy in place. The results indicated a significant difference between the two groups and support for hypothesis 5 ($t = 2.809, p < .05$).

Overall analysis supports one of the five hypotheses. The data does not support the fact that nonprofit hospitals will outperform their for-profit hospitals counterparts or that rural hospitals will outperform their urban counterparts in perinatal quality of care. Additionally there is a lack of support for total hours of continuing lactation education positively influencing quality of perinatal care. There is also a lack of support for the role of interprofessional medical teams positively affecting perinatal quality of care. Regression analysis does however, support that there is a statistically significant relationship between hospital infant feeding policy and perinatal quality of care and that having an infant feeding policy in place positively influences quality perinatal care.

Chapter 5: Discussion

In today's ever changing economy, hospitals are continually seeking ways to obtain the competitive advantage while upholding strong ethical standards. Quality of care for patients is one such avenue that demands national attention and is currently being examined (Agency for Healthcare Research and Quality, 2012; National Quality Forum, 2012; The Joint Commission, 2010; Merry & Crago, 2001; Donabedian & Attwood, 1963; Donabedian, 1966; Weisbrod, 1988; Iglehart & Baron, 2012). A unique view of the outcomes and behaviors of healthcare organizations would specifically examine quality indicators related to perinatal care (Collins and Draycott, 2015). Perinatal care as defined by the World Health Organization (2016) as the time surrounding childbirth. Today many women have the ability to choose the hospital in which they will deliver their babies, which puts the burden on hospitals to attract women to their respective facilities. Focusing marketing efforts on perinatal quality can be one aspect to obtain the competitive advantage for hospitals.

Quality is not something that is easily measured in the healthcare setting however; using the Donabedian model to build theory and Weisbrod's classification of hospital quality as a basis, the American Board of Medical Specialties (ABMS) developed and implemented the Maintenance of Certification (MOC) program to acknowledge the need for quality improvement in the medical field (Donabedian & Attwood, 1963; Donabedian, 1966; Weisbrod, 1988; Ayanian, & Markel, 2016; Iglehart & Baron, 2012). Additionally, the development of The Baby-Friendly Hospital Initiative (BFHI) ensured that hospital policies, procedures, and routines are supportive of normative infant feeding

by pushing hospitals to prove adherence to The Ten Steps as a measure of quality perinatal care (World Health Organization/UNICEF, 2009).

Extending the literature on the study of quality perinatal care by turning attention to organizational factors that influence perinatal quality was the purpose of this study. Utilizing the quality perinatal data modeled after The Ten Steps and collected via a web-based performance improvement initiative for over one thousand healthcare professionals, this study examined the influence of five organizational factors including hospital ownership type, organizational setting, healthcare provider type, continuing medical education, and hospital policy on quality perinatal care.

Overall Regression Analysis

Multiple regression analysis was used to examine the relationship between the aggregate perinatal quality scores and the five organizational factors. The full model, which included all five organizational factors regressed onto the aggregate perinatal quality score, was indeed found to be significant and accounted for 7.1% of the total variance in the quality perinatal score. Although the amount of variance explained is not large, this model has the potential to have a substantial effect on overall population health (Remington, Catlin, & Kindig, 2013). For example, positively influencing the quality of care for seven out of one-hundred patients is the means by which large scale public policy changes occur as small quality changes create a ripple effect over the years (Remington, Catlin, & Kindig, 2013).

The nature of the analysis is that it was conducted post hoc on a previously collected dataset. Therefore, limitations were placed on the amount and type of organizational factors there were originally collected. Future research in this area should

also include other organizational factors such as staff to patient ratio, membership in a larger hospital system, geographic region of the U.S., and size of the facility and/or obstetrical unit, which could be accounted for by the number of beds or by overall revenue. A large patient-to-staff ratio could negatively affect quality of care if staff are responsible for an overwhelming number of patients and therefore not able to devote much time to any of them. Further, membership in a larger hospital system would allow for access to resources that independent facilities may not have access to. These include but are not limited to buying power of multiple facilities, system-wide policies, organizational learning, and available training. Additionally, the size of a hospital may also be indicative of similar available resources. Supplementing the organizational data in this dataset with these additional factors would strengthen the findings of the study and should be considered for future research implications.

Ownership Type

In this study I drew upon historical literature that examined the role of hospital ownership status on certain behavioral outcomes such as finance, efficiencies, care for the uninsured, and quality of care. Current data regarding any of these outcomes are limited and remain mixed at best (Barragato, 2002; Colombo, 2006; Weisbrod & Schlesinger, 1986; Roomkin & Weisbrod, 1999). When examining women's healthcare specifically, data indicated that nonprofit organizations were better able to meet the needs of the community (Khoury, Weisman, & Jarjoura, 2001). In this study I hypothesized that nonprofit hospitals will positively outperform for-profit hospitals in perinatal quality of care.

Although not strong, there was evidence of a significant correlation between the aggregate quality score and the hospital ownership types. Empirical examination did not reflect support for the hypothesis; however, the findings are note-worthy. The results indicated there was a significant difference between the quality scores of for-profit and nonprofit hospitals when compared with *other* ownership types. The nature of this finding is that the quality scores for for-profit hospitals were higher than those of nonprofit hospitals when compared with *other* ownership types. These findings indicate that *other* ownership types displayed the highest perinatal quality scores, which was not expected. One explanation for this finding is the fact that there are a broad range of organizational types represented in the *other* category (i.e. outpatient practices, birth centers, home-based practices, federal government hospitals, federally qualified health centers, other categories not specifically listed, and unknown organization types). It could be construed that ownership types such as birth centers, outpatient practices, and home-based practices offer more a higher quality of specialized care. Together this category represents just under 50% of the organizational types and arguably vastly different business models. Some of the business models may reflect for-profit practices while others may represent nonprofit practices. Additionally, corporate business models may be more likely to act on market trends that offer promise of profitability. The nature of for-profit and nonprofit business models are further reflected in their governance models, which will be discussed in the practical implications section of this paper. With nonprofit hospitals reflecting the lowest perinatal quality scores, it could be construed that the business model and governance model of nonprofit hospitals is not effective in

providing the highest quality of perinatal care, but this should be further examined in future empirical investigation.

Organizational Setting

The lack of literature on the influence of organizational setting on quality perinatal care requires a much broader search beyond that of just perinatal care. In the search for general quality of care, recent evidence points to the fact that rural hospitals are in a position to deliver higher quality due to the familiarity with patients (Infantino, 2016). Additionally, it has been shown that rural hospitals lack the technology, access to specialty providers, and thus competitive advantage of larger urban hospitals, which has led to inefficiency and ultimately the closure of many rural facilities (Buczko, 1992; McKay, Deily, & Dorner, 2002; Roh & Jae, 2005). The lack of empirical evidence on perinatal quality and organizational setting necessitates a better understanding of today's environment. In this study I hypothesized that rural hospitals will positively outperform urban hospitals in perinatal quality of care. There was evidence of a significant, but negative correlation between the aggregate perinatal quality score and rural setting. This weak relationship forecasted the lack of support for my hypothesis. As the correlation foretold, the regression analysis did not reflect support for the hypothesis and in fact found that rural hospitals displayed lower perinatal quality scores than hospitals with an unknown organizational setting. The category where the setting is unknown represented a very small percentage of the population (i.e. 3.5%) in the study. Additionally, the urban setting displayed higher perinatal quality scores than that of rural settings; however, it should be considered that a large percentage of the study population were delivering care in urban settings (i.e. 81.1%). This large percentage could ultimately impact the results

and thus additional data should be collected from rural and unknown settings to balance the difference in future research.

Although previous findings suggest that rural hospitals maintain a certain level of familiarity with patients, it may indeed hold true that they lack the necessary technology and access to specialty providers to provide the highest quality of care, which could be a partial reason for this finding (Infantino, 2016; Buczko, 1992; McKay, Deily, & Dorner, 2002; Roh & Jae, 2005). Essentially rural hospitals may lack the maternity facilities for delivering babies and as such may be forced to deliver in emergency rooms where there is lack of comfort for maternity patients. Further, infants may be routinely separated from their mothers, given infant formula that was not medically warranted, and offered pacifiers within the first few hours of life because of the lack of understanding of perinatal quality of care in an emergency room setting. Rural hospitals are also smaller facilities that may lack the staffing and overall competency in perinatal care compared to that of urban hospitals or other types of facilities (Roh & Jae, 2005).

Interestingly, 3.5% of healthcare providers did not know the setting in which they practiced. Perhaps the providers were more focused on providing medical care and the setting really didn't matter. Additionally, these facilities may be located in suburban locations and this was not a category from which to choose. Future research is warranted to fully understand this category and the finding that these facilities offered the highest level of perinatal quality.

Provider Type

Emphasis on interprofessional medical teams began in the 1960's with President Johnson's 'Great Society' and the "War on Poverty" (Baldwin, 2007). Current literature

stresses the importance of interprofessional medical teams in offering high quality of care of patients (Leathard, 2003; Lumala, Sekweyama, Abaasa, Lwanga, & Byaruhanga, 2017; Pettersson, Johansson, Pelembe, Dgedge, & Christensson, 2006; Smith, Dixon, & Page, 2009). Due to the fact that interprofessional teams are emphasized in hospitals today and thus teams of medical providers are caring for the mother/baby dyad, I hypothesized that healthcare provider type will not influence perinatal quality of care. Initial findings of this study indicated a significant, but again very weak relationship between the aggregate perinatal quality score and the healthcare provider types. Regression analysis reflected that healthcare provider type does indeed influence quality perinatal care scores and therefore this hypothesis was not supported. In fact, evidence supports nurses displayed higher quality scores compared with other types of healthcare providers. Physicians did not significantly contribute to the model, which was surprising given that the majority of the study population was physicians (i.e. 93.9%).

Given that interprofessional teams are emphasized in the hospital setting today, the findings of this study were surprising. With only four percent of study participants identified as nurses, the finding that they displayed significantly higher perinatal quality scores than other healthcare provider types speaks positively to the nursing profession. The current pay-for-performance reimbursement models that were instituted by the Center for Medicare and Medicaid Services (CMS) and used as a framework by private insurance providers could perhaps be emphasizing the quantity of services versus the quality of services that physicians provide (Calikoglu, Murray & Fenney, 2012). This pay-for-performance reimbursement models for physicians is in stark contrast to the current Medicare reimbursement regulations for nurses that emphasize helping patients

attain their health goals and improve outcomes (Frakes & Evans, 2006). Although previous research in the perinatal environment underscored that mother/baby dyads should be cared for simultaneously through the integration of medical responsibilities and teamwork, these reimbursement models seem to place emphasis on different things (e.g. quantity of patients treated versus quality of care provided) (Pettersson, Johansson, Pelembe, Dgedge, & Christensson, 2006; Smith, Dixon, & Page, 2009; Calikoglu, Murray & Fenney, 2012; Frakes & Evans, 2006). Another possible reason for this difference lies in the fact that nurses spend more time with patients and are closer to the point of service (e.g. initial breastfeeding session, prenatal education, etc.) for many of the quality indicators. Future research should focus specific attention on medical reimbursement models and their effect on perinatal quality of care. Additionally, future research is warranted on the motivation behind why certain healthcare provider types enrolled in the MOC initiative. Physicians may have been more motivated by their need for recertification whereas nurses may have been motivated by their facility's intent to earn Baby-Friendly Hospital accreditation.

Continuing Medical Education

Continuing medical education is suggested to occur because of a desire to improve quality of care and patient outcomes no matter whether the healthcare professional volunteered or was required to complete the training (Hammick, Freeth, Koppel, Reeves and Barr, 2007). Recent evidence points to the fact that the amount and type of continuing medical education affects the quality of care provided to patients (Lee, Trence, Inzucchi, Lin, Haimowitz, Wilkerson, Williams, Mosier, and Dex, 2016). Empirical research in the field of perinatal quality confirmed this finding (Lumala,

Sekweyama, Abaasa, Lwanga, & Byaruhanga, 2017; Davies, Fletcher, and Reeves, 2016). Although there is no evidence to support the influence of continuing lactation education on perinatal quality, I assumed that the same finding would hold true for this type of education and hypothesized that the total number of hours of continuing lactation education will positively influence quality of perinatal care. Empirical investigation indicated lack of support for this hypothesis.

Literature acknowledges the lack of understanding as to what constitutes continuing medical education (Dunn, Bass, Williams, Borgiel, MacDonald, and Spasoff, 1988). Historically, continuing medical education has taken the form of “journals, scientific sessions, informal consultations with colleagues, rounds, medical school programs, libraries, visiting clinicians, local hospital staff, medical societies,.....and computer programs” (p. 778), but there is no true definition of continuing medical education in the literature (Dunn, Bass, Williams, Borgiel, MacDonald, and Spasoff, 1988; Hammick, Freeth, Koppel, Reeves and Barr, 2007). For this reason, it can be assumed the lack of understanding of what constitutes continuing lactation education may mirror previous findings. Healthcare providers that took part in this study may have assumed that continuing lactation education could have taken various forms. Future research in this field should provide a working definition of continuing medical education to allow the participants in the study to truly understand what is being requested. Additionally, the manner in which questions are formulated can affect their interpretation. Utilizing norm referencing when formulating questions may be of value in this population because it would create a context by which participants can compare their answers to others’ (Crocker & Algina, 1986).

Hospital Policy

Organizational policies are created for the overall safety and quality of care offered in hospitals (Schyve, 2009). Written policies not only shape the daily work of hospital employees, but they also establish the importance of corporate values (Foote, Seipel, Johnson and Duffy; 2005). Although there is minimal literature on hospital policy and quality perinatal care, I hypothesized that having a hospital infant feeding policy in place will positively influence quality of perinatal care (Dennison, Hawke, Ruberto, and Gregg, 2015). Initial results indicated a significant relationship between aggregate perinatal quality scores and hospital policy, which was expected. Further investigation reflected support for the hypothesis. Hospitals with an infant feeding policy in place displayed higher perinatal quality scores than those who did not have a policy in place. Although not part of the hypothesis, it should also be said that hospitals that had no infant feeding policy in place reflected higher perinatal quality scores than those whose policy status was unknown.

The lack of knowledge of the policy status and link to lower perinatal quality scores is not at all surprising given previous research indicates that role clarity is linked to a positive commitment to the implementation of organizational policy (Foote, Seipel, Johnson & Duffy, 2005). Role clarity posits that employees know and understand their organizational role (Foote, Seipel, Johnson & Duffy, 2005). It is easily foreseeable that an employee who doesn't fully understand their role may not be knowledgeable when it comes to organizational values and policy. Surprisingly, hospitals that had no infant feeding policy in place displayed higher perinatal quality scores than those whose policy status is unknown. One explanation for this could be that perhaps other overarching

hospital policies covered such topics as infant feeding. Another explanation for this could be that the infant feeding policy is poorly developed and communicated thus reflecting little difference between having a policy in place or not. Future research perhaps in the form of mixed methods would be warranted to offer more depth and understanding of this finding. Given support for this hypothesis, hospitals should continue to develop infant feeding policies that are effectively communicated to all staff. Additionally, future research on hospital perinatal policy and role clarity is warranted to fully understand the role that policy can play in support for the mother/baby dyad.

Limitations

The healthcare providers in this study self-selected to be included in the MOC initiative, therefore, self-selection bias is present. Additionally, there is a lack of clarity on the motivation behind the self-selection. We do not know if their motivation was knowledge-driven or employer-driven. Having a better understanding of their motivation would add additional depth to the findings. The second limitation is that the healthcare providers selected a convenience sample of patient profiles/charts for which to conduct the self-assessment chart audit. Thirdly, this is a post hoc analysis of data that was not collected for the purpose of a research study, which limited the total number of organizational factors that were included in the study as the dataset was inadequate with this regard. Finally, continuing lactation education hours for this study were self-reported and may be considered unreliable (Dunn, Bass, Williams, Borgiel, MacDonald, & Spasoff, 1988).

Practical Implications

Overall this study reflects the fact that the higher perinatal quality can be found in for-profit, urban hospitals. Additionally, quality scores are highest for nurses and for hospitals that had an infant feeding policy in place. Building a strong theoretical framework to deepen the understanding of general quality of care is something that scholars have been formulating for years. Although studying perinatal quality of care has only recently entered the picture, the findings of this study offer some insight into the complicated landscape of quality perinatal care. There is much empirical work to be completed and also much practical work to be done in this area to advance the study and delivery of perinatal quality in hospitals.

Legally hospitals are required to maintain a board of directors that act as the governing body and overall leadership of the organization (Epstein & McFarlan, 2011; Powell & Steinburg, 2006). Quality begins with the hospital board of directors who are considered the most influential in the quality of care offered at their organization (Epstein & Jha, 2010). In fact, the boards of directors are directly charged with delegating quality to the medical staff of the hospital (Epstein & Jha, 2010). The boards of directors not only set the overall tone and direction for the organization, but also the organizational values that are inherent in the policies and procedures that are developed under their direction.

The results of this study reflect that nonprofit hospitals displayed significantly lower aggregate perinatal quality scores when compared with *other* ownership types. Additionally, the scores of for-profit hospitals, although lower than *other* ownership types, were higher than those of nonprofit hospitals. Is this reflective of their governance

model? Perhaps. The varying differences in the size and make-up of the boards of directors in for-profit and nonprofit hospitals signals differing leadership models that should not be ignored. Although research indicates differences in leadership based on ownership type, in reality the governance models may be a hybrid of the corporate model that for-profit organizations are said to display and a philanthropic model that nonprofit organizations are said to display (Powell & Steinburg, 2006). Practically speaking hospitals exist in a highly volatile and competitive market and although I cannot draw conclusions about the findings of this study based on the governance model, I can reason that their governance model should not be a one size fits all based on ownership type, but rather it should be reflective of the organizational values (Powell & Steinburg, 2006). Organizational values are the pillars by which a solid governance foundation can be built.

Administrators and medical staff are charged with carrying out the hospital's daily affairs and are directly accountable to the boards of directors for the care that is provided it is the hospital (Arndt & Boonen, 2007). Powell and Steinburg (2006) estimate that medical staff have a great deal of influence on the hospitals' medical expenditures and thus can shape the financial performance of the organization. If the same can be deduced regarding quality of perinatal care offered to patients, it may be imperative to involve the perinatal healthcare team on the boards of directors thus mimicking the values of the organization in providing the highest quality perinatal of care. Additionally, since organizational policies are the essential components of the daily work of medical staff, it is also important to involve them in the development and communication of organizational policies within the perinatal unit (Foote, Seipel, Johnson, & Duffy, 2005). Not surprising, the results of this study revealed that hospitals

with an existing infant feeding policy displayed slightly higher perinatal quality scores compared with hospitals whose policy status is unknown. Surprisingly, there was only a small, but significant difference between those facilities that had an infant feeding policy in place and those that did not. Perhaps this reflects the fact that the infant feeding policy that was in place was poorly developed and/or communicated. It should be assumed that involving the perinatal medical team not only in the leadership of the hospital, but also in the development of such policies will provide better communication and representation of the overall organizational perinatal quality values while adhering to the reality of the situations that the perinatal medical team face within their working environment.

This study did not support the hypothesis that there is no association between healthcare provider type and perinatal quality. Therefore, we can extrapolate that interprofessional medical teams perhaps aren't emphasized enough in the hospital setting. Clearly nurses are providing higher quality than physicians and other types of healthcare providers in this study; however in the long run the lack of interprofessional medical teams can create a breakdown of communication, which can be perceived by patients as lower quality services (Davies, Fletcher, & Reeves, 2016). Adding to the policy implications, previous research indicates that higher levels of commitment to organizational policies occur when staff operate within a team that offers individual role clarity (Foote, Seipel, Johnson & Duffy, 2005). Emphasis should be placed on the individual medical role that healthcare providers deliver as well as the role that interprofessional medical teams can have on the care that is provided to the patient. Interprofessional teams aid in communication in and among the medical staff and should reflect a high level of quality and comprehensive care to the patient.

Results from this study did not support the hypothesis that continuing lactation education had an effect on perinatal quality of care; however the implications for this finding are important. Previous research indicates that there is no true definition of continuing medical education in the literature. Although this is not what the developers of the performance improvement initiative would have anticipated, it is likely that the lack of a true definition would have triggered confusion on behalf of the healthcare provider taking part in the chart audit from which the data for this study was gathered (Dunn, Bass, Williams, Borgiel, MacDonald, and Spasoff, 1988; Hammick, Freeth, Koppel, Reeves and Barr, 2007). Previous research indicates that targeted learning increases the quality of perinatal care (Kellams, Savla, Akers, Eberly, Boutsalis, & Sriraman, 2014). Moving forward it is crucial that hospitals and medical organizations develop policies that define their desired avenue for continuing medical education. Additionally, requiring targeted continuing medical education may reduce role ambiguity. The development of such policies again resonates the importance of the involvement of medical staff on the hospitals' boards of directors.

It is apparent from the most recent literature that rural hospitals focus much of their attention on getting to know the community, which helps to build trust (Infantino, 2016). Taking the time to build trust however, may not mean much if they lack technology to provide a comfortable labor and delivery experience for an expectant mother (Buczko, 1992; McKay, Deily, & Dorner, 2002). Providing quality perinatal care can mean the difference between mothers having to drive a longer distance to a hospital in an urban setting or delivering their babies in a rural setting within close proximity. Even under extreme situations, emergency deliveries in emergency rooms can offer a

glimpse of quality perinatal care by allowing the mother and baby to remain together. Despite the fact that rural hospitals may be at technological disadvantage, they still have the ability to develop organizational policies that reflect high quality perinatal care and set the tone for their overall organizational values.

Leadership Implications

Scholars are increasingly studying the role of leadership to better understand overall organizational behavior and outcomes. Although not directly examined, the emphasis on hospital leadership in this study is focused almost exclusively on the boards of directors since they are tasked with setting the overall tone, direction, and values of the organization (Epstein & McFarlan, 2011; Powell & Steinburg, 2006). Hospital administrators and unit directors also play an important leadership role to carry out daily operations and manage hospital staff. As hospital operations have advanced over the past century, so has the challenge of providing overall leadership while adhering to evidence-based practice and performance standards. Hospital leadership during times of economic and political uncertainty can pose the unique ethical dilemma of continually seeking ways to expand duties while remaining cost effective and considerate of patients. Among other factors this study examined organizational factors such as hospital ownership type, setting, and policy in relation to perinatal quality of care. Although hospital leaders typically have no control over their setting and may have very little control over their ownership type, they do have control of organizational policies, which were found to be a significant predictor of perinatal quality in this study. Previous research reflects that the actions of leaders have been shown to reflect overall organizational values (Caldwell, Hayes, Bernal, & Karri, 2008; Chemers, 1997).

Therefore, it is inherent that hospital leaders develop and implement organizational policies that are consistent, not only with industry perinatal standards, but also claimed hospital values for care of the mother/baby dyad (Caldwell, Hayes, Bernal, & Karri, 2008; Chemers, 1997). Although this study emphasized infant feeding policies, one can extrapolate that policies focusing on other aspects of the care of the mother/baby dyad could also have a positive effect on perinatal quality. As such, hospital leaders should focus on the development of organizational policies that mimic those of The Ten Steps such as keeping the mother and baby together in one room, emphasizing exclusive breastfeeding, and limiting pacifier use (Baby-Friendly USA, 2017). Policies such as these can be easily implemented with minimal strain to fiscal operations or physical infrastructure (Baby-Friendly USA, 2017). Hospitals that have an overarching policy that addresses infant feeding should consider the development of a separate and distinct infant feeding policy as required by The Ten Steps (Baby-Friendly USA, 2017).

Historical literature examined leadership theory in various environmental contexts, each offering insight into organizational outcomes (Brown, Trevino, & Harrison, 2005; Conger, 1999; Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Avolio & Gardner, 2005). Additionally, accrediting bodies for healthcare organizations often have quality standards related to leadership, frequently calling into account ethical leadership theory (Schyve, 2009). In fact, such standards mandate that ethical decision-making underpin all actions within a healthcare organization (Schyve, 2009). Although there is not one leadership theory that is the panacea for every situation, adaptive leadership has been shown to be the most effective in leading organizations through change (Hogan, 2008). Adaptive leaders provide focus to the problems and help

followers and/or employees to develop their potential by involving them in finding a solution to the problem at hand (Hogan, 2008). Adaptive leaders are dynamic and exemplify flexibility while involving both high level and lower level stakeholders and allowing strong personalities to have a voice to create balance, collaboration, and integrity. Further, adaptive leadership has been shown to also be effective in smaller organizations such as birth centers, private practice, and home-based practice may have a relatively flat organizational structure (Hogan, 2008).

Adaptive leadership goes hand-in-hand with adaptation theory of organizational change (Galaskeiwicz & Bielefeld, 1998). This theory states that organizations will restructure themselves to ensure survival (Galaskeiwicz & Bielefeld, 1998).

Organizational restructuring often mandates that hospital leadership revise the values and policies of the organization. Leading an organization through change requires that leaders “maximize benefits and minimize the change impacts” (Kazmi & Naarananoja, 2014, p. 1). Although there are many models and frameworks to aid leaders in managing change in their organizations (Rogers, 2003; Kazmi & Naarananoja, 2014), Kotter’s (1996) Change Management Model of creating change in an organization offers some insight into achieving success in this arena at all levels of hospital leadership. Kotter’s Change Management Model is similar to other frameworks such as Lewin’s Change Model, Peter Senge’s Five Step Model for Learning Organizations, and Prosci’s ADKAR Model in that it is linear in nature and offers small, incremental change; however Kotter’s model brings awareness of the management of disruptive change (Kazmi & Naarananoja, 2014). The eight stage process involves creating a sense of urgency around the topic, developing a team to lead the desired change, creating a vision for the change,

communicating that vision, empowering those that carry out the vision, developing short term goals, remaining steadfast, and anchoring the change in everyday culture of the organization (Kotter, 1996; Pollack & Pollack, 2015). Although some scholars have offered criticisms to the linearity of Kotter's (1996) model, other have suggested that it builds a solid foundation and creates a normative approach to change (Pollack & Pollack, 2015). Policy development and implementation is not something that can be taken lightly if an organizational culture is to be built around the key concepts in the policy.

Adaptations may be needed to account for the complex nature of the hospital environment and the numerous stakeholders that may be involved; however using Kotter's (1996) model to link between the theory and practice of organizational change is the first step in the creation of new or the revision of current values and policies centered around perinatal quality of care. Congruency in the development and implementation of such policies at all levels of leadership will not only positively affect the quality of perinatal care that is offered, but also create a sustainable competitive advantage that would be difficult to imitate.

It is additional important to address the role of middle leaders in change efforts. Previous research indicates that middle leaders are most influential in creating the social context around the change and determining the emphasis that will be placed on the healthcare team (Paarlberg, 2003). Middle leaders have less of an impact on the initiation of formal change efforts, but rather provide the atmosphere by which formal change efforts are anchored into everyday culture (Kotter, 1996). Middle leaders can work with high level adaptive leaders to help to find a solution to the problem at hand, create the social context by which change can occur, and aid in the development of operational

practices that mirror the formal policies that are created through change efforts (Hogan, 2008). One finding of this study is that nurses provide a higher level of perinatal quality of care than do other healthcare provider types. Nurses and nurse managers are middle leaders and thus can have a great deal of impact on the quality of care that is provided in any facility. It would be advised to involve them in the team that is created to lead the desired change in perinatal quality as mirrored in Kotter's Change Management Model (Kotter, 1996).

Conclusion

This study offers a glimpse into the complex hospital landscape, which can ultimately affect the quality of perinatal care that is offered to patients. Although the study falls short on the support for four of the five hypotheses, there is an important message to be had in the findings - organizational factors do matter when it comes to support for offering high quality perinatal care. Overall this study finds that for-profit, urban hospitals that have an infant feeding policy in place provide higher perinatal quality. Additionally, nurses provide higher perinatal quality than other healthcare provider types. By ensuring that the perinatal team is represented on the boards of directors and included in policy development, adaptive hospital leaders will be better able to anchor desired change in everyday culture of the organization (Kotter, 1996; Pollack & Pollack, 2015). This study offers an opportunity to examine perinatal quality in a new and innovative way which will offer sustainability and a competitive advantage to the healthcare sector by focusing specifically the influence of organizational factors.

Utilizing the research question in this article, scholars can offer a unique and realistic

perspective of the broad range of perinatal care quality indicators and broaden the organizational factors that influence them in healthcare organizations.

References

- Ackoff, R. L. (1971). Toward a system of systems concepts. *Management Science*, 17(11), 661-672.
- Agency for Healthcare Research and Quality. (2012).
<http://www.qualityindicators.ahrq.gov>. Accessed February 10, 2016.
- American Academy of Pediatrics. (2017). Retrieved from: <https://www.aap.org/en-us/continuing-medical-education/mocportfolio/Pages/home.aspx> Accessed February 7, 2017.
- American Board of Family Medicine. (2017). Retrieved from:
<https://www.theabfm.org/MOC/index.aspx> Accessed February 7, 2017.
- American Hospital Association. (2017). Retrieved from:
<http://www.aha.org/research/rc/stat-studies/fast-facts.shtml> Accessed February 7, 2017.
- Arndt, M. & Bigelow, B. (2007). Hospital administration in the early 1900s: Visions for the future and the reality of daily practice. *Journal of Healthcare Management*, 52(1), 34-48.
- Ayanian, J. Z., Markel, H. (2016). Donabedian's lasting framework for health care quality. *N Engl J Med*, 375(3), 205-207.
- Avolio, B. J. & Gardner, W. L. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. *Leadership Quarterly*, 16, 315-338.
- Baby-Friendly USA. (2017). Retrieved here: <http://www.babyfriendlyusa.org/find-facilities> Accessed February 7, 2017.

- Baldwin, d. C. (2007). Some historical notes on interdisciplinary and interprofessional education and practice in health care in the USA. *Journal of Interprofessional Care*, 21(S1), 23-37.
- Barney, J. (2010). *Gaining and Sustaining Competitive Advantage*, 4th edition. New York, NY: Pearson.
- Barragato, C. A. (2002). Linking for-profit and nonprofit executive compensation: Salary composition and incentive structures in the U.S. hospital industry. *Voluntas*, 13(3), 301-311.
- Bartick, M., Stuebe, A., Shealy, K. R., Walker, M., Grummer-Strawn, L. M. (2009) Closing the quality gap: promoting evidence-based breastfeeding care in the hospital. *Pediatrics*, 124(4), e793-802.
- Boonen, A., Severens, J. L., & van der Linden, S. (2004). A tale of two cities: Hospitalization costs at 1897 and 1997. *International Journal of Technology Assessment in Health Care*, 20(2), 236–241.
- Bolon, D. S. (2005). Comparing mission statement content in for-profit and not-for-profit hospitals: Does mission really matter? *Hospital Topics*, 83(4), 2-9.
- Brown, M. E., & Mitchell, M. S. 2010. Ethical and unethical leadership: Exploring new avenues for future research. *Business Ethics Quarterly*, 20(4), 583.
- Brown, M. E., Trevino, L. K., & Harrison, D. A. 2005. Ethical leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Processes*, 97(2), 117-134.
- Buczko, W. (1992). What affects rural beneficiaries' use of urban and rural hospitals? *Health Care Financing Review*, 14(2), 107-114.

- Caldwell, C., Hayes, L. A., Bernal, P., & Karri, R. (2008). Ethical stewardship - implications for leadership and trust. *Journal of Business Ethics*, 78(1-2), 153-164.
- Calikoglu, S., Murray, R., & Fenney, D. (2012). Hospital pay-for-performance programs in maryland produced strong results, including reduced hospital-acquired conditions. *Health Affairs*, 31(12), 2649-2658.
- Centers for Disease Control and Prevention. (2015). Vital Signs: improvements in maternity care policies and practices that support breast-feeding—United States, 2007-2013. *MMWR Morb Mortal Wkly Rep*, 64(39), 1112–1117.
- Chemers, M. M. (1997). *An integrative theory of leadership*. Mahwah, NJ: Laurence Erlbaum Associates, Inc. Publishers.
- Chuang, S. & Inder, K. (2009). An effectiveness analysis of healthcare systems using a systems theoretic approach. *BMC Health Services Research*, 9, 195.
- Collins, K. J. & Draycott, T. (2015). Measuring quality in maternity care. *J of Best Practice & Research in Obstetrics and Gynaecology*, 29(8), 1132-1138.
- Colombo, J. D. (2006). The role of tax exemption in a competitive health care market. *Journal of Health Politics, Policy & Law*, 31(3), 623-642.
- Crocker, L. & Algina, J. (1986). *Introduction to Classical and Modern Test Theory*. Independence, KY: Wadsworth Publishing.
- de Carvalho, M., L., Boccolini, C., S., de Oliveira, M., I., C., & Leal, M., C. (2016). The baby-friendly hospital initiative and breastfeeding at birth in Brazil: a cross sectional study. *Reproductive Health*, 13(Suppl 3), 207-215.

- Conger, J. A. (1999). Charismatic and transformational leadership in organizations: An insider's perspective on these developing streams of research. *Leadership Quarterly*, 10(2), 145-179.
- Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management Review*, 22(1), 20-47.
- Davies, N., Fletcher, S., & Reeves S. (2016) Interprofessional education in maternity services: Is there evidence to support policy? *Journal of Interprofessional Care*, 30(6), 812-815.
- Dennison, B. A., Hawke, B. A., Ruberto, R. A., Gregg, D. J. (2015). Implementing legislation to improve hospital support of breastfeeding, New York State 2009-2013. *Public Health Research, Practice, and Policy*, 12(E22), 1-9.
- DiMaggio, P. J. & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, pp. 147-160.
- Donabedian, A. (1966). Evaluating the quality of medical care. *Milbank Mem Fund Q*, 44, Suppl 166-206.
- Donabedian, A. & Attwood, J. C. (1963). An evaluation of administrative controls in medical-care programs. *N Engl J Med*, 269, 347-54.
- Donaldson, L. (1995). *American Anti-Management Theories of Organization*. Melbourne, Australia: Cambridge University Press.
- Dunn, E. V., Bass, M. J., Williams, J. I., Borgiel, A. E. W., MacDonald, P., & Spasoff, R. A. (1988). Study of relation of continuing medical education to quality of family physicians' care. *The Journal of Medical Education*, 63(10), 775-784.

- Dulebohn, J. H., Bommer, W. H., Liden, R. C., Brouer, R. L., & Ferris, G. R. (2012). A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future. *Journal of Management*, 38(10), 1715-1759.
- Eckerd, A. and S. Moulton. (2011). Heterogeneous roles and heterogeneous practices: Understanding the adoption and uses of nonprofit performance evaluations. *American Journal of Evaluation*, 32(1), 98-117.
- Epstein, M. J. & Jha, A. (2010). Hospital governance and the quality of care. *Health Affairs*, 29(1), 182-187.
- Epstein, M. J. & McFarlan, F. W. (2011). Nonprofit vs. for-profit boards: Critical differences. *Strategic Finance*, 28, 29-35
- Escarence, J. J. & Kapur, K. (2009). Do Patients Bypass Rural Hospitals?: Determinants of Inpatient Hospital Choice in Rural California. *J of Health Care for the Pport and Underserved*, 20, 625-644.
- Foot, D. A., Seipel, S. J., Johnson, N. B., & Duffy, M. K. (2005). Employee commitment and organizational policies. *Management Decision*, 43(2), 203-219.
- Frakes, M. A. & Evans, T. (2006). An overview of Medicare reimbursement regulations for advanced practice nurses. *Nursing Economics*, 24(2), 59-66.
- Galaskeiwicz, J. & Bielefled, W. (1998). *Nonprofit organizations in the age of uncertainty: A study of organizational change*. Walter deGuyter, Inc.: New Yori, NY.

- Hammick, M., Freeth, D., Koppel, I., Reeves, S. & Barr, H. (2007). A best evidence systematic review of interprofessional education: BEME Guide no. 9. *Medical Teacher*, 29(8), 735-751.
- Hogan, T. (2008). The adaptive leadership maturity model. *Organization Development Journal*, 26(1), 55-61.
- Horwitz, J. R. (2005). Making profits and providing care: Comparing nonprofit, for-profit, and governmental hospitals. *Health Affairs*, 24(3), 790-801.
- Infantino, J. (2016, October 26). HHS: Rural hospitals outperformed urban facilities on certain quality initiatives. Retrieved from: <https://www.advisory.com/daily-briefing/2016/10/28/rural-hospitals-outperformed>. Accessed February 7, 2017.
- Iglehart, J. K., Baron, R. B. (2012). Ensuring physician's competence - Is maintenance of certification the answer? *New Eng J Med*, 367(26), 2543-2549.
- Institutes of Medicine . (2005). *Building a better delivery system: A new engineering/health care partnership*. Reid, P. P., Compton, W. D., Grossman, J. H., Fanjiang, G. (Eds.) National Academies Press: Washington, D.C.
- Josephson, G. W. (1997). Private hospital care for profit? A reappraisal. *Healthcare Management Review*, 22(3), 64-73.
- Kazmi, S. A. Z. & Naarananoja, M. (2014). Collection of change management models - An opportunity to make the best choice from the various organizational transformational techniques. *GSTF International Journal on Business Review*, 3(3), 1-14.

- Kellams, A., Savla, J., Akers, L., Eberly, T., Boutsalis, G., & Sriraman, N. (2014). The Impact of a Physician Performance Improvement Project for Maintenance of Certification on an Important Clinical Outcome: Exclusive Breastfeeding. *Journal of Continuing Education in the Health Professions*, 34(S1), S30-31.
- Khoury, A.J., Weisman, C.S., Jarjoura, C.M. (2001). Ownership type and community benefits of women's health centers. *Medical Care Research and Review*, 58(1), 76-99.
- Kohn, L, Corrigan, J and Donaldson, M. (2000) *To Err Is Human: Building a Safer Health System*. Washington: National Academy Press.
- Kotter, J. (1996) *Leading change*. Harvard Business School Press, Boston.
- Kozhimannil, K. B., Law, M. R., & Virnig, B.A. (2013). Cesarean delivery rates vary 10-fold among U.S. hospitals; Reducing variation may address quality, cost issues. *Health Aff (Millwood)*, 32(3), 527–535.
- Laamanen, R., Øvretveit, J., Sundell, J., Simonsen-Rehn, N., Suominen, S., & Brommels, M. (2006). Client perceptions of the performance of public and independent not-for-profit primary healthcare. *Scandinavian Journal of Public Health*, 34(6), 598-608.
- Leathard, A. (2003). *Interprofessional collaboration: from policy to practice in health and social care*. Hove ; New York : Brunner-Routledge.
- Lee, B., Trence, D., Inzucchi, S., Lin, J., Haimowitz, S., Wilkerson, E., Williams, C., Mosier, M., and Dex, T. (2016). Improving Type 2 diabetes patient health outcomes with individualized continuing medical education for primary care. *Diabetes Ther*, 7, 473-481.

- Lumala, A., Sekweyama, P., Abaasa, A., Lwanga, H. and Byaruhanga, R. (2017).
Assessment of quality of care among in-patients with postpartum haemorrhage and
severe pre-eclampsia at st. Francis hospital nsambya: a criteria-based audit. *BMC
Pregnancy and Childbirth*, 17(29), 1-7.
- Martens, P. (2012). What do Kramer's Baby-Friendly Hospital Initiative PROBIT studies
tell us? A review of a decade of research. *J Hum Lact*, 28(3), 335-342.
- Merry, M. D. & Crago, M. G. (2001). The past, present, and future of healthcare quality.
The Physician Executive, 30-35.
- Merten, S., Dratva, J., Ackermann-Liebrich, U. (2005). Do baby-friendly hospitals
influence breastfeeding duration on a national level? *Pediatrics*, 116(5), e702-708.
- Miller, P., Yasin, M. M. & Zimmerer, T. W. (2006). An empirical investigation of
quality improvement initiatives in for-profit and not-for-profit hospitals:
Environmental, competitive and outcome concerns. *International Journal of
Healthcare Quality Assurance*, 19(7), 539-550.
- McCay, N. L., Deily M. E., & Dorner, F. H. (2002). Ownership and changes in
inefficiency, 1986-1991. *Inquiry - Excellus Health Plan*, 39(4), 388-399.
- National Academy of Sciences (2000). *Crossing the Quality Chasm: A New Health
System for the 21st Century*. Washington, DC.: National Academy Press.
- Needleman, J. (2001). The role of nonprofits in health care. *Journal of Health Politics,
Policy, and Law*, 26(5), 1113-1130.
- Paarlberg, L. E. (2003). *Leading from the middle: The application of complexity science
to the study of middle managers and administrative change*. Available from
ProQuest Digital Dissertations. (AAT 305332876).

- Perez-Escamilla, R., Martinez, J. L. & Segura-Perez, S (2016). Impact of the Baby-Friendly Hospital Initiative on breastfeeding and child health outcomes: A systematic review. *J of Maternal & Child Nutrition*, 12, 402-417.
- Perrine, C. G., Scanlon, K. S., Li, R., Odom, E., Grummer-Strawn, L. M. (2012). Baby-Friendly hospital practices and meeting exclusive breastfeeding intention. *Pediatrics*, 130(1), 54-60.
- Pettersson, K. O., Johansson, E., Pelembe, M. de F. M., Dgedge, C. & Christensson, K. (2006). Mozambican midwives views on barriers to quality perinatal care. *Health Care for Women International*, 27(2), 145-168.
- Pollack, J. & Pollack, R. (2015) Using Kotter's eight stage process to manage an organisational change program: presentation. *Syst Prac Action Res*, 28, 51-66.
- Powell, W. W. & Steinberg, R. (Eds.). (2006). *The non-profit sector, A research handbook, Second edition*. New Haven, CT: Yale University Press.
- National Quality Forum. (2012). <http://www.qualityforum.org>. Accessed February 10, 2016.
- Raleigh, V. S., Cooper, J., Bremner, S. A., Scobie, S. (2008). Patient safety indicators for England from hospital administrative data: case-control analysis and comparison with US data. *BMJ*, 17(337), a1702.
- Rauscher Singh, S., & Wheeler, J. (2012). Hospital financial management: what is the link between revenue cycle management, profitability, and not-for-profit hospitals' ability to grow equity? *Journal of Healthcare Management*, 57(5), 325-339.
- Remington, P. L., Catlin, B.B., Kindig, D.A. (2013). Monitoring Progress in Population Health: Trends in Premature Death Rates. *Prev Chronic Dis* 10,1-8.

- Rogers, E.M. (2003). *Diffusion of Innovations*. The Free Press: New York, NY.
- Roomkin, M. J., & Weisbrod, B. A. (1999). Managerial compensation and incentives in for-profit and nonprofit hospitals. *Journal of Law Economics & Organization*, 15(3), 750.
- Rose-Ackerman, S. (1997). Altruism, ideological entrepreneurs and the non-profit firm. *Voluntas*, 8(2): 120-134.
- Rosenau, P. V. & Linder, S. H. (2003). Two Decades of Research Comparing For-Profit and Nonprofit Health Provider Performance in the United States. *Social Science Quarterly*, 84(2), 219-241.
- Ross, William T., Jr. & Robertson, D. C. 2000. Lying: The impact of decision context. *Business Ethics Quarterly*, 10(2), 409.
- Salamon, L. M. (Ed.). (2012). *The state of nonprofit America, Second edition*. Harrisonburg, VA: R. R. Donnelley and Sons.
- Schlesinger, M., Gray, B., & Bradley, E. (1996). Charity and community: The role of nonprofit ownership in a managed health care system. *Journal of Health Politics, Policy & Law*, 21(4), 697-750.
- Schyve P. (2009). *Leadership in Healthcare Organizations: A Guide to Joint Commission Leadership Standards*. San Diego, CA: The Governance Institute.
- Retrieved from:
http://www.jointcommission.org/assets/1/18/wp_leadership_standards.pdf. Accessed February 7, 2017.

- Salera-Vieira, J. & Zembo, C. T. (2016). Trends in Baby-Friendly® care in the United States: Historical influences on contemporary care. *Perinat Neonat Nurs*, 30(3), 243–248.
- Simatupang, T. M., & White, A. J. (1998). A policy resolution model for knowledge acquisition in quality management. *Total Quality Management*, 9(8), 767-779.
- Sloan, F. A., Picone, G. A., Taylor, D. H., Chou, S. Y. (2001). Hospital ownership and cost and quality of care: is there a dime's worth of difference? *Journal of Health Economics*, 20(1), 1-21.
- Smith, A. H. K., Dixon, A.L., & Page, L.A. (2009). Health-care professionals' views about safety in maternity services: a qualitative study. *Midwifery*, 25, 21-31.
- Tabachnick, B. G. & Fidell, L. S. (2013). *Using Multivariate Statistics* (6th Ed). Upper Saddle River, NJ; Pearson.
- The Joint Commission. (2010). http://www.jointcommission.org/perinatal_care/
Accessed February 10, 2016.
- Trevino, L. K., Brown, M. E., & Hartman, L. P. 2003. A qualitative investigation of perceived executive ethical leadership: Perceptions from inside and outside the executive suite. *Human Relations*, 56(1), 5-37.
- Ullmann, S. G. 1987. Ownership, regulation, quality assessment, and performance in the long-term care industry. *Gerontologist*, 27, 233-239.
- Viswanathan, H. N., Salmon J. W. 2000. Accrediting organizations and quality improvement. *Am J Manag Care*, 6, 1117-1130.
- Weaver, G. R., Trevino, L. K., & Agle, B. 2005. "Somebody I look up to:" ethical role models in organizations. *Organizational Dynamics*, 34(4), 313-330.

Weisbrod, B. A. (1988). *The non-profit economy*. Cambridge, MA: Harvard University Press.

Weisbrod, B. A. (1991). The health care quadrilemma: an essay on technological change, insurance, quality of care and cost containment. *J of Economic Literature*, 29(2), 523-552.

Weisbrod, B. A. & Schlesinger, M. (1986). "Ownership form and behavior in regulated markets with asymmetric information" in *The non-profit sector: economic theory and public policy*. New York: Oxford University Press.

Wood, V. R., Bhuian, S. & Kiecker, P. (2000). Market orientation and organizational performance in not-for-profit hospitals. *Journal of Business Research*, 48, 213-226.

Woolhandler, S. & Himmelstein, D. U. (1999). When money is the mission: The high costs of investor-owned care. *New England Journal of Medicine*, 341(6), 444-446.

World Health Organization. (2016). Retrieved from:

http://www.who.int/maternal_child_adolescent/topics/maternal/maternal_perinatal/en/

World Health Organization/UNICEF. (2009). Baby-Friendly Hospital Initiative Retrieved from

http://www.who.int/nutrition/publications/infantfeeding/bfhi_trainingcourse/en/