Long-Term Sustainability of Surgical Operational Improvements Post Consultancy: A Multiple Case Study Analysis

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Long-Term Sustainability of Surgical Operational Improvements Post Consultancy: A Multiple Case Study Analysis
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Abstract

United States hospitals are faced with fulfilling the triple aim, which require high quality, safe practices, and at lowered cost. The payment model for the Center of Medicaid and Medicare Services and many commercial payers has moved toward a fee-for-value based model, which was a deviation from the traditional fee-for-service system. The new models are either incentivizing healthcare providers for achieving or exceeding quality, safety, and service outcomes; or penalizing them for not adding value or achieving expected outcomes. Ultimately, hospitals are required to be efficient and bend the cost curve or suffer the consequences in their fiscal performance. Surgical services are hospital departments that have the potential to achieve the highest net revenue if efficiency is achieved and sustained. Hospital leaders often contract consultants to support business process change (BPC) efforts with the main goal of attaining long-term sustainable improvements to their operational processes through effective knowledge management. The following study was a retrospective examination of the BPC initiative through the perspectives of a cross section of two case sites surgical service members. The researcher compared and contrasted the surgical team's perceptions of their BPC execution, their journey, and the post initiative performance. Questionnaires, interviews, and document collection were used to collect a rich overview of the BPC phenomenon. The data showed that there are multiple factors that influenced the long-term culture of change, which included transformational leadership, effective knowledge management, and the prioritization of the change initiative. In addition, the participants implied that physician leadership is required to achieve behavioral alignment to expected performance. The outcome of this research resulted in the following recommendations to

direct future research. First, further investigation is needed to determine if the Lean methodology is an effective approach to business process change for healthcare organizations, or are there other methods that would prove more beneficial for the healthcare arena. Second, there needs to be more investigation on how healthcare systems can optimize knowledge management processes for retention and transition so when key leaders and knowledge experts leave organizational learning continues. Lastly, there needs to be further investigation into physician leaders' influence on business process change, which would include a gap assessment of their current clinical competencies against the business acumen domain of healthcare administration, operational management, and business development.

Acknowledgements

Simply stated, I thank God for getting me this far. One of the biggest clichés told to me before starting my dissertation was that it is a marathon. I am a runner and I know that most people finish marathons in under six hours. It is meant to be a metaphor, but I have to impress on anyone who takes the time to read this manuscript that it was more figuratively a journey to Mars. The journey tested every bit of my psychological wellbeing. Thankfully, I acknowledge that I was not alone in this process. I am blessed to have my parents; they dealt with the brunt of my anxiety, anger, and animosity. They let me vent and cry – they are the reason I live, survived, and did not give up. Their support allowed for my tenacity to reign; without my inherent stubbornness I would not have completed this process. Furthermore, to my friend and confidant (you know who you are), I thank you for inviting me on this journey with you. Northcentral University did not provide a traditional cohort, but we created our own and it was invaluable. We did not like each other at times, but truth be told, I do love you man. You are my consummate wingman.

The last six months was the most challenging, I knew it was going to be hard and it was unimaginably difficult especially with my work demands. I often felt that nothing was going well... and 'wow' I am now at the point of completion. Thank you Dr. Luckel for your words of encouragement and supporting my progress toward completion.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

Hospitals are complex and similar to other organizations where leadership must improve their service delivery, efficiencies, quality, and grow market share (Litvak & Fineberg, 2013). Basic economic rules suggest that quality and costs are directly proportional. However, the United States (US) healthcare policies require providers to improve their quality while also reducing the cost of delivering care (Cook et al., 2014). Elevated costs and over utilization of healthcare services is linked to1965 Medicare and Medicaid entitlement programs, which lacked cost transparency (Centers for Medicare & Medicaid Services [CMS], 2013). Many people who qualify for CMS entitlement programs or have employer sponsored benefits are often insulated from the true cost of healthcare (Perry, 2012). Without people having more financial responsibility for their healthcare, hospital leaders must reduce unnecessary utilization, keep quality constant, while also controlling expenses– they must do more with less (Delaney, 2011).

The US healthcare system allows providers to shift their expenses to payers, which includes costs associated with expensive facilities, liability, compensation packages, technology, pharmaceuticals, etc. (Delaney, 2011). These costs along with other factors has the US ranked in first place for having the costliest healthcare system in the world; where in 2011 costs reached 17.9% of the gross national product (Hartman, Martin, Benson, Catlin, & NHEA, 2013). Accordingly, in 2012, President Obama's administration upheld the Affordable Care Act (ACA) of 2010. The legislative goal was to enhance access, increase transparency, and eventually bend the cost curve through provider accountability measures (CMS, 2013). The provisions of the ACA changed the reimbursement models and progressively transformed the payer system from encounter

based to value based (Wai et al., 2012). Patients were "made more sensitive to the cost of services then empowered to make informed health care decisions… [In due course] the nation's healthcare woes would be cured" (Perry, 2012, p. 3). Ultimately, demonstrating and mastering quality and efficiency was not only vital to financial viability, but mandated and supervised by the government (Delaney, 2011).

Arguably, one of the biggest benefits of the ACA is how it influenced healthcare providers' accountability for quality, cost effectiveness, population health, disease management, and fraud and abuse (Rubino, Esparza, & Chassiakos, 2013). Carey, Burgess, and Young's study (2011) found that reengineering the surgical arena was a non-negotiable and crucial objective for hospitals. Surgical services is one of the most profitable revenue centers but also the costliest. Creating an efficient and productive surgical service should be a core strategy for hospitals and is imperative in achieving fiscal health (Perry, 2012). In recent years, surgical service efficiency projects were increasingly utilized specifically to ensure fiscal solvency in healthcare systems (Wai et al., 2012). Leaders must use sound knowledge management practices (KM) to create efficient services through sustained business process change (BPC) initiatives (Olson, Tooman, & Alvarado, 2010). External consultants are often enlisted to support BPC initiatives. However, because consultant engagements are temporary, the long-term sustainability of BPC is often out of their control (Furusten, 2013); it is through effective KM practices of leaders that change is sustained. The proposed study aimed to explore the long-term sustainability of BPC post consultancy within the surgical service arena.

Background

The US healthcare system currently still allows providers the ability to shift their costs to payers, which includes expenses associated with expensive facilities, liability, compensation packages, technology, pharmaceuticals, etc. (Delaney, 2011). Accordingly, in 2012, President Obama's administration upheld the Affordable Care Act (ACA) of 2010. The legislative goal was to enhance access, increase transparency, and eventually bend the cost curve through provider accountability measures (CMS, 2013). The provisions of the ACA changed the reimbursement models and are progressively transforming from encounter based to value based (Wai et al., 2012). As the US healthcare system changes to value based transactions the consumer, such as the patient and the employer, becomes more aware of the cost of services and may make decisions based on quality at the lowest cost solution. This may help curve the ever growing cost of care (Perry, 2012). Ultimately, demonstrating and mastering quality and efficiency is not only vital to financial viability, but it is mandated and supervised by the government (Delaney, 2011). Arguably, one of the biggest benefits of the ACA was its influence in making healthcare providers accountable for quality, cost effectiveness, population health, disease management, and fraud and abuse (Rubino, Esparza, & Chassiakos, 2013). Carey, Burgess, and Young's study (2011) found that reengineering the surgical arena is a significant competitive pressure confronting hospitals. Surgical service is one of the most profitable revenue centers but also the costliest. Creating an efficient and productive surgical service should be a core strategy for all hospitals and is imperative in achieving fiscal health (Perry, 2012).

Statement of the Problem

The specific problem examined in this study was hospital leaders' inability to sustain BPC through KM practices (Brooks & Krupka, 2012). Within the business industry, 70% of BPC initiatives were neither sustainable nor successful, which had leaders unable achieve the expected efficiencies in their operations thus limiting their financial health (Gastaldi, Lettieri, Corso, & Masella, 2012; Fincham & Mohe, 2011; Sarker, Sarker, & Sidorova, 2006). Previous research showed a direct link between leadership responsibilities and change processes. These studies examined how leadership and teams' influence successful BPC and how an organization's culture must evolve to sustain new processes (Kıyak et al., 2011; Lee, Ridzi, Amber, & Coskun, 2011; McCabe, 2010). Going forward, it is recommended that studies on BPC investigate the KM concept as a core process by which leaders create a learning environment and influence knowledge sharing for sustained change (Lee et al., 2011). This investigation was supported by quantitative studies that found a positive link between effective KM and hospitals' financial performance post BPC (Andreeva & Kianto, 2012; Donate & de Pablo, 2015).

Healthcare leadership is focused on achieving high quality while controlling cost, which was an effect of the ACA policy (Delaney, 2011; Wai et. al, 2012). The consequence of inefficiencies influenced hospitals' ability to stay financially viable (Sandbaek, Helgheim, Larson, & Fasting, 2014). This is because reimbursements models moved from fee-for-service to fee-for-value (Litvak & Fineberg, 2013). Surgical services achieve the highest revenue while also incurs large overhead costs. As a key revenue center, surgical service leadership must implement KM practices to enforce BPC to not

only enhance quality and safety, but also reduce costs associated with late starts, slow operating room turnover, and wasted resources – ultimately achieving sustainable and reliable performance (Nieman, 2010).

Purpose of the Study

The purpose of this qualitative multiple case study was to explore hospital leaders' ability to sustain BPC through KM practices. The study was framed by hospital leaders who contract consultants to provide solutions for BPC. The goal was to identify two contrasting surgical teams that underwent similar BPC initiatives – one with sustained outcomes and one with inadequate long-term results. The plan compared the two teams' processes, communications, and dynamics to understand how specific factors influence the sustainability of BPC outcomes. This specifically involved investigating the policies and approach to the KM process among healthcare teams – examining this concept via the perceptions of leaders, subordinates, physicians, and other key stakeholders. This investigation was framed around Grant's (1996) knowledge base theory of the firm, which implied that organizational capability, design, and boundaries define leaders' knowledge-based approach around innovation and change.

In this study the researcher identified one consultant firm that offered surgical service reengineering for acute care hospitals. The consultant company identified was a company that provided evidence based BPC services to transform client hospitals' perioperative centers (surgical services). This consultant company was chosen because of their niche offerings in surgical services; they have extensive experience and have worked with over 200 client hospitals in various locations within the US. The consultant recommended and provided the necessary contacts of two of their past hospital clients

within the greater Chicago Midwest region. Triangulation tactics for data collection and analysis was used. The investigation included a questionnaire for the entire surgical team and semi-structured interviews with at least five individuals from each surgical service team. The questionnaires were deployed electronically via email with a database link; the quantity of surveys was based on the size of each department. The plan was for the researcher to visit each hospital to conduct the interviews one-on-one or at the convenience of the interviewee. The interviews included the highest accountable leader for the surgical department and then proceeded to other key leaders, physicians, and nurses. The targeted participant description was provided to the service area leader who helped identify the specific individuals to participate in the interviews. Additional data was requested, which included: documentation of the BPC charter, process design, team composition, market share data, productivity budgets, and performance tracking/evaluation reports. The results of the study provided an understanding of how leadership influences knowledge translation and sharing among teams during BPC initiatives. The significance of this study was based on the assumption that investments in BPC in healthcare requires achieving sustained results in order to comply with industry demands while also justifying the expense of the change process (Sarker, Sarker, & Sidorova, 2006; Turesky & Connell, 2010). The core concept of this study was the KM process and its effect on BPC. This involved leadership's ability to assess team readiness, prepare teams for change, enforce the adoption of the proposed consultant solution, and validate and verify that the knowledge transfer (KT) was successful so the implemented efficiencies and operational best practices continued when the consultant firm felt the organization (McCabe, 2010; Orlikoff & Saitow, 2011). Although the scope

of this paper was limited to the Chicago region and focused on two acute care hospitals' surgical services, the findings are applicable to other departments within the healthcare arena and to other non-healthcare industries that aim to reengineer their business processes for sustained organizational change.

Research Questions

The researcher aimed to support the interests of industry practitioners through exploring hospital leaders' ability to sustain BPC through KM practices. As leaders search for best practice solutions for sustainable change, they often enlist the support of consultants (Greig, Entwistle, & Beech, 2012). In healthcare, the business and operational processes are complex and susceptible to constant change; in addition, the guidance of consultants is considered a common, costly, yet valuable approach to implementing rapid change (Momani, 2013).

In light of the mandates of the ACA there is a high level of uncertainty among healthcare systems. One thing is assured, change is inevitable, and healthcare system leaders must ensure their teams provide the highest quality at the lowest possible cost (Delaney, 2011). Today's healthcare leaders need a variety of competencies to manage and coordinate the activities of their operational teams in order to respond to the ambiguity of healthcare reform (Fincham & Mohe, 2011). Therefore, KM was presented as a key process that is necessary to adequately prepare teams for the impending challenges and to implement solutions aimed at enhancing clinical and fiscal outcomes (Holmes et al., 2016). The questions listed below helped guide this research on leadership's influence on sustained BPC, which focused on leadership and KM processes. A leaders' approach to KM involved transforming culture and assessing their team's

readiness for change (Holt, Helfrich, Hall, & Weiner, 2010). The following research questions were developed to guide the case study interview process and examine the core problem. The central questions to this study are discussed below.

Q1. What are the hospital leadership KM practices that influenced BPC success and sustainability within the surgical service arena?

Q2. How did leaders execute KM practices to ensure long-term success of their BPC initiatives for hospital surgical services?

Through the process of uncovering various factors that may enable successful BPC initiatives, these questions helped understand leaderships' responsibility to successful change. In addition, answering the core questions explored the techniques necessary to ensure adequate knowledge transfer for sustained BPC within the scope of hospital surgical services. A case study approach was used to understand the KM processes required to effectively lead BPC engagements for long-term success. Prior research found that effective leadership and tenure may create the best opportunity for sustained BPC – this requires style, competency, and tenacity to create a learning environment and execute change long-term (Donate & de Pablo, 2015).

One question that was answered in advance was: Why do hospitals contract consultants for BPC? This question was answered by understanding that hospitals utilize consultants in a variety of ways but mainly to validate their core problem and operational ineffectiveness, propose a best practice methodology designed to enhance efficiencies, and to train the team to implement the proposed solutions (Sarker, Sarker, & Sidorova, 2006; Turesky & Connell, 2010). Furthermore, healthcare leaders often have limited or inadequate internal resources available to facilitate the BPC initiative (Sturdy, Wylie, &

Wright, 2013). Often times the hospitals' issues reached a point where they need a solution implemented promptly in order to achieve timely results (Turesky & Connell, 2010). Consultants are brought in under the assumption that their expert knowledge may assist in the identification of organizational inefficiencies and evidence-based solutions to reengineer the operational flow (Sarker, Sarker, & Sidorova, 2006). Considering the high cost of consultants and their temporary nature, hospitals would refrain from consultant engagements without the intent to sustain post-engagement improvements. The core questions were answerable based on the ability to document both the consultants and surgical team members' perceptions of their experiences while focusing the inquiry around the context of KM and leadership. In addition, through the exploration of answers to the core questions the study exposed factors that influence BPC both positively and negatively.

Significance of the Study

The significance of this study was related to the on-going pressures of hospital leaders to reduce costs while improving or holding quality and safety constant. Healthcare providers have begun to see a deterioration of the traditional fee-for-service payment models toward value based methodologies that reward providers for improving the health and welfare of the patients they serve (Delaney, 2011). Since surgical services has contributed to the highest cost and often the highest revenue for any hospital, it is imperative that the surgical arena is ran effectively with high attention to resource management, throughput, planning, scheduling, and other operational concepts (Cho & Jung, 2014). This requires strong leadership that is inclusive, collaborative, and shares the vision and accountability to high level performance. A well-managed surgical arena

may pose the best opportunity for hospitals to maintain fiscal strength; providing the financial resources to invest in needed healthcare programs for the service communities (Sandbaek, Helgheim, Larsen, & Fasting, 2014).

Definition of Key Terms

Actor. Based on the theory of the actor-network, actors are people, teams, or resources that interact in a variety of processes to influence an environment and each other individually. Actors form teams, societies, and organizations that are patterned into networks of diverse entities (Burne & Cooke, 2013; Mohe & Seidl, 2011).

Business process change (BPC). There are a number of factors that hospitals engage in BPC; one of the main goals for enacting change involves improving quality and safety for the patients they serve while also attracting more business to increase productivity. The strategies for change include, patient and physician satisfaction, improvements in patient flow and clinical outcomes, reducing medical errors, delivering cost-effective care, improving care coordination, enhancing access to care and timeliness of services delivered (Sarker, Sarker, & Sidorova, 2006).

Consultancy. When a business contracts external business professional services to support business planning, problem identification, and implementation of initiatives, it is called consultancy. Consultants are considered well versed in industry trends and best practices. They are viewed as expert resources to guide organizations toward attaining the necessary knowledge base to successfully navigate the rough business terrain (Fincham & Mohe, 2011; Sanborn, 2008).

Culture. An organizational culture exists not only where there is shared meaning, but culture also reflects memories of multiple moments of individually defined

and subjective experiences bound by acceptance, conflict, politics, and bureaucracy (McCabe, 2010).

Effectiveness. An organization's surgical service can be highly efficient at operating room turn-a-round, which is the reduction of wasted time that can be allocated directly to patient care. However, if they have poor surgeon satisfaction, they are ineffective at achieving adequate market share to drive business into their organization. Operational effectiveness is a measure that compares the ratio of performance (i.e. productivity, volumes, cases, outcomes) and cost (i.e. time, money, space, resources). The higher measure of cost versus a low performance is the lowest level of effectiveness; vice-versa, the lowest measure of cost versus the highest measure of performance is the highest level of efficiency (Martz, 2011).

Efficiency. Efficiency is one component that organizations may target for improvement in a BPC effort. It is the ability to supply more services and higher quality without the use of additional resources (Martz, 2011).

Knowledge. Knowledge is considered a variety of concepts, ideas, insights, and routines that actors use to assign meaning to an environment. It is an individual property that cannot be observed externally, but can be translated socially (Olson, Tooman, & Alvarado, 2010). Knowledge is also information that has characteristics of reliability and validity; expressed from proof, experience, and practice (Donate & de Pablo, 2015).

Knowledge management (KM). Knowledge management is a process of managing the learning process and ensuring the successful transfer of knowledge from one entity to another (Ozlen & Handzic, 2011). Healthcare is knowledge intensive and has many knowledge driven processes. Knowledge management is a process where

leaders provide the best opportunity for performance improvement (Bordoloi & Islam, 2012). The process of KM involves: the ability for leaders to share existing knowledge, the ability to create new knowledge, creating a culture that encourages knowledge creation and sharing, and a regard for the strategic value of knowledge and learning (Gastaldi et al., 2012; Zack, McKeen, & Singh, 2009).

Knowledge transfer (KT). When actors interact, a process of learning, translating, and transferring, a set of skills and competencies may occur (Donate & de Pablo, 2015). The KT process in business involves individual's diligent comprehension, study, and documentation of the transacted skills. In addition, KT requires the requisite competencies to achieve efficient operations, business processes, and desired service growth (Olson, Tooman, & Alvarado, 2010).

Leadership. Leaders facilitate and champion change and create an environment where change is a characteristic of the organizational culture. Managers can be differentiated from leaders in the sense that managers embody operational processes to ensure standardization of behavior and business activities. For the sake of this study, leadership and management were synonymously united; both are vital to the initiation and stability of a change process. Effective leadership is vital to successfully enact change, where there is a clearly communicated vision and appropriately delegated accountabilities and expectations. Effectiveness in leadership involves heightening the awareness of crisis and threats to the organization and prioritizing the need to act. Furthermore, effectiveness in leadership entails setting aggressive goals and standards that are measurable, realistic, and achievable. There are various forms of leadership, where the most effective leaders in the facilitation of organizational change are

charismatic and participative, motivators that inspire people and encourage teams to overcome barriers in order realize change (Horn, Mathis, Robinson, & Randle, 2014; Kotter, 1990; Lega et al, 2013; Lucey, 2008; Macaux, 2014).

Return-on-investment (ROI). Return-on-investment is an economic profitability ratio; it is a performance measurement to understand the tangible benefit outcome post investment. Hospitals often measure success for their business investments based on ROI, which can be achieved through not only direct net revenue, but also through in-direct downstream revenue resulting from increased utilization, case mix, and provider satisfaction and loyalty (Rauh, Wadsworth, & Weeks, 2010).

Surgical services. An acute care hospital department that facilitates both inpatient and outpatient surgical procedures have surgical service departments. These departments include operational suites (operating rooms), anesthesia/pain management capabilities, pre-operative and post-operative care units, sterile processing, and professional clinical services (Ryckman et al., 2009).

Sustainability. Sustainability is the ability for an organization's team to adhere to implemented change, improvements, new standards, behaviors, and norms for an extended period of time (indefinitely) (Martz, 2011).

Uncertainty. Businesses in today's economy are faced with different forms of uncertainty; some such sources are market environmental dynamics, competitive networks, and the built-in ambiguities and complexities of management (Fincham & Mohe, 2011; Skarzauskiene, 2010).

Summary

The purpose of this qualitative multiple case study was to explore hospital leaders' ability to sustain BPC through KM practices in the surgical service arena. The healthcare reform legislation of 2012 resulted in substantial challenges for hospitals in demonstrating efficiencies and quality in their service delivery (Delaney, 2011). Management practitioners and scholars interested this concept would find interest in explorative and problem-based research aimed at the complexities that plague the industry (Sidorova & Isik, 2010). Healthcare organizations are social systems that are affected by the intra-organizational and extra-organizational influences. As such, healthcare environments can be explained by open-systems theories that illustrate how leaders incorporate external inputs into their decision making and KM processes (Skarzauskiene, 2010; Ward et al., 2011). Through the utilization of qualitative multiple case study research the plan was to demonstrate both rigor and relevance in discovering the factors that affect the long-term outcome of BPC in surgical services (Wilson, Lavis, Travers, & Rourke, 2010). Through exploring the KM and translation effects within surgical teams this study showcased examples of best practices and highlight risk factors that hinder an organization's sustainability of change.

Chapter 2: Literature Review

The current United States healthcare system is broken and plagued by inefficient business processes. The responsibility of healthcare leaders in responding to the Accountable Care Act of 2010 is to move their organizations toward a future of efficient, cost-effective, and quality care that focuses on high-level provider and patient engagement (Coyne & Helton, 2014). Leaders may or may not know what is wrong with their broken operational processes, but they realize the symptoms of operational inefficiencies from declining revenue, lost productivity, or declining physician loyalty. In particular, broken surgical processes reduce productivity and likely accounts for proportionate decreases in lucrative operational margins (Wai et al., 2012). The obligation of leaders is the deliberate application of strategy to respond to the external environment (Kıyak, Bozaykut, Güngör, & Aktaş, 2011).

The recent enactment of the Affordable Care Act of 2010 in many ways mandated that healthcare organizations reengineer their operations (Delaney, 2011). Accountable Care Organizations (ACOs) are supported by ACA provisions and provides structure to organizations' efforts to improve coordinated care by reducing fragmentation, controlling costs, and enhancing quality and outcomes (Coyne & Helton, 2014). Hospitals often need support in identifying issues and developing tactics to deal with their challenges. In addition, leaders must influence others to apply the strategy and follow the vision (Kıyak et al., 2011). In efforts to effectively enact timely change external consultants are often employed to offer or validate techniques for BPC in the hospital operational environment. Consultants provide professional services either as a resource or process role; they often are brought in with the expectation that they transfer their expert knowledge of

organizational inefficiencies and evidence-based solutions to reengineer the operational flow (Hu, Found, Williams, & Mason, 2014; Sarker, Sarker, & Sidorova, 2006).

The following section is a literature review for the proposed study on the long-term sustainability of business process change (BPC) in surgical services post consultancy. The review is sorted into the following sub-sections: organizational effectiveness, business process change methodology, surgical service change management, leadership, consultant integration, and knowledge management. Some of the reviewed literature spoke to organizations' business strategy and the need for BPC. There is other literature that KM spoke to the fundamental basis for change; highlighting that leadership and culture are key factors that influence the change success (Donate & de Pablo, 2015). In addition, there are differing approaches to adapt theory to consultancy and the client-consultant relationship. The inclusion of case studies highlighted factors for success and conversely the risks for failure as related to effective knowledge transfer. The undertones of the literature are positive toward the value and necessity of external consultants in the knowledge transfer process. In addition, similar themes emerge related to KM and the imperative of having effective leadership, clear priorities, competent communication, and buy-in by key stakeholders in order to achieve sustainable success.

Documentation

This literature review was developed from the synthesis and critique of many studies and white papers relevant to the concepts of reengineering, operational improvement, organizational effectiveness, business process change, organizational transformation, and any other similar concept. Furthermore, the references were filtered for healthcare, leadership and teams, finance, and surgical/operational service planning

and production. The databases sourced were mostly from ECSCOHost, ProQuest, Sage Journals, and ScienceDirect. Preliminary search was conducted through Google Scholar which allowed for key word searches, but also provided the ability to search cited references and similar research concepts. Once a reference was identified within Google Scholar it was sourced within Northcentral's online library Roadrunner search engine. The majority of the references used were published after 2010. All of the research cited were written in English, however some of the studies were conducted outside of the United States. There was a deliberate search for US studies to compare against foreign resources, the main reason is because the US healthcare system's public and private nature differs from that of many nations that have universal healthcare systems. Since this research has an economic implication of operational improvements it was important that BPC studies factored in efficiencies as a key objective in addition to quality and outcomes.

Organization Effectiveness

There was synergy among researchers who found that organizational effectiveness is influenced by leadership, shared vision, team engagement, cooperation, accountability, and communication (Sarker, Sarker, & Sidorova, 2006; Tursky & Connell, 2010). As documented by Sarker, Sarker, and Sidorova (2006) and again by Tursky and Connell (2010), BPC was not always realized, where the data showed that 70% of initiatives are believed to have failed. These findings were supported by a study by Burnes and Jackson (2011), which found that many reengineering initiatives are unable to achieve long-term sustainability of their change initiatives.

The United States health system is in a political flux with little agreement as to the structure and policy effectiveness of the ACA. Healthcare leaders struggle to define organizational effectiveness in light of the intense demands to lower costs, enhance quality, and maximize access to their community stakeholders (Trajkovski, Schmied, Vickers, & Jackson, 2013). The ability to effectively develop plans and execute on these demands is critical to long-term viability (Rosacker, Zuckweiler, & Buelow, 2010). Healthcare organizations must proactively prepare for a future that is quite murky, which implies that healthcare leaders need to diligently attend to fiscal and strategic planning in order to meet the challenges of the unknown future (Orlikoff & Saitow, 2011). Healthcare reform is centered on patient care processes and the ability of providers to efficiently manage their patients and provide quality, evidence based care at lower cost (Timmins, 2014). Over time the provisions of the ACA are expected to add an additional 32 million Americans into the healthcare system. Insurers are preparing to drastically change their payment models, with Medicare leading the pack with the pay-for-value and population based healthcare programs (Litvak & Fineberg, 2013).

The changes to the payment model are expected to put a strain on hospitals' operating margins. These changes add a high level of fiscal uncertainty to many healthcare providers (Orlikoff & Saitow, 2011). Achieving sustained operational effectiveness in the future requires an investment in people, innovation, and process improvement, as well as a commitment to information rich decisions around key profitable service lines (Nieman, 2010). To realize success, diligent collaboration is needed between physicians and administrators to build a cohesive environment designed for continuous processes improvement and quality patient care (Bender, Nicolescu,

Hollingsworth, Murer, Wallace, & Ertl, 2015; Timmins, 2014). Furthermore, some researchers add that successful change is a factor of value alignment between the organizational members and the leadership (Burnes & Jackson, 2011).

The impending influx of new patients into the healthcare system through the expansion of Medicaid and the insurance marketplace is compounded by an expected growing populous of baby-boomers (Litvak & Fineberg, 2013). Hospitals face a daunting task that requires dealing with more seniors and individuals with chronic conditions while being subjected to reduced reimbursement for care. A high degree of efficiency is required to manage these demands - doing more with less requires skilled management teams (Litvak & Fineberg, 2013). Organizational effectiveness is achieved by optimizing planning, budgetary, and functional goals. Without continuous improvement and BPC, healthcare systems may lose their relevance in their markets and have a limited capability to compete and survive. The current state of the healthcare system requires a BPC model that is best fit to the situation of each hospital; constant adaptation and change is the most effective way organizations can thrive (Burnes & Jackson, 2011).

There are a multitude of reasons that lead healthcare leaders to initiate BPC. The important external factors/influencers that healthcare leaders need to be concerned with during BPC planning are insurance reimbursement practices, government regulations, cost structures, and social demographics and community need (Langabeer, 2006; Rosacker, Zuckweiler, & Buelow, 2010). Furthermore, there are more intrinsic factors that may influence change, which include operational capacity, financial constraints, local community factors, leadership tenure and approach to change (Fulop, Walters, &

Spurgeon, 2012). Many hospital leaders need help; therefore, it is probable that many leaders seek external support and knowledge to help navigate the changing industry dynamics and build effective strategies for their organizations. External consultants who are experienced in workforce optimization, operational effectiveness, and business may be necessary resources to enforce the competencies necessary to lead BPC (Orlikoff & Saitow, 2011).

Bianchi, Bivona, Cognata, Ferrara, Landi, and Ricci (2010) applied an open-system view to organizational effectiveness. In their study they evaluated how teams work together to achieve change. They examined the roll of values, accountability, and processes involved in decision making to transform public sector organizations. Bianchi et al. (2010) used case studies to illustrate their model and show how external forces (sub-systems) affect organizational effectiveness. The main external forces are social, political, institutional, and organizational systems. The outcome of their study showed that ineffective communication between each sub-system poses a high risk for BPC failure. Bianchi et al. (2010) contribution to organizational effectiveness is to illustrate and remind us that external forces can and do create complexities in an organizations ability to attain efficiency and improve outcomes. Malhotra and Hinings (2015) further contributed to this concept by evaluating the contributing forces to transformational change. In their case study research they examined the effectiveness of competing values within an organization as a catalyst for change and that the expression and cultivation of differing perspectives can lead to innovative solutions for success (Malhotra & Hinings, 2015). Both of these studies highlighted the importance of communication as the fundamental factor to deal with challenges and promote change. As an example, the

recent US ICD-10 conversion created an extreme learning curve for hospital coders and physicians; without clear communication, education, and mutual listening between both parties neither side would have been successful in meeting the demands of change. Furthermore, individual hospitals have little influence over the governmental policy changes that affect their reimbursement, which requires diligent efforts to partner with their physicians to affect change. The macro healthcare system is not a fair and balanced system, so it is potentially more difficult to define and identify feedback loops in complex systems such as healthcare (Bianchi et al., 2010).

Process Challenges. In the literature several researchers identified several issues in achieving BPC sustainability, which were the absence of autonomous, dedicated, and fully resourced implementation teams (Turesky & Connell, 2010). In addition, further challenges were also noted associated with the lack of structured methodology and project management, failure to plan and manage quick wins, failure to fully mobilize change champions, overutilization of outsiders such as consultants to transact change, and failure to monitor and evaluate outcomes (Burnes & Jackson 2011; Turesky & Connell, 2010). Furthermore, issues related to the internal politics of organizations such as leadership being inundated with multiple projects, limited resources available to execute project plans, overly broad or ambiguous objectives, and initiatives with conflicting or multiple priorities (Brooks & Krupka, 2012; Sarker, Sarker, & Sidorova, 2006). The competing priorities put all the projects at risk of missing targets both in outcomes and budget. In addition, it was also found that middle managements' involvement in the decision-making was also a factor influencing BPC; in particular,

their inability or unwillingness to substantiate the new knowledge base was related to the derailment of BPC (Turesky & Connell, 2010).

Lucey (2008) used open systems theory and tested it against interview data from a variety of executives, which included organizational executives, consultants, and academics. The outcome of the study emphasized strategies to minimize the risk of BPC failures – notably, they claimed that ensuring leadership stability and tenure during and after the project is imperative. Sarker et al. (2006) used the actor-network theory to understand team effectiveness in BPC. They used a case study approach to explore a BPC initiative at a telecommunications company. The Sarker et al. (2006) study was confirmed by Lucey's (2008) research, which suggested that leadership is the key to success in BPC initiatives. These two studies also found the one key factor that undermines success is core leadership and staff turnover, specifically those individuals whom were instrumental in the BPC planning (Lucey, 2008; Sarker et al., 2006). Leaders are cited as being responsible for the task of convincing stakeholders to become allies or champions for change (Burnes & Cooke, 2013). The identification of focal players in the change initiative is important, but the strategy for communication and team buy-in is essential (Donate & de Pablo, 2015; Hellstrom, Lefvergren, & Quist, 2010). A shared vision is imperative; this vision must carry through the life of the project.

As related specifically to healthcare, BPC has proven to be difficult for many leaders. Not all hospital leaders are successful and invest limited resources in projects that have little or no impact in affecting the stated objectives. Healthcare systems are complex; they involve multiple internal and external decision makers, which complicates communication and shared meaning between stakeholders (Betolini, Bevilacqua,

Ciarapica, & Giacchetta, 2010). In the 2005-2006 study by the Society for Healthcare Strategy and Market Development (SHSMD) of the American Hospital Association, and Health Strategies & Solutions, Inc., researchers evaluated the state of healthcare strategic planning and indicated that healthcare organizations achieve less success than other industries (Geffner & Corwin, 2014). They claimed that the transition from planning to implementation is particularly susceptible to pitfalls such as lost energy and focus, limited resource allocation, lack of proper management transition, and disconnection between planning and operational efforts (Geffner & Corwin, 2014). This study was supported by other researchers that indicated about 70% of BPC initiatives are believed to have failed or are not always realized (Burnes & Jackson, 2011; Sarker, Sarker & Sidorova, 2006). Furthermore, researchers focused on the nuances of public service organizations claim that the approaches to BPC, such as Lean methodology, creates challenges to successful initiatives (Radnor & Osborne, 2013). In addition, other BPC efforts such as total quality management (TQM) initiatives struggle to achieve sustained results; over 40% of hospitals evaluated by the Joint Commission on Accreditation of Healthcare Organizations are successful (Betolini et al., 2010).

Challenges in achieving organizational effectiveness through BPC is inherent in healthcare partly because of the variety of professional doctrines that define the healthcare delivery system such as physicians nature toward autonomy, different health outcome measures and treatment philosophies, and the difficulty to standardize processes (Betolini et al., 2010). There must be strong deference to multidisciplinary team contributions, which is fundamental for creating and transferring knowledge (Betolini et

al., 2010). Therefore, healthcare leaders must create opportunities to integrate knowledge and coordinate teams toward a common purpose.

Part of the problem is that organizational leaders tend to approach change initiatives in a technical-centric fashion, while ignoring the role of communication, politics, and leadership issues that are critical to success (Sarker et al., 2006). In addition, the lack of success can be contributed to staff's lack of motivation or reluctance to change processes, physicians' unwillingness to accept change, management teams focus on short-term wins versus a long-rang outlook. The vital importance for healthcare leaders to demonstrate positive outcomes requires their full attention. It was identified in the literature that healthcare managers have a tendency toward reactivity and 'putting out fires' instead of focusing on critical issues pertinent to the success of their long-term BPC initiatives. As such, hardwiring standardized operational management processes is arguably more difficult in healthcare environments. There is a potential need for tools to aid healthcare leaders in identifying their critical focus areas, establishing priorities, and developing key messaging that enhances communication and acceptance of the organizational vision (Rosacker et al., 2010).

Some additional reasons healthcare leaders have limited success in BPC can be contributed to poor implementation of change methodology, unaligned agreement to change, and misunderstanding customer requirements. Furthermore, there is often a reluctance to allocate the needed human resources to execute on the project plans. Plans with limited resources are flawed from the start - BPC planning is an iterative process requiring multiple rounds of review and refinement; if not done the model is incomplete

(unspecified to the problem at hand) or loaded with assumptions (inability to validate and verify fit) resulting in flawed processes (Betolini et al., 2010).

Project Management. Hospitals' leaders are often initiating projects to improve quality, reduce costs, and increase revenues. In the empirical research by Rosacker, Zuckweiler, and Buelow (2010), they attempted to identify the best practices in successful BPC projects within the context of healthcare. They explored BPC project management effectiveness as a measure of success. Since healthcare has many stakeholders within diverse specialty and knowledge domains, success in BPC can be a matter of perception. This is because professionals within different disciplines assess success using different criteria. In the project manager's perspective BPC success is measured by the project being on time, within budget, and according to specifications. In many respects, this is a limited view and merely short-term successes. Attention is needed to the long-term impact on the sustainability of an organization. The ultimate goal in initiating any BPC project should be linked to organizational leaders' ability to ensure their teams thrive and remain relevant and competitive in their environment (Rosacker et al., 2010).

Healthcare leaders initiate BPC projects to create efficiencies required to achieve the cost-cutting measures required to respond to the industry pressures (Trajkovski, Schmied, Vickers, & Jackson, 2013). In order to identify relevant BPC projects Brooks and Krupka (2012) suggested utilizing concepts similar to developing a financial portfolio. This involves a three step process, which includes mapping the strategy, identifying a list of projects, and prioritizing the list by limiting it to high impact and feasible projects. Mapping the strategy is first because it is the most fundamental; it

involves targeting the most critical performance gaps. The metrics chosen can be outcomes, operational, or financial based; on the financial side some of the targeted indicators are margins achieved by key service lines, staffing, and supply expenses. In regards to identifying the BPC projects, evaluating the established resources helps prioritize projects, such as surgeon stewardship, relevant and updated technology, and the qualifications of operational leaders and change agents that can be part of the project team. The most qualified individuals to identify and recommend what needs to be fixed and what projects to tackle are those on the front-line and those leaders most directly accountable for the service area (Brooks & Krupka, 2012). The proposed projects should be prioritized to ensure that only those with the most realistic and feasible objectives are started. As stated, the new environment of healthcare is shifting to value-based payment and requires leaders to play a strategic role that enforces financial well-being for their organizations by finding ways to achieve innovation while also improving quality, reducing costs, and enhancing revenues. The moral to the story is that some 'flavor of the day' projects aimed at operational improvements may have limited impact on the fiscal health of an organization. However, Brooks and Krupka (2012) advocate for hospital operational leaders to partner with financial leaders in order to identify specific projects that may enhance the fiscal health of the organization. The management domains used to transform wasteful, ineffective, or unsafe organization and professional working practices includes performance management, business process change or reengineering, total quality management, risk management, and knowledge management.

Business Process Change (BPC)

The management domains used to transform wasteful, ineffective, or unsafe organizational and professional working practices include performance management, business process change (BPC) or reengineering, total quality management, risk management, and knowledge management (KM). There are BPC tools documented in the literature that are well established in the healthcare industry; some are effective with low costs, while others require the investment in extra resources to provide timely and long-term results (Smith, Christiansen, Dick, Howden, Wasylak, & Werle, 2014). Business process change may be attributed to performance management tools such as incentives and scorecards, however sustained change is related to the actions of individuals within teams. As early as the 1950's researchers documented the key challenge for leaders as their ability to ensure their organizations were prepared for the future, which involved implementing planned BPC. To prepare their organizations to respond and function in dynamic environments with the objective of achieving favorable business outcomes, leaders much identify operational issues then design and execute on planned change (Battilana, Gilmartinb, Sengul, Pache, & Alexander, 2010). The effectiveness of leadership and management in influencing change has an immediate and significant effect on quality and efficiency (Smith et al., 2014). Smith et al. (2014) conducted a case study to test the effectiveness of a non-monetary based BPC incentive program on a hip and knee replacement team. Their goal was to encourage frontline team members to initiate an integrated care path to improve multiple quality metrics. The study proved that through a collaborative approach to defining and owning key performance metrics the team was able to show improvements in all outcomes and

efficiency targets (Smith et al., 2014). The keys to success were autonomy, team education, and recognition as intrinsic incentives to influence change. The exact methodology to BPC was not described in this study, where many organizations use branded methodologies such as Lean to define their approach to BPC.

Lean Methodology. Many of the methodologies used for BPC is based on Toyota Motor Corporation's Production System, also called Lean (Radnor & Osborne, 2013). The studies on Lean methodologies showed positive relations to efficiency, productivity, and quality (Lega, Prenestini, & Spurgeon, 2013). Lean process improvement methodology uses specialists trained in specific techniques and analytic tools to implement change focused on reducing waste and enhancing productivity towards a continuous improvement culture (Puterman, Zhang, Aydedes, Palmers, MacLeod, Bavafa, & MacKenzie, 2012; Radnor & Osborne, 2013). The question is whether Lean methodology for process improvement is the solution for healthcare organizations. There are many healthcare leaders that claim that Lean is a 'tried and proven' methodology to BPC and continuous improvement (Toussaint & Berry, 2013). In any case, the components of change processes regardless of label/brand are similar. The goal behind change in the healthcare environment is to improve quality, ensure safety, and control costs. The challenge with using the Lean methodology is tied to the complexities and the uniqueness of human individuals; humans are the customer and their health and wellness is the product of the healthcare industry, which is understandably very different than a standard manufactured vehicle (Radnor & Osborne, 2013). However, setting the nuances of the customer aside, the concepts behind Lean and its

provision for continuous improvement is valuable and relevant for healthcare leaders to appreciate the approach (Toussaint & Berry, 2013).

Lean originated from the Toyota Production System, which has a philosophy of continuous improvement of processes through the removal of non-value added steps or 'waste'. Through applying five principles in a sequential format organizations can progressively and continually improve. The concepts of Lean are 'mura' that demands limited variation, efficiency, and standardized processes; 'muri' relates to limiting excessive strain on individuals and establishing good working conditions; lastly 'kaizen' requires a commitment to continuous improvement (Puterman et al., 2012). The core assumptions of Lean is that it is possible to translate value from a consumer's point of view, which helps define the non-valuable aspects of any process. Secondly, from understanding and eliminating waste one can measure the tangible benefit to the organization as measured in efficiency, productivity, and overall reduced variable costs (Cooke et al., 2014; Radnor & Osborne, 2013).

Over the last couple of decades there is growing interest and pressure for healthcare organizations to adopt Lean like methodologies. Lean has shown significant positive outcomes in the manufacturing arena, so adoption of the concepts in healthcare should prove similar results (Puterman et al., 2012). Thirty-five percent of publications focus on the use of Lean in healthcare. In the United States, Lean projects in healthcare became a trend in the early 2000's; it is estimated that 57% of all healthcare process improvement approaches follow the Lean methodology (Radnor & Osborne, 2013). These projects have shown an impact on quality, cost, and staff and patient satisfaction.

Some of the tangible evidence represents the achievement of standardization, reduction in waiting times, errors, and costs (Cooke et al., 2014; Puterman et al., 2012).

Research by Puterman et al. (2012) proposed a Lean healthcare evaluation method based on an approach developed for Provincial Health Services Authority in Canada. The authors analyzed the current evaluation methods for healthcare organization as too simplistic, where most programs are evaluated on the before and after but leaders sometimes fail to evaluate the appropriateness and effectiveness of the strategy used in their initiative. The major reasons organizational leader use Lean methods is to remove inefficiencies and non-value adding activities from operational processes, such as wait time reduction or enhancing throughput in a single process. Where most leaders fall short is applying the methodology at the system level and instead focus on silo implementation within departments or divisions. This limited implementation in healthcare environments is ineffective in incorporating the downstream and upstream processes that affect but are managed independently of the unit undergoing BPC (Radnor & Osborne, 2013). Furthermore, few organizational leaders evaluate the long-range cost and savings impact. Even fewer leaders reflect on or evaluate change to organizational culture and associate engagement. As such, Puterman et al. (2012) recommend that healthcare leaders who plan to utilize Lean methodology in BPC diligently focus on and document efficiency gains, quality and safety improvements, enhanced staff engagement, interdepartmental collaboration, and financial and resource improvements.

Researchers such as Radnor and Osborne (2013) believe that because of healthcare's uniqueness, Lean is an ineffective tool for long-term process improvement. They conducted a multiple case study analysis of the effect of Lean in the English

national healthcare system. They compared their findings to the outcomes in manufacturing and other non-healthcare industries. The goal was to evaluate the validity of Lean methodology and assess the transferability into the context of healthcare. The results from their study, similar to Puterman et al. (2012) showed that Lean tools illustrated small-scale productivity gains but did not produce system wide efficiency improvements. The study associated the challenges to the significant contextual differences between healthcare and manufacturing organizations. The primary contrast between industries is that the customer in healthcare and in manufacturing are dissimilar. In manufacturing, such as automotive for example, the customer is the buyer who associates value of the vehicle with its adherence to standards and their ability to pay the price for added quality. Whereas in healthcare, the customer may be an insurer, government, the employer, or the lay person - all who may have different definitions of 'value' (Radnor & Osborne, 2013). Executing process improvement based on multiple perceptions of value may be fruitless. The other difference between healthcare and manufacturing organizations is that the demand for healthcare services is specialty specific and defines its capacity, so it is difficult to influence demand and reallocate freed-up resources (Rosacker, Zuckweiler, & Buelow, 2010). One of the key findings from the Radnor and Osborne (2013) study was that healthcare's application of Lean initiatives had a tendency to hit a glass ceiling where information was not retained and processes returned to the status quo between change attempts. With evidence that Lean initiatives may not translate to long-term sustained outcomes, it would be interesting to explore the details related to 'what' and 'when' of post implementation breakdowns specifically in healthcare settings (Radnor & Osborne, 2013).

Similar to other industries, healthcare organizations are often influenced by external forces such as labor unions, but healthcare is further constrained by surmounting pressures from the competitive political environment, regulatory agencies, and commissioning agencies (Gastaldi et al., 2012; Greig, Entwistle, & Beech, 2011; Sarker, Sarker, & Sidorova, 2006). This includes the pervasive professional and clinical associations whose members define professional standards and make managing and enforcing change problematic through the variety of professional boundaries applied to the way healthcare is delivered. Furthermore, the complexity between the specialties and service sectors together make managing and affecting change difficult in healthcare (Bertolini et al., 2010; Radnor & Osborne, 2013).

Surgical Service Change

Surgical services are hospitals' largest cost and revenue centers; the efficiency of this service area directly influences the overall financial performance of organizations (van Veen-Berkx, Bitter, Kazemier, Scheffer, & Gooszen, 2015). Surgical services account for up to 40 percent of a hospital's revenue and one of the largest expense (Nieman, 2010). The cost intensive nature of a surgical service requires skillful management of resources in order to maximize quality and profit. Surgical service operations involves management principles, such as disciplines of Lean methodologies, statistical process control, and operations management. There are several schools of thought associated with establishing evidence-based management of operational services; if executed well a hospital may create a competitive advantage within its market (Carey et al., 2011; Gastaldi et al., 2012). The challenge is that many researchers focus on total quality management and clinical processes versus efficiency. Even in surgical service

efficiency studies, researchers used differing modes of measurement, which can range from cancellations, tardiness, to OR turn-over time. In today's healthcare environment the measure of efficiency involves achieving both maximized outcomes and minimized costs, which are contradictory at best. Although health outcomes is the primary goal, a good measure of surgical service efficiency is the contribution margin - higher revenues per case versus costs. These inefficiencies create bottlenecks in the surgical process, which ultimately increases costs (Sandbaek et al., 2014).

One of the main reasons surgical service operations is becoming a key focus for hospital leaders is because they are accountable to reduce costs in order to support their organizations' financial health (Carey et al., 2011). Operational management of the surgical arena is challenging because of many factors; in particular facility size and design, surgeon behavior and performance, anesthesiologist coverage model, scope of procedures and competencies, support staff workforce policies, equipment/technology and other resource scheduling. All of these factors along with urgent and emergent surgical care demands create concerns in achieving effective cost containment. Surgical service scheduling and planning strategies are complicated because of the inherent uncertainties that exist, such as upstream and downstream patient throughput in the emergency department and post-operative care units (Taylor, 2014). Considering the variety of factors that can be discussed it is necessary to narrow the scope. The goal of this research is on the economic impact from performance measures associated with leadership, resource utilization, and team productivity.

Team Dynamics. The Center of Medicare and Medicaid Services moved from volume to value based reimbursement methods, which requires healthcare providers to

maximize quality, safety, and patient experience. An organization's performance on these factors is a measure of the financial margins and performance (Banki et al., 2013). The current dynamics of the healthcare industry compels organizational leaders to focus on change as a core business strategy; this includes controlling the cost in the surgical arena (Zook, 2014). In the literature success is often a reflection of leadership and team dynamics, which includes managers, physicians, physician extenders, clinical staff, support staff, business personnel and other players involved in the surgical arena (Wai, et al., 2012). Hospitals are complex adaptive systems that have many interconnections between teams, functions, and processes (Bender et al., 2015). The adaptability of teams is seen through collaboration and shared understanding. For example, Banki et al. (2013) conducted a prospective case study of one multidisciplinary surgical team at a 267-bed community hospital. The main assumption of this study was that in order to achieve the highest level of clinical outcomes, drive down costs, and increase patient satisfaction they needed to diligently focus on enhanced communication and knowledge of the surgical team. The surgical team conducted teaching sessions and conferences that educated and informed all team members on the purpose and process of achieving efficiencies in their work environment while also producing high quality care. This knowledge management and collaborative strategy was also seen in a case study of the Cincinnati Children's Hospital Medical Center's (Ohio) perioperative services (Ryckman, et al., 2009). The researchers in this study further added to team concept through demonstrating the impact of core leaders' abilities to condition their team for change by ensuring the availability of resources and alignment with the organizational priorities. Both the Banki et al. (2013) and Ryckman et al. (2009) studies explored utilizing operations management techniques

to improve the surgical service processes in order to successfully grow and expand services.

In order to achieve effective surgical services, teams led by surgeons and nurses must ensure they can achieve effective communication and mutual understanding of each surgical plan of care. Furthermore, the interdependence of team members fosters mutual accountability with clear communication at all levels, which is critical to maximize performance and optimize quality. A study by Bender et al. (2015) showed how a highly prioritized and collaborative surgical service process improvement initiative achieved significant improvements. The initiative was performed at University of Oklahoma Medical Center and used six-sigma and Lean methodology to improve several processes within the surgical arena. The multidisciplinary teams improved block utilization, on-time starts, overtime, and staff turnover. Improvements in these metrics contributed to creating access for more case volume and improved financial margins (Bender et al., 2015). In essence, on-going team cooperation is essential between surgical service leadership, physicians, administration, and other support personnel for BPC success (Bender et al., 2015; Ryckman et al., 2009).

Ongoing education and training of the surgical staff was also found to contribute to process improvement effectiveness (Bender et al., 2015; Banki et al., 2013). Nurses with baccalaureate degrees or higher showed to have enhanced ability to thoroughly understand the surgical processes and patient care plans. Banki et al. (2013) made a connection between nurse education to higher patient conscientiousness, improved critical thinking, decreased mortality, and heightened potential for achieving desired outcomes. The researchers evaluated a process improvement initiative that was

participative versus a top-down approach to BPC. Their case study posed interesting connections between positive performance outcomes (such as decreased cost per case and improved patient outcomes) to a highly trained and educated surgical team (Banki et al., 2013). The Bender et al. (2015) case study also connected their process improvement success to the establishment of surgical nurse specialist residency program, which hardwired competency expectations within the surgical department.

Team knowledge and efficiency was shown to be connected where team members' understanding of each task in the surgical arena required awareness of key processes, surgeon preferences, and operative protocols (Banki et al., 2013). This level of understanding for each case can decrease the unproductive time attributed to each procedure and the cost per case by eliminating waste. It is acknowledged that process change requires team work, staff buy-in, changed culture, and just as important, operational management - daily direction, intervention, and control (Banki et al., 2013; Battilana et al., 2010; Ryckman et al., 2009). As seen in the literature, team dynamics and knowledge management are factors associated with achieving an efficient and effective surgical arena; the missing element is the long term sustainability of the change efforts post execution. The link to the current research is associated with achieving efficiencies as a means to achieving sustained organization performance.

In addition to competencies, participation and staff involvement was also documented in an ACT surgical service five-year plan for the Royal College of Surgeons where success was based on a participatory environment with shared governance (ACT, 2008). An effective team environment may provide outstanding result such as: enhanced staff skills and knowledge, enriched share of technical abilities, effective management of

scare and costly resources, and improved patient throughput and continuity of care. On the other hand, without a collaborative team environment the following challenges were shown to occur: lack of cohesion, difficult communication, poor coordination between management and ancillary teams, and inconsistent interest (buy-in) in process improvement among team members (ACT, 2008; Banki et al., 2010; Donate & de Pablo, 2015).

Surgical Service Utilization. Utilization refers to the workload of an OR suite. In regards to performance measures, case sequencing is a common measure of OR utilization, which is associated with idle time or overtime (van Veen-Berkx et al., 2015). This can be measured by assessing turnaround times between cases, case types, case length, and late starts (Sandbaek et al., 2014). Surgeons feel that their time is valuable, so chronic delays reduce their satisfaction and ultimately their interest in continuing to do business with an organization that is ineffective in managing the OR suite. On the other hand, surgeons can often be the reason for chronic delays based on tardiness and excessive case length. In this regard, surgical leadership's direct control of turnaround times allows for other delays within the surgeons' control to be highlighted and accounted for (Sandbaek et al., 2014). Surgeons' case length time should be benchmarked against average case length for any particular procedure. Benchmarking allows for leadership to evaluate outliers and determine the reason a particular physician takes longer to complete cases, which helps determine if there is a learning curve, competency issues, or other factors contributing to the deficiency (Wai et al., 2012). Surgeon clinical performance should be evaluated and dealt with by physician leadership (Zook, 2014). The surgical service leadership should manage outliers through case sequencing in order to optimize

OR productivity (Sandbaek et al., 2014). The issues described here contribute to the arrival and duration uncertainties associated with surgical services, which are the unplanned events and deviations within surgical processes.

The complexities of surgical throughput can be studied and resolved with simulation methods that examine possible outcomes by changing task triggers; ultimately finding the most optimized solution. For example, changing OR start times and adjusting schedules may suggest better utilization for surgeons who are chronically late (van Veen-Berkx, 2015). This type of simulation can be performed by a decision support mathematical linear analysis to determine the weights of both inputs and outputs that optimize the efficiency score. Simulation, which there are many models, supports an organization's volume and fiscal forecasts by determining the mix of patients that may optimize the financial outcome of both physicians and the hospital. To affect utilization, leaders often examine standard sequencing rules by evaluating the longest case length and the shortest case length and comparing this against peak times within the holding areas and downstream post-operative units (Sandbaek et al., 2014). Case in point, proper scheduling and planning is vital when downstream resources are limited or not available. An example is applying quotas on case type if admittance to the ICU is necessary (van Veen-Berkx, 2015).

Highly managed surgical scheduling is imperative to avoid other productivity challenges such as case delays and cancelations. These factors affect the financial performance of the surgical department; a well-planned surgical arena results in healthy contribution margins, which is defined as revenue minus variable costs. Contribution margins account for all the inefficiencies in the care process that create wasted resources

in time, labor, and supplies (Cooke et al., 2014). Currently, surgical services are reimbursed based on a global schedule, with this in mind, managers must maximize net revenue by eliminating waste and minimizing all the varying costs associated with OR utilization. Surgical service leadership often seek industry standards and best practices in order to achieve a well-managed and productive department that is fiscally strong (Cooke et al., 2014). The goal is to forecast and manage uncertainties that contribute to excessive case costs per surgeon and lead to underperformance in OR utilization and poor financial returns. (Taylor, 2014)

Surgical Service Leadership. Hospital leaders are finding the demands of fulfilling their missions - accessible and affordable services a challenging task within the current economic environment. The deterioration of the historic fee-for-service payment models, emerging value-based reimbursement of major payers, increasing costs of technology and supplies, along with high malpractice insurance costs created a daunting dilemma for leaders in the surgical service arena (Wai et al., 2012). Furthermore, the increase of people qualifying for Medicaid and more baby-boomers aging into Medicare is affecting many hospitals payer mix because both programs reimburse below commercial payers. Therefore, the ability to cover the overhead costs associated with surgical services and achieve healthy financial margins has hospital leadership prioritizing BPC of their surgical departments (Wai et al., 2012).

Hospital leadership are goals focused on how to optimize revenue and production incentives by initiating BPC toward improving efficiency and fiscal sustainability (Wai et al., 2012). Over the next several years the expectation is that more empirical research emerges focused on BPC best practices for surgical services; this includes infrastructure,

design, and benchmarks for desirable productivity goals. This challenge involves identifying the relevant financial metrics and scorecards that are aligned with BPC strategies required to develop an effective and successful surgical department. More understanding of fiscal data and analysis of resource distribution and utilization may validate surgical service BPC efforts and highlight best practices (Wai et al., 2012).

Leadership

Today's competitive environment is complicated by governmental policies, which gives reason to highlight leadership responsibilities in achieving organizational success. Management theory is a component of organization behavioral theory, which is keenly focused on the micro-level dynamics of an organization, such as the relevance of leaders, individuals, and team factors that influence organization success (Bradley, Pallas, Bashyal, Berman, & Curry, 2011). In addition, researchers suggested that leadership plays the most important role in organizational effectiveness (Rastgoo, 2014). Furthermore, management theory focuses on the process of influencing action, where action is a function of getting things done with a purpose and towards a desired goal (Macaux, 2014). In organizations, action requires teamwork where people work under the concept of shared understanding, which allows for alignment of values and goals. This gives the team the ability to evaluate performance and correct the course of action as necessary. Sustained and productive action is said to be a reflection of effective leadership and strong communication (Macaux, 2014). The goal for this leadership section is to explore relevant articles associated with management and leadership characteristics and behaviors. There are studies that are not specific but valid to

healthcare organizations. In addition, there are studies that look specifically at leadership in the healthcare environment.

What is leadership? Researchers agree that management is different but complementary to leadership (Kotter, 1990; Lega et al, 2013; Macaux, 2014). In particular, a couple of studies highlighted the work of Kotter, who stated, “What leaders really do is prepare organizations for change and help them cope as they struggle through it." Although studies have shown a positive correlation with management practices and clinical and economic outcomes; as per Kotter, management alone is not effective in dynamic environments, instead leadership is needed to affect change (Kotter, 1990). Leadership as defined by Rastgoo (2014) is a person’s ability to influence individuals and engage in activities aimed at achieving specific objectives. Leaders monitor behavior and seek cooperation of team members to work toward a common organizational goal. Motivation of individuals to support a common vision is a process of leadership. Effective leaders are able to pull together different people into a shared vision and optimize both human and financial resources in order to maximize results (Rastgoo, 2014).

An important factor of leadership is communication. In order to accommodate the expected action from teams, leaders must interpret the purpose of change through the reliance of shared meaning (Bertolini et al., 2010; Macaux, 2014). The 'pool of shared meaning' is a process where leaders use their emotional intelligence to understand fears and anxieties in order to build quality team rapport that secures sustained commitments (Macaux, 2014). The goal is to avoid members feeling exploited, unimportant, and irrelevant. Ultimately, leaders must build a resilient team that is capable to work through

complexities, challenges, and difficult times (Macaux, 2014; Nohe, Michaelis, Menges, Zhang, & Sonntag, 2013).

Management skills alone with purely transactional command and control practices may not enable innovative thinking and adaptability (Geffner & Corwin, 2014). Management involves organizing and budgeting; where leadership seeks to inspire, align, and empower (Macaux, 2014). Leaders prioritize setting direction, motivating people, cultivating behavior and aligning action to organizational values, vision, and philosophy. Per Kotter (1990), leaders have the ability to assist people in dealing with and understanding change. Leaders must assess the readiness and capacity for change and pave the way toward action. Furthermore, leaders mold culture and help teams realize the strategic goals; they focus behavior toward sustained performance (Bertolini et al., 2011). The command and control aspect of management is necessary, but ultimately organizations need strong leadership over straight management to affect long-term change (Geffner & Corwin, 2014).

Leadership Styles. There appears to be much attention to behavioral aspects of leaders, where command and control styles are giving way to charismatic, influential, participative and inspirational leadership styles (Geffner & Corwin, 2014; Nohe et al., 2013). However, there are researchers that focused on the benefit of transactional leadership, which is focused on goals, planning, and budgets. Lega et al. (2013) showed that this straight management style tends to lead to higher performance as compared to organizations ran by charismatic leaders (Lega et al., 2013). As such, more investigation on the contrasting studies is needed. In any case, there are a variety of leadership styles with differing effectiveness based on the situation. For instance, if working under limited

time constraints and deadlines it is more effective to use a transactional approach, or what Macaux (2014) stated as the 'in order to' approach. It is important to understand that one approach is not better than the other; one style may be more intrinsic than the other but both can be used while also achieving a high degree of deference to individuals' skills and contributions. An organization's success is dependent on leaders who can fluently and authentically apply different styles based on the situation at hand to effectively accomplish their desired results. In dynamic environments such as healthcare, special focus should be placed on the on-going development of capable leaders that can maneuver between various styles in order to best position their organizations for success. An organization's survival is dependent on leaders who are innovative change agents and able to rally teams to adapt to and adopt new processes (Cho & Jung, 2014).

A leader's characteristics, style, and decisions may have a strong influence an organization's performance and competitive advantage within its market (Cho & Jung, 2014; Rastgoo, 2014). In effect, the way a leader influences their team and expresses the capabilities of their employees may shape the organization's performance (Nohe et al., 2013). Macaux (2014) outlines leadership styles that are associated with building shared meaning. He defined two kinds of reasoning approaches: 'because of' and 'in order to' reasons. The 'because of' reasoning supports dialog, mutual understanding, and shared values. This style is highly communicative, allows for explorative interactions; it is empathetic, respectful, and appreciative. The 'in order to' reasoning is consequential and aligns the need to achieve goals with the practicality of success, for example improved performance for fiscal viability (Macaux, 2014). This style is managerial, which uses persuasion to gain commitment; leaders who use this level of reasoning focus on clear

objectives, and deliberately evaluate performance as a measure of success (Lega et al., 2013; Macaux, 2014).

A leader's effectiveness is defined as their ability to influence action and achieve desired outcomes. As indicated, there are various styles of leadership from transactional to transformational and most effective leaders transcend through different approaches and behaviors based on the situation (Cho & Jung, 2014). Transformational leadership was shown to lead to positive financial performance (Choudhary, Akhtar, & Zaheer, 2013). Transformational leaders create value through motivating individuals to work together for a common good. In the Dinwoodie et al's. (2014) study they showed that participatory leadership was effective in integrating individuals into a new organizational environment through cooperation and team member value. There are many actions associated with leadership such as directing, empowering, encouraging, inspiring, educating, and informing to name a few. The realization of success or effectiveness of leadership is a transferred ideology to followers who understand, respect, and take ownership and accountability of objectives (Bertolini et al., 2010). Effective leaders challenge their teams, provide intellectual stimulation, shared decision making, and achieve commitment of their team to offer solutions to the organization's problems in order to improve performance (Dinwoodie et al., 2014).

Some scholars focus specifically on charismatic leadership. This form of leadership is more of a leader's characteristic versus a specific style (Nohe et al., 2013). Back in the late 1940's, Max Weber described charismatic leaders as unique individuals with a special quality and inherent power that attracts and inspires people. Charismatic leaders have proven to provide positive results in building commitment and trust, which

has shown to provide a positive impact on organizational performance measured by improved market share, profit margins, and customer satisfaction (Horn et al., 2014; Nohe et al., 2013). Nohe et al. (2013), described how charismatic leaders promote positive change, which they found was related to the strong ability to demonstrate and promote change behaviors. Charismatic leaders poses a special ability to build trust; their effective communication abilities enhances their followers' perceptions of a superior vision, which ultimately aligns their commitment toward change (Nohe et al., 2013).

Leadership Competencies and Action. Healthcare leaders today may not be effective if they continue to lead their organizations using the same tactics from the past. Geffner and Corwin (2014) attest that the current knowledge base may not translate into successful business transformation for an organization's sustainable future. As per a chief executive officer at a US west coast community healthcare system, a leader's past experiences are not sufficient to lead in today's healthcare systems – leaders must recognize and quickly learn the industry trends, then adapt in order to survive (Geffner & Corwin, 2014). The goal for healthcare leaders is to keep abreast of the changes occurring in the industry and their markets, establish broad networks, understand the new complexities, entertain new ways of delivering healthcare services, and challenge their comfort zones (Wai et al., 2012).

In regards to what skill sets are required for effective healthcare leadership, both hard and soft skills are discussed in the literature. Lega et al. (2013) advocate for more physician leadership in their study that showed how physician involvement is crucial to success in clinical program performance. Other scholars did not imply a clinical degree is necessary for healthcare performance success, but instead focused on the academic

rigor required to train today's healthcare leaders. More specifically, the literature highlighted the standard competencies achieved through management curriculum that may best position an organization for success (Ramirez, West, & Costello, 2013). The assumption in the surgical service BPC arena is that both clinical and business leadership is necessary for successful and sustainable performance. In light of the recent dynamics of the healthcare industry, one important emerging skillset required to lead healthcare organizations into the future is building networks of care, which requires the analytic ability to evaluate the marketplace and strategically align partnerships to optimize the business and operations of the system (Macaux, 2014).

Effective communication is a key soft skill that is essential for leaders to master (Macaux, 2014). This requires leaders to be sociable; they must gain buy-in, and define the value and purpose of key priorities; in addition, they tap into members' aspirations and inspirations. Effective leaders have personalities and characteristics that are attractive - they build quality and meaningful relationships. People tend to give more of themselves and go above and beyond if they feel a mutual level of respect and admiration with their leaders. In order to achieve enduring commitment from a team, a leader must inspire their team. Through the leader's acts of respect for individuality, autonomy, dignity, and sense of importance people are likely to gravitate to the call to action (Macaux, 2014; Nohe et al., 2013).

Some people have a natural knack at connecting and engaging people. However, it is the opinion of some scholars that individuals who aspire to be effective leaders must have a deliberate and thoughtful approach to master a quality leadership style (Donate & de Pablo, 2015). A key takeaway is that communication is key to people's connectivity,

it supports relationships, shared meaning, and mutual respect. Effective leaders listen to understand, appreciate opposing views, and allow/encourage others to share the ownership in designing and executing change (Macaux, 2014; Nohe et al., 2013).

In regards to hard skills, some healthcare industry experts such as Geffner and Corwin (2014) believe that the playbook has fundamentally changed; healthcare leadership must have competencies aligned with the ACA reforms. In fact, the industry is in a hybrid state and leadership teams must balance the traditional volume based model with the encroaching value based paradigm that is focused on efficiency, experience (value), and quality indicators. In particular, hospitals and health systems are still focused on performance metrics based on volumes and maximizing revenues (Wai et al., 2012). This level of evaluation has shifted toward population based medicine, which requires enhanced ambulatory services and health and wellness initiatives that keep patients out of the acute care setting. Leaders have skills to expand beyond their silos and build horizontal partnerships with physicians and other healthcare service providers in efforts to identify and execute opportunities to improve efficiencies, quality, safety, experience, while optimizing access to services and reduce costs. Accordingly, researchers are asking questions related to best practices and strategies to achieve this level of business transformation.

Leaders are the custodians of an organization, which requires them to have the foresight to keep pace with the dynamics of their industries. This requires them to be innovative and adaptable change agents that allow the organization to remain competitive and viable (Geffner & Corwin, 2014). Innovation goes beyond service line differentiation; it requires organizational teams to redesign their processes, which

includes creating efficiencies by reducing operational costs (Cho & Jung, 2014). Enhancing efficiencies while keeping quality standards in high regard can pose integration challenges for leaders, managers, and teams (Donate & de Pablo, 2015). For example, bundled service line payment models, capitated payment contracts, and pay-for-value programs are just a fragment of the imposed policies affecting healthcare leaders; these reimbursement models require tighter intra-professional alignment (Macaux, 2014). Leaders must facilitate the coordination of teams' work patterns and processes and encourage adaptive change that incorporates collaboration and mutual accountability in work production (Banki et al., 2013). The changes in the healthcare industry are complex, but orchestrating adaptive change among teams is just as tortuous (Macaux, 2014).

Action Theory and Leadership. Action theory scholars attested that leaders should be concerned with human action that is directed toward production and outcomes. Their action should be purposeful and goal oriented (Trajkovski et al., 2013). Leaders are strategic in their motives, they are also deliberate in their approach and choose the best path to achieve their desired goal. They are concerned with building the best case scenario for their teams to secure their ideal outcomes based on the complexity of change and their position within their market (Lega et al., 2013).

A recent empirical study by Skarzauskiene (2010) developed a theoretical model based on systems thinking, which related cognitive intelligence competencies and organization performance. Her study was based on the idea that organizations are multi-cultural social units that influence and are influenced by their environment. In alignment with Ramirez et al. (2013) and later with Geffner and Corwin (2014), Skarzauskiene

(2010) study was concerned with leaders' competencies and their ability to understand the intricacies, complexity, and interrelations of organization environmental reality. The assumptions from leadership focused research are that organizations' performance and effectiveness could be explained by leadership competencies; both positively and negatively. Both qualitative and quantitative research have shown a positive correlation between cognitive intelligence, process orientation, and systems logic as related to an organization's performance. A deeper understanding of the tangible benefits associated with competencies and organizational performance should be explored, future research should transcend beyond crisis management, reactive change, and market turbulence. The goal of sustained BPC is through understanding the performance variables such as increased productivity, market dominance, or enhanced revenue. Furthermore, studies are emerging to not only include the criteria for the necessary educational competencies to manage and lead; additional focus was placed on competency attainment within the perspective organization and through external knowledge resources (Skarzauskiene, 2010). In fields such as healthcare, both administrative and clinical professions undergo continuous learning, so along with cognition and experience, other knowledge acquisition factors may contribute to organizational performance. Studying organizations' reengineering or change efforts may provide relevant evidence to practitioners on BPC outcomes and the relationship to leadership competencies.

Culture. Healthcare leaders need to establish a new culture within their organizations to effectively evolve and change. Organizational culture needs to be assessed prior to the initiation of any change execution plan; without the right culture, change efforts are at risk of stagnating (Geffner & Corwin, 2014). This means that in

order to change a culture, a leader needs to influence teams around shared goals, values, and processes to gain commitment and responsibility among all stakeholders.

Leadership is vital for the success of BPC initiatives; in addition, leaders must navigate the complex web that connects the culture, vision for change, and the inspiration of teams to mobilize transformation. This claim is supported by McCabe (2010), who stated that BPC requires a culture-shifting strategy, which involves dismantling established norms and thought processes. Changing organizational culture is a leadership function (Kıyak et al., 2011; McCabe, 2010). Furthermore, leadership characteristics and style may influence the pervasive culture and the performance of teams (Kiyak et al., 2011). According to a study by Kıyak et al. (2011), political, managerial, transformational, and ethical leadership styles were predictors of an organization's financial decisions and outcomes. In times of crisis, Kiyaket al. (2011) found that an ethical style of leadership was the most adopted and preferred style just ahead of transformational leadership. A combination of styles would potentially enhance fair treatment of associates and inspire followers to transcend individual agendas in order to achieve goals for the value of the organization's success (Cho & Jung, 2014; Kiyak et al., 2011). Therefore, an exploration of leaders with different leadership characteristics would enhance the understanding of how various characteristics influence and facilitate BPC and sustained outcomes within business operations such as hospital surgical services.

In much of the literature, as described above, it is clear that leadership is vital to facilitating change and transforming culture; however, the individuals that compose a team should also influence transformation success. Accordingly, a study by Lee, Ridzi,

Amber, and Coskun, (2011), they claimed that within an organization there must be a consideration of the experiences and learning styles of not only leaders but also associates in order to effectively implement change and respond to crisis. They claimed that understanding associate and team dynamics is just as important as developing, planning, and executing change itself. Kolb's Experiential Learning theory (1984), offered a holistic perspective that combined individuals' experiences along with their learning styles. Kolb's theory examined longitudinal learning while considering individual learning profiles in relation to the team and organizational performance. The relevance of this theory is that it emphasized the range of factors influencing change are just as diverse as the individuals within any team (Lee et al., 2011). Consequently, understanding change may require more exploration of potential intervening factors that favors qualitative research over pure quantitative studies.

Researchers agreed that culture is neither easily changed nor quickly forgotten. The easiest thing to do is to maintain the status quo (McCabe, 2010; Orlikoff & Saitow, 2011). This statement implies that memories are difficult to dismiss and behaviors repeated over time become hardwired and standard (Orlikoff & Saitow, 2011). In 1952, Lewin established the change theory as a three-step process where culture could be unfrozen, moved, and refrozen to hardwire change (Burnes & Cooke, 2013). An alternative theory presented by McCabe (2010) is that memories and repeated actions is what sustains behavior long-term, which ultimately changes culture. In order to affect change, reprogram behavior, and create a new norm, leaders need diligent discipline to enforce reproducible processes (McCabe, 2010).

Both Lewin and McCabe saw changing culture as a process; in fact, they claimed that change is an internal process that cannot be easily manipulated (Burnes & Cooke, 2013; McCabe, 2010). Leaders must understand the established culture as one of the first steps to being able to change the culture. In the case study of the perioperative services of Cincinnati Children's Hospital Medical Center the researchers showed that success was achieved through key players' understanding of the established norms, acknowledging the imperative to change, and aligning their actions to the core business strategy (Ryckman et al., 2009). Culture evolves through repeated actions by the team, which may create new norms that allows the team to respond to the requirements of the environment (McCabe, 2010; Ryckman et al., 2009).

Leadership strategy. For the sake of long-term viability, the paradigm shift is forcing leadership to develop integrated and collaborative teams that are mutually invested and ready to affect change. Geffner and Corwin (2014) interviewed over 20 chief-level healthcare executives and proposed strategies that may best position healthcare organizations for successful change. The most significant proposal to this study was that leadership should focus on both horizontal and vertical integration, which implied dismantling the long-standing silos and fragmented care. This level of integration involves a shared strategic direction for a patient centric care model; it is a partnership of intra-disciplinary teams with external partnerships such between the acute, post-acute, ambulatory, and community care entities. Successful change involves the CEO being the lead change agent. As discussed the leader must inspire their teams; in healthcare, this includes physicians, community members, associates, and other

stakeholders in understanding the purpose and vision for transformation (Geffner & Corwin, 2014).

Dinwoodie, Quinn, and McGuire (2014) discussed how successful performance against business strategy is intimately tied to the leadership strategy. Where the business strategy sets the direction, the leadership strategy involves identifying the right personnel to enable transformation and guide the organization in reaching its full potential toward performance goals. An effective leadership strategy involves defining the type of leaders needed based on the strategic priorities; most importantly ensuring the leader has the requisite skills and behavior desired for the organization to succeed and achieve its performance goals (Dinwoodie et al., 2014). Identifying a strategic leader involves evaluating prospects against four elements: change agent with the ability to foresee a changing environment, experience in shaping culture and engaging individuals in the process, ability to resolve competing priorities toward a mutual wins; and the wherewithal to span boundaries to create synergy, cooperation, and collaboration toward interdependent decision making (Lega et al., 2013).

Team members must trust and respect their leader's methods and style in order to be motivated or inspired to execute their tasks in efforts to improve their performance and the organization's viability. Based on Rastgoo's (2014) research, leadership is key to the success of organizations in relation to profitability. Rastgoo (2014) conducted a case study on Bushehr University of Medical Science and Health Services to investigate leadership and organizational performance. The study was focused on five leadership behaviors to measure organizational performance: prospect (goal oriented), empowerment, appropriate relationships, continuous improvement and self-assessment.

The term prospect relates to sourcing solutions internally and externally from employees, consultants, and/or partners. Empowerment implies that there is willingness and respect for employees intellect and skills, which can be incorporated into organizational processes and provide innovative ideas regarding what and how of service delivery. Appropriate relationships involves employees' ability to communicate and network. Continuous improvement is both at the individual and organizational level; each member must be committed to high-level performance and productivity in order for their organizations to run effectively. In addition, continuous learning must be achieved at all levels; to include knowledge transfer of new information and processes. Lastly, self-assessment requires that individuals are capable to evaluate their performance, learn from their experiences, and self-correct (Rastgoo, 2014).

Client-Consultant Integration

It could be assumed that organizations would not initiate BPC efforts without the expectation for successful outcomes. Furthermore, when consultants are contracted for BPC initiatives it is assumed that organization leaders are being responsible in investing the cost, time, and resources of consultancy and clearly anticipate sustained change. Consultancy is intended to be a temporary engagement with a core objective of the client organization learning and developing internal skills, while diligently promoting thorough knowledge transfer prior to the termination of the agreement (Turesky & Connell, 2010). Neither consultants nor their clients would rationally undertake a change initiative without the promise of a successful outcome; however, the researchers have shown that highly structured and well-intentioned initiatives often do fail to achieve expected results

in practice or a return on investment (Burnes & Jackson, 2011; Hu et al., 2014; Naylor & Goodwin, 2011).

Very few theoretical and empirical studies focused on the utilization and services of management consultants in healthcare. The studies presented in the literature mostly investigated general business organizations, and were not specific to hospitals or the healthcare industry. However, there is confidence that the research is valid and generalizable to healthcare organizations. The scholars investigating consultancy focused on consultants as either change agents, agents of stability, or both. Consultants generally play a directive role with their clients; they are commissioned for various capacities, which includes advocate, fact-finder, trainer, technical and/or knowledge expert (Hu et al., 2014). Researchers who viewed consultants as agents of change frame their assumptions around the concept that consultancy itself is the key driver to BPC; dismantling client's uncertainties and stress (Fincham & Mohe, 2011). This perspective took the position that organizations are sold by consultants' vision of change for the sake of change alone. This may be true if an organization is attracted to consultancy based on the consultant's experience and success in implementing best practice solutions for the client organization. It is suggested that leaders who use consultants as drivers of change may experience less than satisfactory results because affecting internal change is the leaders' responsibility (Naylor & Goodwin, 2011). Leaders must be intuitive or aware that change is necessary based on understanding their situation and the influences of the internal and external environment (Furusten, 2013). In this respect, it is more reasonable to view consultants as playing the role of improvisers or agents of stability, because consultants are resources to validate their client's challenges and help align their plans

and strategies to the overall organizational objectives (Sturdy et al., 2013). Furthermore, uncertainty is felt within the competitive market environment and within the ambiguities and complexities of management, which may compel organizations to contract consultants as part of their stabilization strategy (Momani, 2013).

In the view of consultants being both agents of change and of stability, clients must realize the true value of consultants is their knowledge base, which allows organizations to leverage this asset and apply it toward their efforts of achieving desired results while also authenticating their plans and goals (Hu et al., 2014). This concept is further understood through Mohe and Seidl's (2011) definition of client-consultant relationships in a theoretical approach. They applied Luhmann's (1995) social-systems theory to consultancy engagements. Using this theoretical approach, clients and consultants are defined as two autonomous actors that operate to their own internally developed logic. The theory suggested that because of the different logics of the client and consultant, the transfer of meaning is not possible – instead a new meaning must be created. As such, the consultant may influence change as well as stabilize the change process, however it is the leaders' behavior and actions versus the consultant that drives change (Mohe & Seidl, 2011; Naylor & Goodwin, 2011). Furthermore, the utilization of consultancy may in fact increase uncertainty because there is no guarantee of realized expectations; there are other internal dynamics and relationship factors that influence an organization's situation (Sturdy et al., 2013). In Mohe and Seidl's study (2011) they claimed that client leaders have the full responsibility to find solutions to their problems and consultants can validate challenges and encourage change, but have little influence on hard wiring behavior and knowledge into an environment that they are not a part of.

Other researchers are in agreement and also implied that leadership is accountable to the organization's successful engagement with consultants (Hu et al., 2014). The mere interaction with the consultant, however, should provide a knowledge absorption influence on the client. The absorption factor represents the synthesis of the consultants' knowledge into client systems' established logic prior to being incorporated into practice (Mohe & Seidl, 2011). This newly acquired information ultimately is managed and owned by the client system (Luhmann, 1995).

Luhmann's (1995) perspective on social systems was that systems such as organizations are closed, which limits its ability to incorporate external contributions such as consultants' influences on leader's decision-making. His contribution to systems thinking is insightful, however the theory is limiting for many businesses such as hospitals that are complex and often predisposed to external factors (Bianchi et al., 2010). The dynamics and uncertainty that plague most hospitals should lead researchers and practitioners away from thinking of hospitals in a closed-system perspective. In particular, one of the main goals of consultants is to achieve successful knowledge transfer between parties. However, leaders are cautioned that team engagement and an assessment of readiness for change must be a factored into consultancy plans in order to optimize their mutual performance (Hu et al., 2014; Sturdy et al., 2013). Therefore, contemporary researchers adopted an open systems approach to studying organizations (Giddens, Duneier, & Appelbaum, 2007; Lee & Brosziewski, 2009; Skarzauskiene, 2010; Wan, 2011).

Open systems theories follow the premise that although organizations produce meaning and understanding internally for its members, outside knowledge often

integrates into individual consciousness (Wan, 2011). People are in a constant state of comparing and contrasting peripheral events to their experiences and what they already know about their organization and environment. Through this process of referencing the external environment, individuals make informed decisions and discern between valuable and unusable information for integration into their knowledge base (Wan, 2011). This implied that disparate systems, such as a client and consultant, are interdependent and share information that is synthesized and applied within the operational activities of each entity (Bianchi et al., 2010). Open system perspectives are found within activity, complexity, and knowledge system theories. These theories consider individual skill sets and competencies necessary to manage organizations in unstable and unpredictable business environments (Greig et al., 2011; Wan, 2011).

Greig, Entwistle, and Beech (2011) took another modern perspective of open-systems theory by looking at the working relationships between systems in the change process. They used activity theory in their open-systems approach. Their concept of knowledge translation implied that effectiveness requires a system to translate information to another system in acceptable and understandable terms; failure to transfer knowledge could be interpreted as a failure in translation or a misunderstanding of intent (Greig et al., 2011).

The next section discusses KM in more detail. As a prelude, Greig, Entwistle, and Beech's study (2011) emphasized that a potential key element of organizational effectiveness was in the ability to share knowledge. Their multiple case study illustrated healthcare systems' initiatives to reduce unnecessary admissions that eliminated duplication of efforts and reduced time and resources needed for the initiatives (Greig et

al., 2011). Knowledge transfer processes have a benefit of standardizing practices within and between systems to ensure quality and consistency (Dückers, Wagner, Vos, & Groenewegen, 2011). Similar to the Bianchi et al. (2010) study that illustrated how external systems influence organizations, the Greig et al.'s (2011) study showed how each healthcare team ran into conflicts with local politicians, community groups, and even with other healthcare teams. The findings revealed that different systems had different agendas, interpretations, and understanding of initiatives (Greig et al., 2011). Teams do not always function in a hierarchical fashion, power struggles may come from multiple sources and at multiple levels within an organization. Conflicts sometimes are transformative and force leaders toward change; furthermore conflicts can direct leaders and teams toward effective solutions to problems. Activity theory provides explanatory power in understanding the holistic nature of healthcare organizations' in dealing with BPC, which involves minimizing tension and conflict between individuals and external systems (Greig et al., 2011).

Leading into knowledge management processes, additional open systems theoretical approaches can be applied such as readiness theory. Readiness theory described by Weiner provides a model that determines if a team is ready and prepared for change. When individuals of a team understand and appreciate the need for change while also sharing a conceptual assessment of their situation, then the team may build a level of confidence in changing and supporting the initiative (Dückers et al., 2011). In addition, the team's readiness may be a contributing factor of a successful or failed knowledge transfer between the consultant and team members.

Knowledge Management

In response to governmental and payer demands, hospital leaders must figure out how to do more with less while also improving their performance in quality and safety (Geffner & Corwin, 2014). Creating efficient and quality driven operations requires leaders to scrutinize their current knowledge assets and evaluate it against external benchmarks to determine if there are best practices that can be adapted to their organizational environment (Dückers et al., 2011). This task may ensure that healthcare leaders are keeping pace with the changing dynamics of the industry. The process involves continuously assessing intra-industry knowledge as well as exploring knowledge from outside the healthcare industry and combining the relevant contextual concepts to their business operations. The ability of an organization to sustain relevance in its environment relies on its leaders' abilities to effectively exploit internal knowledge and capabilities but also to source new knowledge that can be incorporated into existing knowledge base (Gastaldi et al., 2012). This level of knowledge exploration may help leaders advance or retain their organization's competitive advantage (Donate & de Pablo, 2015).

Knowledge management in healthcare is vital for several reasons including: the rising cost of care, pay-for-value, increased accountability, and demands for quality and safety standards (Bordoloi & Islam, 2012). The study of KM in healthcare is a newer paradigm with minimal research to guide researchers and practitioners. In addition, performance in healthcare can be studied across different functional lines, including financial, human resources, organizational effectiveness, clinical, etc. Performance can also be studied along different dimensions of effectiveness, accessibility, and efficiency.

The healthcare domain has complex processes; consequently, mobilizing knowledge across factions is an understated challenge facing healthcare leaders (Holmes et al., 2016).

Knowledge management is a process through which a leader creates an environment suitable for the creation, retention, incorporation, transfer, and application of knowledge for the betterment of an organization's performance (Donate & de Pablo, 2015). Knowledge transfer is where one entity transmits and learns from another; this process imparts data that can be used to measure the impact of the BPC efforts and to plan for future incremental improvements (Donate & de Pablo, 2015). Organizational knowledge is a basis of firm competitive advantage; it is considered an organization's most strategic resource (Donate & de Pablo, 2015; Gastaldi et al., 2012). While such knowledge is developed within an organization, it may be important that organizations possess the ability to learn from others in order to compete effectively (Furusten, 2013).

Grant's (1996) contribution 'Toward a knowledge-based theory of the firm' combined economic and organizational theory. – Grant proposed that effective strategic management is linked to gaining a competitive advantage; it is strongly tied to the firm's ability to manage its knowledge intensive resources, which are the individual members within the organization (Donate & de Pablo, 2015). There are several factors associated with knowledge management: organizational coordination, structure, hierarchy, and management cognition (Grant, 1996). Within each factor there are three main knowledge types, which are tactic, explicit, and transferable knowledge. Explicit knowledge is property and can be easily transferred, communicated, and purchased. On the other hand, tactic knowledge must be observed and applied; it potentially has slow and uncertain

transferability (Donate & de Pablo, 2015). The importance of Grant's (1996) theory of the firm is that knowledge transfer is vital in external knowledge sharing and successful consultancy engagements (Hu et al., 2014). Furthermore, organizational learning theory is the study of the acquisition of knowledge from both internal and external sources and the activities associated with incorporating the new knowledge into organizational decision making processes. Effective organizational learning goes beyond knowledge creation and acquisition; the learning must seek to achieve organizational effectiveness and better performance toward a strategic advantage (Hu et al., 2014).

A multiple case study by Ward, Smith, and House (2011) explored the knowledge exchange process in relation to healthcare teams' ability to effectively share and use information in practice. Ward et al. (2011) found that without effective and efficient transfer of evidence-based knowledge, practitioners may waste resources, time, and opportunities to make a difference in their healthcare communities. They used an interactive case study approach to evaluate how three healthcare teams managed challenging organizational tasks. Some key elements to the knowledge management process involve organization structural differences, contextual characteristics of the problem, and information processing capabilities of team – each of these affect the knowledge exchange process (Ward et al., 2011). Furthermore, the effectiveness of the knowledge transfer process is associated with the ability to understand and articulate the problem, the teams' limitations, cognition, and skills, and the policies involved in guiding member's behavior. There is no dominate approach to knowledge transfer – knowledge comes from a variety of sources including individual experiences. An important factor to knowledge transfer is each individual's skills/competencies in a particular domain of

their decision making process, which is a key influence to a team's ability to absorb and process the knowledge (Grant, 1996; Ward et al., 2011).

Bordoloi and Islam (2012) conducted a meta-analysis and case study to evaluate KM within healthcare teams. The purpose of the study was to understand the KM infrastructure and processes in the practice and delivery of healthcare. They used contingency theory to frame their study. The application of contingency theory for healthcare KM is through the process of leaders applying a situational method of management by trading off KM enablers to achieve optimal performance. They identified four contingency factors that affect KM effectiveness in healthcare: physician characteristics, clinical complexities (ailment) characteristics, organizational IT infrastructure, and organizational characteristics. Through their study of the existing literature, they found that KM processes have a positive influence on operational and organizational performance (Bordoloi & Islam, 2012). In addition, knowledge driven processes in healthcare are relatively complex as compared to other industries. They cite Sheffield (2008):

> Knowledge management is systemically more complex in healthcare because the domains of knowledge creation, knowledge normalization, and knowledge application correspond to three knowledge management perspectives i.e., personal values, social norms and objective facts, respectively, which have inherent tension between and within them. (Bordoloi & Islam, 2012, p. 110)

Furthermore, it was noted that the important difference between healthcare and other industries is that healthcare systems are variable, complex, susceptible to

emergencies/non-deferrable services, and is not tolerant to ambiguity and errors (Bordoloi & Islam, 2012).

In Olson, Tooman and Alvarado (2010) qualitative cross-case study of three United States hospitals they suggested strategies in making significant practice improvements through team learning. The study explored how individuals influenced each other in their change efforts. They used Engel's 1989 theory of soft knowledge systems (SKS) to frame and evaluate the clinical teams' approach to change initiatives. The underlying assumption of SKS is that knowledge and information are central to innovation (Olson et al., 2010). The outcome from the study was that successful change initiatives were attributed to having a multidisciplinary inclusive team and project champions. Team members can possess relevant knowledge and information on process change; they gain this knowledge from a variety of sources including literature, external consultants, other organizations, and their own experiences (Dückers et al., 2011). Success factors can be achieved from the teams blending evidence-based practice, practical knowledge, and clinical data (Olson et al., 2010). Group learning, team dynamics, socialism, and interpersonal affairs are found to be key factors to successful change as compared to the mere application of linear research to the real-world environment (Dückers et al., 2011; Olson et al., 2010). On this same line of thought, Ozlen and Handzic (2011) recommended that organizations should develop and implement KM systems capable of providing decision makers with the knowledge that supports their work demands. In addition, if teams learn and do well in their environments then greater self-efficacy may lead to greater knowledge adoption and success.

Ozlen and Handzic's (2011) research investigated qualifications and consequences of knowledge adoption in the context of decision making. There were five hypotheses proposed for this study; the one relevant to the proposed research was: "Voluntary use of KM systems will positively influence net benefits of KM systems" (p.3). This proposition was significantly supported, which follows previous researcher's thoughts that when KM processes lead convenient, relevant and reliable solutions then leaders are more apt to apply new knowledge toward their business operations. This suggests that organizational leaders should invest in KM systems and workforce competencies in order to achieve excellence in business performance (Ozlen & Handzic's, 2011). Other relevant propositions to the proposed study are that social learning has a positive effect on the practice of evidence-based medicine and knowledge acquisition and sharing (Bordoloi & Islam, 2012). Bordoloi and Islam's (2012) study supports Ozlen and Handzic's (2011) assessment that social learning practices provide provisions for effective knowledge absorption and leadership decision making. It was identified that KM adoption is dependent on leadership (Bordoloi & Islam, 2012; Ozlen & Handzic, 2011). In addition, there is support that healthcare providers gain experience through mentor-apprentice structures; it is recommended that this form of KM adoption should be promoted and rewarded because it leads to interdependent relationships and better knowledge sharing and application (Bordoloi & Islam, 2012). In any case, there is room for a deep-dive into specific leadership characteristics best suited for effective KM.

Absorptive capacity is a concept important to the knowledge transfer process. It is defined as a recipient's ability to incorporate new knowledge into their existing knowledge base (Mohe & Seidl, 2011). Simon's (1991) principle of rationality, further

defines absorptive capacity by inferring that the human brain is apt for specialization and is most efficient at storing, processing, and creating knowledge that is focused on concentrated areas. As such, the introduction of new knowledge requires the integration of a knowledge expert/specialist into the operational area for the knowledge to be efficiently aggregated into an operational team. This integration of a knowledge expert may prove to be the most successful way for sustained knowledge possession and application. In light of a consultant that is temporary in nature and costly to retain, it is vital that an organization retains someone internally with the capability of absorbing, translating, and integrating the new knowledge. Ideally that would be the operational manager or a quality management/operational improvement professional that would be able to enforce the new knowledge for long-term sustainability. Ultimately, the knowledge transfer enforcement is a factor of managerial style and choice; in addition, their ability to focus on directives aimed at interdependence, cooperation, and coordination (Mohe & Seidl, 2011).

Many organizations measure success based on financial performance and to a lesser extent on intermediate factors. Intermediate measures are considered intangible benefits or non-financial measures such as customer engagement/satisfaction, product leadership, market penetration, and operational excellence (Zack, McKeen, & Singh, 2009). The researchers highlighted that improvement in intermediate measures was associated with positive financial performance. Effective KM practices directly affect intermediate measures, so if an organization aims to improve their financial performance they should focus on several of the intermediate factors as part of their core strategy (Zack et al., 2009).

Zack et al. (2009) conducted a quantitative study to provide evidence of the relationship between KM, organizational performance, and its competitive advantage. The true value of KM is focused on four domains: (a) ability to locate and share existing knowledge, (b) ability to experiment and create new knowledge, (c) a culture that encourages knowledge creation and sharing, and (d) a regard for the strategic value of knowledge and learning (Zack et al., 2009). The intriguing outcome of the Zack et al. (2009) study was that they found a direct relationship between KM practices and organizational performance and a weak relationship to financial performance. Organizational performance was defined as a mediating factor between KM practices and financial performance, which implied that in order to affect financial outcomes, leaders should focus their KM initiatives on a variety of intermediate performance outcomes such as customer experience, market domination, and operational excellence. The limitation of this study, in light of many healthcare systems, is that it excluded non-profit organizations. Regardless of their exclusion of non-profit organizations, Zack et al.'s (2009) findings may be generalized to businesses that are concerned with KM and operational effectiveness. Although many healthcare systems are non-profit, they must also focus on fiscal health and responsibility.

The ability to explore and exploit knowledge provides organizations with enhanced opportunities in performance excellence. Expected performance is achieved by progressively reinforcing the current knowledge assets with emerging knowledge - the key is to maintain the iterative process and retain the knowledge for long term sustainable results. When done effectively, healthcare leaders are able to progressively solve the tension between competing priorities such as cost reduction and quality improvement

(Holmes et al., 2016). The tools and resources used by healthcare professionals for KM include the balanced score card; this tool is thought to be an evidence based best practice solution for healthcare leaders' decision support and it ensures adequate knowledge transfer in BPC initiatives (Grigoroudis, Orfanoudaki, & Zopounidis, 2012). The balanced score card allows for informed decisions around a defined problem and provides analytics for actionable approaches to correcting deviations from expectations (Grigoroudis et al., 2012). Decision support capabilities has evolved over the years where information technology is now considered a vital tool in the KM process. Gastaldi, Lettieri, Corso, and Masella (2012) conducted a multiple case study investigation on KM through the support of electronic medical records (EMR). Their study focused on the role of information and communication technology in supporting KM. It should be acknowledged that improving hospital performance relies on the effective management of knowledge assets (Garavaglia et al., 2011; Gastaldi et al., 2012; Grigoroudis et al., 2012).

Considering consultancy, consultants are documented in the literature as adding value to their clients by providing knowledge or expertise that does not exist within internal resources (Momani, 2013). Studies showed the growing popularity of organizations' desire to gain expert knowledge of their industry from consultants (Furusten, 2013; Hu et al., 2014). Other studies suggest an over reliance on external consultants versus critically evaluating and incorporating internal knowledge (Southern, et al., 2013). Furthermore, there is also evidence that clients' decisions to involve consultants are affected by the knowledge requirements of the project at hand and that

consultants can guide leadership in niche best practices (Gastaldi et al., 2012; Naylor & Goodwin, 2011).

Summary

This review of literature documented and discussed the relevant research related to organizational effectiveness in BPC, leadership influence on the change process, KM for BPC sustainability, and the use of consultants as change agents. Since healthcare is in a state of flux with the recent implementation of ACA policy, management scholars interested in the healthcare industry should gear their studies to problem-based research aimed at the complexities that plague the healthcare industry (Sidorova & Isik, 2010). Much of the reviewed literature is not specific to healthcare, but can be generalized to health systems because of the similar business context. There were studies that focused on the key element of inquiry, which is BPC sustainability with the use of consultant support (Naylor & Goodwin, 2011). In addition, the theoretical lens that permeated much of the literature focused on social systems; in particular, open-systems where individuals, teams, and external influences such as consultants are instrumental to organizational learning, operational improvements, organizational change, and the knowledge transfer process. Open-system theories may effectively explain both the intra-organizational and extra-organizational phenomenon of healthcare environments; in addition, they can be used as a lens to explore client-consultant relationships and the knowledge exchange process (Dückers et al., 2011; Greig et al., 2011; Lee et al., 2011; Macaux, 2014; McCabe, 2010; Olson et al., 2010; Rastgoo, 2014; Skarzauskiene, 2010; Trajkovski et al., 2013; Wan, 2011).

There was a need for more exploratory and descriptive research that targeted the diversity of factors that may influence the healthcare BPC processes and outcomes (Sidorova & Isik, 2010). Methodologies geared for operational change such as Lean is expected to permeate the healthcare industry because of the attractiveness of Lean's potential success (Toussaint & Berry, 2013). However, because evidence showed outcomes were not sustained, researchers who can identify barriers and strategies for success could potentially be valuable for the practicing healthcare leader (Radnor & Osborne, 2013). In particular, for healthcare organizations that utilize consultants, research that focused directly on the best practices of BPC engagements could potentially be relevant and meaningful to leaders looking to maximize their investments (Sarker, Sarker, & Sidorova, 2006; Turesky & Connell, 2010). A recommendation was made by one of the researchers (Furusten, 2013) that more investigation is needed on BPC and outcomes when consultants are used.

In essence, the literature was consistent in its identification of leadership's responsibility in the change process (Kıyak et al., 2011; McCabe, 2010). Furthermore, it was identified that leaders must develop a sound KM process to attain and retain knowledge and skills and translate the learned knowledge to their operational teams in order to achieve the level of stability they desire within their business processes Gastaldi et al., 2012. The uncovered literature along with the proposed research supported the understanding of the various factors that influence operational excellence for healthcare systems, and ultimately enhanced the contribution to the field of healthcare organizational management.

Chapter 3: Research Method

This research was a cross-sectional multiple case study that explored the outcome of hospital leaders' KM practices in their surgical service BPC initiatives. The problem examined was hospital leaders' ability to sustain BPC through KM practices (Brooks & Krupka, 2012). In light of the demands of the Affordable Care Act of 2010, BPC must be achieved in order to justify the time, resources, and expense of these engagements. Therefore, this study investigated surgical leadership's KM effectiveness in BPC efforts, compared/contrasted two different hospital team's execution of BPC initiatives, and identified factors that may lead to success or failure. In particular, the research intended to answer two key research questions: First, what are the hospital leadership KM practices that influence BPC success and sustainability within the surgical service arena? In addition, how do leaders execute KM practices to ensure long-term success of their BPC initiatives for hospital surgical services? The approach to this study was to evaluate the effectiveness of BPC from the perspective of the surgical team members. Ultimately, the goal was to understand the potential best practices for achieving sustained BPC and operational excellence.

Research Methods and Design(s)

A qualitative multiple case study was the methodology used for this research. The strength of a case study design is its strong relevance to the practical environment of healthcare organizations; in addition, it is the best approach to answer the 'what', 'how', and 'why' questions of processes and outcomes (Gibbert & Ruigrok, 2010; Yin, 2013). There was evidence that some surgical service teams were able to implement and execute new processes for sustained BPC – the question is how and why? The decision to use a

qualitative approach to this BPC study was derived from the need to explore this phenomena through the vantage point of the key individuals involved or affected by the initiative. The literature review informed and guided the development of a questionnaire and interview questions that provided insight into how or why the study organizations' BPC efforts resulted in specific outcomes. The objective was to construct and propose a playbook of best practices from the experiences of individuals involved and accountable for BPC and its respective outcomes.

There were two case study sites involved in this research. The study followed the 'natural science model' as recommended by Gibbert and Ruigrok (2010) to ensure appropriate rigor in case study research. Through the process of replicating the data collection procedures, this multiple case study design enhanced the reliability, construct validity, and internal validity of the findings (Gibbert & Ruigrok, 2010). The study design explored the surgical service BPC initiatives within and between two hospitals in the greater Chicago Midwest region of the United States. Using a cross-case analysis, the procedures of inquiry were replicated at each site to gain different perspectives of a similar phenomenon (Yin, 2013). A core objective of this study was to identify two surgical teams that underwent similar BPC initiatives and compare the teams' processes, communications, and dynamics in effort to understand how specific factors influence the objective outcomes of BPC for long-term sustainability of surgical operational improvements. In addition, this approach discovered the varying perceptions of what constitutes success of failure and why the variance occurs. This investigation involved discovering the policies and procedures to the KM process among healthcare teams

through an examination of this concept via the perceptions of leaders, subordinates, and key stakeholders.

For the proposed research, the case study method was chosen because of its allowance for real-world exploration and discovery of relevant contributing factors of BPC outcomes from both the consultant and hospital member perspectives. In particular, the multiple case study approach allowed for a robust exploration of the phenomenon, which may allow for stronger evidence that identified factors truly affect the phenomenon in question (Yin, 2013). This may lead to an understanding of best practices in KM techniques for positive outcomes in BPC. A multiple case study approach allows healthcare practitioners to be more confident in the findings; in addition, the approach provides a higher degree of reliability with added confidence that the study may be generalized to other organizations (Gibbert & Ruigrok, 2010; Yin, 2013). The researcher intended to provide empirical evidence that specific factors lead to a particular outcome. Since it is a qualitative design the results were not intended to show exact causality or prove that a definitive relationship exists between variables; instead, it highlighted key factors of each case and compared and contrasted elements of the BPC phenomenon (Turesky & Connell, 2010). Per Yin (2013), case study research has a core benefit in evaluating practical processes such as BPC initiatives. He further claimed that case study research that uses triangulation techniques is effective in evaluating and exploring processes and outcomes.

Design. The design required the identification of one consultant firm that worked with the two case sites. A firm was selected and was blinded throughout this report. The consultant firm is a company that provides evidence based BPC services to hospital

clients' perioperative centers (surgical services). This company was chosen because of their niche offerings in surgical service arena; they have extensive experience and worked with over 200 hospitals in various locations within the US. The consultant was engaged early in the development of this concept and helped identify two potential case sites. Both case sites were in the greater Chicago Midwest region. The researcher initiated the initial contact with each case site leadership to gauge their interest in participating. The two sites' presidents gave approval. Northcentral University required institutional review board (IRB) approval for this type of research, which required a detailed informed consent process for all participants at each site prior to the initiation of the data collection phase of the study. The site selection was based on purposeful sampling, which provided a between case comparison – one with and one without a successful BPC outcome based on the consultants assessment of their outcomes. The data collection, processing and analysis was conducted by the researcher. The investigator triangulation plan included experienced researchers familiar with case study research to review the research plan, data collection/coding protocol, and the data analysis plan. The plan also included field testing the questionnaire and interview protocol prior to the dissertation proposal approval and data collection. The field testing involved allowing colleagues with experience in surgical service operations to review the questionnaire and interview questions for relevance and applicability to their field.

The methodological triangulation approach involved collecting data in a few different formats, which included document research, questionnaires, and interviews. The plan involved securing multiple sources of information directly from the case sites and publicly available data. The data was collected concurrently with a high level of

engagement and input from each case site participants. As such, all the data collection tools were submitted to the institutional review board (IRB) together. The formative data collection phase involved administering the questionnaire during the case site document collection process. Concurrently, the interviews at each site was scheduled. While the interviews were conducted the data analysis of the formative data was also conducted. The plan was iterative, which involves cycling back to interviewees with noteworthy discoveries from the questionnaires or document collection. This allowed for interviewees to reflect on details and provide additional insight or clarification as necessary. The objective was to ensure that each interviewee had the opportunity to reflect on all discovered concepts. Each of data collection points built a rich conceptual description for each case site.

Semi-structured depth interviews of two participant hospitals' leaders and key surgical service personnel were scheduled following the consultant meeting. The anticipated participants was expected to include at least five individuals per hospital (10 total) – the participant targets included the most senior leader accountable for the surgical service department, the surgical service administrator/director, front line manager, key associate(s) (nurse, technician, scheduler, etc.), and physician(s) surgical/anesthesia leaders. The interviews obtained each individual's perspective of their experiences before and after the BPC initiative. The goal was to understand and uncover the internal structure and dynamics of the BPC teams, the relationships, leadership characteristics, staff engagement and involvement in the process, their thoughts on the team's readiness for change, the expected and real outcomes of the engagement, and any barriers limiting the KT process.

The case study process followed the Yin (2013) foundation, and begun with key leadership interviews and progressed through the ranks. The discussions were intended to have some structured questions that every participant was asked. In addition, there was an open rapport, which created a quality dialogue and explored individual feelings about the BPC process and their relationships with individuals, teams, and the consultant. The objective was to gain a more robust understanding of individuals' experiences during the consultancy engagement. The researcher documented the broad procedures and processes, while also pieced together each factor that contributed to the BPC initiative outcome. It was important to determine leadership's influence and execution of the BPC initiative and the KM practices employed, which included recognizing how KT was managed, how performance behaviors were enforced, and what training regime was implemented. Furthermore, the researcher gained each participant's vantage point on what worked and what did not work in the overall BPC initiative.

Plan. The questionnaire and interview guide was field tested by several colleagues and peers with the goal of submitting a valid data collection plan. Field testing was part of the investigator triangulation approach. The objective of field testing was to evaluate the approach and relevance of the questions to the proposed study. In addition, each question was benchmarked against established research to further provide validation to the data collection tool and approach (see Appendix A & B). The formative data collection phase included both documentation collection and the questionnaire. The requested documents from each case site included a variety of information and reports such as the BPC project charter, service line plans, pre and post implementation score

cards, market share data, organizational chart, and other unique relevant data that helped the researcher build a profile for each case site.

Semi-structured depth interviews of two participant hospitals' leaders and key surgical service personnel were scheduled just after the invitations were sent. The participants included at least five individuals per hospital, all participants were screened based on their tenure and involvement in the BPC initiative. The format was intended to have most if not all the participants who were employed/on staff at the initiation of the BPC initiative. Participant inclusion targets included the most senior executive accountable for the surgical services department, the surgical service administrator/director, front line manager, key associate(s) (nurse, technician, scheduler, etc.), and physician(s) surgical/anesthesia leaders. This set of interviews obtained each individual's perspective of their experiences before and after the BPC initiative. The goal was to understand and uncover the internal structure and dynamics of the BPC teams, the relationships, leadership characteristics, staff engagement and involvement in the process, their thoughts on the team's readiness for change, the expected and real outcomes of the engagement, and any barriers limiting the KT process.

A guide was developed based on key constructs of the research questions (Appendix B). This approach allowed for structure and consistency in the interview process (Kallio, Pietilä, Johnson, & Kangasniemi, 2016). The interview guide was field tested by both a professional who had experience in the phenomenon in question and one experienced in case study research. These individuals acted as consultants and had a keen interest in the proposed research. The field test interview subjects were not be part of the study, their task was to help identify flaws and limitations of the questions. This

field test process ensured reliability and relevance of the questioning technique (Kallio et al., 2016).

The case study process followed the Yin (2013) foundation, and begun with key leadership interviews and progressed through the ranks (see above: triangulation data source #3, p. 37). The discussions had a few open ended structured questions that each person were asked. In addition, there was an open rapport, with the objective of creating a quality dialogue and explore individual feelings about the BPC process and their relationships with individuals, teams, and the consultant. The process gained robust understanding of individuals' experiences during the consultancy engagement. The researcher aimed to document and understand the broad procedures and processes, while also helped understand each factor that contributed to the BPC initiative outcome. It was important to determine leadership's influence and execution of the BPC initiative and the KM practices employed, which included recognizing how KT was managed, how performance behaviors were enforced, and what training regime was implemented. Furthermore, the researcher aimed to gain each participant's vantage point on what worked and what did not work in the overall BPC initiative.

Population

Hospitals with surgical service departments were the identified population for this study. The surgical service department was chosen because it has the largest expenses, but also because it has the potential of achieving the highest revenue for hospitals (Zook, 2014). In this multiple case study analysis the researcher obtained insight from hospital leaders' on the BPC methodology, approach, and perceived outcomes of consultancy engagement for surgical services. The hospital case sites were full service acute care

facilities within suburban communities of the greater Chicago Midwest. There was evidence that hospitals tend to differ by type and characteristics, which included sociodemographic factors (such as payer mix), teaching status, organizational structure, availability of resources, location, and scope of services provided (Manary, Staelin, Boulding, & Glickman, 2015). With this in mind, there was a diligent effort to identify similar organizations for participation in this study in order to avoid any confounding variables that may present from dissimilar hospital types. Full-service multidisciplinary acute care centers serving similar communities were targeted because of their similarities in structure and resource allocation. Hospitals with a payer mix skewed toward private insurance, teaching hospitals and academic medical centers tend to have disproportionate access to financial and human resources that support operational initiatives and were exclude from the study (Manary et al., 2015). The literature did not show any significant differences in performance outcomes between academic/teaching hospitals as compared to non-teaching hospitals other than payer mix factors, therefore both types of hospitals were considered for the study (Manary et al., 2015). However, specialty hospitals such as cancer centers, women's hospitals, and orthopedic centers have a limited scope of services offered. Because of their ability to focus on a narrow scope of services they often are able to achieve higher operational efficiencies; therefore they were also excluded from this study (Badlani, Boden, & Phillips, 2012; Perry, 2012).

Sample

Purposive sampling was used to identify hospitals for the study based on recommendations from a consultant firm who worked with the hospitals that conducted BPC for surgical services (Merriam & Tisdell, 2015). The sampling method involved

identifying potential hospital case sites from the consultant's portfolio. The chosen hospitals for the study fell into two deviant subcategories; one had experienced insufficient results in their BPC and the other had more successful long-term outcomes of their surgical service BPC initiative. Exploring both the consultants' and hospital surgical team members' experiences and perceptions of the central phenomenon enlightened the researcher and added value to understanding the research problem. The data triangulation approach involved inviting all members in the surgical service team take the questionnaire, which would allow for a full cross-section of participation. In addition, five to seven individuals from the surgical service department were identified for semi-structured interviews. The individuals selected from each site included the most senior leader over surgical services, department lead, line supervisor and staff, and key physician leaders.

Materials/Instruments

There was a three tiered triangulation approach for this study: methodological, data, and investigator (Guion, Diehl, & McDonald, 2011). The methodological approach included interviews and questionnaires. The document collection involved researching and collecting multiple sources of information directly from the case sites as well as through the literature review and publicly available data on each hospital. The investigator triangulation involved field testing the questionnaires and interview guide. Professionals with experience in both healthcare operations and qualitative methods scrutinized the interview transcript summaries and codification guide. This triangulation approach was necessary to enhance construct validity, which added confidence to the researcher's intended measures for the case study research (Gibbert & Ruigrok, 2010).

The plan required collecting each phase of data concurrently, which created an efficient engagement with each case site. As such, the questionnaire and interview guide were field tested together and submitted to the institutional review board (IRB) at the same time.

Document research. The plan involved securing multiple sources of information directly from the case sites and publicly available data. The document collection helped build each organization's profile, including a pre and post consultancy scorecard based on outcome data from the BPC engagements. The intent of this data collection was to explore the documented analytics, plans, proposals, and themes to support the interview plan and the overall goal of the research (Yin, 2013). The data provided objective characteristics for comparison and analysis. In addition, the researcher was armed with a set of facts on each hospital that helped form a 'working hypothesis,' providing an informed assumption around the participant's perspectives and experiences that adhere to the study's purpose (Yin, 2013).

Questionnaire. All staff and physicians within the surgical departments of each case site were invited to complete a questionnaire (Appendix A). The Likert questionnaire included questions designed to assess each individual's perception of the BPC outcome. The intent of the questionnaire was to explore global themes that complement and refine the interview plan. In addition, the results of the questionnaire allowed for comparisons against the interviews and validate the data collection outcomes. For consistency, the objective was to adapt a tool used by one of the researchers cited in the literature review. The questionnaire data collected included the following questions: What is your personal tenure within the department? What is your level of experience

with BPC initiatives? What were the reasons for initiating BPC within your department? What was the expected outcome(s) of the BPC effort? What was the observed outcome(s) of the BPC effort? Did you have all the tools and resources necessary to achieve the expected BPC outcome? What was the level of engagement of the team during the BPC initiative? What was the level of support from management around the BPC effort? What was the effectiveness of the KT process?

Interviews. There were 11 semi-structured depth interviews with individuals that were directly involved in each hospital's surgical service BPC discovery, planning, and implementation. During and before finalizing the documentation research and closing the questionnaire, the interviews were initiated with participant hospitals' key stakeholders (Appendix B). The interviews involved themes identified from the literature review and enhanced by the formative data collection phase. The specific themes evolved as the discussions progressed. The interview protocol contained questions aimed at exploring each interviewee's experiences, and sought to gain each member's perception on culture, team dynamics, leadership, BPC implementation effectiveness, KM process, personal thoughts on expectations, and outcomes. The interviews probed for more details on unique perceptions on consultancy engagements and elaborate on any discovery uncovered from the formative data collection phase. Within each case hospital, the interviews built off each other – a 'lived feature' of interviewing (Yin, 2013). The rolling analysis process helped establish other relevant themes or issues that might be worthy of exploring in subsequent interviews. This process also ensured organization of the data gathering process (Merriam & Tisdell, 2015).

Following the interviews the researcher had a final discussion with the consultant, which supported a deeper understanding of the consultancy methodology to BPC and KT strategies. Furthermore, this interview uncovered the consultant's perspective on what constituted a successful outcome versus a failure. The aim is to uncover the consultant's perception on the barriers and the successes of his engagements. The consultant was asked to provide an overview of his experiences without placing an assessment against either case site.

Data Collection, Processing, and Analysis

This multiple case study involved collecting data from several sources – consultant perspective, documentation collection, questionnaire, and interviews. The triangulation approach to data collection constituted a comprehensive research plan. The multiplicity of the study involved replicating the procedures at two sites allowing for a within-case and between-case analysis against findings from the literature review. This level of analysis increased the confidence in the generalizability of the findings (Merriam & Tisdell, 2015). Furthermore, the following discussion on the data collection procedures, processing, and analysis represents a field guide, which established a chain of evidence to enhance reliability (Yin, 2013). Prior to engaging the case sites, an extensive literature review was conducted to fully understand the documented issues and best practices to BPC in surgical services. The interview with the consultant also prepared the researcher with specific insight on each case site and the methodology and process used for the BPC engagement. In addition, the literature review identified a composite questioning tool for the questionnaire. Furthermore, the review helped prepare draft questions for the interview series.

Data collection. This multiple case study included the identification of a consultant firm who provides BPC solutions for healthcare organizations; specifically surgical service reengineering. In addition, the goal was to identify two hospitals who worked with the same consultant member who facilitated both case sites' BPC initiatives. Having the same consultant who worked with each hospital controlled for unintended intervening factors that the consultant dynamics could have had on the study outcomes. The consultant helped identify potential clients for the study; one with successful outcomes and one without. Thorough discussions with the consultant occurred in order to document their BPC methodology, experience, and perceptions on each client engagement. The plan was to keep the consultant engaged throughout the entire study, specifically for guidance, clarification on any aspects of his/her engagement, and advice on navigating barriers.

A detailed case description was provided and supported by objective data discovered from the documentation review. There was a side by side comparison of each case site that supported the analysis of organizational similarities and differences. Organizational information was collected for the hospital, which included the hospital size in respect to operational beds, annual discharges, and revenue. In addition, information on the surgical service department was collected to include the scope of surgical services offered at each hospital, surgical case volume (both outpatient and inpatient), surgical case mix, and operating margin for the whole service and for each service line (see Appendix C).

The outcome data from each hospital's BPC initiative was provided from the documentation review and interviews. This information included the objectives of the

initiative as defined by both the consultant and the hospitals' leaders. Some standard outcome data was collected for the growth construct; related to pre and post case volume and market share within total service area. The efficiency construct incorporated improvements such as turnaround times and on-time starts. In addition, efficiency metrics were observed by evaluating pre and post contribution margins or net revenue. An improvement in all outcome margins should reflect favorable financial performance overtime. When possible, this data was compared to national benchmarked data for well managed healthcare systems.

A Likert scale questionnaire was administered to all personnel within each surgical service department (see Appendix A). The objective was to get as many participants as possible and specifically those who were active members of the department during the BPC execution. The questionnaire was voluntary; the purpose was to add a level of objectivity to the study and to pull in additional feedback from individuals who were not targeted for interviews. The questionnaire was developed from the extensive literature review of similar data collection tools. The questions were field tested with a surgical service specialist and a research expert with experience in survey tools. Following the field test, necessary revisions were applied and then the questionnaire was sent to all staff within each case site surgical service department via an on-line survey tool (Survey Monkey). While waiting for the returned questionnaires, the interviews began. The interviews included five to six individuals from each site and each interview was taped and fully transcribed. The data was compiled and coded into summary reports. The two expert analyses provided investigator triangulation necessary for validating the researcher's coding and research analysis approach.

The plan was for the interviews to be conducted in-person so to document body language and provide a level of interpersonal rapport. However, three were conducted by phone, which was noted in the result section. The intent of the interviews was not to limit the discussion to short answer questions, but to dig deeper into the rich details behind the responses. The researcher provided a standard set of probes and ask each participant to elaborate on each item. Some questions were: who from their team was involved in the process? What techniques/methodologies were used for BPC? What actions were taken to prepare for the BPC engagement? Why was BPC necessary for their service? What were the objectives sought and what actually was achieved? What were the challenges with the BPC effort and why? What were the successes with the BPC effort and why? How would they describe the internal team relationships and dynamics? How would they describe the effectiveness of the BPC effort? What was the knowledge transfer/retention techniques used to sustain BPC? How could the leadership of this team improve the outcomes of this effort? For the full interview guide refer to Appendix B.

Data Processing and analysis. The analysis plan was conducted in two phases. In the first phase, the analysis created a description of the case site. This analysis included the multiple sources data collected – consultant, documentation review, questionnaire, and interviews. The tools to collect the data were consistent and allowed for reliable comparisons within and between case sites (Merriam & Tisdell, 2015). In the second phase of data analysis, the data was derived from the first phase. Once the interviews were transcribed and coded the coding was examined by the two experts. They validated the coding matrix and provided their insight and interpretation of the data collected. This

evaluation helped develop a robust explanatory model of the BPC effectiveness and coordination of each case site's processes. This exploratory style uncovered the rich details and variety of elements involved in the how and why BPC was either a success or failure.

The survey results supported the comparative analysis the analysis of organizational similarities and differences. The results of the questionnaire results were analyzed against the coded the transcripts; the data allowed for comparisons within each case site interviews and helped validate data collected from the documentation review. The questionnaire data was analyzed with simple comparative statistics (medians, means, frequencies, and cross-tabulations). The questionnaire data collected included categorical questions such as position, tenure in organization, experience with BPC initiatives, and participation in BPC initiative. There was be a series of perceptional based questions as related to pre and post efficiencies, expected and observed outcomes of BPC effort, resources available/needed for successful BPC, engagement of team and management, involvement/support of upper management around BPC efforts, and impact/effectiveness of KT process.

While waiting for the responses to the questionnaire, semi-structured interviews were scheduled with five to six individuals per site. The interviewees were asked to describe their BPC initiative in detail. These narratives helped develop themes for each initiative and guided the construction of an explanatory model that built a picture of how and why each engagement was either a success or failure. Following Grant's knowledge base theory of the firm (1996), organizational behavior, and the social systems theoretical lenses, the researcher looked for key predictors of effective KM practices in BPC, which

included leadership engagement and tenure, the team structure and hierarchy, team readiness for change, staff involvement in decision making, and the knowledge transfer techniques used in BPC engagement (Bradley, Pallas, Bashyal, Berman, & Curry, 2011; Radnor & Osborne, 2013). The identified theoretical implication involved identifying KM practices, learning capacity, and leadership capabilities in imparting and influencing sustained change (Bradley et al., 2011; Grant, 1996; Mohe & Seidl, 2011; Olson, Tooman, & Alvarado, 2010; Orlikoff & Saitow, 2011). The intent of the analysis plan uncovered potential relationships to success factors versus a cause and effect relationship.

Since the case studies were limited to just two hospitals, the goal was not to suggest that these particular interviewees' experiences were the only evidence for succeeding or failing in practice. Instead, the case hospitals provided examples of how processes, teams, and leadership congeal to ensure success, or how processes derail and lead to failure. Consent was provided by each interviewee to record the interview; each was transcribed in full. The interviewees were sent their individual transcription and allowed to make any changes as necessary. The goal was be to identify repetitive patterns in the transcriptions. The transcriptions were analyzed in a thematic method where key descriptor codes evolved throughout the process. The descriptors were organized under major themes with quotes used as references to support their placement within categories. Two or three cycles were conducted to ensure the appropriate level of consolidation and segregation of the codes into aligned categories. The themes used adhered to the central research questions and concepts identified from the literature review (Naylor & Goodwin, 2011). As discussed earlier, an investigator triangulation method was employed where two experts were involved in reviewing the code key to assess if they agreed with the

code placement within categories. After necessary revisions were made, the final code key was used to analyze the frequency of codes and themes presented, which supported the discussion of the findings.

In the final report the findings from the data analysis highlighted the thematic outcomes from all data sources. The data was reported in an organized analytical format; by individual constructs as appropriate. At the start, the case studies were organized based on within-setting analysis. This constituted self-contained descriptive elements of analysis within a narrative. Then a between-case analysis was conducted to compare and contrast each organization against each other (Merriam & Tisdell, 2015). A computer based qualitative data analysis program was used to organize the data in groupings or categories. The program used for this process is NVivo. This program is considered a rigorous and academically sound solution for analyzing and coding textual data (Sotiriadou, Brouwers, & Le, T.A., 2014). NVivo is a licensed solution that should prove more effective than manual data analysis via Microsoft Excel. Since the study utilizes multiple modes of data collection, the NVivo software supported the proposed triangulation method. Each data collection phase was evaluated independently and then integrated to identify convergence and outcomes (Morse & Cheek, 2014).

The triangulation approach to this study enhanced the confirmability of the study through showcasing multiple measurement sources; in both data and methodology. In addition, an investigator peer review technique was utilized and improved the validity of the analysis plan. Furthermore, the confidentiality practices via informed consent ensured credibility in the research plan. The multiple case study design allowed for repeating procedures, this replication enhanced the validity and generalizability of the

findings similar to cross-experiment designs (Yin, 2013). Validity was also improved based on the design being applicable to any operational environment where financial viability is imperative through executing BPC to achieve operational efficiencies through effective KM practices. Consequentially, the methods of this proposed study are transferable and applicable to many businesses within and outside the healthcare arena.

Assumptions

One of the key assumptions associated with this research was that hospital leadership fully understands the fiscal imperative of efficient surgical services. Healthcare executives seek consultants for BPC solutions where there is a limited understanding of the best approach to achieve a highly effective surgical arena. In addition, there may be limited internal capabilities or resources to organize and execute on reengineering efforts. It is assumed that the hospitals that contracted the consulting firm in this study finalized their contractual agreements following the necessary due diligence in researching firms with a methodology best fitting to their departmental situation. In addition, the expectation was that each hospital conducted the necessary reference checks that supported their confidence in the firm's competencies, experience, and knowledge of the surgical operational environment. Lastly, a fundamental assumption was made that each participant of the surgical teams participated in the study freely and provided honest feedback on their personal experiences with the BPC effort. In order to support this effort, there was strict confidentiality of each member's identity while working with each case site as well as with handling the data and within the final report.

Limitations

The chief concern for healthcare organizational researchers is to generate and disseminate credible, dependable, and reliable research that informs decision makers on best practices and to ensure integrity in the process (Merriam & Tisdell, 2015). Case study research can be limited by having a narrow focus on one case or one episode/instance in time, which limits its generalizability (Yin, 2013). Increasing the mode to multiple sites somewhat minimizes this error, however based on the in-depth evaluation required for each case it is impractical to target a large sample. This exploratory study involved a thorough analysis of the proposed factors that influence BPC identified in the literature. As such, this design and the subsequent outcomes may provide practitioners an adequate comparison to scrutinize their potential or past experiences. In addition, this study contributed to the existing knowledge through validating the potential factors against the real life phenomenon. This included identifying additional factors that may emerge from the case studies that may affect the outcomes of BPC. There was a deliberate triangulation design with questionnaires, interviews, and documentation collection that exposed as many factors that may influence the outcome of BPC in surgical services (Yin, 2013). With this design, the data collection and analysis plan should lead to credible and reliable results in the final research report.

Delimitations

The hospitals between each case were chosen based on adherence to consistent characteristics. To support the reliability and comparability of the results it was important to identify two organization of similar nature. This resulted in efforts to find

hospitals with similar ownership classification, scope of service, sociodemographic, and community type. This approach aimed to control for unintended intervening variables that may interfere with the focus on more intrinsic factors such as leadership, knowledge management, and team dynamics between the two case studies. Key characteristics were defined by the Healthcare Cost and Utilization Project (HCUP) included: government/non-federal, private non-profit, or private investor-owned (HCUP, 2017). Specialty hospitals such as cancer centers, women's hospitals, and orthopedic centers are limited in scope of services offered (Cook et al., 2014); therefore, because of their ability to focus on a narrow scope of services they often are able to achieve higher operational efficiencies. In this respect, these hospitals were not considered for this study (Badlani, Boden, & Phillips, 2012; Perry, 2012).

Ethical Assurances

In order for a researcher to be ethical in the practice of research there needed to be a minimization of risk to participants, maximization of benefits, adherence to the principles of informed consent, privacy, confidentiality, and justice (CMS, 2013). In addition, researchers need to avoid conflicts of interest to ensure the integrity of the purpose, methods, and outcomes of the research (Zikmund, Babin, Carr, & Griffin, 2012). In organizational research, the data collection can be complicated by the need to obtain consent not only from the respondent, but also from the organization itself. It can be assumed that if the respondent consents, then they are serving as a proxy for the organization, however this may not always be assumed (Merriam & Tisdell, 2015). There are challenges due to the lack of anonymity in interviews and self-report surveys and the sensitivity of some of the questions related to the organization's operations and

processes (Merriam & Tisdell, 2015). A significant risk involved participants refusing to participate or filling out a survey in self-serving ways. These risks can make research data collection difficult and introduce threats to validity (Guion, Diehl, & McDonald, 2011).

Prior to engaging any targeted participant for this study approval was sought by Northcentral University's Institutional Review Board. The proposed study on the long-term sustainability of business process change (BPC) post external consultancy was a multiple case study that included human subjects as the main informants and source of data, which was sourced through interviews and self-report questionnaires. The information that was gathered was not personal in nature, rather informational related to their organization's business processes, operations, and effectiveness. The research was not intended to pose any risk to the participants nor respective hospitals. The researcher's goal was to provide a benefit to hospital leaders who are concerned about operational effectiveness and efficiency; in addition, who seek best practices or potential solutions to their operational dilemmas. It is assumed that healthcare leaders would find value in the practices of like organizations in their attempt to navigate the challenging healthcare dynamics through finding optimal approaches in BPC. In addition, further value comes from healthcare leaders understanding the potential pitfalls that may derail their BPC efforts.

In compliance with basic ethical principles in research that involves human subjects, the proposed study followed the principles of respect of persons, beneficence, and justice. In respect of persons, individuals as representatives of their hospitals were treated as autonomous agents. Each participant had the rights to informed consent, where

the purpose of the study was outlined, which included privacy practices that indicated that neither the participant nor the hospital was identified in the research report, and that their participation was voluntary. There may be risk involved with targeted participants being uncomfortable in speaking about leadership and team dynamics if their and the hospital's identities were not protected. Mitigating this risk was vital since the subjects' employment needed to be protected. In addition, the businesses they represented may have had a risk of potentially exposing embarrassing internal conflicts and/or secrets (Merriam & Tisdell, 2015).

In respect to the research, the integrity of the data collected was dependent on gathering honest and factual details on the internal processes and dynamics of the surgical service teams (Zikmund, Babin, Carr, & Griffin, 2012). Some researchers believe that the best approach to protect research participants (and the quality of data) in survey research is anonymity. It is thought that if respondents refrain from revealing their identity, they may feel free to give truthful answers strengthening the validity of the study (Guion, Diehl, & McDonald, 2011). The purposive sampling did not allow for anonymity from the researcher. However, the intent was to protect individual and business identities in the final report. As such, the strategy to protect the identities of the subjects involved utilization of a confidentiality, codifying questionnaires via an on-line survey tool designed not to identify individuals completing the questionnaire, using pseudonyms in the final report versus actual names, destroying code key after the research is complete to avoid the possibility of inadvertent disclosure of identities of participants (Morse & Cheek, 2014).

The researcher exercised due diligence to protect the wellbeing of the participants and to maximize the benefit to them (Merriam & Tisdell, 2015). The researcher intended to identify best practices in consultancy engagements and to maximize success and minimize the risks of failure. It was the true intention to share the results of the study with all participants so they can choose to employ some of the practices identified in the study.

Furthermore, this research was conducted void of any conflict of interests that may arise if secondary interests influence the judgment of the researcher regarding the primary interest and purpose of the study. Such conflicts could have been from the consulting firm, the case sites, or hospital administrators. The proposed research was not designed or induced by any interest beyond the researcher's primary interest in healthcare organizational effectiveness. Furthermore, the researcher intended to minimize bias and did not seek nor accept financial sponsorship for this research from any entity.

Summary

By conducting a multi-case study research plan to explore the KM processes in implementing BPC the how and why organizations achieve long-term sustainability of BPC was better understood. This study's research method was designed to answer the core research questions related to hospital leadership's ability to employ sound KM practices to influence sustained change. Through the exploration of the case studies, the researcher aimed to uncover relevant information that supports the KM practice of hospital leadership by showcasing and describing best practices in effectively preparing teams for BPC for long-term sustainability. Furthermore, and just as important, this study highlighted risk factors that may derail BPC success. The underlying assumption

was that BPC required a shift in behavior, established norms, and thought processes, which ultimately implied changing the organizational culture through effective KM by leaders who inspire shared ownership and team learning (McCabe, 2010; Orlikoff & Saitow, 2011; Southern, Taborga, & Zabari, 2013).

Chapter 4: Findings

The purpose of this qualitative case study research was to retrospectively evaluate the business process change (BPC) outcomes of two hospital sites that underwent similar initiatives to reengineer the surgical service operations. The two sites located within the Midwest United States enlisted the same consultant company to facilitate the surgical service operations evaluation, process improvement plan, changes, and project implementation. The BPC initiatives were conducted in 2011 (Case Site-A) and 2010 (Case Site-B). The multi-case study analysis involved a triangulation approach that included interviews, questionnaires, case site profile and BPC performance data.

The purpose of this chapter is to present the data collected from questionnaires and interviews with participants from two case sites. The objective was to explore the problem of hospital leaders inconsistently showing sustained business process change (BPC) through effective knowledge management practices (Brooks & Krupka, 2012). Therefore, the results answered the two main research questions:

Q1. What were the hospital leadership KM practices that influenced BPC success and sustainability within the surgical service arena?

Q2. How did leaders execute KM practices to ensure long-term success of their BPC initiatives for hospital surgical services?

The interviews and questionnaires were designed to gain perspectives from a cross section of individuals accountable to the surgical service department. The following sections present the data in a logical format; the data are framed around the chosen theoretical lens of social systems and open systems theories. The key concepts

used throughout the interviews and questionnaires were organizational effectiveness, knowledge management practices, leadership, and team dynamics.

Trustworthiness of Data

This study was a qualitative multiple case study design that incorporated a triangulation approach that used supplemental data collection efforts to enhance the trustworthiness of the results. There were three triangulation tasks involved a) data triangulation, b) methodological, and c) investigator (Guion, Diehl, & McDonald, 2011). The data triangulation involved ensuring there was an adequate cross section of participants from each case site, which required an expansive outreach to support staff, nurses, technicians, physicians, management, and executives. Thorough data triangulation was accomplished and is presented in the next section on participants. The methodological triangulation comprised three types of data, which were questionnaires, interviews, and document collection. This method allowed for a between-case and cross-case comparison; in addition, the researcher was able to validate the performance results for each case site. The third method used was investigator triangulation, which involved having evaluators independently review specific data that were placed within themes or codes. The purpose of this task was to limit researcher bias and enhance the confidence in data analysis process and findings. Triangulation supported the trustworthiness of the data in multiple ways by allowing the researcher to present an abundant report of information that enhanced the understanding of the phenomenon in question; while it also exposed emerging findings that otherwise would not show in a single method study (Anney, 2014).

The concept of validity and reliability is often used in quantitative research where there is a confirmatory deductive approach to prove whether a stated hypothesis is true (Gibbert & Ruigrok, 2010). For qualitative research validity and reliability is reflected in the researcher's rigorous effort to saturate the data collection toward answering the core research questions (Morse & Cheek, 2014). The preferred terms used to reflect on the trustworthiness of qualitative research were a) credibility, b) transferability, c) dependability, and d) confirmability (Houghton, Casey, Shaw, & Murphy, 2013). For this study, the credibility was evidenced by the researcher's choice to conduct a multi-case study to show rigor through using standard methods across two sites to explore the BPC phenomenon. The credibility and transferability was also supported by the researcher following a crystallization approach where there was a methodical and organized chain of evidence along with guaranteed transparency of the data (Yin, 2013). The dependability and confirmability (see Appendix D) was reinforced by the researcher applying an iterative process that involved exhaustive and saturated collection and evaluation of the data; in addition, this included a constant compare and contrast of data from all sources (including the literature) (Stewart, Gapp, & Harwood, 2017). This process strengthened the ability to conceptualize the research to other functional teams; while also providing quality and relevant findings (Gibbert & Ruigrok, 2010; Yin, 2013).

Participants

A total of 52 individuals participated in the study, which included 11 interviewees and 41 returned questionnaires. The participant count represented approximately 65% of the total targeted sample group (80). The case site profile comparisons are listed below in Table 1. Both case sites were not-for-profit acute care hospitals. Case Site-A (CS-A)

is larger and composed of two acute care campuses approximately 15 miles from each other; the campuses are classified under one hospital tax identification number. Case Site-A also has an ambulatory surgical center (ASC) adjacent to one of the campuses. Case Site-B (CS-B) is a smaller hospital since it is one campus; it is a member of a large health care system; it has an ASC within the main hospital. Since CS-A was larger it also had approximately twice as many targeted surgical service participants than CS-B. Both hospitals operate within a suburban demographic serving diverse middle income communities. Case Site-A has a patient population skewed toward geriatrics, where CS-B serves a larger working class community; this is reflected in their percent Medicare mix.

Table 1
Case Site Profiles

Site	Beds	~ Team Size	BPC Project Start	Net Income (Loss)	Discharges	Patient Days	Medicare Days	% Medicare
CS-A	489	40	2011	$1.7M	16,026	95K	49K	52%
CS-B	284	20	2010	$16M	10,260	44K	17K	39%

CMS 2015 hospital statistics

The data collection for the questionnaires and the interviews were launched concurrently. The researcher had a site lead from each hospital who supported the awareness of the research study and the data collection process. The researcher started the data collection by sending out an email announcement to each site's surgical service team inviting them to participate in the study. A link to the informed consent was embedded within the announcement. If an invitee clicked on the link they were directed to read the informed consent and then they could choose to launch the full questionnaire, which was built within the on-line Survey Monkey tool. Survey participants had the option to collect an appreciation incentive of five dollars; there were options provided to

have a mailed gift card, an emailed gift card, or hand delivered. They needed to provide their preferred contact information if they chose any of these options. To maintain anonymity the informed consent and collection of the appreciation incentive were separated from the link to the survey. Participants were not forced to launch the survey, even if they chose to collect an incentive.

The site visits started at CS-A, this is what determined the designation "A", however their BPC initiative launched one year later than CS-B. The researcher spent 10 hours on each campus; two separate visits to cover both CS-A campuses. During each visit, the researcher presented the study purpose, process, and objectives during the monthly staff meetings. They were also informed of their rights, and that their participation was voluntary. All team members present at the meetings were provided printed copies of the informed consent and questionnaire with an envelope to secure and seal their completed survey. The researcher stayed on site in the surgical service lounge to distribute appreciation incentives, collect questionnaires, answer questions, and observe and listen to group discussion. The researcher refrained from overly assertive persuasion of participation. During the focused time at each site the researcher documented her interactions with the team. One week after the site visit a reminder invitation was sent; in addition a final reminder was sent just before the data collection close, which was November 18, 2016. All but five participants completed the paper version of the survey (88%). The below figures (Figure 1 & Figure 2) show the breakdown of participants per site based on position and tenure within each hospital.

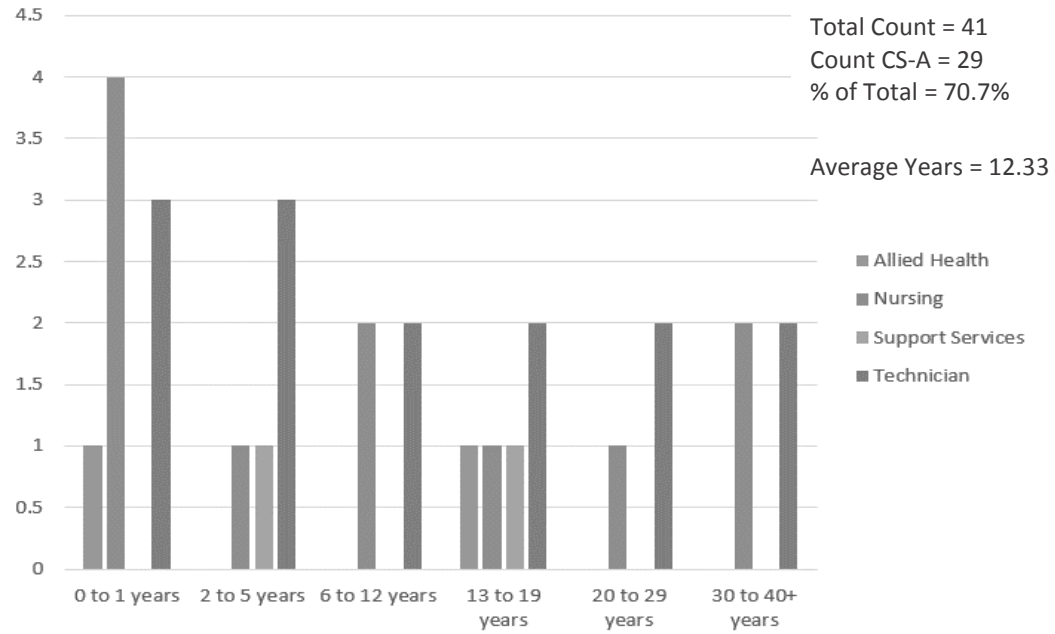

Figure 1: Case Site A – Participants, roles, and tenure

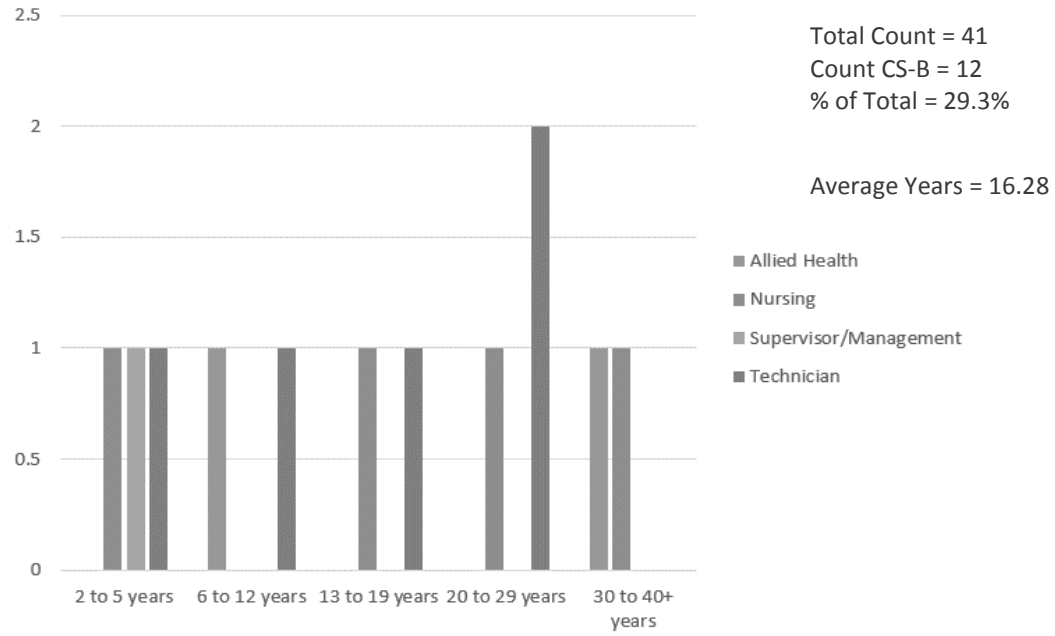

Figure 2: Case Site B – Participants, roles, and tenure

The questionnaire participants represented a diverse cross-section of the surgical service departments. Only one of the participants represented leadership. The breakdown of the participants is represented in Figure 3 below. Surgical technicians were the largest group represented in the data, they comprised 46 percent (19) of the

total. Surgical technicians are responsible for supporting the surgical team in ensuring the surgical suites are adequately prepared and equipment are available for each case. They also may assist during procedures to ensure the surgical team has their requisite resources and post procedures for room turnover and patient transportation. The second most represented participant group were the surgical nurses, which comprised 37 percent (15) of the total. The nurses are responsible for direct patient care before, during, and after surgery; they may also be involved with the surgeons intraoperatively to facilitate each case. Allied health providers are nurse practitioners, physician assistants, or surgical assistants with advanced training assisting surgeons with cases. They often specialize in specific cases (i.e. orthopedics) or may also be generalists. Four (10 percent) allied health providers participated in this study. Support services represents all other non-patient care associates who work within the surgical department such as surgical schedulers, transporters, and sterile processors; only two individuals are represented in the data set.

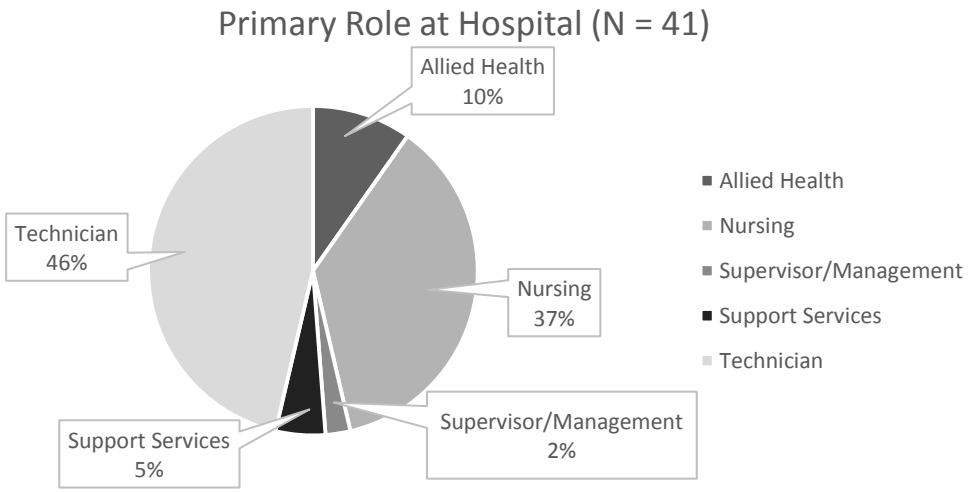

Figure 3: Primary role at hospital

The informed consent in the initial invitation to the surgical service teams included a question of whether an individual would be interested in scheduling a full 30

minute interview with the researcher. If they were interested they were to contact the researcher directly. There were no individuals who completed the questionnaire that asked to sit for an interview. Since the interviews had a targeted cross-section selection technique the strategy was to do direct solicitation for interview participants. The target interviewees would include 5-7 individuals per case site (10 – 14 total). The objective was to get senior leaders accountable to surgical services who were in place at the time of the surgical service BPC initiative. Two surgeons and two anesthesiologists per site were targeted. A surgical service operational leader was targeted (either the director, manager, and/or supervisor). Lastly, a non-leadership team members were targeted. The ultimate goal for the interviews was to mirror the participant classification at each site. The researcher started the data collection at CS-B first, which was based on their team meeting schedule. It was recommended by the CS-B Chief Executive Officer that the Chief Medical Officer (CMO) be part of the interview process. He was asked and agreed to participate. As such, the CMO from CS-A was asked and agreed to participate. Since the interviewee target group was selective there was a narrow sample size to work with, which resulted in more time and flexibility for this phase of the data collection. As a result, the data collection extended for an additional month; the total window for the first two phases of the data study collection was from September 22, 2016 to November 18, 2016 (two months). The document collection was complete on February 10, 2017 after both sites submitted their performance data. While on site at each campus the researcher made herself available and conducted interviews with targeted interviewees. The remaining interviews were scheduled and conducted per the convenience of the participants. It is important to note that the participant selection extended to individuals

who were pivotal to the BPC initiative during and post execution, so this required outreach to individuals who had left the organization. Furthermore, there were three individuals targeted for interviews (2 from CS-A and 1 from CS-B) who showed modest interest in participating; they ultimately backed out for personal reasons or were deemed non-responsive.

Prior to conducting each interview, the researcher explained to each individual their rights as a participant, explained the confidentiality procedures, and informed them that their participation was voluntary. All interviewees were offered a $15 dollar appreciation incentive for their participation; only 3 interviewees accepted the offer. They were given the informed consent to sign, the researcher also signed, and a copy was provided to each interviewee and the researcher retained a copy for her records. Each interviewee gave consent to record the interview. All interviews were successfully recorded except for one individual from CS-A. The audiotape function failed, which required the researcher to take copious hand written notes. This interviewee reviewed the transcribed notes, and confirmed the integrity of the interview content with no changes. All other interviews were transcribed in full directly by the researcher and forwarded to each interviewee to review and amend their transcripts. Only one transcript needed minor corrections.

The below Table 2 shows the breakdown of each interviewee per site with their years of service to their respective site. All of the respondents indicated that they had experience with at least two process improvement projects within their careers. The surgeons had the longest tenure at their hospitals but also had the least involvement in process improvement; each indicating they were directly involved in only two projects.

Over half of the interviewees were physicians (total of 6), which added a valid cross comparison for the data.

Table 2
Interview Participant Classification and Tenure by Case Cite

Participant Classification	Tenure	BPC Experience (by project)
Executive Leader A	15+	3
Department Leader A	4	5
Chief Anesthesia – physician A	9	6
Chief Medical Officer – physician A	6	5
Surgeon – physician A	25+	2
Executive Leader B	10+	12
Department Leader B	6	2
Chief Anesthesia – physician B	6	10
Chief Medical Officer – physician B	6	2
Surgeon – physician B	18	2
Team Member / non-leader B	8	1

N = 11

Subsequent to the interviews, a meeting was conducted with the lead consultant from the company that facilitated the BPC initiatives for each site (the company name was omitted from this study). The purpose of this meeting was to understand his team's approach to supporting hospitals' surgical service reengineering initiatives. He was asked to reflect on his perspective on factors that contribute to a successful initiative post consultancy. In addition, he was asked to describe a derailed initiative. Lastly, he reflected on his team's post-consultancy process to evaluate long-term project outcomes. For confidentiality sake, the researcher asked for his comments to be generic and not specifically reflective of either case site. The consultant perspective is incorporated in Chapter 5.

Results

The results of the data collection is presented in sections based on the research questions that framed this study. Within each section the main themes and concepts

encased the data. The triangulation approach to the data collection involved three different methods of collecting data: questionnaires, interviews, and document collection. The questionnaire (Appendix A) was composed of a combination of categorical (nominal), ordinal, and interval questions. The majority (38) of the questions were formatted as five-point Likert scale statements. For most questions participants had an option of selecting "not applicable / unsure / unable to answer". The categorical questions asked "What is/was your primary role at this hospital", "I was involved in the process improvement initiative providing the following support", "How many process improvement projects have you experienced in your career?" and "What are/were the reasons for the process improvement initiative?" There were three dichotomous questions (yes or no) that were used for the purpose of further categorization and filtering. There was one interval question that asked "About how long have you been in your current position?" This question was open-ended where the participants were asked to provide their tenure in years and months. An additional categorization question was asked, "How long have you / did you work at this hospital?" with four options ranging "less than six months" to "more than four years". The researcher chose to not use this data and deferred to the interval question since it provided exact information on the participants' years of service. Lastly, there were five open-ended comment boxes that followed each section.

In addition, validation techniques were employed for the data collection tools, coding, and analysis. First, the questionnaire and the interview protocol was field tested by individuals who were not part of the study but were involved in surgical service operations initiatives at other sites or experienced in case study research. They provided

feedback on the appropriateness and applicability of the data collection tools. After the data was collected an investigator triangulation was used to assess the researcher's techniques and post-data collection coding methods. This process enhanced the confidence and validity of the data coding and adherence to each research question. Two individuals participated in this process. They signed confidentiality agreements but were not provided individual identities from either case site. They were asked independently to evaluate statements and responses to the prospective theme and codes developed by the researcher. The researcher did not disclose her coding of the data; instead compared and contrasted her evaluation to each review. This exercise was not intended to create a definitive 'right' or 'wrong', instead each review supported the response alignment with each research question and thematic code. Many responses were applicable to both questions; in fact, it became difficult to separate the two. The first research question was focused on leadership's ability to influence and the second focused on leader's ability to execute. The researcher placed each response against one question or the other; then she had the evaluators categorize the response either against one of the two questions or both (i.e. Q1, Q2, or Both). There was 57% agreement between the evaluators and the researcher. Evaluator 1 had 13% of the responses against both questions; where evaluator 2 had 43% of the responses against both questions. There were only two of the responses that both evaluators agreed were against both questions versus only one. The results are focused on those responses that align with the researcher and the evaluator; including those where the evaluator chose that the response fell in both categories.

Research Question 1. What are the hospital leadership KM practices that influence BPC success and sustainability within the surgical service arena?

Team member involvement, knowledge, and engagement in the BPC initiative. The first research question can be answered from the participant questions associated with their involvement, inclusion, and perception of their leadership's engagement and involvement. There was only one leader who completed the questionnaire. Therefore, the evaluation of the leaders' perspectives is from the interviews where all but one interviewee are leaders. Figure 4 below shows the breakdown of questionnaire responses by staff participation in the BPC initiative – "I was involved in the process improvement initiative providing the following support." Respondents were allowed to select multiple options with the assumption that team members often have multiple responsibilities and duties assigned within functional units. The top three levels of participation were 1) implementation/execution, 2) project assessment/evaluation, and 3) staff resource/operational support.

Fourteen respondents selected that they had "limited to no direct involvement" or "no involvement or knowledge" of the BPC initiative. Eight of this group were working at the study case site when the BPC initiative was initiated. Of the three respondents that selected they had "no knowledge or involvement", two were working at their respective sites at the time of the BPC initiative. In addition, all but one of the 14 respondents were from CS-A. Furthermore, based on their tenure at the organization at least seven respondents that selected they were involved in one or more of the roles in the BPC initiative were not working at the case site when the BPC was initiated (working less than five years at either site). However, understanding that most of the work for sustained

process improvement occurred post consultancy, it is not unreasonable for these individuals to be aware of the effort and had some responsibility to sustain and continue the BPC efforts. In fact, this phenomena is more expected than individuals not knowing that the BPC initiative ever occurred.

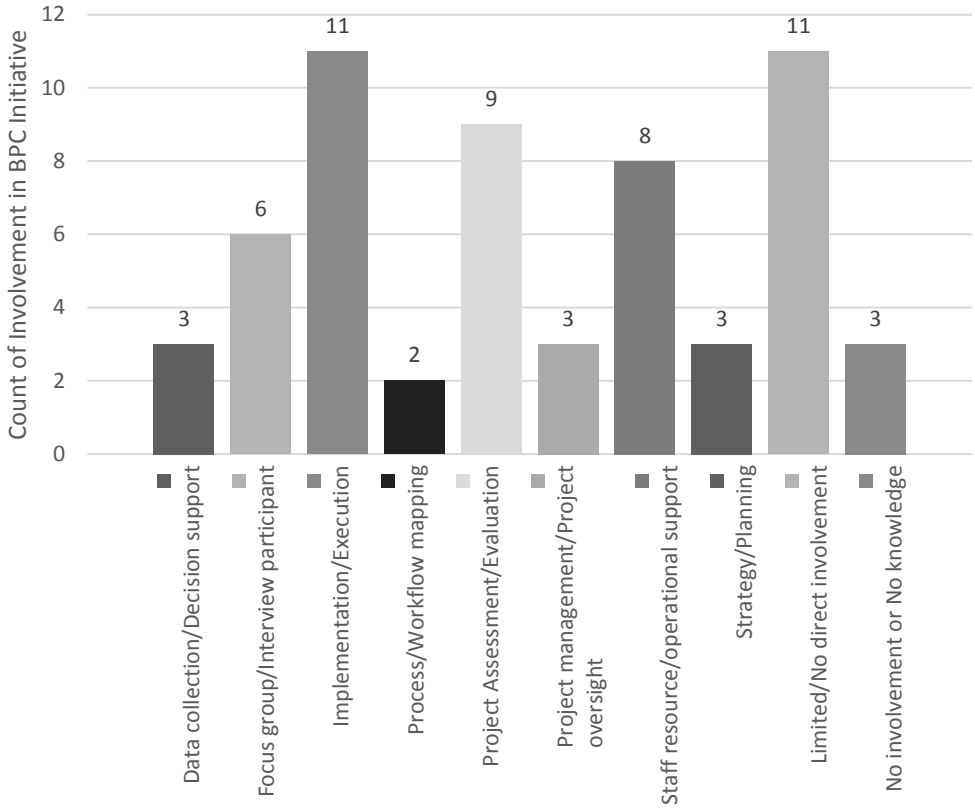

Figure 4: Staff involvement in BPC initiative

Participants were asked an additional question related to communication of the BPC initiative and whether critical stakeholders were involved. Figure 5 shows the results for each case site. Case site-B ranked higher than CS-A for both the means and the medians for these two questions. The mean difference for CS-B was .26 higher for communication and .27 higher for involvement. Furthermore, the median for both questions was 4 for CS-B versus 3 for CS-A.

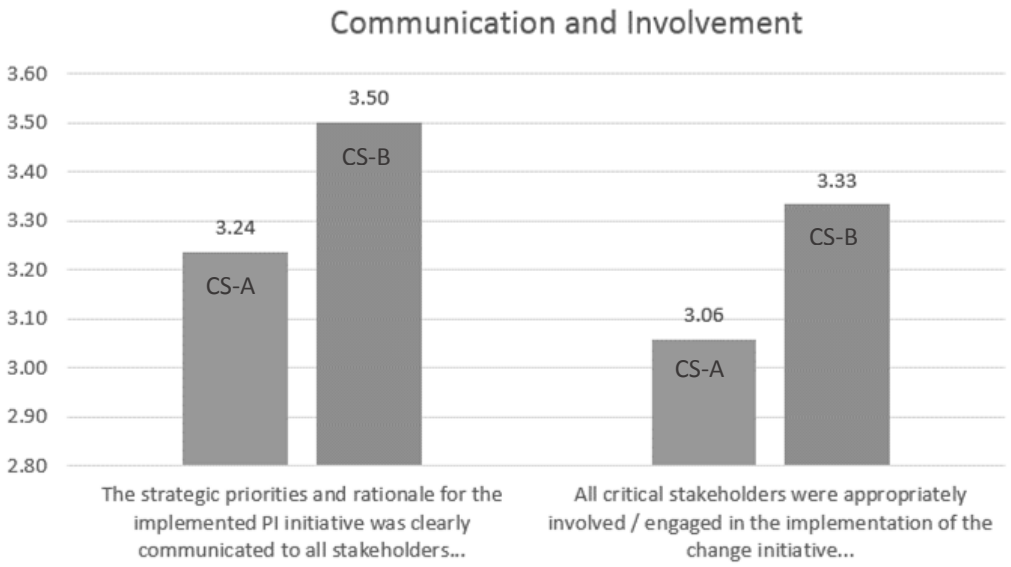

Figure 5: Communication of PI initiative and involvement of critical stakeholders

Another question respondents were asked that relates to leaderships' KM influence was, "I am aware of the reason and purpose of my hospital's past PI efforts within the department of surgical services." There was an average of 3.3 with 40 respondents; CS-B showed a higher level of awareness (3.6) of their BPC initiative versus CS-A.

The interviewees were asked who participated in the BPC initiative and how they were involved (i.e. management, physicians, and support staff). An executive from CS-B stated, "I'm not sure of the staff's direct involvement, you'll have to defer to the manager for that answer." Only one interviewee responded with a direct answer.

> It was a very inclusive process. The tough part of the process was that change is hard and people are defensive and threatened about new people coming into their work environment. The majority of people were protective and didn't want to participate.

The one non-leader interviewee from CS-B further indicated that

> …individuals who were here for many years (the older nurses) would say 'management comes and goes; we've been through this before'; the consensus was that nothing changes – their impression was 'let's see how long this new team lasts'. It was a very difficult job for the new management to break the barrier, get the team involved, and get the buy-in to make them believe things would change."

This seemed to be confirmed from one of the physicians at CS-A who claimed that the surgical department associates were involved and added…

> There was some conflict with the [consultant] team and our people. There were personality issues with some people... It was stemming from the way the material was presented. Everyone felt that things needed to improve but did not necessarily agree to the way to approach it. Finger pointing was happening quite a bit.

Most of the interviewee data suggest that the staff were knowledgeable and involved. As per the CMO from CS-A, he claimed that in order for the process to move forward "associates were trained on new methodology and new way of doing things."

An interesting dynamic was uncovered from both case around leadership tenure (turnover and/or transition). At CS-A there were several transitions at the senior executive and operational leadership level. Similarly, at CS-B, all the senior executives transitioned out of their roles who were in place and accountable for surgical services at the time of the BPC initiative. Furthermore, four of the interviewees currently in place at CS-B were placed in their roles after the consultancy. Their onboarding was to continue where the consultants ended their engagement and move the BPC process forward. Their knowledge of the BPC pre-engagement and during the initiative is limited and

circumstantial; as such, their knowledge of the actual engagement and/or involvement of the staff in the process was tangential.

The post consultancy engagement and involvement of staff seemed to be far more robust. One of the surgeons from CS-B stated, "People make a big difference. Without the right people we cannot implement improvements. For example: a sports analogy, you can be a great coach, but without the players you can only go so far." The CS-B department director was optimistic of her current team; she indicated "The current team is helping me lead the new members and help train and mentor. I have very engaged new staff that are getting up to speed fast." This was confirmed by the staff level interviewee from CS-B who believes the current leadership is allowing for more participation from the team. She claims that, she now "leads the new members and helps train and mentor… [My team] is engaged… I am more involved in planning and educating the staff." Furthermore, she stated that the previous experience with the old leadership was less than positive; things have improved. The new leadership team "asks every individual how we could make things better. It is comforting. The old management – we would not see or interact with the director." Understanding that there is room for continued improvement, the surgeon from CS-B emphasized that "The team should be encouraged to provide solutions. [Leadership] should incentivize or recognize people for doing the right thing and making things better, this is how you get buy-in and engagement." This particular physician had a lot to say about sustaining change, which is covered in the results for Research Question 2 on long-term success.

Leadership engagement, involvement, and visibility. To further answer Research Question 1 the questionnaire included several questions to assess participants' opinions

of leadership. Figure 6 and 7 displays the results for the leadership influence domain. Five of the seven questions showed a higher average on the agreement scale for CS-B than CS-A, expect for question 2 that showed a .08 higher average on the agreement scale for CS-A, "Leadership encourages/expects team members to solve problems and share ideas with each other." This was a nominal variance between the two sites. The median of the responses was the same at 4; so this would not be considered significant. The one outlier was question 1 "Leadership communication and knowledge sharing is…" The CS-B mean was 3.00 compared to CS-A at 2.56. However, the median score was higher for CS-A at 3 versus CS-B at 2. As with a small sample sizes of Likert scale results, means may pose a comparative issue because a couple of outliers may skew the results. With all other response rankings, the review of means and medians, show that CS-B respondents were more positive about leadership style and knowledge management processes. Specifically for the last four questions of this set that asked about caring, enthusiasm, inspiration, and leading by example, CS-B showed a more substantial result than CS-A. Based on mean results, CS-B showed the biggest deviation from CS-A in "Leadership sets high standards for performance through his/her/their actions." with a .70 differentiation and a median variance of +1. Furthermore, two questions for CS-B had medians that ranked +2 higher than CS-A: "How well does your leadership communicate

/ explain decisions and actions?" (Mean = .04) and "Leadership is enthusiastic about our team capabilities of high performance." (Mean = .54)

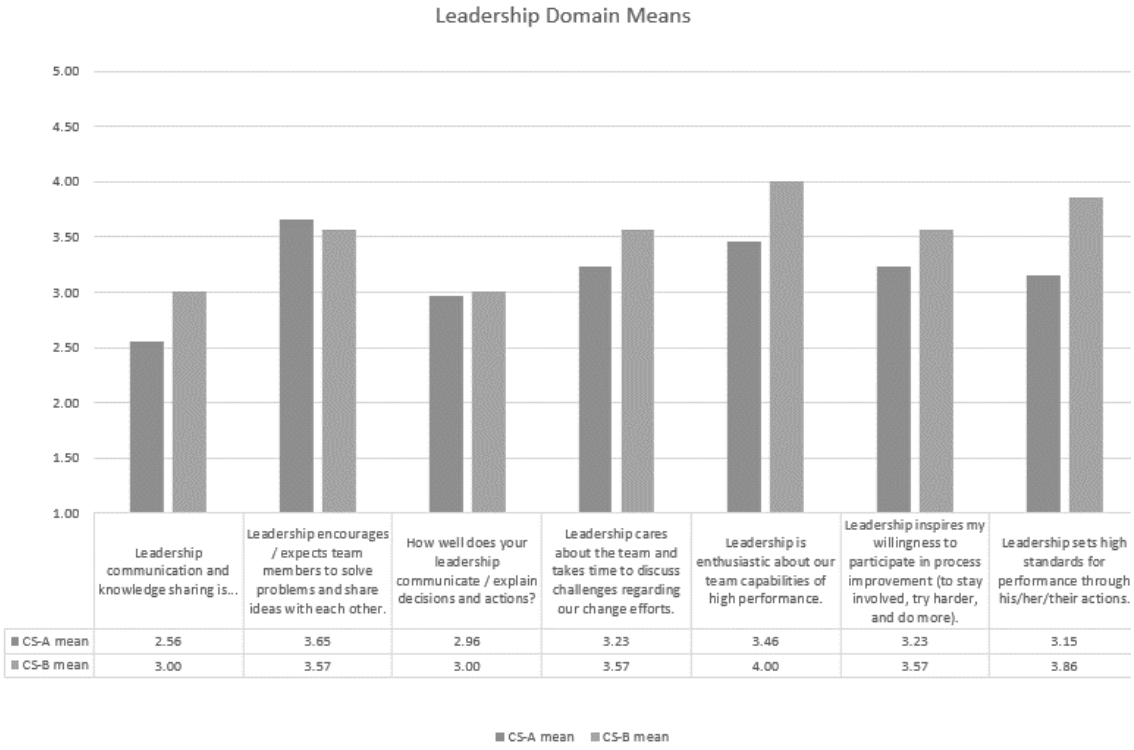

Figure 6: Mean Scores for leadership influence domain – perceptions of leadership style and KM practices

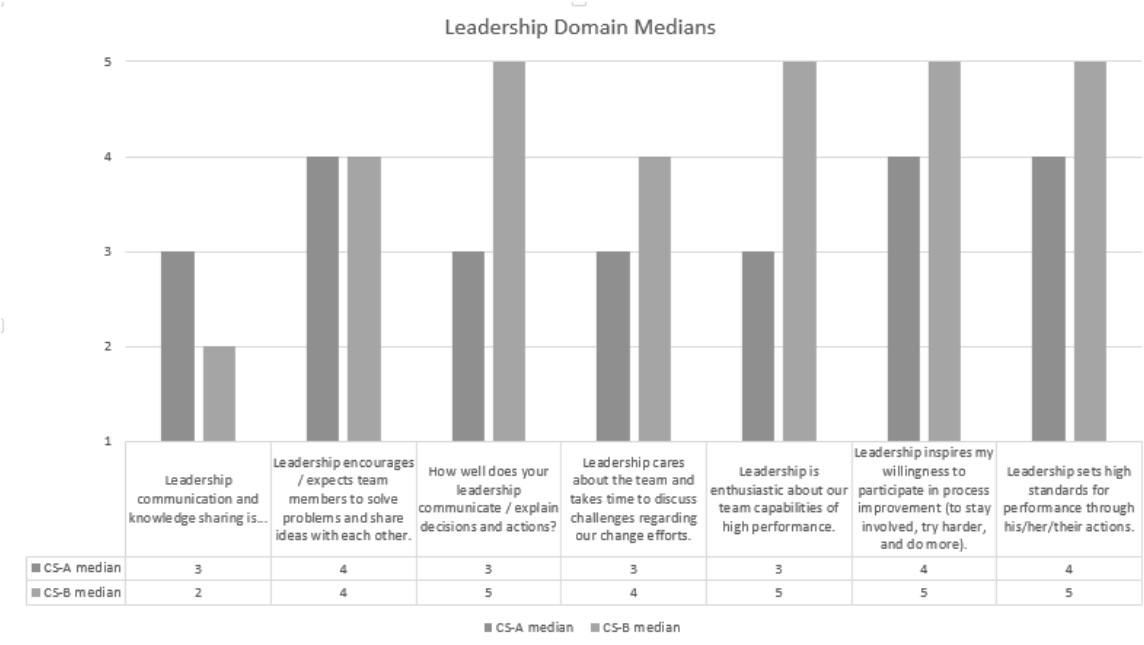

Figure 7: Median scores for leadership influence domain – perceptions of leadership style and KM practices

In the interviews, leadership was a common theme in each discussion. Table 3 displays the codes for leadership influence. Physician leadership was a topic discussed by all interviewees followed by 'leadership support in driving change' and 'leadership engagement, involvement, and visibility'. This section reviews the interview responses that support the answer to Research Question 1: 'Physician leadership and influence' and 'Leadership engagement, involvement, and visibility.' The leadership codes were developed from the interviewees responses to the following questions:

1. Who participated in the process [i.e. management, physicians, and support staff]?
2. What was upper management's support of the BPC initiative? What exactly was their involvement; how effective was their support? What was your expectations?
3. Based on your perception and experience, how did the BPC initiative create opportunities for continuous improvements in your department? If not, why?
4. What if any problems did you experience in the BPC initiative that would hinder progress in creating sustainable and continuous process improvements?
5. Explain why your team was successful / unsuccessful in creating long-term process improvements? Explain.

All individuals from CS-B indicated that leadership was engaged in the BPC initiative. The CEO at this site stood out to be the main driver of the initiative and involved at every phase. Although the department of surgical services reported to the Chief Nursing Officer (CNE), both case site CMOs and the executive interviewees indicated that the CNO was either not involved or not very engaged. The CMO from CS-B claimed, "CEO was very involved but the CNE was not – she was pretty checked out

by the time I came in. The CNE sat around with her computer online shopping; she pushed everything off on others." This was corroborated by the executive interviewee, "[CNE] is gone because she was very good at putting plans together but not in executing plans or actualizing them. The CEO was really the one driving the change – he was intimately involved." The non-leader interviewee at CS-B stated that her team did not interface with the senior executives, however her director was "present, visible, and talked to us all the time regarding how to make things better. She had a personal connection."

The interviewee responses from CS-A in regards to leadership engagement, involvement, and visibility were mixed. The CMO and the executive leader both acknowledged their personal involvement. The CMO had direct oversight of the BPC initiative and the executive leader interviewee was involved in financial oversight and consultant contracting. The Chief of Anesthesiology claimed that the executive team went to meetings but were "hands off, they just referred to surgical service department leader." Case Site-A experienced several leadership changes at both the executive level and the department leadership level. At the time of the interviews, the CMO left the organization, there was an interim director for the department, and the responsibility of surgical services shifted to the CNE.

Of the leadership discussions only a few statements directly aligned with leadership influence. The executive from CS-B claimed that processes are being sustained because "[the site leaders are] doing a good job at minimizing turnover, they listen to staff and through this behavior people feel a part of things and want to be there." The department leader for CS-B spoke quite a bit about her own influence on her team.

She stated that when she first started she had to "build a level of trust" with her team. She indicated that "the process was clearly broken. My rolling up my sleeves proved to the team that I was just as involved in making things right." These statements were verified by the non-leader interviewee who indicated that she "bought in early. I saw the sincerity in the motive of change by the management team." This interviewee was very positive about the leadership who took over after the consultant engagement. She further claimed that her leader was "present, visible, and talked to us all the time regarding how to make things better. She had a personal connection." She added that the department leader was effective at influencing the team through her style and stated that her leader was "very upfront and open… she takes the time to listen and allow us to provide feedback." Furthermore, the leader's direct approach was "an encouraging factor to get the team involved." The surgeon at CS-B stated several times that "People make a difference." He specified that "there are people who have a good amount of experience that can be used to influence the process."

Physician leadership and influence. Physician leadership and influence was discussed in each interview, which totaled 30 coded statements. Physician accountability was the most referenced topic in all interviews. For this section the results were focused on physician leadership and influence. All of the physician interviewees strongly emphasized that physician influence was a strong predictor of BPC for surgical services. Starting with the CMO from CS-A, he indicated that "A surgeon champion is important to move any surgeon performance." He further indicated that his site's initiative was less than successful because, "It was only the chief of anesthesiology; no surgeon champion; not even the chair of surgery was interested in stepping up." The Chair of

Anesthesiology for CS-A agreed with this statement; he claimed that in order to influence change, "You'll need a surgical chair and a vice chair to be bull dogs, or things won't go anywhere. The current Chair of Surgery… pacifies the surgeons. He will not hold anyone accountable." The Chair of Anesthesiology was very confident in his ability to influence change. He made several statements related to the value of anesthesiologists in driving change.

> Anesthesiology is the true partner to drive volumes… [Our team] takes control of the OR, we take the bull by the horn and lead. Our group does this, we look the surgeons in their face and challenge them to do the right thing… We lead the nurses – they need a high level of leadership and support to help drive change and hold people accountable… Not everyone works like me; I only have one other anesthesiologist that is a true leader. We need more; we need movers and shakers.

The surgeon interviewee at CS-A, acknowledged that the department has some limitations and is not as effective or efficient as it should be. He did indicate that each surgical subspecialty leader was intended to influence change their respective departments or sections; they were "to go back to their departments and disseminate the information; inform their teams about what was agreed upon from the Surgical Service Executive Committee [SSEC]." He claimed that there is room for improvement but that CS-A is moving in the right direction.

> [The executive team] is striving to place more physicians in positions of decision making and influence, not just MBAs… This is a good change and has been helpful. Physicians are better at holding each other accountable and enforcing the

> rules. I am noticing that physicians are involved in making decisions around things that impact them.

The CMO for CS-B felt that his site did well after the BPC initiative. However, he felt underutilized. His comments were centered on his experience and the inability of the executive team to take advantage of his knowledge as a potential limiting factor in success and continued change. He made several statements related to the CEO overlooking his value and potential influence on the surgical services BPC initiative and on-going sustainability of improvement efforts:

> I was on the board of governors… I was also the regional director of [a] surgi-center; I have governance experience… I was the physician president of [past group] before the acquisition. The CEO at the time was dealing with me only in regards to my influence over [the acquired medical group]; not as a surgeon or physician… When I was tapped on the shoulder to take the CMO role, I don't think the CEO even read my resume.

Both the CMO and Chief of Anesthesiology were recruited to CS-B during the consultancy engagement. Neither of them could reflect on the pre-engagement environment. The Chair of Anesthesiology claimed that his team was brought on to replace the old anesthesia contracted group to support the on-going BPC effort. He stated in response to the surgical department team, "So with better leadership they stepped up. I push hard and they responded and stepped up." He was very confident and spoke highly of his leadership and influence.

> The staff works at a higher level when I am there. When I am not there sometimes things slack off. When I am not around there is a bit of chaos… Not

> all of the anesthesiologists on my team have been in leadership positions… they do not have the experience to supervise and coordinate things. They don't anticipate what is going to happen at 3pm or 5pm when staff levels change. When I am not scheduled to work [at case site], I try to ensure there is an adequate leader from my team that will keep things moving in the right direction.

Furthermore, the surgeon at CS-B was very passionate about the influence of physicians; similar to the CMO statement from CS-B, he felt that the executive team could have benefited from more physician involvement and influence. He stated, "The surgeons and anesthesiologists can help the executive team understand the market dynamics and best practices. Networking and leveraging the existing knowledge base could have been a better approach." His statements were in response to the use of consultants for the BPC initiative. The use of consultants by either site was not viewed positively by four of the physician interviewees. For instance, the CMO from CS-B stated, "I felt there was knowledge that was not tapped into, if I was engaged up front then things probably could have been even better." Similarly, the surgeon from CS-A was very direct, he claimed:

> First of all I do not have strong feelings about consultants. I have a CEO friend that told me that a consultant is a person who walks in, asks for your watch, and then tells you what time it is. They come in and ask questions about your problems – then they make recommendations on the approach to solve the issue.

He further indicated that since he has been on staff at CS-A for a long time he knows what the issues are and could influence a better process, so the question he posed was "Can we do what is needed to be done with the people that are here. I'm not completely

disregarding consultants, but sometimes they are not needed." The CMO at CS-A was in agreement, he stated that "we could have rallied the team we have and make change happen, they may have more ownership in the process."

The five non-physician interviewees all confirmed that physician influence is important for BPC in surgical services. All five interviewees felt that physician influence and effective leadership was lacking both during the BPC initiative and over time. One metric that continues to be a challenge at both sites is the on-time starts, which is highly influenced by the physicians. The department leader for CS-A indicated that the Chair of Anesthesia was her biggest ally in influencing change. In addition, the CMO was a big supporter as well, however he left the organization and was "a big factor in influencing physicians and physician relationships." Her counterpart at CS-B stated that without physicians influencing and modeling better behavior…

> We will not be able to move this metric [on-time starts]. I work with the SSEC and our system Surgical Advisory Committee; this is an issue across the system. We need our surgeons to create a mindset that starting on-time is important.

In response to physicians supporting her efficiency efforts she stated that:

> There are two surgeons that are supportive, but then there are surgeons who are leaders that do the opposite to what they are supposed to be doing. They do not role model the right behavior. This causes on-going inconsistencies.

This claim was corroborated by the executive leader at CS-B who also implied that some physician leaders often abused their influence, he claimed:

> As related to on-time starts, they maintained a subjective approach to an objective deliverable. Meaning depending on who is not on-time, depending on who it is

> they give that surgeon a pass. That is not an appropriate approach. They need to stay true to the approach… just because a person is the president of the medical staff that doesn't give him/her a pass to abuse the policy.

Furthermore, the executive leader at CS-A stated that "better leadership is needed in the physician platform across the board. Some things will not change unless we have a strong partnership with our physicians to drive change and influence better processes." The non-leader interviewee from CS-B spoke more in-depth in regards to the surgeon influence on staff. Since she had a more direct observation of the physicians' performance in the operating rooms (OR), she claimed that the surgeon is the ultimate leader in the OR and that they have the upmost influence on the team and the team's compliance with processes:

> Even though we say that all members are equal, the surgeon is the pilot… the surgeon drives consistency in practice – the surgeon is most accountable. If the surgeon does not believe or feel that the time-out and checklist is an effective tool, they make sarcastic comments to the team, or shame the staff for doing the right thing then they put us all at risk… it is not only about efficiency, it is a safety issue.

Physicians not only have strong influence on processes, they also influence organizations' fiscal health and growth. Both of the Chiefs of Anesthesiology felt that there was abuse by several surgeons. There is agreement in that some surgeons take advantage of community hospitals because the leadership cannot easily replace them, so adhering to policy and rules is not taken seriously. As stated by the Chief of Anesthesiology at CS-A:

> The hospital doesn't want to [anger the surgeons] because they are desperate for cases and don't want to lose business. There is a lot of competition in the market, if surgeons get mad they will take the work somewhere else if we try to enforce policy. This seems to be the perspective of administration and why they don't want to enforce the rules.

This is confirmed by Chief of Anesthesiology at CS-B:

> Unfortunately, there is nothing we can do and surgeons know that. In a bigger and busier hospitals, if a surgeon is consistently late we take their block time away. Here we are not as busy so if he/she is late they know there is no one to take their time. They abuse it – they have been doing it for so long it is a mindset that cannot be changed.

The director from CS-A feels there is little hope for improvement:

> I don't believe in my heart that physician behaviors have been addressed at many organizations? What I hear is that we need more surgeons in the pipeline before we can enforce compliance… we have very few physicians who do what they do (sometimes just one), so we allow bad behavior and we leave that physician alone. Whether that makes sense or not it is a common thread. If they don't have a replacement for that surgeon they turn a blind eye to that physician's behavior.

However, the executive from CS-B feels that there is something that can be done; it involves engaging the right surgeon leaders to influence the process and expectations. He feels that accountability is achieved through education and getting key surgeon stakeholders involved to influence and model acceptable behavior:

I can agree that it is hard to hold surgeons accountable if you have no one to replace him/her... However, I don't believe that it happens 5-7 days a week… We need to explain why the behavior is not appropriate, why being on-time is important to the organization and their surgical colleagues, and how the physician is part of the solution. Leadership needs to recognize that for as many surgeons who don't want to be challenged there are many others who what to be part of an organization that delivers on their promises. If the surgeon is so unreasonable then do you want that surgeon on your team and perform to that level of selfishness – the answer is no. It is a far better conversation to brag about on-time starts you'll get more attention and attract more providers than it is to allow bad behavior.

Table 3
Interviewee Dialogue on Leadership by Occurrence

Interviewee	Leaders Characteristics / Style	Knowledge Mgmt.	Leaders Cohesiveness to Priorities	Leaders Engagement, Involvement, Visibility	Leaders Experience	Leaders Support Level / Driving Change	Phys. Leaders
Executive CS-A		1	3	5	2	1	2
Unit Leader CS-A					3	5	2
Anesth. CS-A		1	4	1		1	4
CMO CS-A	1					1	3
Surgeon CS-A							2
Executive CS-B	1	3	4	3		7	3
Unit Leader CS-B	5			2	2	2	3
Anesth. CS-B						1	3
CMO CS-B		4	1	2		2	4
Surgeon CS-B		4		1	1		1
Non-leader CS-B	5			4		4	3
Code Count by Interview	4	5	4	7	4	9	11
Code Count	12	13	12	18	8	24	30
N =11							

Considering that knowledge management is a function of leadership, a core assumption is that individuals are influenced by their leaders to contribute to the execution of processes. The effectiveness of a department is a factor of the performance, cooperation, and ability of each member. As an additional contribution to research question-1 was from the analysis of participants' perceptions of their team engagement and knowledge sharing abilities. Figures 8 and 9 present the means and medians from the results. The variances for the means were nominal for all except two with CS-B showing slightly more positive results: "I feel completely engaged and involved in my team's PI

efforts" (.22) and "Team members appreciated the vision of the PI initiative." (.21). With all the means except for one of the statements falling below 4.0, one could conclude that participants were indifferent to their personal and team engagement and knowledge sharing efforts. The medians for this domain are more informative (Figure 10). For CS-A, there was one statement with a top-box median (median = 5); "My team wants the department and organization to be successful." However, there were two statements that ranked in the middle (median = 3): "My knowledge sharing with my team is…" and "Team members appreciated the vision of the PI initiative." For CS-B there were two statements with top-box medians: "I participate in knowledge sharing activities within my team" and "My knowledge sharing with my team is…" Case Site-B had only one statement that ranked in the middle: "In my team I am surrounded by people who share my values." CS-B scored higher medians in three of the six questions. CS-A scored higher medians in two of the six statements. The most substantial median variance was with "My knowledge sharing with my team is…" CS-B scored +2 points higher than CS-B.

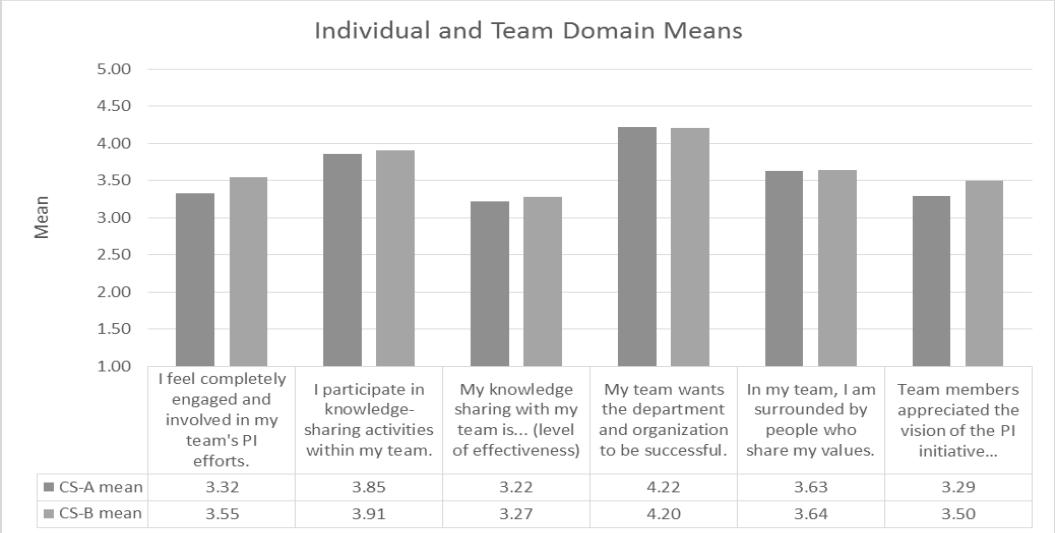

Figure 8: Mean Scores for Individual and team domain – perceptions of individual and team knowledge sharing efforts

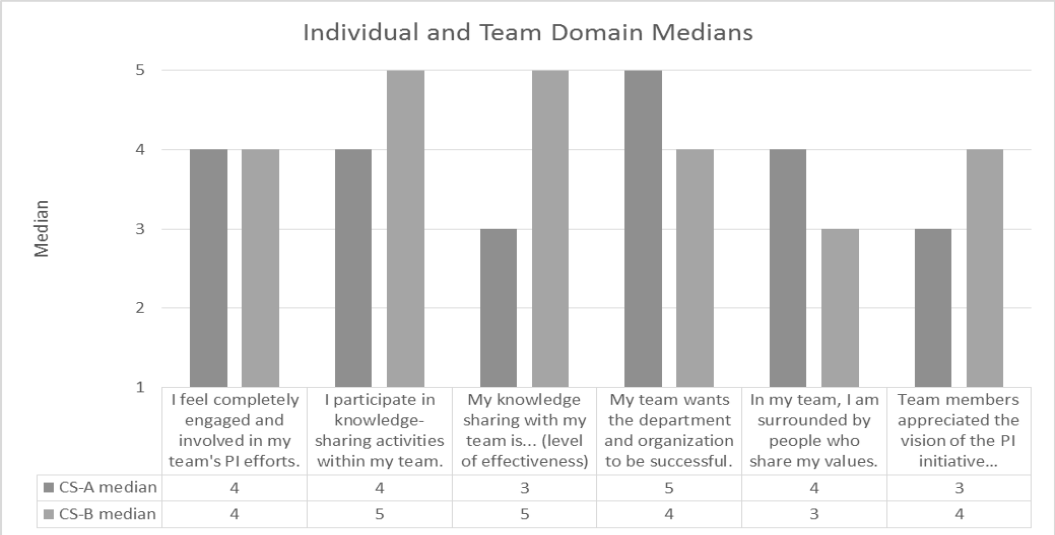

Figure 9: Median Scores for Individual and team domain – perceptions of individual and team knowledge sharing efforts

When considering the interview results, eight interviewees spoke of individuals and team contribution to KM. Only one non-leader was included in the interviews, so team knowledge sharing was mostly from leadership perceptions. Consequently, the comparison between the questionnaires and the interviews was limited, however posed interesting perceptions from leadership. The participants were probed into whether they felt the team developed a culture of continuous process improvement from the BPC initiative; what were the issues in the team's ability to sustain continuous change; and their confidence in the team's knowledge sharing efforts.

In regards to a culture of change, the CMO from CS-A indicated that a culture of change and knowledge sharing should first start with stability within leadership. He claimed that "Having a culture of continuous PI depends; there is no stability with the team or leadership on the staffing side – so, this become a challenge in hardwiring processes." The Chief of Anesthesia at CS-B took it further in claiming that team

engagement and morale is vital to retaining good team members and knowledge. He stated…

> Staff satisfaction with leadership is vital, they worry about how they are treated related to others (favoritism). If they feel that they are not being treated properly they disconnect… I brought it up [to leadership] once and they were unhappy that I got involved. I hear staff mumbling and complaining… so I brought it up in the interest in making it better – as a warning.

The surgeon from CS-B placed further emphasis on keeping key team members in place.

> I need a competent team – we do not emphasize the quality of techs and nursing enough. We just fill positions, unfortunately there are good people that you do not want to lose... We should judge ourselves on keeping ourselves surrounded by the right team members.

The CMO from CS-B seemed to disagree; he felt that the team successfully retained knowledge even with staff turn-over. He stated…

> Speaking of knowledge transfer and retention, we are still successful even though we lost key people. [Past leader] did leave, but [current director] took whatever she learned and has retained the knowledge. We are under DNV journey that focuses on process improvement. [The consultant] got us started and we are sustaining continuous PI. [The current director] is key to the knowledge management she will prepare the team… Deliberate transfer of knowledge is very important – not sure if we would be successful without this effort.

This was further emphasized by the executive leader at CS-B who indicated that the leadership was diligent in the effort to retain knowledge within the team. As stated, "Just

based on the tenure and turnover, it is imperative to ensure that people are kept up to speed on what skills are necessary to do the job and help educate the new staff." One factor mentioned by the executive leader from CS-A aligned with some of the literature in regards to using technology to capture and retain knowledge. He claimed that knowledge retention "requires having the right people in place for operations but also having IT programming in place to capture, retain, and track information and knowledge." He also indicated that the department would lose momentum in continuous process improvement if they "lost track of the fundamental non-negotiable things that are important for the surgical service department." Lastly, there were interviewees from both sites that indicated that sometimes turnover revitalizes the team. There were assertions that some people have a tendency to become complacent, unwilling to change, and stuck in the status quo. As per the Chief of Anesthesiology for CS-A, he indicated…

> There are a lot of people who have been at the hospital for a long time and are older and set in their ways. They don't have a reference point, they think they may be doing well but they have not been in places that are ran efficiently. If they observe other hospitals they would realize just how bad they are… We may never fix things with some of the people we have…

There was agreement to this statement by the surgeon from CS-B who stated, "Some people with a lot of experience have no breadth of knowledge and bottomed out in their first few years… others have learned and developed and their personal and professional experience should be nurtured." The department leader from CS-B seemed to confirm that there is often a need to change staff; she claimed that one of the last tasks associated

with their BPC was "ensuring we had the right people in place and on the team." She elaborated on this statement:

> We experienced 50% turnover since this process was initiated. Some staff left on their own, very few I had to term – they didn't like the expectations or accountabilities. The current team is helping me lead the new members and help train and mentor. I have very engaged new staff that are getting up to speed fast.

The one non-leader team member from CS-B felt that the team is working better together and moving forward on the journey for continuous improvement; she also acknowledged that there is room for improvement. "The team does need a lot of work – we are still driving change and improvements. We do have to admit that we are not perfect and have things to fix." She stated that effective leadership is important in keeping the team on track and to avoid what she called "drift in practice." She explained that this phenomena occurs when individuals lose focus on the fundamental aspects of their responsibilities. She further indicated that appropriate oversight is necessary to monitor "drift in practice" and that "management needs to continue to provide the team the time and resources to focus on on-going education to drive continuous change and process improvement." The non-leader team member's role involved on-going staff education, so she has a unique perspective about her team's ability to continue on-going process improvement. Her comments were consistent with the leaders and physicians and claimed that "it is about people and their involvement." She continued and said, "There are so many variables, we have to be creative to get the message across to different people."

The department leader for CS-A also referred back to leadership's responsibility in building the team culture of continuous process improvement, she stated "we need to hold people accountable and continue this effort every day." The executive leader at CS-A insisted that the accountability is at the executive level, he felt that all process improvement efforts need a "strong executive champion" who keeps the importance of the team's effort as an organizational priority. He further explained that "A culture of PI requires all involved leaders to focus on solid objectives, attention to metrics, and a concern for performance excellence / results – ultimately we would need leaders to hardwire process improvement efforts." The surgeon from CS-A felt that the purpose and function of the Surgical Service Executive Committee (SSEC) was the entity that provides continued oversight of the team's efforts and performance to metrics. He claimed that it is not one person's role to drive change; it is a team effort. He stated…

> Yes, the surgical service department has a new culture of improvement… the SSEC meeting is a representation of the process of continuous improvement. This meeting is effective. They use this venue to create action plans against metrics that are off track.

This was also emphasized by the executive leader from CS-B who stated, "Knowledge transfer cannot be one person's responsibility – it won't work. As [we] move things forward [we] can have a lead person who facilitates the process, but everyone needs to have a sense of ownership…" Many hospitals are tracking when key processes are off track and instituting corrective action; this is often critical to their accreditation success. As per the CMO at CS-B, "We are under DNV journey that focuses on process improvement. The [consultants] got us started with surgical services and we are

sustaining continuous change." The accreditation body is now evaluating the team's efforts on PI and if the team fails to follow processes and neglect risk assessments they are in jeopardy for poor annual evaluations from their surveyors.

Research Question 2. How do leaders execute KM practices to ensure long-term success of their BPC initiatives for hospital surgical services? This question assumes that leaders drive change in their ability to manage individuals and teams. The following section breaks this concept down into individual and team contribution to the execution of BPC.

Personal contribution to the BPC. The second research question can be answered from the participant questions associated with their perceptions of their personal impact to the execution of BPC and if they felt they had the resources to effectively contribute to the process. Figure 10 and 11 displays the means and medians for each case site participants for the three statements that align with personal contribution to execution of PI. In review of the means, for the first statement, "I am equipped with the necessary knowledge and tools to contribute to our PI efforts" some individuals from each case site showed modest confidence (CS-A 3.73 and CS-B 3.55), where both means fell below 4.00. However, there was a higher level of confidence in the next two statements: "I continue to look for ways to support PI in my department" and "I go above and beyond what is expected of me to ensure my team is successful." Both case site mean scores were above 4.0 on the agreement scale. Furthermore, in comparing the medians for these two questions both sites reported the highest level of

confidence (median = 5; “strongly agree”). In fact, CS-B had max median (median = 5) for all three questions.

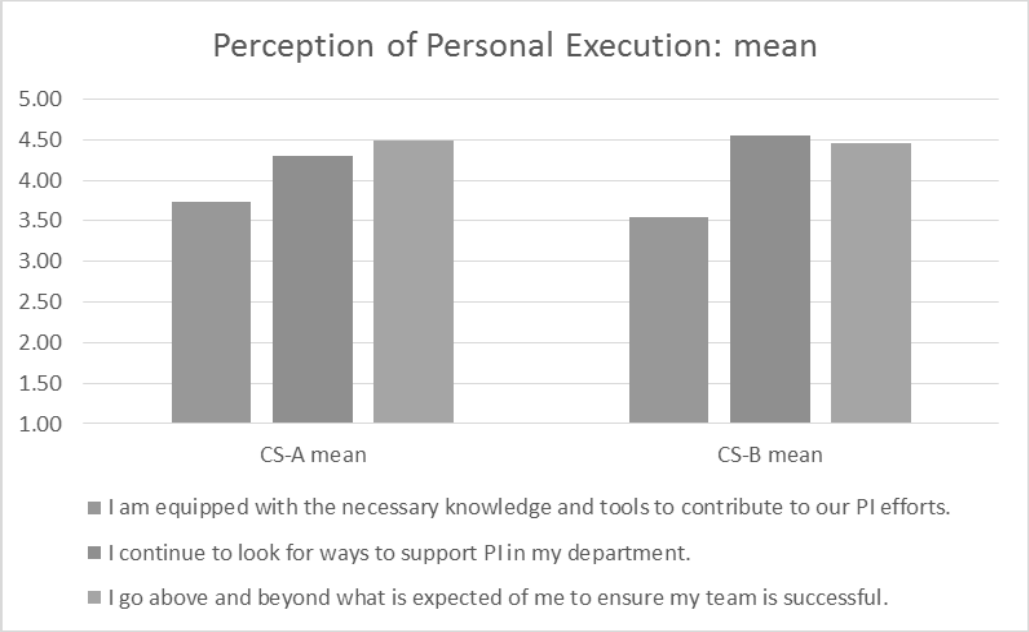

Figure 10: Mean scores of personal perception of execution of process improvement

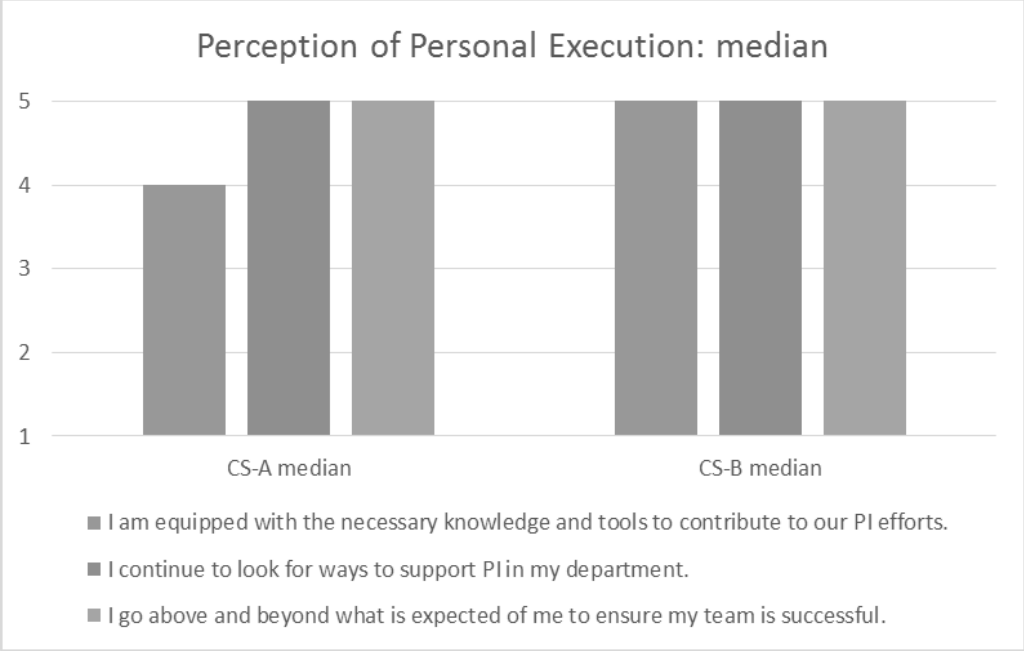

Figure 11: Median scores of personal perception of execution of process improvement

Since only one non-leader participated in the interviews, the analysis of personal perception to impact the execution of BPC was limited to the above cross compare of the

questionnaire data. However, the non-leader interviewee from CS-B did make a couple of statements worthy of reporting. She indicated that at the time of the consultant BPC engagement she did not have high confidence that she could make a difference. She claimed that the leadership was being changed, so most people followed directions. However, once the new leadership was on-board she claimed;

> I am more involved in planning and educating the staff… I am more naturally involved – although I am limited in directly influencing PI but I am very aware of what our challenges are and what we need to do to improve.

She went on to claim that she does feel she has the necessary resources to execute on her activities, "However, if you ask me about having enough time, I'd say no… my plate is full… it is very difficult to get everything done to meet deadlines… I do feel comfortable telling my management that I need help."

Team contribution to execution of BPC. The second research question can also be answered from the participant questions associated with their perceptions of their team dynamics in executing BPC. For this set of questions only the medians (Figure 12) are displayed because the means showed nominal variations between case sites. However, there was a bigger difference in the medians observed with five of the seven statement responses. Case site-B showed the highest scoring among the following statements: "I can count on my team members to be reliable… (+2 higher than CS-A)," "My team works well together (+1 higher than CS-A)," and "My team trusts one another (+1 higher than CS-A)." Furthermore, CS-B scored +1 higher in confidence than CS-A (median = 4) for both of the following statements: "The team has/had the necessary resources…" and "My team members willingly accepts change." There was no difference in medians

for "How well do team members communicate… (median = 3)" and "My team is able to solve problems together to sustain… (median = 4)" For both case sites, "communication" was perceived to be average and had the lowest overall median.

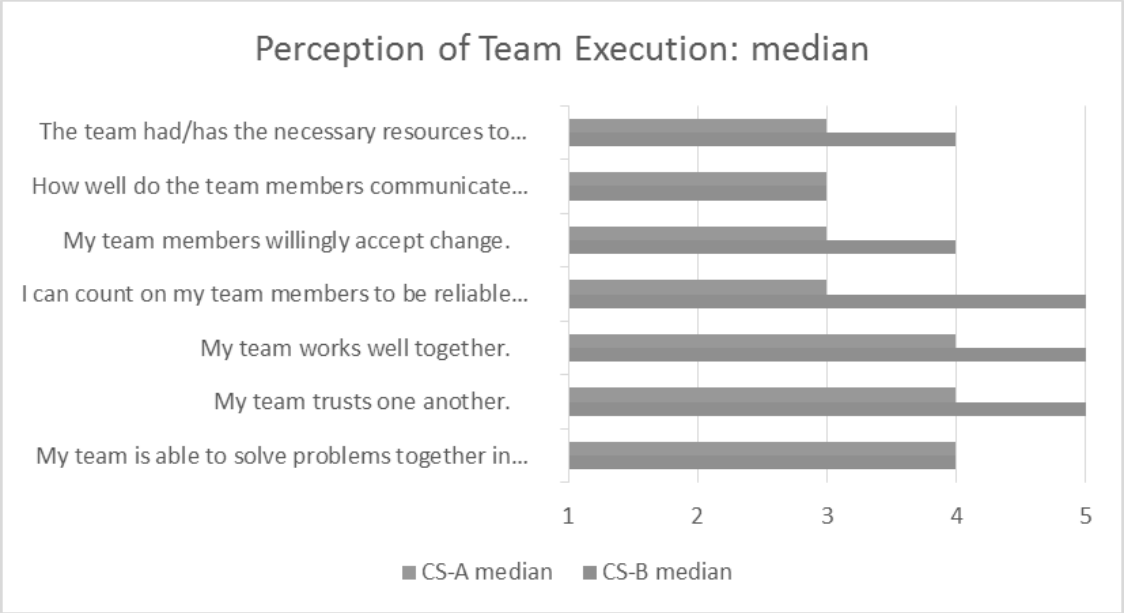

Figure 12: Median scores of team execution of process improvement

From the interviews, all the comments on team execution on BPC were from CS-B. Most of the interview comments, especially from CS-A, migrated back to leadership dynamics, which is discussed in the next section. The non-leader team member from CS-B indicated that before the BPC there was not a team focus, most people worked their hours without regard to their colleagues. She claimed that, "I felt that there was a big detachment between management and staff. We use to be left to our own devices to figure out our own daily routine." This was confirmed by the executive leader at CS-B who stated that prior to the consultancy led BPC there was a high level of team disengagement, "the team that was in the OR doing the work was not ready for this change." Furthermore, the current department leader was a staff level nurse at CS-B and reflected on the past team environment:

> It was not safe. I felt they threw people into cases without support, I was left to take care of myself. There was no team work, no urgency to help… I wasn't allowed to take a break or go home when I needed to.

She insisted that she would not go back to the organization unless there was significant change. The surgeon and the CMO from CS-B also indicated that the team environment was not effective, the staff had low morale, and the surgeons did not want to schedule procedures at the site. The surgeon indicated that the "team did not want to work hard, put in long hours, or go above and beyond… This limited our ability to perform and grow." This claim was consistent with the chief of anesthesia's feelings, he stated, "Before the change the team was just willing to work their 8 hours and go home. That is the standard for any hourly employee, they do what they are asked to do and no more."

Improving team dynamics was the first step in the process, as stated by the department leader for CS-B. She stated that it took two years to see improvement in the team engagement. The BPC consultant started the process:

> [The consultant] showed the team that they could perform to a higher standard and get things done. He woke them up from their sleep and provided the proof of concept. They positioned the team to think differently about their work and understand what was wrong.

Although the consultant started the process, the director indicated that there were on-going challenges and she came into a difficult environment; she "knew all the issues the team had, which was apathy, negative feelings toward management, silo thinking, poor collaboration, and no focus on patients – more of what's in it for me." The team member for CS-B indicated that improvements to the team environment took a long time. She

stated that "I do know as a frontline team member the [new leadership] was able to change the mindset of individuals that were working here. It took 5 years for some people to believe and truly work with the team." She is now encouraged that her team is moving in the right direction. As stated by the department director, "It is the constant conversation and enabling shared thoughts and ideas on what can change and then executing on it."

Over time, both the chief of anesthesiology and the surgeon from CS-B felt that the team has worked better as a unit; in addition, they are progressing toward working better with the physicians. As stated by the chief of anesthesiology, "The nursing staff helps keep us on track... They know the expectations and are helping run an efficient service." The surgeon emphasized the imperative for continuous improvement. He indicated that the surgical department is not perfect, "it is tense, there are challenges, and patients' lives are at stake." He offered a warning against complacency; "The team should be encouraged to provide solutions. They should be incentivized or recognized for doing the right thing and making things better, this is how you get buy-in and engagement."

The team member interviewee from CS-B did indicate that there is a need for micromanaging processes especially for safety sake. As the staff educator, "When I'm in the room to do the audit, they pull the case check list because I'm there – when I'm not there to watch them then I'm not confident they are doing the check-list as expected." She inferred that being accountable to a team requires doing the right thing even when not being watched; it involves integrity, "Our tasks are a means to improve and focus on safety not just an extra tasks that management wants us to do." Even though there are

known challenges she feels there is a positive outlook for her team, "our daily operations and nuances in our group are dealt with by the team and are inclusive of the team's ideas." She further stated that there is constant work on team collaboration, "We have celebrations together and perform projects together… our leadership gives us opportunities and allows us to develop as a team."

Leadership contribution to execution of BPC. The below figures (Figures 13 and 14) displays the means and medians of the perceptions of the case site leadership's ability to execute BPC. The statements were crafted to uncover participants' perceptions for their leaders' abilities in translating knowledge and expectations, through listening, incorporating team ideas, and communicating purpose and plans. The review of the means shows that CS-B scored higher than CS-A in four out to the five statements. CS-A had a modestly higher mean for the following statement, "My team members understand the core objectives PI initiative" (mean = 3.67; +0.21 higher than CS-B). For both case sites the lowest confidence for this set of questions was for "How well does leadership incorporate feedback from the team," with an overall mean score of 2.91 (CS-B +0.12 higher than CS-A). The most significant variance between the two case sites was for "Leadership is clear/specific in communicating expectations…," where CS-B had a +0.51 higher score than CS-A. There was also large variances between the following statements: "Leadership listens to team ideas about effectiveness and/or efficiency" (CS-B mean = +0.34) and "The PI initiative was imposed/forced on the team..." (CS-B mean = +0.41) The medians were consistent with the means where CS-B scored higher than CS-A in four out of the five statements. Case Site-B had a max median for three statements (median = 5); in addition +2 higher median than CS-A: "Leadership listens

to team ideas about effectiveness and/or efficiency, "Leadership is clear/specific in communicating expectations…," and "The PI initiative was imposed/forced on the team..." The outcome of CS-B scoring higher in the leadership domain in regards to listening, incorporating feedback, and setting clear expectations; it was an interesting finding these participants also believe that the PI initiative was imposed upon the team.

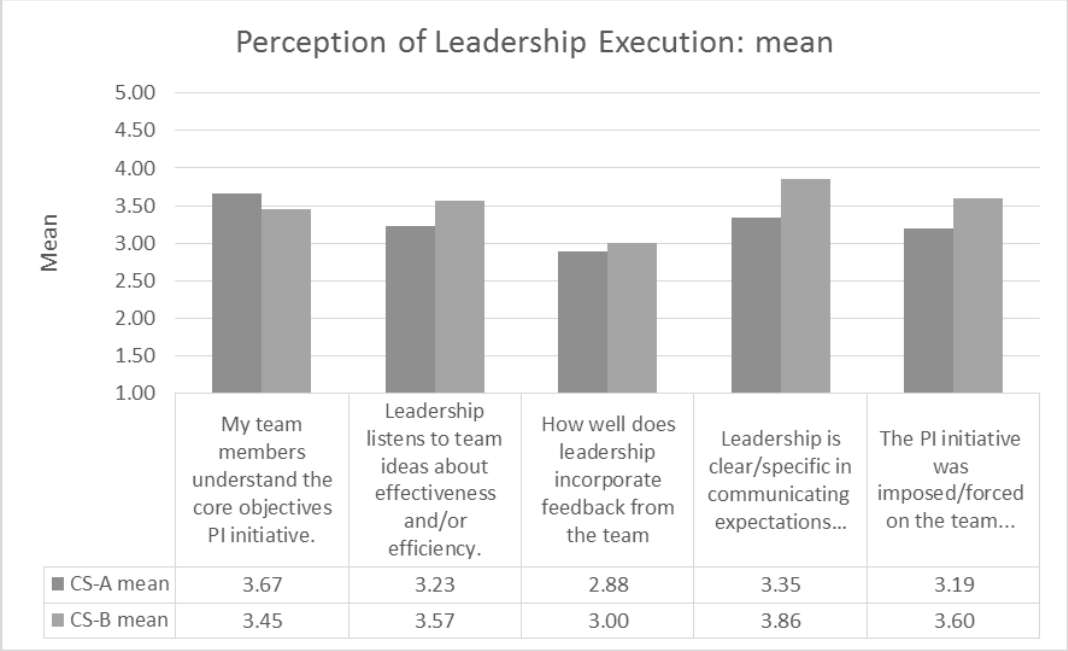

Figure 13: Mean scores of leadership's abilities to execute process improvement

Figure 14: Median scores of leadership's abilities to execute process improvement

The final component for answering research question-2 involves the interviewees' perceptions of leadership's ability to execute on BPC for long-term results. All but one physician from CS-A shared their thoughts on this concept. The first item explored from the transcripts was related to the questionnaire finding from CS-B, where the results showed a max median result (median = 5) on the statement, "The PI initiative was imposed/forced on the team..." (Figure 14) The survey results were not analyzed before all the interviews were completed, as such, the researcher did not ask the interviewees to reflect on this specific question. The department leader for CS-B did make an independent statement that may validate this result, "They felt that [the consultant] was like a tornado. The staff had a needed beating up. They needed to be awaken; if the strategy was weak or slow, it probably would not have been as impactful or successful." Furthermore, the executive leader indicated that CS-B observed quick change "because it was forced. They brought in someone to implement the recommendations; it was very

military like. [The consultant] had full support of the executive team and they executed on the recommended changes." The non-leader team member did not have direct interactions with the chief executive officer (CEO), however all of the other interviewees indicated that the CEO was very involved and motivated to execute on immediate change in surgical services. He authorized a complete change in leadership including all levels of nursing leadership that was accountable for surgical services and the anesthesiology professional service team. The interviewees felt that the approach to the BPC to surgical services was aggressive; they also felt that it worked.

Performance. The CMO for CS-B felt that the department leadership executed well and transitioned the efforts from the consultants for sustained and continuous change. He stated, "[CS-B leadership] did a good job in bringing the team along, kept the team informed, and explained the 'why' behind the changes." The department leader was confident in her style and approach to leading her team:

> Anything I've done in my leadership role has always been around staff engagement... I had to make them think. I had many crucial conversations that were not pleasant, but I am always respectful – it isn't personal. It is not about you or me, it is about patient care.

Her approach seemed to be appreciated by the non-leader interviewee; she stated, "[Case Site director] is a no nonsense girl. She is very upfront and open, but she takes the time to listen and allow us to provide feedback." The chief of anesthesia remarked on the strictness of the leadership at CS-B; he felt that there needs to be a balance where staff feel appreciated and supported. He did acknowledge that they "try to make it a family feel, they have parties, to keep the spirit going." However, he did indicate that

monitoring performance must continue. Furthermore, the surgeon remarked that just monitoring metrics is not enough; he felt that the team needs to take it a step further and prove that our BPC intervention had the expected impact. He claims that this requires better performance team goals… "The leader needs to ask her team how we can drive our performance from point A to point B and connect our actions to performance outcomes."

The executive leader at CS-B indicated that he felt the leadership was effective in executing on their BPC and would be successful long-term as long as they continue to "minimize turnover, listen to staff, make people feel a part of things, and hire the right people who want to be there." He continued to emphasize the need to have shared accountability in achieving high level efficiencies; in addition, each team member must understand their value to the process:

> There has to be a champion that creates a level of continued reminders and make sure people know why surgical services is important. Knowledge management is imperative in making sure we have a 'just in time' approach to managing the core process and transferring knowledge is a key task necessary for sustainability.

The non-leader interviewee was in agreement with this statement; she wanted to also share her expectation of continued on-going inclusion and engagement:

> As long as management involves the staff enough to gain their trust and get their compliance then I feel the team would be OK long-term… I expect that leadership bring issues and concerns back to the team. I like that they ask us for our opinions and what we feel can be done to make things better. This engages the team more.

The interviewees from both case sites felt that the execution of the BPC for their site was a CEO mandate. However, several interviewees did not feel the executive team was on the same page; some did not even feel that the team was ready. As stated by the executive leader from CS-A, "not everyone was on the same page. We were dealing with people with different perspectives and priorities. Having consistency in our priorities for any PI project would support successful knowledge transfer and knowledge management process." The executive leader from CS-B indicated that conflict at the executive team level was not an issue because the CEO ensured that brought on leadership that would not challenge his vision. This was confirmed by the CMO from CS-B. He was not in his position when the CEO decided to bring in the consultant, but he did indicate that the "CEO was the driver"; anyone who was accountable to surgical services and not aligned with his vision were terminated. Furthermore, the CMO from CS-A stated, "The CEO felt we needed to move forward; there was not an agreement to bringing this consultant on. It wasn't our decision." Furthermore, the chief of anesthesiology claimed, "Everyone felt that things needed to improved but did not necessarily agree to the way to approach it. Finger pointing was happening quite a bit we were not on the same page." The executive leader for CS-A made an interesting statement, "CEO preference to strategy can create either stability or instability in process improvement… If we have a change in the CEO we have to hope that he/she comes in and finds the efforts of the past worthwhile... We may end up with a lot of time and money spent on something that the new CEO is not aligned with – wasteful but a risk that we all face."

Neither of the CEO's at either case site were in place at the time of this study. Based on the statement made by the executive leader for CS-A the fact that both CEOs

agreed for their sites to participate in this study, it is assumed they also value efforts in creating effective and efficient surgical services. Analyzing the perceptions of the interviewees and the outcome from the questionnaires, it appeared that CS-B had a more effective execution of their BPC effort. The difference seemed to be in leadership stability and investments in human resources. First, the department leader for CS-A stated that she was not able to hire, which limited her ability to continue to drive change, "For us to do a better job in productivity and efficiency we needed more people… I would write up a justification and provide it to [executive leadership] but I would not get support." The chief of anesthesiology also indicated that one of the hospital's shortfalls was associated with the lack of investment in human resources at all levels, he claimed:

> Money, money, money… If senior leadership wants to bring the hospital back they will have to roll the dice and bring in a stellar service group of surgeons… Also, they need to bring in enough staff, invest in SPD, and pay them good money. We need the slow nurses to retire and then bring in a team that is passionate about moving and making change.

In contrast, the CEO at CS-B took full advantage of the recommendations made by the consultants and approved most of the investments necessary to optimize the BPC effort. The department director indicated:

> The executive team was involved in making the process successful. When I told them about the need for evening staff – it was a priority. I was allowed to hire a team and it helped resolve the issue of being prepared for the next day cases. The other need we had was instrumentation… There was never a time that our CNE or

> CFO told me that we cannot get the resources we need; they were and are very supportive.

This was confirmed by the CMO and chief of anesthesiology at CS-B. Both interviewees indicated that the CEO allocated as many resources to the department of surgical services as he possibly could, "he totally prioritized the project – and I believe it turned out good. I think the resource allocation was enough." (CMO CS-B) "There was strong support from senior leadership from day one. Anything I asked for they responded to. Even things that I didn't ask for were fixed –i.e. anesthesiology equipment." (Chief of anesthesia CS-B)

Interviewees from both case sites agreed that the ability to invest in surgical services required effective execution of their BPC initiative. Figure 15 displays the interviewees' perceptions on the purpose of the BPC effort. For each site, enhancing efficiencies was the top purpose for the BPC effort (10 interviews). Surgical service efficiencies discussed in the interviews were: improving on-time starts, reducing turnaround times, increasing block time utilization, preference card accuracy, and reduction in delays. The second top purpose identified for the surgical service BPC was enhancing staffing and recruitment (9 interviews); this includes not only the provision of resources to execute on change but also filling necessary gaps in support staff and physicians. The other two purposes discussed in the interviews were enhancing productivity, throughput, and organization (8 interviews) and increasing revenue and growth (8 interviews). For the questionnaire the participants were given a list of items to choose from (Figure 16). Comparing the results, there is consistency between the two data sets; where improving efficiency was the top selected purpose for the BPC effort

(count = 26). Optimizing productivity (count = 21) and reducing cost (count = 19) completed the top three selections for the purpose of BPC by the questionnaire participants. None of the interviewees mentioned cost reduction in the interviews as a purpose for BPC. It could be assumed that reduction in cost is highly associated to optimizing efficiencies.

Based on the assumption that the case sites would successfully execute on their BPC and achieve high level efficiencies, productivity, and growth then they would be able to enhance their net margins and ultimately reinvest in the organization. For CS-A there was a sense that the execution of the BPC efforts was less than optimal. The department leader made several statements that there were challenges in leadership stability. She stated, "Bottom line if you do not have a strong leader to help guide the managers and team then things will be in disarray." Furthermore, the CMO agreed that they needed competent surgical service leaders with skills in "problem identification and building action plans to rectify the issues. We would need leaders experienced in executing on turnaround plans." The executive leader did admit that although the execution could have been better the experience had benefits, he felt "the indirect effect was substantial, [case site leadership] developed metrics, structure, organization, and a focus on industry standards that is driving continued performance improvement. We needed the discipline that was lacking in our team." Nevertheless, there was a sense of frustration from the chair of anesthesiology. He felt that the leaders were doing the best with what they had, however he felt that in order to impact metrics, improve staff and surgeon morale, the executive team needed to invest in human resources. He stated:

> Administration needs to decide what the priority is. The hospital doesn't have the money to load up on personnel. Some hospitals will allocate the necessary staffing to get this done right. [Case site] is tight and the ratio is tight, there is not enough resources to turnover over rooms fast.

Without the necessary investments, the department leader at CS-A indicated that she was creative and manipulated the schedules and tasks necessary to meet the service demand. She stated, in order to improve staff performance…

> We had to stagger shifts and adjust the on-call teams to make it work. To create efficiency we had to rethink and reorganize SPD (sterile processing department) – SPD and PAT (pre-admission testing) are the ghost behind surgery. They do not get a lot of credit. SPD manages all the equipment and PAT has all the information about patients. They are vital to making SS efficient.

In addition, she believed that effective execution on any process improvement initiative requires leadership that coaches in the moment, "You need to have the experience to walk down the hallway and identify the lapses in standards and slip in practice; you must address the issues as they come up and course correct in real-time."

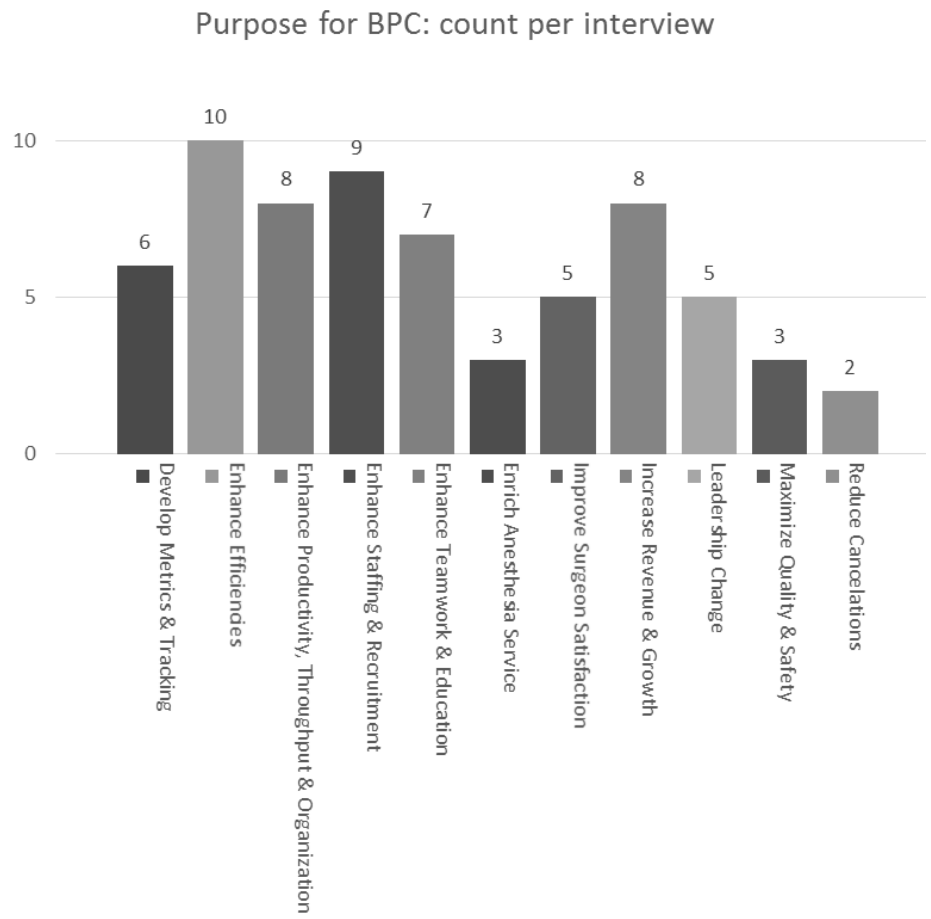

Figure 15: Count of the purpose for BPC per interview

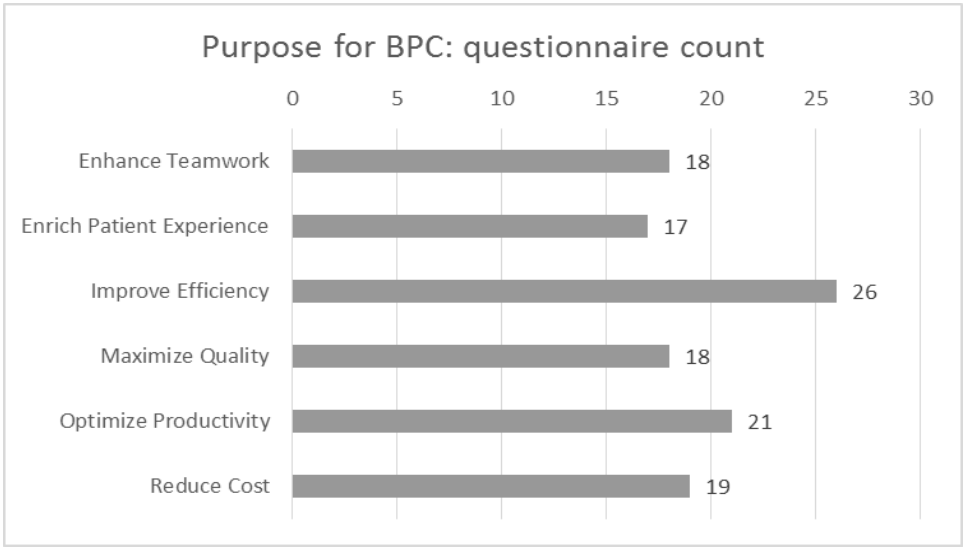

Figure 16: Count of the purpose for BPC from questionnaires

Performance and outcomes of BPC. The final presentation of the results involves the perceptions of performance and outcomes of the BPC initiative. This

research intended to uncover the benefits of the process improvement initiative. Figures 17 and 18 displays the means and medians from the questionnaires. The participants were asked their perceptions on whether their team achieved the expected outcomes based on the purpose of the BPC initiative (Figure 17). In addition, the researcher wanted to know their perceptions on market performance, team focus on on-going process improvement, and the team agility to make on-going changes as needed. The data show nominal variance in the means and no difference in the medians for the first three statements: "The PI initiative achieved the desired expectations / outcomes," "The hospital's competitive advantage and market performance improved…," and "The PI experience enhanced the team's focus on ongoing on continuous improvement." The lowest score was improved market performance, which fell below full agreement for both sites. Case site-B respondents were in agreement (median = 4) that they improved agility and effectiveness as a result of the BPC effort (mean = +0.48 over CS-A; median = +1 over CS-A).

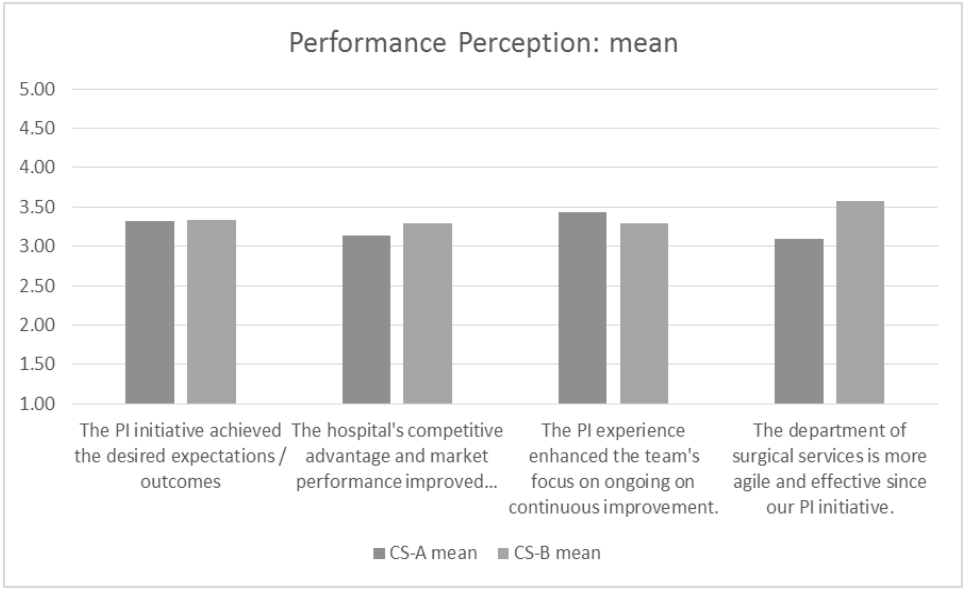

Figure 17: Mean score: Performance perceptions from questionnaires

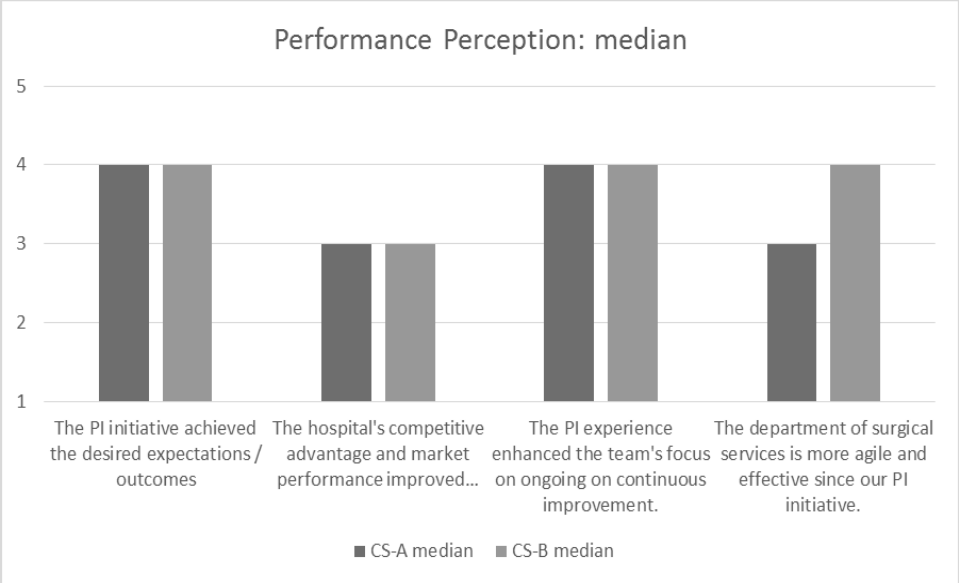

Figure 18: Median score: performance perceptions from questionnaires

The interviewees reflected on their team's performance of the business process change initiative. The individuals from CS-B did reflect on more positive results than CS-A, however all individuals indicated that there was room for improvement. The most positive reflection from either site was that the consultancy and BPC initiative led them to better tracking and monitoring of metrics and performance. Case site-A interviewees had the most comments about the development of scorecards and dashboards to measure performance against baseline. As stated by the CMO for CS-A, "If the deliverable was to see a reduction in turnover times, cancelations, and on-time starts then we developed a dashboard that showcased that metric… SPD and growth was also the same." In addition, the executive leader from CS-A indicated that the dashboards allowed them to pull together "special task forces that executed on action plans around specific challenges... we identified owners who were accountable to put plans in place and to course correct." The surgeon from CS-A felt the monitoring and tracking was effective gaining compliance from physicians, "When surgeons know that they are being watched they tend to get there on time. So the monitoring and announcing of their arrival time

and start time creates visibility and awareness." The department leader and the chief of anesthesiology reflected on a specific metrics. They indicated that on-time starts, turnaround times, and block utilization continue to be on-going challenges. The department leader gave specifics on the block utilization, "The national benchmark was 80% and most of our surgeons were at 30% - 34% of block utilization. We had action plans and moved it to 40% but we never moved the needle any further."

Case site-B interviewees did not reflect on the scorecards as positively as the individuals from CS-A. The chief of anesthesia indicate that he did not feel people are looking at them. In addition, the surgeon was critical of the scorecards and indicated that they are not informative. In his reflection on turnaround times he stated:

> We were at 40 minutes and now we are at 35 minutes. Are they monitoring how they drive the actual improvement? They are tracking it but for practical purposes things are not improving… So they show us that the time is going down, but they cannot tell us why it is going down. Look at it as productivity, has our productivity gone up because of any intervention. What influenced the change?

The surgeon did have some positive reflections on the BPC performance. He and the CMO both indicated that the change in leadership and anesthesiology were big improvements. In addition, the both claimed that patient and physician satisfaction improved since their BPC initiative.

The biggest opportunity for improving efficiency is on-time starts, which is mostly a factor of surgeon accountability. Both the chief of anesthesiology and the department leader from CS-B indicated that they diligently ensure all barriers are removed from the surgical operations so that the focus is only on the physician getting to

the case on-time. As stated by the department leader, "Starting on-time is our on-going issue, we are at 50% on-time starts, which is unacceptable."

Evaluation of Findings

The results presented in this chapter were explored the knowledge management processes in the terms of both influence and execution. The analysis provided insight into the effectiveness of BPC efforts across teams and highlighted the awareness of several factors that influenced team success or contributed to less than ideal outcomes. The following discussion begins with the consultant perspective, which helped frame the performance of each of the case sites. An analysis of each case site is individually provided followed by a cross-case comparison of the findings. The findings helped explore each case site leaders' KM practices that influenced their BPC performance; as well as how they executed toward the achievement of long-term results.

Consultant Perspective. The multi-case study approach also included a discussion with the consultant who oversaw each of the case site's BPC effort for surgical services. This perspective was important for a couple of reasons: to understand their methodology for change, conceptualize their perspective of a successful initiative, in addition a derailed initiative. For the sake securing the confidentiality of each case site, the consultant's perspective was translated generically; in addition, the consultant identity was excluded from the study report. The overview of the company came from the direct commentary from one of the principal leaders as well as from a review of their web site case studies. The company has been in business providing surgical reengineering services for just under 20 years. Their platform of surgeons, anesthesiologists, nurses, operational leaders, and healthcare knowledge experts have extensive experience in the

field of surgical services, which spans small community hospitals to large tertiary and university training systems. They define their processes as Lean certified in the context of a branded solution. The ultimate goal is to define and create an efficient surgical service model for each client that effectively optimizes supplies and human resources. They profess to offer an empathetic approach to process improvement; also known as a practitioner model. The below table was created from the consultant website and displays the researcher's analysis of the company service profile.

Table 4
Consultant Service Profile

Focus Categories	Service Processes	Approach	Objectives
Culture / team engagement	Anesthesiology	Data management	CMS quality standards
Leadership / management	Non-operating room areas (i.e. radiology)	Defining objectives	Enhanced productivity
Partnership / peer-to-peer	Operating Suites	Education and compliance	Facility and capacity planning
Physician engagement	Pre-admission testing	Risk management	Human capital planning
Quality	Sterile processing	Stakeholder buy-in	Market share growth
Workforce optimization	Supply chain	Strategy development	Service line arrangements

The principal consultant was asked about his perspective on a successful engagement. He started with how his team goes into each prospective hospital to conduct a full assessment of their surgical service operations, financial performance, utilization, including the leadership and physician complement. Before formally entering into an engagement the consultant determines whether the hospital has a team that is ready for aggressive change, which is in line with the literature that indicated that readiness is

necessary to optimize performance (Hu et al., 2014; Sturdy et al., 2013). The consultant does their own market assessment to evaluate the market opportunity for the hospital leadership to capture and sustain long-term financial stability and growth within the surgical arena. This includes uncovering feeder sources to support anticipated volume and productivity projections. The consultant emphasized that the hospitals that his team worked with are mostly successful. Consistent with the literature he claimed that the main factor that drives success are having a dedicated leader who is committed and passionate about BPC in their surgical service department, which is most likely the CEO/president (Geffner & Corwin, 2014). Furthermore, there needs to be solid nurse leadership oversight of the operations along with a strong anesthesiology team. The nurse and anesthesiologist collaboration is vital to the change effort; strong leadership on both teams is vital to executing BPC and sustaining an ongoing culture of change (Taylor, 2014). The consultant approach was consistent with the existing research where it was indicated that success is a factor of engaged leadership, the creation of a shared governance that includes a cross section of committed surgeons, anesthesiologists, nurses, and executive leadership (ACT, 2008; Banki et al., 2010). Ultimately this team must have ownership in the issues and drive process improvement through enabling a bottom up approach to identifying and fixing broken processes or ineffective tasks. Finally, he specified that BPC for surgical services requires having the right people involved. It is not an easy accomplishment; he indicated that the executive leadership must often make tough decisions and agree to change leadership, professional service contracts, and invest the necessary time, human capital, technology, facilities, etc. This leadership strategy is consistent with Dinwoodie et al. (2014) where their research

showed that an effective leadership strategy involves identifying leaders and key personnel based on strategic priorities. The executive leadership must commit to hiring individuals who are aligned to their vision and direction; surgical service transformation requires individuals who are change agents, goal oriented, driven to succeed and achieve performance goals (Lega et al., 2013).

In contrast, the consultant was asked to define one of his hospitals that did not achieve successful outcomes post consultancy. He described a small community hospital whose leader was intrigued by the successful outcomes of another closely related hospital that built a path to improved efficiency and productivity. The engagement was staged like all other engagements, however there was a lack of fortitude among the executive team. He defined the leadership at all levels as "poor." The CEO at the time insisted that the project be driven by the physicians, however the physicians in place had no skills nor guidance in governance and organization. As stated by Englander, Cameron, Ballard, Dodge, Bull, and Aschenbrener (2013) it is imperative that physicians be competent to lead an operational governance council responsible for overseeing BPC. In addition, the CEO not being fully engaged in the effort was an early red-flag. The chief of anesthesiology was as he described, "worst physician leader he had encountered in a long time." The staff members were actively disengaged, which was directly attributed to their leadership. Furthermore, they had very limited access to actionable data to define their baseline performance so they could develop improvement targets (Gastaldi et al., 2012; Grigoroudis et al., 2012). He continued and defined the team as not prepared nor ready for making change. In addition, the executive team did not embrace the BPC recommendations in a comprehensive fashion. The consultant knew at the point of

exiting this engagement that the team was not going to be successful. One of the main points he wanted to emphasize was that not all organizations make transformational change immediately post engagement; instead they make gradual change overtime in a step-by-step journey. The organization he described needed an additional intervention, or eventually adopt some of the consultant recommendations. More importantly, he felt that they needed to bring in leadership skilled and experienced in surgical service turnarounds. In summary, this hospital surgical services did not improve, nor did the executive leadership achieve a return or value on their investment.

The principal consultant followed the progress of each of his past engagements and monitored the teams' successes and their challenges. His team rarely had to re-intervene, but repeat business is not uncommon. As per Naylor and Goodwin (2011), consultants can be agents of stability but change is an internal factor that needs to be driven and hard wired by the client organization. Each of the case site's leadership were fully accountable to the surgical team's successful engagement and performance (Hu et al., 2014). The consultant verified the researcher's assumption that the consultancy engagements are quite expensive. It is to the benefit of each organization that the executive team prioritized the surgical services transformation and effective knowledge transition and retention post consultancy to ultimately achieve a return on their investment or value on their investment (Mohe & Seidl, 2011).

Analysis of case site-A. Case site-A included 71% (29) of the participants in the questionnaire data collection exercise. This was a targeted and expected response rate based on the size of the team; where the hospital included two campuses with two operating rooms and one ambulatory surgical center. The team functioned as a flexible

workforce unit, where individuals rotated from one site to the other based on needed coverage; however they did have a core site. The leadership, anesthesiology, and surgeons also rotated between the two sites, so this factor made it difficult to split the campuses into separate case sites.

Twenty-eight percent of the respondents indicated that they had limited to no involvement in the surgical service BPC initiative. The respondents' results showed they were aware of the initiative (median = 4). There were key areas of opportunity for CS-A. The data suggested that CS-A respondents were not as positive in regards to the communication of the BPC initiative and whether critical stakeholders were involved, with both of these statements ranking at "somewhat agree" (median = 3). The literature suggested that staff knowledge, engagement, and involvement in the BPC effort is vital for successful outcomes (Banki et al., 2010; Brooks & Krupta, 2012). In regards to their perception of their personal influence their knowledge sharing with their team ranked at somewhat effective (median = 3), which was the lowest score for personal assessment statements. Individual knowledge sharing was shown to be influenced by reciprocity, behavioral control, and trust (Lee & Hong, 2014). These factors are interpreted as an individual's need for mutual sharing of information, confidence that what they share is valuable, and feeling secure that they are not being exploited for their knowledge (Brooks & Krupta, 2012). In addition, in regards to leadership influence, the respondents' perception of team members' appreciation of the vision for the BPC initiative raked at "somewhat agree" (median = 3). Furthermore, three key statements under the leadership influence domain ranked at "somewhat agree" (median = 3) including knowledge sharing, communication, caring, and enthusiasm. In regards to the perception of the

team's execution of BPC, four of the seven ranked at "somewhat agree" comprising resourcefulness, communication, accepting change, and reliability. Although the team did not feel that the BPC was imposed of forced on the team, their responses showed that they were less than positive in regards to their leadership's abilities to listen, incorporate ideas/feedback, and being clear and specific in their expectations. These findings were unremarkable and did not show any positive or negative revelation, however it necessary to indicate that one would expect more positive results from individuals who felt they had good communication from leadership and were secure within their team (Lee & Hong, 2014).

Case site-A did have encouraging results where the data showed positive results on feeling engaged, involved and participative in knowledge sharing efforts within their team. Furthermore, the results showed that the respondents felt they are surrounded by people who share their values and that the team understood the core objectives of the BPC effort (median =4). Even more so, they showed the highest ranking for the team wanting the organization and hospital to be successful in their BPC initiatives (median = 5). These results are aligned with the results that showed agreement among responders in regards to working well together, trusting each other, and solving problems together. These were encouraging results that mitigate the lackluster results of the individual and leadership domain data. The results suggest that there is a level of collaboration among the surgical service team where they feel ownership in their organizations performance and success (Lee et al., 2011; Olson et al., 2010; Xue, Bradley, & Liang, 2011).

In comparison of the questionnaire data and the interviews the comments from individuals at CS-A would confirm that the team wanted the department to be successful.

However, the less than positive results for the leadership domain can be explained by the feedback regarding the lack of tenure in the director and above positions (Lee & Hong, 2014). The only consistent leader within the team from initiation of the consultancy engagement was the chief of anesthesia. The surgeon was also around during the time of the engagement, however indicated that he had little to no involvement or awareness. This may also prove to be a factor of limited success of the BPC, since there were many comments that indicated surgeons were not involved or engaged in the initiative (Bender et al., 2015; Zook, 2014).

Analysis of case site-B. Case site-B included 29% (12) of the participants in the questionnaire data collection exercise. The hospital has one campus and one ambulatory surgical center, so comparably half the size of CS-A. The other significant difference from CS-A was that upon the initiation of the consultant agreement the CEO executed on two of the key recommendations from the surgical service assessment, which was the change of departmental leadership and the anesthesiology professional service agreement.

Forty-four percent of the respondents indicated that they had limited to no involvement in the surgical service BPC initiative. However, the results showed they were aware of the initiative (median = 4). The key opportunity area for CS-B was the perception of influence of team members, "In my team, I am surrounded by people who share my values," where the data suggested that respondents "somewhat agree" (median = 3). In addition, CS-B showed similar results for team communication, which was "average" (median = 3). These results suggest that team is less than cohesive. Unlike CS-A, this team did feel that the BPC was imposed of forced on the team, where this statement scored at the highest ranking "strongly agree" (median = 5). This result

showed alignment with the result of leadership's knowledge sharing being less than effective (median = 2). In addition, the statement of "how well does leadership incorporate feedback from the team" showed one of the lowest mean scores (mean = 3.00), although the median result ranked at "agreement" (median = 4). These results may suggest that since the BPC was forced on the team and they did not feel their leadership effectively incorporated them into the decision making process. The results imply that the leadership had a more transactional approach to change, which indicates a highly directive, goal oriented, but low engagement style (Lega et al., 2013; Macaux, 2014).

Case site-B showed more positive results in most of the individual, team, and leadership domain statements. The respondents scored their personal knowledge sharing, involvement, and engagement in the BPC at the max ranking of "strongly agree" and "always" (median =5). The results also showed that this team worked well together, where the results showed strong agreement for team reliability, working well together, and trusting each other (median = 5). In addition, the results showed the highest ranking for four out of seven leadership influence statements, where leadership's communication, enthusiasm, inspiration, and leading by example were all ranked at "strongly agree" (median =5). These results were consistent with the results that showed strong agreement in the leadership execution statements in regards to leadership listening to team members and being clear and specific in their expectations (median = 5). The results presented here seem to indicate that the team was collaborative and the leadership was effective in sharing the vision and driving change (Macaux, 2014; Rastgoo, 2014).

The comparison of the questionnaire data and the interviews for CS-B confirmed that the team wanted the department to be successful. Based on the comments from the

non-leader team member, department leader, and both physicians it is understandable why the respondents felt that the BPC initiative was imposed/forced on the team. They all indicate that the CEO used an aggressive approach to executing on the recommendations of the consultant. All interviewees agreed that the approach was necessary and effective; as per Cho and Jung (2014), an effective leader adjusts his/her style based on the situation. Although the CEO who initiated the surgical service turnaround had transitioned to a new organization, the executive leader, department director, chief of anesthesia, and the other physicians are still in place and continue to be engaged in the on-going process improvement efforts.

Performance evaluation. Based on the results from the questionnaires, the both sites achieved the desired results of their respective BPC (median = 4). The only variance was that respondents for CS-B had a higher level of agreement in their team's agility and effectiveness than CS-A (CS-B = 4; +1 over CS-A).

The validation of performance was partially achieved through the direct feedback from the interviewees. For both case sites, all interviewees except for one individual from CS-A felt that a major benefit of their BPC engagement was anesthesiology leadership. All other interviewees indicated that anesthesiology leadership was key to the engagement and successful execution of the BPC effort. For CS-A, the anesthesiology group was in place for two years before the consultancy engagement. The consultant assessment recommended to keep this team in place and that the anesthesiology group had the leadership, mindset, and competencies to elevate the service. On the other hand, CS-B had a complete change in their anesthesiology professional service contract; a new

team was installed and immediately they were able to elevate the service and enhance the experience of the surgical service department.

Both case site interviewees felt that the consultant provided them organization and discipline that did not exist prior to their engagement. The surgical services executive committee (SSEC) is a council of surgical service leaders, both physicians and hospital operational leaders, responsible for overseeing the performance of the department. For each engagement, the consultant ensured there was an SSEC in place before they finalized their engagement. Along with the initiation of the SSEC, data reports were needed for the ongoing tracking and monitoring of key metrics necessary to measure efficiency. The interviewees for CS-A identified the formation of their SSEC and data scorecards as their biggest accomplishment with their surgical service consultancy engagement. In fact, the development of scorecards and dashboards was the most positive reflection from all interviewees for CS-A.

Case site-B reported more positive outcomes from the consultancy engagement that included patient and physician satisfaction, block time utilization, and personnel changes. In addition to changing their anesthesiology professional service agreement the consultant also recommended that CS-B change the entire operational leadership for the department. This allowed for the executive team to hire directors and managers aligned to the new business processes and operational expectations. As stated by the consultant, the "the collaborative relationship between the nursing leadership and anesthesiology is imperative." This team approach to surgical service operations supported enhanced physician engagement and satisfaction, which also supported improved patient satisfaction results. A noteworthy influence of the anesthesiology leadership was to

support the department director and executive team in managing surgeon behavior. Physician behavior was and continues to be both case sites biggest challenge.

In regards to continued opportunities for improvement, both case sites reflected that they both struggle with key efficiency issues. Based on the interviewees' feedback, supply chain, sterile processing, and turnaround times for both sites improved but remain challenging. As stated by the chair of anesthesiology for CS-B, "Things are improving… the benchmark for turnaround is 25 minutes, we are close… running at 22-25 for small cases – but bigger cases are taking longer, 30+ minutes." The surgeon at CS-B was more critical, he proclaimed, "I don't think 35 minutes is acceptable but as long as they see it is below 40 minutes they are satisfied." The chair of anesthesiology for CS-A also agreed that turnaround times and on-time starts are continuous focus areas, but he placed a special emphasis on supply chain and sterile processing being substantial issues for CS-A. He highlighted the department's limitations in staffing for case cart and tray preparation as the main concerns for getting cases started on-time and avoiding delays. He emphasized that before they can effectively tackle the tardiness issue with surgeons they must first remove internal barriers such as incomplete, incorrect, or dirty case trays. The department director at CS-B indicated that initially supply chain and sterile processing were issues for her team; in contrast, CS-B's executive team invested in human capital, which made a quick impact to correcting this issue.

One of the leading opportunities for continuous improvement for both case sites is physician behavior and leadership. The physician influence to BPC was not proposed as an influencing factor for this study and was not a question or statement prepared for the questionnaire or interview protocol. However, for both case site interviews physician

behavior and physician leadership was a gratuitous factor mentioned by all individuals. There were three sub-codes created for the theme of physicians and BPC: physician engagement, physician leadership, and physician involvement. Figure 19 shows the coding similarity based on the Pearson coefficient calculated through the NVivo software. Physician engagement showed a strong alignment to physician behavior, compliance, and a direct link to physician accountability (Lega et al., 2013). These factors were mentioned the most in the interviews; in addition these factors were associated with physician leadership and on-time starts. As indicated by Zack et al., (2009), engagement is one of the intermediate factors that if improved may show a positive effect on financial performance.

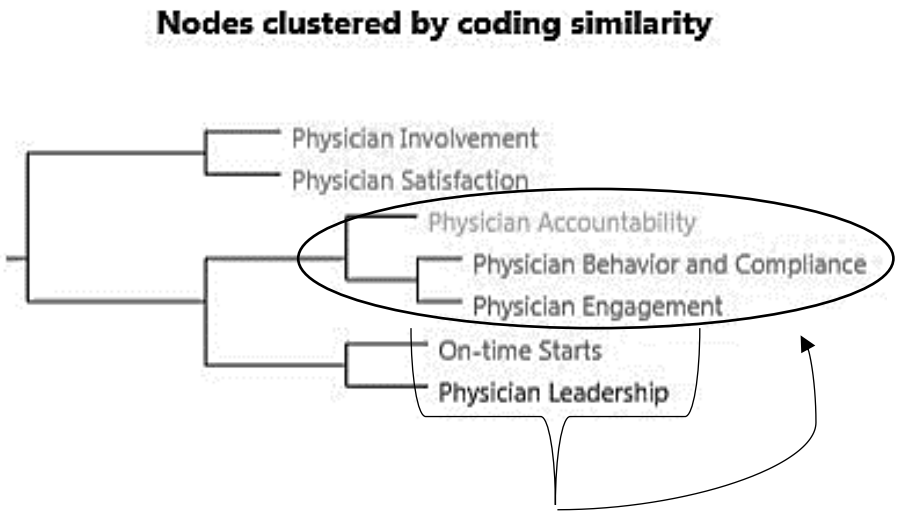

Figure 19: Physician thematic coding

An additional query was conducted within Nvivo for "accountability," which showed that 10 of the 11 interviews "physician accountability" was mentioned in regards to behavior and on-time starts. The one outlier was the surgeon at CS-B; his focus was more on team empowerment, involvement in decision making, and connecting action to results. In considering each case, an assumption can be made that on-time starts is one of

the biggest efficiency issues. Both case sites indicated that in order to influence this metric, there needed to be a respected surgeon who partners with both the nurse director and chief of anesthesiology; in addition, he/she needed to have crucial conversations with those surgeons who violated departmental guidelines. As stated by the surgeon at CS-A, "physicians are better at holding each other accountable and enforcing the rules." This statement was a solid reflection of the commentary on physician behavior and accountability made from each case site participants. There were a couple of interviewees from each case site that felt physician leaders needed to be involved but the most accountable executive, notably the CEO, should reinforce the expectations (Geffner & Corwin, 2014). As stated by the executive leader at CS-B, "It is not just the physicians' responsibility to hold physicians accountable and responsible… the patient and administration must also hold their providers accountable."

Further validation of performance post BPC was achieved through an evaluation of each site's scorecards. Part of the triangulation method for this study was to objectively compare the performance results from the questionnaire and interviews perceptions with variance reports. Both sites were asked for their baseline data and current state metrics. Case Site-A was able to provide only partial baseline data. Table 5 shows the baseline data available and the most recent completed yearend (2016) roll-up results for each case site. Case Site-A had several leadership transitions for surgical services, which explained why they were challenged in providing evidence of all their baseline metrics. Having incomplete data created a potential limitation in validating their performance, however, the interviewees had direct knowledge of their team's performance pre BPC and were accountable to the performance results. As such, the

researcher was confident in the integrity of the direct feedback from the interviewees regarding their baseline performance.

The summary of each case site's performance showed that both sites were falling below the benchmark performance for high performing surgical services (Stiefel, 2013). There was evidence that their performance improved over time, however continued improvement is still needed since both case sites are challenged in meeting targeted metrics. The BPC consultant provided each case site a unique evaluation of their baseline performance compared to national benchmarks. The benchmark for running five OR suites is 6,000 cases, for running six OR suites it is 7,200 cases, and running seven it is 8,400 cases. Neither case site had to surgical volume to meet this benchmark, which is a sign of continued inefficiencies (Table 5).

Case Site-A was not able to provide baseline volume, however their goal is to run six to seven OR suites. Their 2016 volumes are almost 700 (-9%) cases below their expected volume target. The chief of anesthesiology, executive leader, and CMO at CS-A indicated that their baseline volumes were much lower; over time they increased volumes to run five to seven operating suites per day. However, they have aggressive growth expectations and are trying to get their volumes up to consistently run seven suites. As stated by the executive leader at CS-A, "baseline volumes were not where they needed to be; they were steadily declining over time. Surgical service revenue is vital to the organization's fiscal health..." From an evaluation of their 2016 month to month variances, they are consistently running behind budget and appeared to have plateaued. From all CS-A interviewees, their growth expectations for surgical services was an outcome of surgeon recruitment and surgeon satisfaction. They had successful surgeon

recruitment, which elevated their volumes from baseline, however it appeared they are struggling with their ongoing recruitment efforts. The chief of anesthesiology seemed passionate that they need to continue efforts in getting surgeons on staff. He claimed:

> We need high quality surgeons – that are employed. In this community employment is the only way to draw the right physicians to the market and to this hospital. They need to invest and pay for high end surgeons. We have some surgeons that have no other place to work but here; we are not going to grow without more doctors.

Case Site-B had a baseline volume of 5,551, which should have limited them to running five rooms or less. At the time of their assessment they were running eight OR suites, which was defined as an extremely inefficient model and very costly. They had achieved higher volumes since their BPC baseline results 962 additional cases, however their 2016 performance is behind their target budget by 542 (-7.7%). Their goal was to consistently run six OR suites per day. Unlike CS-A, none of the interviewees from CS-B indicated that recruitment was their issue with reaching their growth target. Four of the interviewees agreed that the BPC initiative provided them the efficiencies and discipline to improve their service and surgeon satisfaction, which they felt was the key factor of their growth. However, both the chief of anesthesiology and the surgeon at CS-B attributed the volume increase to being a beneficiary of a large acquisition that immediately changed their market share.

> You cannot say OR volumes went up because we improved our processes. You have to recognize that there were a lot of other factors and dynamics that occurred in the external market [hospital in the service area] imploded… [CS-B] has better

> contracts and the brand improved, [other service hospital] doesn't have the breadth to complete at a system level. None of us can attribute growth to the BPC initiative, it wouldn't be a fair statement (surgeon CS-B).

There are other market factors that may be contributing to both case sites inability to achieve their current target volumes. Both the chief of anesthesiology for CS-A and the CMO at CS-B indicated that more investments are necessary in staff and infrastructure.

> They need to invest in [surgical services] the highest revenue generating service in their organization. They want to see the volume first before they invest vs. invest then see the volume come. I understand both sides, but when you get complaints by so many surgeons, you should act (chief of anesthesiology CS-A).

The CMO from CS-B indicated that infrastructure and capacity has become a present-day concern, "We do not have the capital / money to improve the entire surgical process. It is not a function of the administration nor what the consultants put into place." He further emphasized that since they are part of a large system, they put in requests for capital dollars several years in a row and "we didn't get the funds, so we cannot fix it." The executive leader at CS-B agreed that access and capacity is an issue, but he felt that cost is a big factor that hospitals are dealing with, where independent surgical centers are able to provide a lower cost solution (Carey, 2011).

Table 5
Surgical Services Efficiency Metrics and Definitions

CS-A	Baseline (2011)	2016	Target
Case Volume	NA	7009	>7704
On Time Starts	25%	33%	>90%
Cancellations	29%	4%	<5%
Block Utilization	NA	63%	>50%
Turnaround Time	NA	25 min	<20 min
CS-B	Baseline (2010)	2016	Target
Case Volume	6084	6513	7055
On Time Starts	58%	53%	>70%
Cancellations	10%	<1%	<1%
Block Utilization	54%	67%	>65%
Turnaround Time	28 min	32 min	<20 min

Efficiency Category	Definitions
Volume	Benchmark volume for operating suites: 5 – 6 OR suites scheduled 6000-7200 cases per year 6 – 7 OR suites scheduled 7200 – 8400 cases per year
On Time Start	First case of the day started within 5 minutes (in OR) of the scheduled time.
Cancellations	Percent of cases cancelled ≤ 24 hours prior to surgery
Block Utilization	Percent of cases performed within predefined Mon – Fri scheduled OR suite time; calculated by case minutes/available minutes (excluding holidays)
Turnaround Time	Time between wheels-in and wheels-out for back-to-back cased scheduled within the same OR suite

Neither case site made significant improvements to on-time starts; in fact, CS-B actually got five percentage points worse than baseline. From a review of the consultant report, it was noted that CS-B's baseline on-time starts were suspect. This assessment is an indicator that the measurement of on-time starts was not consistent to the national benchmark measure, which is starting a case within one to five minutes of the scheduled time (Table 5). Some surgical teams may have their target set at 15 minutes up to a half-hour (Bender et al., 2015). This was confirmed by direct statements from seven of the 11 interviewees. Most of the interviewees contributed the on-time starts to surgeon behavior; only the chief of anesthesiology at CS-A indicated there are internal

inefficiencies such as sterile processing and supplies, such as not having the necessary instrumentation and/or dirty trays. The other on-going challenge for each case site continues to be turnaround times, which is a measure of room readiness for cases scheduled back-to-back. The target for both sites is 20 minutes based on wheels-out to wheels in; averaging under 25 minutes is considered "high performance" (Stiefel, 2013). There was no baseline data for CS-A, however they are currently close to target at 25 minutes. On the other hand, CS-B increased from baseline and are averaging 32 minute turnarounds. Both the CMO and executive leader at CS-B confirm that turnaround times continued to be an issue, as per the CMO, "Some surgeons do not come because it is not cost effective. The turnaround times are too long. For some specialties such as a general surgeon who does 2-3 cases the turnaround time is probably adequate." In addition, the executive leader stated, "Room turnover times were not sustained because they have not maintained the fundamental team approach to turning the room over. They need to get away from the 'not my job' mentality." He also indicated that there were times that a couple of surgeons complained about slowness and their impatience led them to participate in turning over a room because the process was slow. In addition, there were comments that surgeons would go get their patients out of holding to expedite the process.

The two accomplishments identified from the scorecards are the cancellation rates and block schedule utilization. Although CS-A did not provide baseline data for block utilization the department director indicated, "Initially there was such a disconnect in regards to block scheduling and surgeon utilization, the national benchmark was 80% and most of our surgeons were at 30% - 34% of block utilization." Both the cancellation and

block time utilization improvements would likely have a significant impact on efficiency especially with labor and supply planning and scheduling (Bender et al., 2015). A reduction in unanticipated downtime also factors into financial contribution margins for the department. Furthermore, a reduction in cancelations showed a direct impact to surgeon satisfaction and patient suffering (Sandbaek, Helgheim, Larsen, & Fasting, 2014).

Summary

The results of this multi-case study provided insight into the factors that influenced the outcomes of a BPC initiative for surgical services. This particular study compared two hospital case sites that underwent a similar surgical service reengineering process with the main effort to identify and correct inefficiencies, which included evaluating leadership and service arrangements, and staging opportunities for heightened productivity and growth. The research used three data collection methods to help answer the research questions of the study, which were to understand the leadership knowledge practices used to influence BPC; in addition, to identify how leaders execute their knowledge management practices to effect long-term continuous change. The questionnaire data was completed by 41 individuals between the two case sites; in addition there were 11 interviews conducted. All but one of the questionnaire respondents were non-leadership; conversely, all but one of the interviews were leaders. Of the questionnaire respondents, CS-B showed the most favorable to all domains of personal, team, and leadership influence and execution. Both case site questionnaire participants felt their BPC initiative achieved its desired results; where the only difference was that CS-B respondents felt their organization had become more agile and

effective since the BPC effort. Furthermore, CS-B respondents felt that the BPC effort was force or imposed on the team, which was validated by commentary of the interviewees. It can be assumed by the data that CS-B's executive team (more specifically the CEO) aggressively enforced the recommendations of the consultant. The one unexpected factor that emerged from the results was the overwhelming commentary on physician leadership and accountability to the success and sustainability of BPC. There were underpinnings of the desire for stronger partnerships with physicians and having physicians as key stakeholders in enforcing behaviors; especially with their colleagues. Even the executive leaders with the highest level of influence felt that they needed physician leaders involved in order to effect change. Both case sites are improving incrementally over time, however interviewees from both teams felt that further investment in facilities and human capital (both hospital and physicians) are needed in order to show significant improvements to efficiency measures and productivity.

The performance data from the questionnaire and interviews was validated by an evaluation of each site's scorecards. The goal was to compare the baseline data prior to the BPC initiative and each site's current state based on year end 2016 results. Case Site-A had limited baseline data, however the baseline performance was taken directly from the interviewees' statements. Both sites showed opportunities for improvement in volumes, on-time starts, and turnaround times. These metrics were validated through the interviews as needing continuous improvement. Case site-A interviewees attributed their volume challenge to the need for more surgeons. On the other hand, CS-B interviewees felt that volume is a factor of investments in infrastructure, capacity, and costs. On-time

start performance was overwhelmingly attributed to surgeon behavior by both sites. On the other hand, turnaround times is a factor of teamwork and accountability. Both sites showed improvements in both block time utilization and on-time starts. There were no overwhelming differences between either sites performance scorecards.

Chapter 5: Implications, Recommendations, and Conclusions

This multi-case study research aimed to explore the link between leadership and teams' knowledge management practices and business process change (BPC) performance and outcomes. The data collection process involved the use of both a questionnaire and interviews. Through the perceptions of two surgical service teams the study examined how leadership and teams influenced and executed on process change; in addition, the study evaluated the team's experiences and whether the BPC initiative helped evolve each team toward a culture of continuous process improvement. Furthermore, through the semi-structured interviews the study uncovered perceived barriers toward optimal performance. There is literature and studies on surgical services and perioperative efficiencies; including research on linking leadership and team work to operating room effectiveness (Bender et al., 2015; Zook, 2014). This research contributes to the existing body of knowledge by adding a retrospective evaluation of the lived experiences of a cross section of surgical service members. The researcher was not able to find a similar studies that explored individual team members' perceptions and experiences before, during, and after the BPC initiative between two case sites that underwent similar engagements with the same consultant firm. The consultant firm was considered the control for the study, which allowed for the researcher to focus on the nuances of each surgical service team without intervening influences of different consultancy approaches to BPC. Identifying and gaining agreement from two CEOs to participate in the study was a challenge since there was an underlying assumption that executives may be sensitive to exposing their team's leadership opportunities for operational and management improvements.

There were three key assumptions made at the initiation of this study; first, hospital executives' decision to invest in BPC was based on their pursuit and achievement of sustained results in order to comply with external industry demand of lower cost for higher quality while also internally justifying costs through a return on the investment through improved financial margins or enhanced value (Sarker, Sarker, & Sidorova, 2006; Turesky & Connell, 2010). Another assumption is that hospital executives seek the support of industry knowledge experts to gain access to industry best practices, support in identifying their unique operational gaps and inefficiencies, and solutions to reengineer their processes for optimal performance. Ideally, they can hire and retain knowledge experts or as with the two case sites in this study, they enlist the support of consultants. The ultimate objective behind BPC initiatives is to influence knowledge transition and translation to ensure teams are able to execute on new processes; in addition, continue to identify opportunities for improvement over time. This leads to the last assumption and the most fundamental, which was that effective leadership is the core entity that influences teams' successful execution of BPC. Furthermore, knowledge management is a function of leadership.

The study results confirmed all assumptions as to why both case sites initiated the BPC initiative with the use of consultants. From the interviews, individuals from both case sites identified the overarching reason for the BPC initiative was based on the fact that both hospitals were experiencing inefficiencies, declining volumes, and that the hospitals needed strong financial margins from their surgical platform. Ultimately, both case sites found value in the BPC experience through better structure, organization, and discipline. Both case site representatives recognized that effective leadership and

leadership tenure contributed to their BPC outcomes. Case in point, for CS-B a transactional or forceful approach was used to jumpstart their BPC journey. On the other hand, for CS-A leadership tenure was their limiting factor for effecting change. From the feedback from both sites, they acknowledged that they must continue the journey of continued process improvement.

Limitations

One of the main limitations to this study was that it was a qualitative multiple case study that incorporated only two sites that used the same consultant to facilitate BPC for surgical services. Although intentional to the study design and the researcher's objective to add internal validity, it does limit the ability to cross compare the performances and BPC outcomes of other organizations whose leadership chose to either conduct an internally driven process improvement project or out-source to a different consultant. Furthermore, the scope of the study was limited to surgical service departments operating under an acute care platform; free standing surgical centers, imaging centers, endoscopy centers, and other hospital service departments were not included. The exclusion of these other service units was to allow for a focused comparison of the two case sites. As with the intention of case study research this study followed the approach to evaluate and explore a BPC event through the lens of the members that worked at each site. The triangulation approach to the data collection provided a high degree of construct validity (Yin, 2013); in addition, there is confidence in this study's transferability to other healthcare service organizations, departments and even non-healthcare organizations in regards to knowledge management, leadership, and driving change. Furthermore, although the United States does not have socialized

medicine, the literature suggest that countries with socialized medicine are also concerned about efficiency and leadership and may find value in this research (Sabeeh, Syed Mustapha, & Mohamad, 2016).

Reflecting on the research design, the researcher intended to interview a full cross-section of team members. Other than the one non-leader interviewee at CS-B all the interviews were conducted with leadership; including physician leaders. There was little comfort from the non-leaders to sit for interviews, even with the $15 incentive. The comments received from several individuals were based on their concern that leadership would find out what they said and that there may be negative repercussions. Some of the comments were:

> Leadership doesn't listen, they forced change without the appropriate staff engagement or input... They constantly force things on us... We are not included in decisions… We know things are happening but we're not involved – 'do what I say or you won't have a job'… If I have an idea they don't care.

Whether these comments are real or merely perceptions, they do highlight some internal challenges with trust and insecurity that should concern the case site leaders. The comments are from the direct field notes, names were not taken, and the case sites were rolled together. Even with strict adherence to confidentiality, there is no ability to create anonymity with targeted one-on-one interviews. As such, this challenge was understandable and an intrinsic limitation of this design. The remedy was having the questionnaire, in which there was adequate participation from each case site's surgical service staff.

Another limitation of the study was the order of the data collection. For the sake of efficiency the questionnaires, interviews, and document collection launched at the same time. The initial assumption was that the document collection, which included gathering scorecard baseline and current performance results would have been completed early during the data collection phase. However, the scorecards for each case site were not provided until three months after IRB approval to launch the study. If this data was provided earlier, each interviewee would have had the opportunity to review and reflect on their site's data and provide a more objective response to their performance. This approach was recommended by the field test interviewee, where she stated that a retrospective reflection of performance relied too much on memory. Unfortunately, it was not accomplished and the interviewees provided their sincere but subjective assessment. The researcher could have been more insistent on getting each case site's documents earlier in the data collection phase, however there was an obligation to avoid overly aggressive or intrusive collection methods. One factor that contributed to the difficulty in collecting this data was the leadership changes at each site. The labor force is dynamic and people change jobs, as this research progressed the initial knowledge experts transitioned.

Implications

This study explored the long-term sustainability of BPC post consultancy within the surgical service arena. The data collection approach provided practical contributions to the existing body of knowledge by showcasing the real-life challenges hospitals face in implementing process change. In response to the payer mandates for higher quality at lower costs, the two hospitals in this study implemented BPC for their surgical

departments to improve services, gain efficiency, and increase productivity. The two main objectives of this study was to understand the leadership's knowledge management (KM) practices that influenced BPC and how they executed KM to effect change. The implications of this study fell into several organization based theoretical domains: Grant's knowledge base theory of the firm (1996), organizational behavior, and social systems theoretical lenses. All of which supported the outcomes of this study that included organizational learning, knowledge management, team engagement, and leadership factors (Bradley, Pallas, Bashyal, Berman, & Curry, 2011). This study provided both a within-case and between-case comparison of BPC factors and illustrated the challenges and/or best practices that influence desired outcomes. There were three main implications that should concern the practical world of healthcare operational leadership and management, which are effective knowledge management, leadership and knowledge expert tenure, BPC prioritization, and physician leadership. The appropriate handling of each implication could minimize the risks they pose to successful BPC outcomes.

Healthcare systems are complicated with a multitude of internal and external factors that affect hospitals (Holmes et al., 2016). Accordingly, the main implication was that a fail-safe solution for a successful BPC initiative does not exist; instead there are leadership practices that may position an organization for success. Conversely, there are behaviors that leaders should avoid that may hinder progress or put BPC efforts at risk for unachieved outcomes. As noted by Holmes et al. (2016), it is difficult to achieve "lasting change in health systems when leaders do not stay in positions long enough to effect that change" (p. 13). Unfortunately, leadership tenure and other risk factors are

difficult to overcome, and both case sites in this study experienced losses in key leadership. As indicated by several of the interviewees, adjusting to new leadership directives takes time. However, as implied from some organizational learning theorists, learning can be adaptive (passive) or deliberate (proactive) (Hu et al., 2014). Therefore, as a response to key leadership turnover a team can overcome this disruption through effective KM techniques that incorporates a more proactive approach to knowledge sharing and transition. Knowledge management is a function of leadership; most importantly the influence of knowledge sharing and the distribution of knowledge across multiple stakeholders is a practice that can mitigate the effect of losing key players (Holmes et al., 2016). Leadership is not necessarily a position, leaders should emerge within teams representing informal leaders and knowledge experts (Lee & Hong, 2014). This requires a shift from seeing KM as knowledge power that is pushed from management; instead moving toward transformative learning within teams (Southern et al., 2013). Researchers Lee and Hong (2014) conducted a study to identify the factors that affect hospital employees' knowledge sharing; they indicated that healthcare professionals need to avoid the knowledge power phenomenon where team members sequester knowledge for reasons such as lack of trust, hierarchical barriers, job security, etc. Knowledge sharing and retention must be encouraged by management at the beginning of any BPC initiative, which should include being an expectation upon hiring (Lee & Hong, 2014; Olson et al., 2010). An important management implication is the effective use of knowledge experts and information technology for the tasks of transitioning and transferring knowledge within teams (Donate & de Pablo, 2015). The fact remains: people change jobs, which makes building a culture of knowledge sharing

an imperative. Business must persevere, and team members should have shared ownership and accountability of their work functions in order to sustain processes.

Knowledge experts must verify and validate the transition and transfer of knowledge among the team to avoid the risk from losing key information and to sustain operational processes. Case Site-B showed a retention of more of its key stakeholders as compared to Case Site-A, however it only takes one key knowledge expert to keep processes on-track. Case Site-A retained enough of their knowledge management resources to not completely derail. As time elapsed, both sites improved upon their knowledge management techniques and adopted information technology to track and store information, which is a best practice identified in the literature and by accreditation bodies (Donate & de Pablo, 2015; Gastaldi, Lettieri, Corso, & Masella, 2012; Sabeeh, Syed Mustapha, & Mohamad, 2016). Many hospitals must go through accreditation where surveyors are looking at teams' processes in monitoring risks and creating corrective action plans for each operational issue. In fact, DNV is a health care accreditation surveyor that emphasized the need for organizations to create action plans against knowledge stakeholder turnover. One interviewee indicated that his team needed better utilization of information technology to support the knowledge management process. Another interviewee reflected on the frustration she felt when finding out about the consultant recommendations and a year after she took her position. This aligns with existing research on KM systems needing to be designed not only for clinical processes but also business processes (Donate & de Pablo, 2015). In addition, there was a high-level of agreement in the literature and from research participants that knowledge retention in teams should be multifaceted, which implied that multiple individuals need to

be well versed in key processes, procedures, and information in order to effectively transition and transfer knowledge over time (Gastaldi, 2012; Lee & Hong, 2014; Olson, 2010).

In alignment with the literature, the case site analysis supported the recommendation that leadership needed to invest in people and innovation in order to achieve sustained operational effectiveness; in addition, leaders needed to create a culture of continuous process improvement. Furthermore, leaders should be obligated to prioritize key profitable service lines such as surgical services (Nieman, 2010). As such, another key managerial implication is that the successful execution of BPC for long-term success requires leaders to prioritize the initiative and have fully resourced teams (Brooks & Krupka, 2012; Sarker, Sarker, & Sidorova, 2006). Zook (2014) called for a focus on transformational leadership over transactional leadership, which proved beneficial in seeking full engagement and participation of stakeholders across boundaries. Transformational leaders can be successful in heightening awareness of key initiatives and aligning resources to their defined priorities. Participants from both case sites responded that they felt their BPC initiative needed more support from key stakeholders and investments in human resources, equipment, and facilities. The literature supported this assessment, which urged healthcare leaders to ensure their BPC initiatives are prioritized at all levels of the organization; in addition, the initiatives need to be well defined and communicated throughout the organization including with physicians (Betolini, Bevilacqua, Ciarapica, & Giacchetta, 2010; Zook, 2014).

Physician engagement and physician leadership has shown to have a direct implication on healthcare operations and the ability to achieve necessary efficiencies and

performance targets (Lega et al., 2013). An emergent theme from the interview data was the importance of developing and engaging physician leaders. In the healthcare arena, physicians are pivotal to care delivery, clinical outcomes, and patient experience/engagement; in addition, it has become evident that physicians are needed to inforce standards and create an environment of shared accountability. Over the last few years more literature is focused on physician leadership, where the emphasis was on the development of physician leadership programs or enhancing the medical education curriculum to include healthcare management and administration. In addition, there is a stated need for standard competencies for physicians to include leadership and inter-professional collaboration (Englander et al., 2013). The traditional training programs are focused on clinical care where physicians are trained to be independent critical thinkers; the programs are almost void of concepts of healthcare administration, management, business development/strategy, and operational effectiveness (to name a few). A study by Parker, Yule, Flin, and McKinley (2012) observed surgeon leadership behaviors within the operating room; they found that surgeons tend to display more task oriented behaviors versus behaviors focused on team cohesiveness and "optimal team performance" (p. 351). This observation is understandable since physicians (surgeons in particular) have a high degree of technicality in their skill set. The Parker et al. study (2012) focused on the intraoperative environment; their recommendation along with the participants in this study unanimously indicated that physician leadership needs to be enhanced beyond clinical care and outside the OR suite. Oftentimes physicians' approach to clinical care is reactive with less emphasis on anticipating, facilitating, and coordinating change, or transforming the healthcare environment. The call for physician

leadership requires proactive physicians with skills in business transformation, strategic thinking, and team engagement (Garfield, 2015).

Recommendations for Application

The fundamental issues hospitals face are lower reimbursement for services, rising costs of pharmaceuticals, technology, and insurance costs. This research started just after the enactment of the Affordable Care Act in 2012 and now we are under a new administration that plans to repeal and replace the standing law. This created a higher level of uncertainty around achieving adequate margins to cover the cost of care. With this in mind, the relevance and importance of this research is still evident; hospital leaders need to continue to create efficiencies across service areas and most importantly surgical services. The ability to create a culture of continuous process improvement is a critical journey healthcare teams must accomplish in order to perform well and achieve positive outcomes. The expectation of this research is to inform healthcare leaders about the risks to inadequately resourced and prioritized BPC initiatives. Furthermore, it is recommended that healthcare system leaders create a culture of change toward achieving long-term sustained outcomes. Unfortunately, there is not one solution to fix all issues; instead each organization should use the research as a guiding compass and apply solutions that make the best sense for their environment and team culture. As an example, several of the interviewees indicated that the reimbursement and economic challenges directly influenced leadership's ability to invest in facilities, equipment, and staffing. The staffing challenge was discussed by nine of the 11 interviewees, where hiring and retaining key team members was perceived as a key contributing factor to knowledge retention and building a culture of change. In addition, each organization's

ability to invest is a delicate leadership decision and involves many factors such as market dynamics, fiscal health, and state and federal policies. Lastly, understanding that both organizations used the same consultant for the initiative, this research showed that the method of change may not be a factor of success or failure, instead effective knowledge management is key to organization learning, knowledge retention, and ultimately hardwiring processes.

One interesting factor that materialized from each case site that is a key recommendation for application is the appreciation of the journey and experience. It was found that the business process change experience in itself provided a heightened sense of awareness of performance in relation to outcomes. The individuals in the study felt that the initiative's value was the development of scorecards and dashboards that provided a motivating factor for team performance to expectations. In line with the Hawthorne Effect, "that which is measured tends to improve", the ability to track progress and incremental achievements is key to long-term process improvement. The value of attaining a new discipline superseded the fact that neither site fully achieved their targets; instead they continue to strive to be better – toward a culture of continuous change.

Recommendations for Future Research

There are three key recommendations for future research based on the conclusion of this study. First, considering the limitations discussed earlier in this chapter, future research could explore the effectiveness of different BPC approaches. The consultant that worked with each of the case sites in this study had a specific niche for surgical services; in addition, their methodology is based on the Lean model for BPC. The

literature review showed that Lean utilization in healthcare had a tendency for derailed efforts. An investigation to uncover the 'why' healthcare organizations are unable to optimize Lean methodology should be investigated. Radnor and Osborne (2013) found that the lack of sustained success is not limited to Lean initiatives; instead any BPC, change management, or reengineering initiative is at risk for failure if there is not an incorporation of both the internal and external nuances of the public service industry, is isolated and not prioritized at the executive team level, does not have staff buy-in and/or not well understood by key stakeholders, and is disconnected from the service demands of the end user. An exploration of the emerging public service theory and its application to the healthcare industry would help healthcare operational leaders and administrators adapt the concepts of Lean toward a more suitable solution aimed at long-term sustainability (Radnor & Osborne, 2013). There may be a better methodology for BPC that is more appropriate for healthcare service organizations where a comparative study that provides empirical evidence of differing outcomes would add value to this body of work.

In addition, it is recommended that there be a deeper investigation into the effect of knowledge management and knowledge leaders' tenure within an organization. This is to include an evaluation of knowledge systems in healthcare in the form of information technology to counter the effect of leadership's frequent migration between various organizations. Currently, knowledge systems are not widely discussed in the literature beyond its utilization in patient care and financial services. An investigation of knowledge management models in healthcare was recently presented by Sabeeh, Syed Mustapha, and Mohamad (2016), where their gap assessment represented clinical and

non-clinical knowledge. Sabeeh et al. (2016) recognized that the current knowledge management models for healthcare has limited connection to top management accountabilities in regards to the creation and sharing of knowledge. Furthermore, the models inadequately differentiated the various roles and types of knowledge used in healthcare. As such, reflecting on this study, knowledge retention for each case site was a factor of key team members' knowledge and tenure. As stated by two researchers on social systems and actor-network theory, key leader and knowledge expert turnover is linked to the derailment of BPC (Lucey, 2008; Sarker et al., 2006). Healthcare systems are knowledge intensive; with such a complex web of information it is understandable that patient care systems are prioritized over business processes (Bordoloi & Islam, 2012). However, with more scrutiny over efficiency and cost management, leaders need to view business processes as a key support method to quality care and service value (Bradley, Pallas, Bashyal, Berman, & Curry, 2011). So more investigation is needed to identify best practices in the knowledge management in relation to business processes and efficiency methods.

The third recommendation for future research is on the emerging theme of physician leadership and accountability, which came out of the interviews. Since this was not a preconceived theme it was not incorporated into the questionnaire nor the interview protocol. However, it was an unprompted factor when participants were asked about how to improve efficiency metrics. This calls for further research on physician leaders' influence on business processes. The physician leadership programs in development should transcend the technical task management functions and incorporate similar competencies that healthcare administrators strive to achieve. In particular, Yukl

(2012) defined the taxonomies of effective leadership and an evaluation of physician competencies in change-oriented behaviors would add value to the field of healthcare administration and operations leadership. In particular, physician accountability to efficiencies and influencing behavioral modification among their physician colleagues is of significant importance to health service professionals. A quantitative study on the established and emerging physician leadership models would create evidence that physician leadership can influence business outcomes directly or indirectly. The specific context should be on business versus clinical because many studies already cover the clinical aspect of physician leadership and engagement. There are many programs being evaluated; a few in particular incorporate financial acumen and service line planning which would be in alignment with this study (Bisordi, J. & Abouljoub, M., 2015; Sacks, L. & Margolis, R., 2015). Understanding the fact that physicians go through many years of formal clinical education; in addition, there is a need to fill the expected physician shortage over the next decade, the idea that the future healthcare system are ran by physicians is unrealistic. With this said, research should extend to investigating the influence of informal physician leaders on physician alignment and behavioral modification. The researcher's assumption is that senior physicians who are well respected without formal titles may achieve the administrative desired behavioral modifications required of their physician colleagues and other team members. This is in addition to developing formal physician leaders with healthcare business acumen.

Conclusions

This research explored the knowledge management processes that influences the execution of business process change for surgical services. The two case study method

compared and contrasted surgical service teams perceptions and experiences of their BPC initiative using both questionnaires and interviews. Using a social systems framework the purpose of this study was to explore the various factors that may influence the long-term sustainability of success and a culture of continuous change. The initial assumption was that leadership tenure and management style influence BPC outcomes. The research findings suggest that both factors influence outcomes. Both case sites improved from baseline in some efficiency metrics, however neither site is fully achieving their expected performance in regards to turnaround times, on-start times, and volumes. The ultimate benefit of their BPC effort was that both sites felt that they achieved a higher level of discipline, organization, and better tracking methods for their performance. The retention of knowledge for business processes is becoming a focus in healthcare systems where the clinical platform was historically the priority for knowledge management systems. Leaders who choose to invest in knowledge experts, such as consultants, must ensure they have a plan to store and transition the knowledge using information systems. In addition, there must be a demand for effective physician leadership to support business process and on-going improvements to the clinical services.

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Appendix A: Pre-Assessment Questionnaire

Pre-assessment Questionnaire (draft questions)

The following questions are drafted for the pre-assessment questionnaire. The questions were adapted from various survey tools from the literature review. The pre-assessment is meant to gather preliminary perceptions from each case site members in advance of the interviews and in support of the triangulation approach to the study. Goal is to give all members within the department of surgical services the opportunity to share their perceptions on the BPC initiative conducted within their department.

Below adapted from:

Ozlen, K. & Handzic, M. (2011). An empirical test of a contingency model. *Knowledge Management Research & Practice, 22*(1) 1-11. doi:10.1057/kmrp.2012.34

Perceived Benefits and Individual Knowledge:

1. I am fully aware of the reason and purpose of my organizations BPC initiative… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
2. I am satisfied with the process and outcome of my organizations' BPC initiative… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
3. I am equipped with the necessary resources and tools to sustain successful outcomes in my work… 1[strongly disagree], 2, 3, 4, 5[strongly agree]

Individual and Team Performance:

1. I have the necessary knowledge and skills to continue the performance achieved through our BPC initiative… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
2. My team is able to solve problems together in order to sustain performance achieved through our BPC initiative… 1[strongly disagree], 2, 3, 4, 5[strongly agree]

Organizational Performance:

1. My department has improved performance efficiency and effectiveness with our BPC efforts… 1[no improvement], 2, 3, 4, 5[significant improvement]
2. My department has achieved improvements in productivity/growth from our BPC efforts… 1[no improvement], 2, 3, 4, 5[significant improvement]
3. My department is more agile and able to coordinate resources for patient care since our BPC efforts… 1[strongly disagree], 2, 3, 4, 5[strongly agree]

4. My department has enhanced its competitive advantage/market share through its BPC efforts… 1[strongly disagree], 2, 3, 4, 5[strongly agree]

Below Adapted from:

Xue, Y., Bradley, J., & Liang, H. (2011). Team climate, empowering leadership, and knowledge sharing. *Journal of Knowledge Management, 15*(2), 299-312. doi:http://dx.doi.org/10.1108/13673271111119709

Team Dynamics Trust:

1. My team trusts one another… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
2. My team works well together… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
3. I can count on other team members to be reliable and do their part… 1[never], 2, 3, 4, 5[always]
4. I go the extra mile to do more than what is expected of me and ensure my team is successful…1[never], 2, 3, 4, 5[always]

Knowledge Sharing:

1. I frequently participate in knowledge-sharing activities within my team… 1[never], 2, 3, 4, 5[always]
2. My knowledge sharing with my team is… 1[very bad], 2, 3, 4, 5 [very good]
3. Other members of my team efforts in sharing knowledge with each other is… 1[very bad], 2, 3, 4, 5 [very good]
4. Leadership's knowledge sharing with the team is… 1 [non-existent], 2, 3, 4, 5 [always]

Leadership Characteristics:

1. [lead by example] My leader sets high standards for performance through his/her own behavior and participation… 1[never], 2, 3, 4, 5[always]
2. [lead by example] My leader works hard and sets a good example… 1[never], 2, 3, 4, 5[always]
3. [participative/coaching] My leader encourages and expects team members to solve problems together and share ideas with each other… 1[never], 2, 3, 4, 5[always]
4. [innovative] My leader is open to team ideas in making our work more effective and/or efficient… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
5. [innovative] My leader encourages team members to identify opportunities to be more productive and successful in our department… 1[never], 2, 3, 4, 5[always]
6. [informing] My leader explains decisions and actions and allows for team member feedback… 1[never], 2, 3, 4, 5[always]
7. [emotional intelligence] My leader sincerely cares about the team and takes time to discuss challenges regarding our change efforts… 1[strongly disagree], 2, 3, 4, 5[strongly agree]

Below Adapted from:
Ezzeddine, A. M. (2006). *Lean indicators in hospital/healthcare settings and the role of leadership in the diffusion of performance improvement strategies* (3211014). Available from ProQuest Dissertations & Theses Global. (304968886). Retrieved from http://search.proquest.com.proxy1.ncu.edu/docview/304968886?accountid=28180

Leadership Behavior
5-point scale 1: Not at all, 5: Frequently, if not always

1. My leader is enthusiastic about the vision for success and the team's capabilities of achieving high outcomes
2. Leadership communicates high performance expectations
3. Leadership inspires my willingness to try harder and do more
4. Leadership is clear and specific regarding who is responsible and accountable for achieving performance targets

Readiness for change
5-point scale 1: Not at all, 5: Frequently, if not always

1. Leadership established clear communication channels to inform team members of strategic priorities
2. Leadership included all critical stakeholders in the implementation of the change initiative
3. Leadership was directly involved in the implementation of the BPC initiative
4. Our team had adequate resources to effectively implement the BPC initiative
5. All members of the team agreed with leadership's vision/goal for the BPC initiative
6. The BPC initiative was imposed on the team with little input or involvement from members

Employee knowledge & strategic alignment
5-point scale 1: Not at all, 5: Frequently, if not always

1. I understand why leadership implemented process/organizational changes in my department
2. Name reasons for the BPC initiative:_____
3. The BPC initiative led to improved efficiencies, productivity, revenues, and better patient care [each with its own point scale]
4. The BPC initiative led to reduced waste in resources and time
5. The BPC initiative supported my team's ongoing focus on continuous improvement
6. I understand the process/approach used in our BPC initiative
7. I continue to look for ways to help improve our workflow in my department

Employee Commitment
5-point scale 1: Not at all, 5: Frequently, if not always

1. I am willing to put in extra effort beyond what is normally expected in order to help my team be successful

Citizenship Behavior
5-point scale 1: Not at all, 5: Frequently, if not always

1. I feel empowered to make suggestions to improve my team's core function
2. I am confident in alerting management to dysfunctional and unproductive activities or procedures
3. I proactively suggest revisions in work to achieve organizational or departmental objectives

Perceived Organizational Impact from BPC
7-point scale 1: Strongly Disagree, 7: Strongly Agree

1. The overall quality of services offered in my department has improved because of the BPC initiative
2. The overall financial stability of my organization was improved because of my team's BPC initiative

Below Adapted from:
Choudhary, A. I., Akhtar, S. A., & Zaheer, A. (2013). Impact of transformational and servant leadership on organizational performance: A comparative analysis. *Journal of Business Ethics, 116*(2), 433-440. doi: 10.1007/s10551-012-1470-8

Shared Accountability:
1. All members within my team has a clear view of our core objectives… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
2. Leadership succeeds in motivating the team to achieve high outcomes… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
3. My team's successes are my successes… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
4. I feel a sense of ''ownership'' in my leader's vision… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
5. My personal values align with those of my leader and team… 1[strongly disagree], 2, 3, 4, 5[strongly agree]

Organizational learning construct:
1. My organization has acquired and used new and relevant knowledge that provides us with a competitive advantage… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
2. My team members have acquired new skills that provide us a competitive advantage since our BPC initiative… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
3. My organization's improvements were influenced by the new knowledge acquired from our BPC initiative… 1[strongly disagree], 2, 3, 4, 5[strongly agree]
4. The organization is a learning organization; we adapt best practices within our work environment… 1[strongly disagree], 2, 3, 4, 5[strongly agree]

Appendix B: Interview Guide

Below are the questions proposed for the semi-structured interviews conducted with a sample of each hierarchical level of the two case site hospital surgical service departments. The sample represented approximately 5-7 individuals: operational executive, director, manager, frontline leader, staff member, surgeon, and an anesthesiologist.

Adapted in concept from:

Scott, D.L. (2011). *Process principles and improvements: A case study of the healthcare industry* (3449914), 72(6-A), 2069. Dissertation Abstracts International Section A. Available from ProQuest Dissertations & Theses Global. (863584941). Retrieved from http://search.proquest.com.proxy1.ncu.edu/docview/863584941?accountid=28180

Demographics:

1. What is your position within your organization?
2. How many years have you worked for xxx organization?
   [Range: 0–2 ___ 3–5 ___ 6–8 ___ 8–10 ___ >10___]
3. How many years of experience do you have in your position / job classification?
   [Range: 0–2 ___ 3–5 ___ 6–8 ___ 8–10 ___ >10___]
4. How many years of experience do you have with business process change initiatives (i.e. Lean)?
   [Range: 0–2 ___ 3–5 ___ 6–8 ___ 8–10 ___ >10___]

Training:

1. What tools, methodology, approach was used in your most recent BPC initiative?
2. What type of training did you receive prior to initiating your organization's BPC; was it mandatory or voluntary?
3. Who participated in the training process [i.e. management, physicians, and support staff]?
4. What additional training was necessary that would have enhanced your and your team's knowledge and preparation?

Application:

1. Based on your perceptions, explain the effectiveness of the BPC methodology used within your department.
2. What was upper management's support of the BPC initiative? What exactly was their involvement; how effective was their support? What was your expectations?
3. What, if anything would you (personally) do differently in creating or implementing effective BPC in your department? Explain…

4. Define the time and resources allocated to your BPC initiative? Was it enough? Explain…

Process Improvements:

1. Based on your perception and experience, how did the BPC initiative create opportunities for continuous improvements in your department? If not, why?
2. How will you participate in BPC in your department in the future? Explain?
3. What if any problems did you experience in the BPC initiative that would hinder progress in creating sustainable and continuous process improvements?
4. What tangible outcomes were you and your team expecting from the BPC initiative? Were they achieved?
5. Explain why your team was successful / unsuccessful in creating long-term process improvements? Explain.

Appendix C: Document Retrieval

Organizational performance construct (to be produced by document retrieval):

Business process change effectiveness:
Adapted from:
Rosacker, K.M., Zuckweiler, K.M., & Buelow, J. (2010). An empirical evaluation of hospital project implementation success. *Academy of Health Care Management Journal, 6*(1). Retrieved from http://eds.b.ebscohost.com.proxy1.ncu.edu/eds/pdfviewer/pdfviewer?vid=37&sid=29b44f75-3c5b-45a8-85fc-1b2326782775%40sessionmgr120&hid=126

1. The project came in on time.
2. Project schedule(s) were adhered to.
3. Project came in on budget.
4. Project cost objectives met.
5. Project outcomes as intended [sustained measures]
6. Project had a positive impact on over X years [financial metrics, market share, quality/outcomes, and clinical integration metrics].
7. All things considered, this project was a success [what prioritized the classification of success?].

Adapted from:
Wai, P.Y., O'hern, T., Anderson, D.O., Kuo, M.C., Weber, C.E., Talbot, L.J., & Kuo, P.C. (2012). Impact of business infrastructure on financial metrics in departments of surgery. *The Journal of Surgery, 152*(4), 729-737. http://dx.doi.org/10.1016/j.surg.2012.07.025

1. Description of primary environment in which health system is located [suburban or urban] (rural is excluded)
2. Size of hospital by bed count
3. The organization's performance measured by net revenue
4. The organization's performance measured by productivity [case count]
5. The organization's payer ratio for surgical services [%Medicaid, %Commercial, %Managed Care (non-Medicaid), %Medicare, %Charity/Bad Debt]
6. The organization's market share in surgical services
7. The organization's measures and performance in safety and outcomes

Appendix D: Trustworthiness of Data

Crystallization matrix for trustworthiness of qualitative research (Stewart, Gapp, & Harwood, 2017, p. 12)