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Strategies Hospital Leaders Use in Implementing Electronic Medical Record Systems

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Walden University

College of Management and Technology

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Shaunette Miller

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
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Walden University
2017

Abstract

Strategies Hospital Leaders Use in Implementing Electronic Medical Record Systems

by

Shaunette Miller

MBA, La Sierra University, 2005

BS, Northern Caribbean University, 2003

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

January 2017

Abstract

Some hospital leaders lacked strategies for implementing electronic medical record (EMR) systems. The purpose of this case study was to explore successful strategies that hospital leaders used in implementing EMR systems. The target population consisted of hospital leaders who succeeded in implementing EMR systems in a single healthcare organization located in the Los Angeles, California region. The conceptual framework used was Kotter's (1996) eight-step process for leading change, and data were collected from face-to-face recorded interviews with 5 participants and from company documents related to EMR design and development. Data were analyzed through methodological triangulation of data types, and exploring codes exhibiting high frequencies to identify principal themes and subthemes. The data coding revealed three primary themes. The first theme related to strategies addressing training, technology, and catalyzing team effort. The second theme related to strategies focusing on employees' concerns, and the third theme related to strategies for designing, developing, and disseminating workflow. The findings affirmed the conceptual framework of Kotter (1996) inasmuch as they showed that participating hospital leaders used one or more steps in Kotter's eight-stage process of creating, implementing, and sustaining significant change. The findings could effect social change by improving the quality of healthcare services provided to patients, which can subsequently benefit patients' families and communities through reducing the costs of healthcare.

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Dedication

I dedicate this doctoral study to God who has given me the physical strength and brainpower to accomplish this enormous milestone. To my mother, Elvey Hamilton who supports me in my endeavors and who exhibits her unwavering love and encouragement. My mother is a constant source of inspiration. Lastly, in loving memory of John Apiafi and Velda Cobb Brown who will never be forgotten for their legacy and strength.

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Section 1: Foundation of the Study

Organizations are “forced” to operate in a global market environment which is technologically driven, and where new competitors enter continually. Technological advancement and knowledge are crucial in such a global environment if an organization is to achieve and maintain a competitive edge. However, some leaders in the hospital sector seem to be unaware of the technological strategies and resources that are available, and are unfamiliar with how to develop and implement strategies for making their organizations more competitive. While some hospital leaders are uninformed in this regard, others are either not receptive to change or lack knowledge as how to effectively manage change. Staren and Eckes (2013) have noted that it is sometimes unclear to some hospital leaders how best to plan and manage change. Other researchers have estimated that 70% of hospital leaders have difficulties implementing and sustaining organizational change (Titzer & Swenty, 2014). Section 1 of this study includes the (a) background of the problem, (b) problem statement, (c) purpose statement, (d) research methodology and design, (e) research question, (f) conceptual framework, and (g) literature review.

Background of the Problem

The health information technology for economic and clinical health (HITECH) act of 2009 is a significant reason for an increasing number of hospitals adopting electronic medical record (EMR) systems (Smith, Bradley, Bichescu, & Tremblay, 2013). The Affordable Care Act (ACA) also promotes the development of EMRs in organizations to decrease costs and improve the quality of healthcare (Freyman, 2013). A hospital leader’s failure to comply with the federal mandate can result in financial

penalties from the Centers for Medicare and Medicaid (Smith et al., 2013). As noted by Freymann (2013), those hospital leaders who have implemented EMR systems have reduced costs of duplicate processes and process cycle times (e.g., claim processing). Some hospital leaders have adopted EMR systems to reduce costs associated with quality of health care (Smith et al., 2013). Staren and Eckes (2013) stated that some organizational leaders recognize the importance of organizational change management in the effective implementation of an EMR system. The authors further postulated that some leaders are aware of the correlation between the implementation of cost effective strategies for organizational change and effective performance outcomes (Staren & Eckes, 2013).

The change management process includes a commitment by hospital leaders to sustainability in order to prepare for major changes (Newman, 2012). However, there are leaders who are slow to implement EMR systems despite the potential for reducing hospital costs and increasing the quality of healthcare (McAlearney, Hefner, Sieck, & Huerta, 2015). An important contributing factor in EMR implementation failure is a lack of organizational readiness for change (Ghazisaeidi, Ahmadi, Sadoughi, & Safdari, 2014). To reduce operational expenses and to avoid financial penalties from the Centers for Medicare and Medicaid, it is prudent to explore strategies that hospital leaders can use in the process of implementing EMR systems.

Problem Statement

A number of hospitals have failed to adopt an EMR system, despite the government's mandate for the implementation of such systems by the end of 2015 (Park,

Chen, & Rudkin, 2015). In the United States, only 59% of nonfederal acute care hospitals adopted a basic EMR system in 2013 (Charles, Gabriel, & Furukawa, 2014). The general business problem is the inability of some hospital leaders to implement EMR systems in hospitals. The specific business problem is that some hospital leaders lack strategies for implementing EMR systems.

Purpose Statement

The purpose of this qualitative descriptive single case study was to explore strategies that hospital leaders used in implementing EMR systems. The target population consisted of the hospital leaders who had succeeded in implementing EMR systems in a single healthcare organization located in the Los Angeles, California region. The implications for positive social change include the potential to raise further awareness regarding the benefits of EMR systems for improving the quality of healthcare services provided. Furthermore, hospital leaders can improve patient care and organizational performance through implementing EMR systems benefiting patients' families and communities through improving healthcare efficacy and reducing healthcare costs.

Nature of the Study

There are three research methods: (a) qualitative, (b) quantitative, and (c) mixed method (Turner, Kane, & Jackson, 2015). The qualitative method is a way for a researcher to explore and understand complex processes and aspects of a phenomenon from the perspective of study participants (Curry, Nembhard, & Bradley, 2009). A researcher uses the qualitative method when developing a description of the complexity, breadth, or range of occurrences related to a phenomenon. Conversely, the quantitative

method is a tool or strategy to test hypotheses about the relationship or differences between the variables of a phenomenon and the consequences of such a phenomenon (Curry Nembhard, & Bradley 2009). Curry, Nembhard, and Bradley (2009) have defined *mixed methods* as a combination of quantitative and qualitative methods where the researcher can capitalize on the strengths of each method. Since I did not test a hypothesis, neither quantitative nor mixed methods were applicable. I therefore chose the qualitative method to conduct a comprehensive and in-depth review of the strategies that hospital leaders used in the implementation of an EMR system.

Qualitative research design strategies include (a) phenomenology, (b) ethnography, (c) narrative, (d) grounded theory, and (e) case study (Curry et al., 2009). To describe the meaning of participants' lived experiences of a phenomenon, a phenomenological design is most appropriate (Yin, 2014). However, I did not seek to describe participants' lived experiences; therefore, a phenomenological design was unsuitable for this study. In an ethnographic study, the purpose is to identify and characterize the culture of a group or environment (Curry et al., 2009). This was not my intention, therefore an ethnographic design was likewise not appropriate for the study. Narrative researchers study the life of one or more individuals, giving a chronological account of an event (Yin, 2014). I did not use the narrative research design because I am not studying the life stories of one or more individuals. Grounded theory strategy and design culminates with the derivation of a general theory of a process grounded in the participants' views (Yin, 2014). Since I was not seeking to develop a theory, the grounded theory design was not a suitable design for this study. I therefore chose a case

study design to explore the strategies used by hospital leaders who have implemented EMR systems. I explored the strategies and processes that leaders have developed and deployed to implement EMR systems. I strived to achieve the outlined research objectives by using semistructured interviews of hospital leaders and staff, and by reviewing documents related to implementation plans, policies, procedures, and processes in respect of EMR systems. A case study approach was the most appropriate design because the focus for my study was on the strategies and approaches the hospital leaders' used in the implementation of the EMR system.

Research Question

The overarching research question for the study was: What strategies do hospital leaders use in implementing an EMR system?

Interview Questions

I interviewed relevant personnel at the hospital to ascertain the level of individual involvement with the implementation of the EMR system. I hoped that the relevant personnel would disclose challenges encountered and strategies implemented to overcome such challenges in the process of implementing the EMR system. I strove to collect pertinent data by using of following interview questions:

1. What strategies did you use that worked best to implement the EMR system?
2. What role did you play in the implementation of the EMR system?
3. How did you communicate the change vision to your employees?
4. What challenges, if any, did you encounter in implementing the strategies for developing and deploying the EMR system?

5. How did you overcome the challenges encountered?
6. What strategies do you use to address employee concerns since the implementation of the EMR system?
7. What strategies do you use to design and develop any changes in work processes since the implementation of the EMR system?
8. What are the noticeable improvements in the organization since the implementation of the EMR system?
9. What other comments would you like to add regarding strategies used to implement the EMR system?

Conceptual Framework

I used a conceptual framework involving Kotter's eight-step process for leading change—a widely recognized model for leading change (Kotter, 1996). Kotter's (1996) eight-stage process of creating significant change includes (a) establishing a sense of urgency, (b) creating the guiding coalition, (c) developing a vision and strategy, (d) communicating the change vision, (e) empowering broad base action, (f) generating short-term wins, (g) consolidating gains and producing more change, and (h) anchoring new approaches in the culture. Using this framework can help scholars explain how to develop and implement strategies to create change within a business. Kotter recognized that change process can stall due to (a) cultures, (b) bureaucracy, (c) politics, (d) lack of trust, (e) lack of teamwork, (f) negative attitudes, (g) lack of leadership, and (h) fear of the unknown. Leaders can utilize Kotter's change model to develop strategies and processes for improving quality, thereby reducing costs. Kotter's (1996) eight-step

process for leading change provided the conceptual structure to explore successful strategies hospital leaders use to implement the EMR systems in their healthcare organizations. Kotter's process aligned with the purpose of this study because the implementation of EMR is at the core of the organizational change. Kotter's change model can help organizational leaders introduce and implement change in a systematic and strategic way (Mbamalu & Whiteman, 2014). The framework may help leaders identify how to design, deploy, initiate, and integrate strategies and change processes to institutionalize change, including EMR systems (Mbamalu & Whiteman, 2014).

Operational Definitions

Important and unique terms associated with the study may need further clarification. I have included the following definitions to serve as a ready reference for the reader:

Change: A small-scale set of approaches that seeks to change given aspects of an organization's structure all the while keeping the broader operating system in-tact (Kotter & Schlesinger, 2008).

EMR implementation: The process of transferring paper based data into a digitalized database within a hospital's broader organization. The implementation process may also involve transforming nontechnical aspects of a hospital's organizational structure that may influence or impact the successful implementation of a EMR system (Cahill, Gilbert & Armstrong, 2014).

EMR system: The process of placing patients' medical records within a digital format onto a computer system (Ben-Zion, Pliskin, & Fink, 2014). This process gathers

patient data and streamlines procedures within a hospital system by making records instantaneously available to medical and administrative personnel (Ben-Zion et al., 2014).

Kotter's eight-step process: An approach to transforming a given organizational system. The stages of this process include creating, building, forming, enlisting, enabling, generating, sustaining, and instituting necessary changes (Kotter, 2007). This process also facilitates the offering of a holistic paradigm that leads to changes throughout an organization's entire structure.

Leadership: Within an organizational paradigm, the term leadership broadly refers to an individual's capacity to successfully impact, lead, and influence others towards a defined organizational goal or objective (Cavazotte, Moreno, & Hickmann, 2012).

Transformation: The process of making changes within an organization to transform its very nature (Kotter, 2007).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions refer to a basic set of issues accepted as true without evidence (Ellis & Levy, 2009). There were two basic assumptions at work as I executed the data collection and analysis for the study. First, I assumed the availability of all participants for interviews and that they would contribute to the quality of the research with truthful responses. Secondly, I assumed that the quality of data collected would reveal strategies that hospital leaders used in implementing EMR systems.

Limitations

Limitations are the potential weaknesses of the study caused by uncontrollable threats which may influence the results (Leedy & Ormrod, 2013). One key limitation of the study was that I, as a former employee of the organization under study, could have potentially influenced the research approach and analysis of the data. I had the potential for easier access to possible participants, relative to someone who had no previous relationship with the organization. The reason for selecting this specific organization was that the hospital leaders have successfully institutionalized the EMR system.

A researcher can mitigate biases by identifying those biases that are difficult to eliminate (Wilson & Washington, 2007). Bias could have occurred where I sought out information that confirms a preconceived opinion about the participants' and their responses. To minimize the potential for personal bias, I followed the research interview protocol closely. I conducted member checking where participants reviewed the data interpretation to confirm the trustworthiness of the findings (Yin, 2014). Another limitation was that, because of the descriptive single case study research design, the results may not be transferable to other hospitals and the overall general population.

Delimitations

Delimitations are characteristics within the researcher's control that limit the scope and define boundaries of the study (Yin, 2014). Delimitations mark what the researcher plans to execute or include that may affect the transferability of results (Ellis & Levy, 2009). I only included hospital leaders who were instrumental in the effective implementation of the EMR system. Careful screening and eligibility criteria aided in the

selection of hospital leaders from the specific and identified population. Personal experiences in implementing the EMR system constituted an important participation prerequisite.

Significance of the Study

The findings of the study may be of significance because the management of change in a business is fundamental to improving how the organization meets the demands of a changing environment (Parker, Charlton, Ribeiro, & Pathak, 2013). The study results may be valuable to hospital leaders who must meet the government's mandate to implement the EMR system within healthcare facilities. The leaders may use the strategies identified to reduce implementation costs as well as subsequent operation costs.

The implications for positive social change include the potential for hospital leaders to apply successful strategies for implementing EMR, and the possible application of these strategies to other types of information technology systems. A high functioning hospital contributes to the health of the patient population it serves. Hospital leaders can use the EMR system if they have the right strategies and are aware of the benefits that can result. With effective EMR systems, medical personnel have the opportunity to spend more time with their patients, thus potentially improving the general quality of healthcare and patient satisfaction. The implementation and usage of EMR systems is a positive social change which could result in the hospital becoming more competitive. Hospital leaders can positively affect performance outcomes related to patient satisfaction by using management strategies (Huang & Chang, 2014). Implementation of an EMR

system in a hospital may help leaders retrieve critical patient information from EMR expeditiously and improve the quality of care (Pearson, 2014). EMR implementation should lead to a reduction in patients' health care costs, and, by extension, to reduced costs for their families and communities.

A Review of the Professional and Academic Literature

The purpose of this qualitative, descriptive single case study was to explore strategies that hospital leaders use in implementing EMR systems. Kotter's (2007) eight-step process model for organizational change was the conceptual framework underpinning the study. The purpose of this literature review is to explain Kotter's model as it relates to change management and EMR systems. The literature review also provides a means for aiding in acquiring the knowledge necessary to explore the role of leaders in these change processes. Using Kotter's model aided me in understanding the process of change and served as the theoretical lens to view the concept of change management. The model also served as an important resource and point of reference in my analysis of data from the interviews on strategies for the implementation of EMR systems.

I reviewed peer-reviewed journal articles and academic books on leadership and organizational change. I gathered these sources using searches on the following databases that I access via the Walden University Library: PubMed, ProQuest, EBSCO, ScienceDirect, Google Scholar, and JStor. Keywords and phrases I used in the search included: *EMR, change management, transformational leadership, health care technology, medical record technology, health care leadership, electronic health care,*

Kotter process model, and *Kotter and health care*. I used a total number of 142 sources, of which 98% were peer-reviewed publications from 2012 to 2016. Only 2% of the peer-reviewed sources were published before 2012. Table 1 shows the stratification of the sources and the percentages used in the study.

Table 1

Literature Source Content

Literature Source Content	Total #	Total < 5 yrs. old published from 2012 to 2016	% < 5 yrs. old published from 2012 to 2016	% > 5 yrs. old published before 2012	% > 5 yrs. old published before 2012
Peer-reviewed Journals	120	118	98%	2	2%
Non-peer reviewed Journals	10	5	50%	5	50%
Dissertations	4	4	100%	0	0%
Books	8	6	75%	2	25%
Total	142	133	94%	9	6%

I have organized the literature review into seven subsections: (a) Kotter's conceptual framework, (b) change management, (c) success factors for change in health care, (d) leadership in health care change, (e) implementing and measuring EMR transformations, (f) implementation strategy from an organizational perspective, and (g) EMR leadership and patient trust. The literature review covers Kotter's change model as it applies to the problem of successful EMR implementation. I examine some specific uses of Kotter's change model through recent implementation, and then address the

concept of how change management is important to the EMR implementation process. The review addresses organizational perspectives on change strategies and potential barriers to implementation. The process of changing healthcare information technology (IT) remains a key concern in the contemporary literature; therefore, evaluating the eight-step model for change was essential to completing this study.

Conceptual Framework: Kotter's Change Model

Kotter's (2007) change process model is useful for understanding potential barriers to instituting new programs and catalyzing buy-in from stakeholders. The eight-step model involves the following stages: (a) establishing a sense of urgency, (b) forming a powerful guiding coalition, (c) creating a vision, (d) communicating the vision, (e) empowering others to act on the vision, (f) planning for and create short term wins, (g) consolidating improvements and producing more change, and (h) institutionalizing new approaches (Kotter, 2007). Thinking about change as a networked process that demands leadership and vision, is a cornerstone of Kotter's conceptual model (Kotter, 2012). The stages articulated are coherent, yet remain broad. Kotter's eight-step process remains a source of positive influence in change management research, though it is necessary to understand some of the challenges and opportunities at each step to apply the model to a specific organization.

One area that Kotter identified as crucial in the initial phases of change is the need to develop a sense of urgency and a culture of transformation (Kotter, 2007). Most successful change initiatives come about when individuals realize that there are deficiencies in processes that might require new ways of thinking to repair (Kotter,

2007). Kotter argued that leaders often fail to understand how difficult it can be to move people out of their comfort zones with respect to changing from usual methods (Kotter, 2007). Change initiatives require the creation of new systems, which necessitates strong leadership (Kotter, 2007). Communicating the urgency of change is the first step of the process. This level of communication requires leaders who can motivate others to act by recognizing how performance will improve through the new system (Auguste, 2013).

Kotter (2007) recognized that increased complexity in operations requires a different speed of change and evolving strategies. Kotter (2007) also recognized that hierarchal structures and processes are efficient in running everyday operations, but remain risk averse; that is, hierarchies tend to remain resistant to change, and have lagged in terms of keeping up with rapid changes, especially in implementing technologies (Auguste, 2013; Battilana & Casciaro, 2012). Therefore, Kotter's (2007) change model solution provides a more flexible networked model for assuring the success of change processes in organizations. Kotter's eight-step model is an improvement over Lewin's three-step model of 1951, which comprises unfreezing, moving, and freezing (Battilana & Casciaro, 2012). Lewin's three-step model is much less flexible than Kotter's, and it reflects the less complex and much less globalized world of the 1950s (Battilana & Casciaro, 2012). The network structures in organizations now demand a contingency and process theory that recognizes how change is effectively connected in the system (Appelbaum, Habashy, Malo, & Shafiq, 2012; Battilana & Casciaro, 2012).

The organizational situation of the 2000s and beyond presents new challenges with respect to regulations, increased competition, technological developments, growth

strategies, and an evolving workforce (Best et al., 2012). As a result, many organizations have found the need to moderate change initiatives yearly and institute major changes every 5 years (Kotter & Schlesinger, 2008). Kotter and Schelsinger (2008), therefore, made the point that an organization needs to have the ability to diagnose resistance to change before it can effectively model that change. The four most common causes for resisting change include (a) not wanting to lose something of value, (b) misunderstanding of the implications of change, (c) holding to a notion that change is not right for the organization, and (d) a low level of acceptance for change (Kotter & Schlesinger, 2008). The diagnostic phase of understanding resistance is crucial because it leads one into Kotter's (2007) first step of communicating the urgency of change and its implications for the organization's ability to deal with rapid alterations in its industry.

The urgency phase, or step one, often fails because motivation comes primarily from leaders and not traditional managers (Kotter, 2007). Transformational leaders are more likely to create the motivating conditions for new systems and processes (Den Hartog & Belschak, 2012). Hierarchical management is often concerned with minimizing risks and maintaining current structures and systems (Appelbaum et al., 2012). Kotter's (2007) model and postulations imply that some new form of leadership is necessary in this first step so that people can begin to overcome any rigid resistance. At a deeper level, change is more likely to succeed through a dynamic leader who brings new ideas and different levels of motivation (Kotter & Schlesinger, 2008). Kotter's (2007) model works best if transformation suffuses the organizational culture by way of repeated encouragement, feedback, and reinforcement from leadership (Auguste, 2013).

The second key step in Kotter's model, creating a powerful coalition, also relates to the question of dynamic leadership (Kotter, 2007). Most initiatives for change and renewal begin with one or two people who see opportunities for transformation (Kotter, 2007). However, in order for change to succeed, there needs to be a coalition that includes senior executives, management, and employees who will be instrumental in *executing* the change (Kotter, 2007). The specific size of the coalition is dependent on the size of the organization. A smaller organization, for example, might have a successful coalition of just five people during the first phases of change, while a larger organization might require a coalition of 30 people or more to generate urgency and a broad culture for change (Kotter, 2007). A coalition will have members who are not a part of senior management, and will be outside of the typical hierarchy (Appelbaum et al., 2012; Kotter & Schlesinger, 2008). Forging beyond hierarchical boundaries is imperative because strong reform and transformation depend upon moving beyond the formal expectations and boundaries of the organization (Hauck, Winsett, & Kuric, 2012). Organizations that fail at this stage often do not have a history of creating teamwork at the top level (Kotter, 2007). Without good line leadership, it is not likely that the organization will reach a powerful enough coalition (Kotter, 2007).

Kotter's third step involves the broad notion of organizational vision (Kotter, 2007). The coalition must develop a coherent picture of the future that speaks to other members of the organization (Kotter, 2007). Visions typically extend beyond the numbers or figures of a 5-year plan, and oftentimes the first articulation of the vision comes from the initial leader of change (Kotter, 2007). Transformational leadership

considers vision as a crucial component of motivating and encouraging change actors (Den Hartog & Belschak, 2012). Vision is also contextual and modeled according to the reach of the specific organization. Overcomplicating the vision is one area that Kotter warned about because employees are less inspired by heavy details and directives (Kotter, 2007). Change management coalition often makes the mistake of failing to create a clearly communicable vision that all employees can understand (Kotter, 2007).

Therefore, step four of Kotter's model requires an organization to create a communication strategy for achieving a common and consistent vision (Kotter, 2007). This means utilizing each available channel of communication and revamping those focused on unessential information (Kotter, 2007). Facilitation and support measures are a main component of a communication strategy for change management (Appelbaum et al., 2012; Kotter, 2012). Opening channels for employee feedback and continued dialogue about how best to achieve the vision is essential at this stage (Kotter & Schlesinger, 2008). Kotter (2007) maintained that communication involves deeds as well as words, and that role modeling is a form of communicating vision.

Successful change initiatives will remove obstacles to onboarding everyone with the vision (Kotter, 2007). At times, the organizational structure is the biggest obstacle to transformation (Iannone, Lambiase, Miranda, Riemma, & Sarno, 2013). Performance appraisal systems or compensation sometimes encourages people to choose their own interests over the change vision (Kotter, 2007; Kotter & Schlesinger, 2008). Moreover, supervisors or managers often have a stake in maintaining their authority, which is a major obstacle in many change processes (Kotter, 2007). In the initial phases of the

change program, it is unlikely that the organization has the power to remove every single obstacle, but it can make efforts to remove the largest ones (Kotter, 2007). Pieterse, Caniëls, and Homan (2012) suggested that one of the strongest ways to remove obstacles to change is to create more integrated work processes at different levels aimed at transformation. Strategies for EMR implementation require a high level of integration at department and management levels (Longest, 2012).

The next step in the change process involves systematically planning for short-term wins (Kotter, 2007). Change initiatives require significant time to achieve real transformation. However, stakeholders need to see progress in incremental steps and measures (Kotter, 2007). Creating relevant metrics appears critical for success measurement so that the coalition can see the achievement of established goals and outcomes (Kotter, 2007). It is important to communicate small successes while not declaring total victory (Kotter, 2007). The enhancement of successful outcomes by implementing metrics and reporting of successful change results is helpful to leaders (Kotter, 2012).

Short-term victories are a combination of individuals who are initiators and resistors to the implementation process, which may show signs of progress (Kotter & Schlesinger, 2008). Leaders at this point promote the short-term gains to bolster motivation and to confront and remove bigger obstacles (Kotter, 2007). The eighth and final step of Kotter's conceptual model is to make certain that the organization's culture institutionalizes the change (Kotter, 2007). At this point, leadership must make sure that the change initiative is lasting and that new management buys into it. Here, leadership

reinforces changes by stressing the connections between organizational success and the new programs or work behaviors.

Kotter's (2007) model is similar to Greiner's change process model (GCPM) in terms of the delineating phases that move from pressure to diagnosis and on to a solution-based strategy (Auguste, 2013). However, Greiner's model adds important qualifiers related to incremental progress and a networked solution that is not dependent upon a single change agent (Pollack & Pollack, 2015). Greiner's earlier model was influential, but the author possibly did not consider specific matters of organizational culture and the coalition needed for transformation. The primary consideration is to understand change as a sequential process that depends upon new systems that affect the existing culture and structure of the organization.

Auguste (2013) studied Kotter's model as applied to digital transformations in the healthcare industry. The application in the healthcare setting reflected the use of the Kotter model as the stepwise process, with consideration of the individual differences in member coalition while creating individual engagement in the transformation process (Auguste, 2013; McAlearney et al., 2015). The use of Kotter's model in this context, appeared helpful in enhancing motivational factors related to different health professionals engaged with EMR (Auguste, 2013; McAlearney et al., 2015). The change management process should not undervalue Kotter's recognition that change has an emotional and a situational component (Auguste, 2013). The challenge is to deal simultaneously with management and innovation (Murray, 2013). The short-term may produce moments of creativity, but the long-term sustainability of the process must be a

concern for management (Murray, 2013). The focus on short-term wins that produce momentum in the change process is particularly suited to the implementation of an EMR system (Auguste, 2013; McAlearney et al., 2015).

Current findings from empirical research may reinforce the validity of Kotter's model, where although there is wide agreement in the contextual dimensions, there is some debate on the *sequencing* of the eight steps. In the areas of discussion surrounding the model, the debate is on whether change factors are continuous or simultaneous. Since change takes place at different levels of the organization, transformational managerial behaviors operate on a case-by-case basis in most initiatives (Best et al., 2012). Kotter's model is valuable because its application in guiding and managing change can lead to greater employee engagement within a broad culture of change, and involves the steps needed to propel change forward.

Neumeier (2013) followed Kotter's steps in the evaluation of EMR implementation, and added five further stages to the innovation process. The additional stages include knowledge, persuasion, decision, implementation, and confirmation (Neumeier, 2013). The diffusion of knowledge about the change process is a key element, which helps with onboarding of stakeholders (Neumeier, 2013). Urgency in the process is also important, and those involved need to be aware of the potential and preventable errors that might come about through the new system (Neumeier, 2013).

Change Management

The complexities involved in the interconnected dynamics of organizations have led management researchers to discuss both planned and emergent changes. Change

might be continuous, but practitioners often experience disruptions in the process and exhibit resistance since the change affects them directly (Hauck et al., 2012). The process thus usually involves both planned and unplanned change.

The planned and unplanned perspective is especially helpful in a healthcare context because there are a range of factors that can alter new initiatives, including regulations and issues of privacy (Goldstein, 2014; Rizer, Kaufman, Sieck, Hefner, & McAlearney, 2015). Reluctance to change in healthcare management is formidable at times, and unforeseen consequences from change initiatives can affect how employees perceive the planning process (Rizer et al., 2015). Traditionally, planning change involves detailed, sequential steps for transformation, and this has remained the norm in many ways (Longest, 2012). However, emergent change thinkers have sought to identify the factors that enable a more flexible change process that considers contingencies (Hashim, 2013).

Emergent change management entails cognizance of the nature of organizations and the ways in which different actors may shape the change process (Goldfarb & Tucker, 2012). Change interventions need to go beyond Lewin's formulation of episodic change, and the Kotter model is better to serve as a reference when dealing with developments that might alter the organization. Erskine (2013) argued, as did Kotter, that empowering broad-based action is essential to change management. The role of leadership in this process is key insofar as agents of change begin the process (Drekard, 2013). However, management or leadership needs to inculcate the change initiative into the existing culture of the organization to facilitate changes (Dias & Escoval, 2013).

Success Factors for Change in Healthcare

Kash (2014) reviewed success factors in change initiatives specific to the health care industry. Change in health care tends to be rapid because of a range of factors, including new structures for coverage, new protocols, and emerging technology (Schmidt, 2012.). Kash (2014) conducted in-depth interviews of 61 health care leaders and identified the success factors associated with change initiatives. The top three success factors are: (a) values and organizational culture, (b) the specific business processes, and (c) engaging people (Kash, 2014). The human resources functions and the officials who execute those functions are also crucial to change initiatives. Business processes are the means to create effective communication and information access, which ground the action of change (Kash, 2014). Management practitioners in the health care industry can benefit from knowledge on of strategic change success factors, such as Kash's (2014) study. Change is an open-ended process that requires adaptation and continual refinement (Best et al., 2012).

Managing uncertainty in change initiatives remains crucial because the process is often unclear as to what the future will look like exactly. The most important aspect is to understand the cultural characteristics of the organization so that those who deliver the health care can adequately manage and update the process in a timely manner (Meidani, Sadoughi, Maleki, Tofighi, & Marani, 2012). Clardy (2013) listed the following seven central areas as predictors of an organization's ability to manage change and uncertainty: a) increasing organizational readiness for change, b) gaining management buy-in, c) preparing leadership, d) motivating employees for change, e) preparing change

intervention strategies, f) approving the change process, and g) embedding and sustaining change. Leadership in the process is systematic and responsive, and leaders often consider how a range of smaller changes diffuses across the organization (Johannsdottir, Olafsson, & Davidsdottir, 2015).

Leadership in Health Care Change

Incorporating ideas of leadership into health care literature and into studies of how organizational change process is important (Antonakis, 2012). Transformational leaders can motivate employees toward change in the mode of Kotter's model, and can determine how change management influences new systems (Antonakis, 2012). Strong leaders remain change agents, who can create high levels of motivation in followers (Cavazotte et al., 2012). The notion of motivation of followers by leaders is important for the implementation of new health care systems and policies to offset the initial resistance to change. A transformational leader is often helpful to the process of overcoming resistance and building greater trust in the processes (Cavazotte et al., 2012). Senior leadership also has a special responsibility in change processes, by setting the tone of urgency (Mauer, 2014). Business leaders remain deeply involved in the preparation of stakeholders, and so these individuals must demonstrate an ability to develop or redesign stakeholder culture (Mauer, 2014)

Transformational leaders are especially effective in fostering employee development and a culture of shared values (Cavazotte et al., 2012). Empowering others to create change is not only one of Kotter's (2007) recommendations for leadership, but also has the potential to create change at a faster pace in an organization. Because of

rapid technological shifts in the health care industry, leaders must remain agile and capable of empowering and enabling changes in the organizational culture by engaging employees in the change process (Cavazotte et al., 2012).

Effective leadership promotes better training and higher levels of employee satisfaction (Den Hartog & Belschak, 2012). In terms of the health care industry, leadership that fosters a strong system of employee feedback tends to be more successful, especially when complicated change must occur (Cavazotte et al., 2012). A strategy of leadership for achieving employee involvement includes mentoring employees, remaining open to concerns, and sharing in the responsibility for seeing change happen (Den Hartog & Belschak, 2012). The transformational leader acts as a role model, instilling confidence in employees and handles the shift to new roles or modes of communication (Den Hartog & Belschak, 2012). The important issue, in the context of Kotter (2007), is that the process remains cooperative and collaborative.

The four areas of theoretical interest in the leadership literature that apply to Kotter's (2012) change processes are: (a) idealized influence, (b) encouragement and motivation, (c) intellectual stimulation, and (d) individual needs consideration (Kotter, 2012). At the level of influence, the leader possesses the capacity for enabling social and cultural identification. The process of establishing trust through the organizational culture and values helps the leader communicate the change initiative (Kotter, 2012). Leaders should understand the different dynamics among departments as well as how the new processes might change some workflow issues (Kotter, 2012). Strong communication is crucial to this form of leadership because employees want to

understand their roles within the new processes (Brock et al., 2013). Job and patient satisfaction within the industry remain a key consideration for the leader as he or she starts the transformation process (Gray et al., 2013).

Employee motivation appears higher when business leaders create the perception of genuine commitment to effective change (Risambessy, Swasto, Thoyib, & Astuti, 2012). Transformational leaders are particularly good at bolstering employees' sense of identification with the organization's mission, which aids in difficult times of change (Mäntynen et al., 2014). A sense of identification enhances a feeling of purpose and contribution within the culture, and leaders have a unique opportunity for changing the work culture with the relevant processes or technologies (Mathew et al., 2015). During times of uncertainty, employee trust in an overarching vision is a key factor in an organization's success (Hayati, Charkhabi, & Naami, 2014). For these reasons, transformational leadership fits well with Kotter's (2007) model for organizational change. Health care management, during these times, help to create new relationships and bonds within the organization.

Implementing and Measuring EMR Transformations

The EMR system design facilitates strengthening the management of the essential information for care delivery. Researchers have demonstrated the efficacy of EMR in improving quality care (Boonstra, Versluis, & Vos, 2014). Components of the EMR system have included patient care records, billing, demographics, and other details in the system (Cucciniello, Lapsley, Nasi, & Pagliari, 2015). The drive for innovation has been at the forefront of measures for achieving greater efficiency, effectiveness, and quality of

care (Cucciniello et al., 2015; Hasanain, Vallmuur, & Clark, 2014). Findings from recent research have indicated that leadership must understand the organizational processes and the human resource elements that are involved in motivating employees (Boonstra et al., 2014; Cucciniello et al., 2015). The human factors involved in change initiatives for EMR implementation are significant, and comprehending only the technological capabilities is not sufficient for successful change (Boonstra et al., 2014).

Sociological factors, as well as technological factors, are important to consider, and the process of implementing an EMR system is integrally bound to actor-networks that leadership must understand (Boonstra et al., 2014). One problem that can emerge from this change process is connected to the levels at which a hospital has integrated information systems (Cucciniello et al., 2015). A lack of data exchange on levels outside of the EMR creates greater problems in implementing change (Cucciniello et al., 2015). Some hospitals, for example, have numerous patient administration systems with clinical letters written in a format that remains unlinked to any electronic patient record (Cucciniello et al., 2015).

The process of convincing actors within the health organization to consider EMR implementation involves some employee resistance (Cucciniello et al., 2015). The reason for resistance may be because the EMR change solution is a nonhuman super actor, or regarded as a technology that helps leaders handle the implementation (Cucciniello et al., 2015; Meidani et al., 2012). The process of developing and implementing EMR is not a process of merely installing technology; the implementation process ties to the utilization of information systems and communications in the health care setting (Boonstra et al.,

2014; Cucciniello et al., 2015). This interpretation means that information integration requires leadership from the top, which requires leaders who understands the steps in change models and who are able to motivate people to act in efficient and effective ways to benefit end users (Boonstra et al., 2014; Cucciniello et al., 2015). Technological issues of implementation require organizational adaptation so that there is an understanding of the entire technical-political system (Park et al., 2015).

Multidimensional integration is one of the main reasons for facilitating EMR implementation (Cucciniello et al., 2015; Park et al., 2015). A program board that meets monthly and offers advice to the stakeholders often manages the system implementation along these lines (Cucciniello et al., 2015). However, one key issue is that people have to assume new roles and assist in the integration process (Boonstra et al., 2014). Assuming new roles requires a different level of leadership because these roles are often unfamiliar and necessitate greater integration among departments (Boonstra et al., 2014). For this reason, a solid change management process or model is desirable for implementing and sustaining the change initiative (Boonstra et al., 2014).

The structure-process-outcome model is valuable for change initiatives directly related to EMR implementation (Penoyer et al., 2014). Documentation is one of the underpinning structures for patient care decisions, and the documentation structure is the basis for EMR efforts (Penoyer et. al., 2014). The process level involves the clinician's interaction with the EMR system. Leadership needs to be mindful of how the communication process changes through the implementation of a new system. However, the findings from studies have shown that effective EMR implementation improves

relations if grounded in leadership that takes the lead in setting up communication norms and a climate compatible with change (Bowton et al., 2014).

Outcome measures of successful implementation reflect how well the communication process works and how well practitioners share EMR information (Penoyer et al., 2014). Practitioners need to review the documentation of other clinicians and evaluate the patient's response to treatment at the first level (Penoyer et al., 2014; Seto, Inoue, & Tsumura, 2014). Clinical documentation, especially in the outpatient context, can improve through EMR systems (Seto et al., 2014). A new EMR system, therefore, should situate in such a way as to streamline the documentation process in a manner which creates a good communication flow (Penoyer et al., 2014). Management or leadership in the change process needs to ask important questions regarding the dissemination information (Penoyer et al., 2014). The issue of how clinicians and other actors perceive the exchange of information is crucial to this process (Penoyer et al., 2014). Time efficiency remains a key factor in this implementation process, and the amount of time spent documenting is a major consideration (Carter, 2015). Researchers and practitioners explore and examine how EMR systems change the way in which communications operates in the health care setting (Balas & Elkin, 2013).

Avoiding strategic mistakes in the implementation of an EMR system remains important because errors and omissions can have lasting effects on the organization (Stone & Yoder, 2012). Leaders who can capitalize on the experience of others and other organizations are most likely to succeed in this respect (Stone & Yoder, 2012). The newness of EMR technologies requires a different level of understanding from a

leadership perspective (Stone & Yoder, 2012). With the relative newness of technology and the constant evolution, hospitals often use outside consultants who are already familiar with EMR change initiatives (Robichau, 2014). The complexity of the software requirement necessitates a training program that brings stakeholders to a basic common understanding of the objectives and benefits of the new system (Robichau, 2014). Because of this requirement, additional training for leaders of change is necessary (Stone & Yoder, 2012).

Health care organizations need to take charge of data systems and understand the need for increasing accessibility to all stakeholders within the system (Stone & Yoder, 2012). Clinical improvements come about through an understanding of data and process measures (Cahill et al., 2014). Business leaders within the organization should create ownership of the data management systems, and establish solid relationships with vendors who provide the technology (Huang, Dong, Bath, Ji, & Duan, 2015). The strategic leadership imperatives call for the education of leaders, who may have a vision of change but lack the technical acumen necessary for implementation (Shea et al., 2014). Identifying the barriers to implementation is one of the first steps in the change process (Shea et al., 2014). To overcome these barriers, health care leaders may need to identify the key actors within the system, who are ready for change and have an understanding of how the new health care technology will affect practice (Lesk, 2013).

The use of a partial or full EMR system is increasing, but only about 50% of providers in the United States have a fully functioning system (Sheck, Hefner, Sieck, & Huerta, 2015). There are resource issues related to this limitation, but the lack of

leadership can slow change and leads to lag in implementation (Bar-Dayyan et al., 2013; Ben-Zion et al., 2014). Slow change can also result from financial, legal, social, organizational, technical, and sociological issues (Kokkonen et al., 2013). Successful EMR adoption remains tied to the change processes that operate on the organizational and individual levels (Scheck et al., 2015). Kotter's eight-step process resonates with both theorists and practitioners addressing the implementation of IT driven and affiliated change (Scheck et al., 2015).

The recommendations emerging from studies have indicated elements for EMR adoption: (a) managing expectations, (b) making a case for quality, (c) recruiting leaders, (d) communication, (e) acknowledging transition, (f) training, (g) improving functionality, (h), acknowledge other priorities, (i) allow for time, and (j) promoting a vision for the future (Scheck et al., 2015). Many studies on change fall within the stages identified under the Kotter's model of change, however a sequential and formulaic process is not the norm since the variations are infinite (Scheck et al., 2015). The change process transcends a linear process as the constantly evolving nature necessitates frequent adjustments along the way (Scheck et al., 2015).

The implementation of an EMR system creates changes in behaviors and practices that remain difficult contextual issues (Kokkonen et al., 2013). Personal factors also play a role in the change strategy (Scheck et al., 2015). These personal factors include issues of power and professional content knowledge, to which management or leadership must consider the dynamics in the change process (Scheck et al., 2015). EMR implementation can improve with the recognition of interpersonal elements as important factors in the

decision-making process (Khalifa, 2013; Scheck et al., 2015). The innovations in the change management process depend upon the interactions among producers, users, and external groups (Struik et al., 2014). Barriers to successful implementation can result from user-level preferences and organizational-level structures (Struik et al., 2014). Management who entrusted to enable change needs to consider how soon they can introduce full implementation of a new system by ensuring intense training during each step of the process (Struik et al., 2014).

The functionality of EMR implementation depends upon usability and having a skilled staff (Fritz, Tihuan, & Dugas, 2015). Previous researchers indicated training is an important means for increasing knowledge and the importance of acquiring new communications skills (Fritz et al., 2015). Since health care operations depend upon people working in concert, it is imperative to instill trust and ethics into the implementation process (Fritz et al., 2015). Building trust means using open communication that is honest about the potential and current difficulties in mastering the process (Louie et al., 2012). Leaders, who have already established a reputation for careful decision-making and dependability, should spearhead change in the direction of an open process amenable to adjustment and evolution (Fritz et al., 2015; Louie et al., 2012).

Researchers studying EMR implementation affirmed that technology alone does not lead to improvements in service delivery (Madore et al., 2015). The common assumption that advanced technology will remediate deficiencies, often requires balance in terms of human resource investments (Madore et al., 2015). The EMR system remains

a complex resource intensive process that requires constant engagement with a range of stakeholders (Cahill et al., 2014; Madore et al., 2015). The needs for ongoing monitoring and revising of the EMR system are apparent from a review of the analyses of change initiatives (Madore et al., 2015). Managers and leaders therefore need to develop a system for evaluation that is flexible and able to account for any problems that arise, while forming strategic partnerships internally and externally for expeditious problem-solving (Madore et al., 2015; Powers & Sanders, 2013). In the context of nursing, researchers have shown that engaged stakeholders, who have a clear sense as partners in the change process, are central to addressing implementation constraints (Vito, Higgins, & Denney, 2014).

McGuire et al. (2013) studied workflow issues with respect to the implementation of new EMR systems, and stressed the need to consider patient safety as a potential problem in the transition phase. EMR implementation can lead to unintended consequences, which may affect quality of care delivery (McGuire et al., 2013). These unintended consequences are particularly true in the acute care setting, which tends to have significant barriers to workflow redesigns (Rohm et al., 2013). The radiology work processes' efficiency improved significantly with the implementation of EMR in part because the work is multilayered (Gassert, Durham, Cain, & Sachs, 2014).

Setting up a monitoring process is necessary to ensure that the use of the broad EMR promotes a culture of safety (McGuire et al., 2013; Rohm et al., 2013). McGuire et al. (2013) recommend regular safety culture assessments that involve communications training and workforce adjustments to deal with new multilayered processes (Gassert et

al., 2014). These cultural assessments align with change leadership thinking that has often endorsed the need for building and sustaining a culture of involving different stakeholders (Farkas, 2013). The use of cultural surveys within the health organization, can also serve to track the overall goals of EMR implementation (McGuire et al., 2013). Change processes demand an evaluation of the cultural aspects of the specific setting and the leaders, who monitor these processes (McGuire et al., 2013).

The implementation of new technology in a health care setting can also alter social relations in an organization (Haland, 2012). EMR systems lead to a redistribution of work, but not necessarily a reduction in it (Dias & Escoval, 2013). EMR can have a significant effect upon work organization and the boundaries among different groups of workers (Haland, 2012). The technology in place and the organizational structure of work processes shape the duties of health care workers and specific roles of individuals (Haland, 2012). The introduction of new technologies creates changes in the organizational structure, which also influences the boundaries among different positions (Haland, 2012). Leaders need to understand the complexities in working through continuity and change in the process (Malhotra & Hinings, 2015). If the change process is too disruptive of boundaries and roles, pushback from those who expect continuity can exist (Mäntynen et al., 2014).

Researchers have examined how professional identities may change based upon the implementation of new systems (Haland, 2012). Making sure that professionals can adapt to these changing contexts is one of the responsibilities of leadership in the change initiative (Haland, 2012). EMR implementation requires socio-technical negotiation

wherein nurses and doctors work on differences in the relationship between them (Haland, 2012). This relationship and collaboration is a part of a larger change in modern health care toward efficiency and a higher degree of rationalism in processing information (Cahill et al., 2014). Resistance to change initiatives is relatively persistent, and so the relational aspect of the change process is a key consideration for leaders (Haland, 2012). Some physicians, are worried that EMR initiatives will require more time spent in front of a computer at the expense of human interaction and traditional work practices (Haland, 2012; Young, Lee, & Chen, 2012). Some researchers and practitioners have however argued that a small level of resistance is useful as it leads to opportunities to evaluate the change (Drenkard, 2013). Understanding the resistance to change can help leaders to verify and validate what the desired outcomes are for individuals (Hayati et al., 2014). For the afore-stated reasons, different professional identity issues are at the forefront of managing EMR change (Haland, 2012). The goal is to sustain the human experience in the face of high tech change and maintain a space for various identities (Rebelo, 2015).

An important part of the process of the introduction of EMR system lies in understanding the potential contrasts between organizational professionalism and occupational professionalism (Haland, 2012). Organizational professionalism involves creating controls, authority structures, standardization, and rational forms of decision-making (Haland, 2012). Occupational professionalism is more traditional insofar as it relates to how groups have control over individual work responsibilities and the ethical codes of client relations (Haland, 2012). The implementation of the EMR system may

lead to greater organizational professionalism in terms of transparency and accountability (Haland, 2012). The improvement and transformation occurs at the same time that doctors and nurses attempt to demonstrate occupational professionalism and maintain personal contact with patients (Haland, 2012; Young et al., 2012). New EMR processes can change the conditions by which professional groups understand the capabilities of the system and workflow, whereby leadership needs to engage in the complex interactions among potentially competing forms (Haland, 2012; Young et al., 2012).

Understanding the levels of EMR capabilities in particular settings is important for negotiating the stakeholders' interests (Jaana, Ward, & Bahensky, 2012). One problem is that there is a general lack of common functionalities for the EMR implementation process (Jaana et al., 2012). For example, in a 2012 survey, only 46% of hospitals reported having installed operational EMR programs, while 44% reported achieving higher levels of electronic medical records systems (Jaana et al., 2012). EMR implementation has stages and components of development (Jaana et al., 2012). Early stages and components involve the basic functionalities, including order entry and data repositories (Jaana et al., 2012).

Intermediate phases and components include higher levels of integration and the special functions that support patient care, especially electronic documentation at the point of care delivery (Jaana et al., 2012). Advanced phases and components involve the higher end of applications that support patient safety, satisfaction, and quality of care (Gray et al., 2013; Jaana et al., 2012). Successful implementation, with a process-step model, considers how these different phases and components progress over time (Gray et

al., 2013). Smaller hospitals with fewer resources may need to operate on a different time scale than those with a greater capability to move through the phases faster (Jaana et al., 2012).

The volume of patient visits and effectiveness of workflow is a good measurement of the effectiveness of post EMR system implementation versus preEMR system implementation (Nguyen, Bellucci, & Nguyen, 2014). Information from a study involving 203 doctors, for example, illustrates that there was a statistically significant increase in work with increased productivity after the EMR implementation (Nguyen et al., 2014). Higher productivity relates to a decrease in the times to create a synopsis of patient records and streamlined work functions for medical clerics (Nguyen et al., 2014). Laboratory turnaround times are also important considerations for measuring the success of an EMR system (Nguyen et al., 2014).

Reductions in productivity are associated with changes in roles and responsibilities (Nguyen et al., 2014). One way of dealing with the potential for disruption in productivity is to consider administrative efficiency and workflow issues. The disruption involves billing procedures as well as a reduction in repetitive tasks (Nguyen et al., 2014). Researchers have demonstrated that clinicians perceive EMR implementation as a way to bolster billing and chart creation, which are a part of the intermediate stages of the process (Li, 2014). A well-prepared development plan includes an early focus on clear standards for user involvement.

EMR based leaders and champions have tended to prioritize higher degrees of technical training and support, along with sensitive privacy concerns and an awareness of

physician resistance (Goldstein, 2014). Difficulties in the implementation process usually involve the degree to which priorities address upgrades to the system and training needs. Major aspects of this implementation involve the following: (a) time constraints, (b) interoperability, (c) cooperation in training, (d) systems integration, and (e) support from the technical team (Nguyen et al., 2014).

Physicians with busy schedules have little time to gain knowledge of EMR systems, and learning an EMR system takes a considerable amount of time. It is incumbent upon management to facilitate training for physicians. Physicians express concerns of system usefulness, user interfaces, technical support, cost, reliability, and privacy (Or, Wong, Tone, & Sek, 2014). Doctor and user cooperation in the educational process is paramount to successful implementation; leadership must move users toward an understanding of how the system will specifically improve the quality of care, and empower and enable users to utilize the system confidently (Anders & Cassidy, 2014). Researchers have shown that leaders, who created a well-resourced team that handles testing phases, were more successful throughout the educational stages of implementation (Anders & Cassidy, 2014). User-driven organizational change in healthcare is important for discovering best practices at these stages (Anders & Cassidy, 2014).

Rizer et al. (2015) studied the implementation process in a medical setting and listed some of the essential elements of the process. For example, Rizer et al. focused on leadership support and communication, and concluded that it is important for leaders at all levels of the organization to establish protocols regarding privacy, security, safety, and legal frameworks. There are opportunities for leadership within certain user groups to

model effective EMR use, demonstrating adherence to general standards (McGinn et al., 2013; Rizer et al., 2015). Some organizations use a feedback system for leaders to identify areas of weak compliance and to make recommendations for the next phases of implementation (Rizer et al., 2015). The integrated health information network requires careful privacy policies, communicated to all stakeholders (Alhamad & Al Omari, 2014).

Researchers have also shown that leaders must select a tailored approach to implementation insofar as whether there is a gradual rollout or the so-called big bang approach (Rizer et al., 2015). If one approaches the issue from a hardware perspective, it is best to install all at once (Rizer et al., 2015). A user perspective, however, might foreground workflow concerns at each site of the implementation (Rizer et al., 2015). A patient perspective would likely stress the integration of records for ensuring there is shared information (Rizer et al., 2015). However, a process perspective similar to Kotter's (2007) can help leaders categorize issues and devise a suitable mode for implementation of the EMR system.

Implementation Strategy from an Organizational Perspective

Some organizational theorists studying EMR implementation have advocated for managers to use integrated strategies (Fareed, Ozcan, & DeShazo, 2012). Integration and differentiation strategies can facilitate activating mechanisms across organizations to promote behavior change (Fareed et al., 2012). The current levels of integration strategies within an organization will in part determine management's choice of a particular EMR application enterprise strategy (Fareed et al., 2012). Various strategies

provide benefits and limitations related to health care delivery and to an organization's pace of change (Fareed et al., 2012).

Using a single vendor (SV) strategy can help management streamline routine processes, including claims management, transaction costs, and training for competencies (Fareed et al., 2012). Top management holds a specific responsibility to ensure performance improves and streamlining is sustainable (Naranjo-Gil, 2015). A single vendor strategy may involve the use of systems that do not fit well with current clinical processes, and so the misfit could lead to resistance from employees adjusting to a standardized system (Fareed et al., 2012). Leadership needs to consider how the integrated approach may or may not suit the unique aspects of the work culture (Fareed et al., 2012).

The designers of an EMR system need to consider error reduction and the internal and external process for its usage and implementation (Li et al., 2012). Additional risks for the implementation process can arise when external vendors have different objectives or competing interests (Fareed et al., 2012). There are potential risks involved in what some have seen as the emerging monoculture of shifting from vendor to vendor (Koppel & Lehmann, 2015). Considering the perspective of the service provider can be crucial to the deliberation process of selecting an EMR system (Palvia, Prashant, & Thambusamy, 2013). Choices at the negotiation level can considerably affect data standards, cost, flexibility, and professional autonomy (Palvia et al., 2013).

Modern health care administrators have to reconcile the needs for greater coordination as well as for standardization (Fareed et al., 2012; Huang et al., 2015).

Researchers have shown that according to whether an organization can reach differentiation and integration at the same time, the health care deliveries may improve greatly. Managers may therefore be able to deal with the requirements of subsystems as well as the larger performance issues in the organization (Fareed et al., 2012).

The best of suite (BOS) approach is an integration of different elements into a single product stack or module which can facilitate leaders gaining value from integration via making change assessments throughout the process regarding the merits for each approach in specific contexts (Farkas, 2013). The BOS approach can also produce lower transaction costs compared to the best of breed (BOB) strategy that focuses on a single area of expertise (Fareed et al., 2012). Research appears to confirm that the hybrid best of suite strategy by using the BOB strategy on problem areas and using the BOS approach for the majority of the organization's needs are ideal for optimizing hospital efficiency.

EMR Leadership and Patient Trust

No matter what enterprise strategy in the EMR change initiative, that anyone may emphasize, patient trust in the system is a major concern for management (Qioa, Asan, & Montague, 2015). General shifts from a physician-centered model of care to patient-centered care affect the implementation strategies for EMR systems (Cienki, Guerrero, RoseSteed, Kubo, & Baumann, 2013). Incorporating patient perspectives into the decision-making process is crucial for health care leaders (Qioa et al., 2015). Negative patient outlook regarding an EMR system can affect the decisions made by health providers in accepting or rejecting an EMR process (Qioa et al., 2015). Patient outlook

consideration remains important for any change initiative beyond cost reduction and streamlining data (Cienki et al., 2013) and has significant consequences for patient collaboration in primary care settings (Calman, Hauser, Lurio, Wu, & Pichardo, 2012).

Lessons from primary care practice have shown that patients want their perspectives considered, in respect of privacy, safety, and technological concerns (McGinn et al., 2013). Physicians, for example, cannot share patient information electronically with other providers without the patient's consent (McGinn et al., 2013). Patients then become users of EMR and can retrieve and share personal health information (McGinn et al., 2013). Information sharing has the potential to increase doctor-patient relationships, which is an important outcome for successful EMR initiatives (McGinn et al., 2013; Shachak, Reis, & Pearce, 2013). Electronic medical records are socio-technical phenomena that remain highly dependent upon patient trust and confidence (Qioa et al., 2015).

Qioa, Asan, and Montague (2015) studied factors affecting patient trust in EMR and observed that there was a high level of trust in the primary care setting. Patients maintained that trust levels in EMR align with their perspectives on the care given (Qioa et al., 2015). Sixty-percent of those surveyed also said that they would give consent for the electronic exchange of their information for treatment (Qioa et al., 2015). Overwhelmingly, 86% of adults in the United States have considered electronic access to records as an important factor in their care decisions (Qioa et al., 2015). The socio-technical nature of the system promotes increased encounters between individuals and health technologies, and the effective management of these encounters can bolster an

organization's ability to deliver high quality care (Qioa et al., 2015). The system creates a unique opportunity for patients to engage in discussion of how health outcomes improve through the EMR implementation process (Goo, Huang, & Koo, 2015). Patients are more likely now to think of how an EMR system can significantly improve interactions with physicians (White & Danis, 2013).

Because of the potential to enhance positive patient and physician relationships, understanding, leaders, and managers need to evaluate the training protocols for the EMR system (Cienki et al., 2013; McGinn et al., 2013). Patients expressed a greater likelihood to accept an EMR system if care providers had computer skills (Qioa et al., 2015). Health informatics training remains a key part of the implementation process, and leaders require education and training (Cienki et al., 2013; Qioa et al., 2015). Equally, it is important for health providers to educate patients on the efficiencies and safety measures within a new system (Qioa et al., 2015). Equity issues related to health data have become prominent in EMR discussions, and education involves addressing issues of access (Lesk, 2013).

Planning for patient education needs must be a step in the change initiative, and leaders need to possess a vision for how the change plays out in the process (Qioa et al., 2015). Patient concerns about maintaining confidentiality and privacy in the system are key considerations (Qioa et al., 2015). EMR implementation requires effective policies and strategies to ensure information is secure (Qioa et al., 2015). Continued evolution in patient education and information security, especially as new technologies and

vulnerabilities arise, leads to the need for new research (Cienki et al., 2013; Nielsen, 2015; Qioa et al., 2015).

The imperatives are to keep up with new technology and understand new expectations for access (Nielsen, 2015). Because of the enormous volume of health data exchanges today, there has been a move toward more standardization and greater security protocols (Qioa et al., 2015; Cienki et al., 2013). Institutional pressures coming from outside of the organization may disrupt the direction of implementation and standardization (Schwarz & Schwarz, 2014). New challenges have recently emerged with respect to access to sensitive information about adolescents (Lesk, 2013). There is as a result, a lag in supportive electronic health records in pediatric settings, though some change is evident with new frameworks in place (Huang et al., 2015).

Outside institutions, including governments, are concerned that nationwide health information systems will disrupt the moral conditions of ownership and the responsibility for health records (Garrety, Wilson, & Martin, 2014). Others have argued that using EMR's will enable citizens to take more responsibility for personal health care, however problematic it will be to create a highly integrated or nationalized system. To be certain, there are moral issues involved in the implementation process at the organizational or national level (Garrety et al., 2014). However, health care leadership and researchers have begun to address some of these concerns, and maintaining a trusting relationship with outside institutions remains crucial (Sittitg & Singh, 2012).

An EMR system needs to instill trust in users and ensure specific protocols to be successful. Change management and visionary leadership create employees' and outside

stakeholders' trust in the EMR process (Kotter, 2007). There may be some level of discrimination between adopters and non-adopters of a particular system (Schwarz & Schwarz, 2014). The range of perceptions at stake in EMR implementation, therefore, necessitates careful planning that is adaptable to changing concerns (Cienki et al., 2013; Qioa et al., 2015). What remains clear, however, is that effective EMR strategies carry the potential for improving care delivery and patient safety (Cienki et al., 2013; Qioa et al., 2015;). Leaders should understand that not all departments in an organization could handle change initiatives effectively (Kotter, 2007). A process model for implementing change and earning trust, coupled with a good enterprise application strategy remains a significant part of leadership decision-making.

Transition

Section 1 includes a description of the issues of EMR implementation and the role that effective leadership plays in the process. Section 1 provided the foundation for the observations in the implementation of the EMR through change processes in an organization. The elaboration and analysis of Kotter's (2007) model for change and leadership, also provided the rationale for it serving as a suitable conceptual framework for the study. Kotter's model for effecting the implementation of electronic medical record implementation initiatives expressed in the literature review is relevant. The implementation of EMR requires managing change and the quest for superior customer-centric health care delivery. Sections 2 include details on the research process for the study, including the collection of data and characterizing the participants. Section 3

includes the analysis of the study findings and the formulation of recommendations for action and future research.

Section 2: The Project

Section 2 of the study includes the purpose statement and discussions of the (a) role of the researcher, (b) participants, (c) research method, (d) research design, (e) population and sampling, (f) ethical research, (g) data collection instruments, (h) data collection technique, (i) data organization techniques, (j) data analysis, and (k) reliability and validity. This section may serve to aid in understanding the steps I took for data collection, synthesis, and analysis for my study, which may also provide a basis for the replication of the study by future researchers.

Purpose Statement

The purpose of this qualitative descriptive single case study was to explore strategies that hospital leaders used in implementing EMR systems. The target population consisted of the hospital leaders who had succeeded in implementing EMR systems in a single healthcare organization located in the Los Angeles, California region. The implications for positive social change include the potential to raise further awareness regarding the benefits of EMR systems for improving the quality of healthcare services provided. Furthermore, hospital leaders can improve patient care and organizational performance through implementing EMR systems benefiting patients' families and communities through improving healthcare efficacy and reducing healthcare costs.

Role of the Researcher

My role as researcher for this qualitative single case study was to serve as the primary data collection instrument, analyze the data, and present findings from the analysis. The study site was an organization at which I have previously worked as an

employee. It is possible for a former employee of the organization to introduce bias by gaining a closer look into internal processes than an outside researcher. As a former employee, I understood many of the internal processes, systems, and the culture that is in place. I used an appropriate interview protocol (see Appendix C) with all participants and adhered to the Belmont Report protocol to maintain an ethical standard for my study (Sims, 2010). The Belmont Report protocol includes respect for persons, beneficence, and justice. Respect for persons involves recognition of the personal dignity and autonomy of individuals, and special protection of potential participants with diminished autonomy. Beneficence entails an obligation to protect participants from harm by maximizing anticipated benefits and minimizing possible risks of harm. Justice requires the fair distribution of benefits and burdens of research. Using an interview protocol is important, because it serves as a procedural guide for the case study so that both the researcher and the participants are aware of the purpose of the study and line of inquiry (Yin, 2014).

Participants

Using a single unit case study with multiple participants within the same organization enables a researcher to conduct a qualitative study (Yin, 2014). I interviewed hospital leaders within a healthcare organization in Los Angeles, California. A set of inclusion or exclusion criteria is important to stipulate in order to establish boundaries of the sample (Robinson, 2014). I interviewed: (a) the chief operating officer, (b) the director of organizational performance, (c) the director of information technology, (d) the clinical information system director, and (e) the lead clinical information system

educator. Inclusion criteria for participation in this study, therefore, were that participants must have been hospital leaders who were instrumental in the successful implementation of the EMR within the organization. The exclusion criteria were hospital leaders without an involvement of the implementation of the hospital's EMR system. These inclusion and exclusion criteria for study participation limited the focus to only active participants with hands-on experience with the EMR system. I developed a relationship with participants in the interview session by ensuring they were comfortable during the interviews.

For involvement in the study, it was important that the interview participants had experience with the organization prior to the implementation of the new EMR system. Interview participants therefore must have had long-term experience in the organization before implementation. However, I did not include individuals, such as members of the Board of Directors, because such roles inherently make these individuals more indirectly involved in the EMR implementation.

This sampling of individuals provided a good representation of the user base for the hospital EMR system. By interviewing this sample, I was able to gather data that provided a holistic view of the EMR implementation process. Each of these participants had a different motivation for using the EMR system, and gathering a diversity of perspectives added to gaining a thorough understanding of the EMR implementation strategies and processes. Before commencing the study, I sent prospective participants an invitation via email that described the study and the objective, which helped in their

decision on whether or not to participate in the study. Each study participant received an informed consent form to review and sign, denoting agreement to participate in the study.

Research Method and Design

As with any research project, the methodology and design are important considerations that determine a study's success. I built this research project on existing research best practices and methodology. Following a qualitative approach, I designed the study to explore successful strategies for EMR system implementation.

Research Method

There are three research methods: qualitative, quantitative, and mixed method (Turner, Kane, & Jackson, 2015). Researchers use qualitative methods for developing a description of the complexity, breadth, or range of occurrences related to a phenomenon. Alternatively, researchers use quantitative methods to test hypotheses about the relationship or differences among variables in a given phenomenon (Curry et al., 2009). Curry, Nembhard, and Bradley (2009) defined the mixed method as a combination of quantitative and qualitative methods where the researcher can capitalize on the strengths of each method. Since I was not testing a hypothesis, neither quantitative nor the mixed method were applicable. I therefore used a qualitative method to conduct an in-depth review of the strategies that hospital leaders use for the implementation of an EMR system.

The overarching research question for this case study was as follows: What strategies do hospital leaders use in implementing an EMR system? My use of a qualitative approach was appropriate to explore strategies hospitals leaders use in the

EMR system implementation, as was my use of qualitative interviews to obtain in-depth responses of study participants about their experience and knowledge of the case investigated. Bailey (2013) noted that the value of using the qualitative method is to explore and gain understanding about the objectives of the study.

The successful use of qualitative methodology requires specific research questions to meet the research objectives (Trainor & Graue, 2014). Using a qualitative method helped me explore strategies hospital leaders used to implement the EMR system by interviewing the participants and obtaining their in-depth responses. Generating a robust understanding of strategies hospital leaders used to implement the EMR system required gathering perspectives from different stakeholders within an environment that is challenging to control and measure (see Trainor & Graue, 2014).

While there are some limitations with the qualitative approach in terms of the information gathered, the qualitative approach was the most beneficial for my purposes. Using the qualitative research method, I expected to identify strategies that other hospital administrators can utilize during implementation processes in individually affiliated healthcare organizations. The open-ended questions allowed for increased flexibility and enabled the interview subjects to reveal different perspectives about the process than I had anticipated.

Research Design

My use of a case study research design supported my objective of studying hospital leaders' strategies used to implement EMR systems. Using case study allowed me to obtain different types of data for addressing the purpose of the study (see Yin,

2014). My use of case study design facilitated the exploration of research questions through a variety of lenses for revealing and understanding different facets of the topic being investigated (see Baxter & Jack, 2008).

Before deciding to use a case study, I considered several other qualitative designs. I determined that a phenomenological design was inappropriate because the purpose of this study was not to explore lived experiences of participants (Yin, 2014). Given that researchers use ethnographic design to study cultural groups in a natural setting over a period (Marshall & Rossman, 2011). Ethnography is inappropriate for the study because I sought no involvement to study a specific cultural group. The focus is to learn what strategies hospital leaders use in implementing EMR systems, not their perspectives or cultural differences and not the perspectives or cultural differences of a particular group. Narrative researchers study the life of one or more individuals, giving an account of an event chronologically (Yin, 2014). Narrative design was not applicable to the study. Finally, because I was seeking explore perspectives regarding strategies that hospital leaders use to implement EMR systems and not to develop a theory, the grounded theory design is a research approach for developing a theory, as a researcher interacts with participants in the collection of data (Zarif, 2012). The goal of the study is to explore perspectives regarding strategies that hospital leaders use to implement EMR systems, and not to develop a theory. Therefore, a grounded theory design is not appropriate for the study.

Population and Sampling

Hospital leaders were the population of the study since they have the experience and knowledge in the successful implementation strategies and processes for the EMR within the organization. While not random, the sampling of individuals represents the makeup of actual users from leadership personnel to practitioners. Understanding the views and experiences of the users regarding the process of implementation may reveal opportunities to better inform or improve the process for a successful implementation of the EMR. Eligible participants must meet all inclusion criteria, which is important to stipulate the attributes and boundaries of the sample (Robinson, 2014). The research plan for the study included interviews of (a) the chief operating officer, (b) the director of organizational performance, (c) the director of information technology, (d) the clinical information system director, and (e) the lead clinical information system educator.

Purposeful sampling is a technique suitable to meet the objectives of the study, and facilitated a focus in selecting participants by choosing a group with the best information about the problem (Walker, 2012). Data saturation determines the actual purposeful sample size (Walker, 2012). The limit of the size of the sample depends on the point of data saturation, which represents the point when no new data and themes emerge (Dworkin, 2012). The interviews included 5 or more hospital leaders depending on data saturation. The interview environment was one that was comfortable and nonthreatening for the respondents. The interviews were at locations with relaxed environments. I conducted face-to-face interviews at locations agreed upon by each participant.

The selection of study participants for the study entailed employing purposive sampling strategies to select hospital leaders as interviewees for the research study. The nonrandom selection of participants who have a knowledgeable perspective on the implementation of EMR systems is an appropriate use of purposive sampling (Robinson, 2014). The outcome of the initial set of interviews may necessitate the scheduling and conduct of follow-on or additional interviews. The additional interviews largely depended on the amount of information gathered during the initial interview phases and on any recommendations from the interview participants. I considered data saturation wherein data collection stopped when no new information emanates during the interviews.

The choice regarding the type of institution also mattered. Some types of hospitals would be a poor choice for this research study; for instance, EMR systems have not yet become standard in mental health care hospitals (Takian, Sheikh, & Barber, 2012). Choosing a hospital in a metropolitan city in the United States was not coincidental. Researchers have demonstrated that EMR adoption rates are low in developing countries (Biruk, Yilma, Andualem, & Tilahum, 2014). Although, clearly low-income health care organizations also need EMR systems, if a chosen organization lacks resources, it would be problematic to determine whether the implementation difficulties stem from a lack of resources or from poor implementation strategies and processes.

Ethical Research

Each research inquiry comes with its own set of specific ethical requirements, and as such, a standard rubric could not address all possible scenarios. *DBA Doctoral Study Rubric and Research Handbook*. At a minimum however, one should discuss the informed consent process (Yin, 2014). To meet these requirements, I included a copy of the informed consent form, in Appendix B. The informed consent form includes the information about the purpose of the study, nature of the study, the expectations for participating in the study, and the process for conducting the study to ensure the privacy and confidentiality of the participants. The informed consent includes the information about audio recording the participants' interviews for the purpose of data collection. The contact details are on the informed consent form in case the participants have any concerns or questions regarding the study. The participants signed and submitted the informed consent form to the researcher. Once the participants signed the informed consent form, I proceeded with the interview. Any potential participants without a signed copy of the informed consent form submitted to the researcher would have excluded themselves to participate in the interview process.

The participants could withdraw from the study at any period of the study. Participation is voluntary with no penalty imposed on participants should they opt to withdraw from the study. The participants informed the researcher if they wanted to withdraw from the study. My contact details are in the informed consent form, which participants could have used to contact me to withdraw from the study. However, none of the participants withdrew from the study.

In a research study, the researcher must describe the incentives, if any, clarify measures to ensure the ethical protection of participants, and strive to assure participants' confidentiality (Wolfe, Patel, Williams, Austin, Dame, & Beskow, 2015). The interview participants received neither any payment nor any incentives from participating in the study. Also, I did not receive any funds to conduct this study.

The documents for the study included (a) informed consent forms, (b) transcripts, (c) appendices, and (d) table of contents. I maintained data in a secured location for 5 years to protect rights of participants. The Walden IRB approval number (07-28-16-0509713), and to protect the anonymity and confidentiality of participants, omitted the names or any other identifiable information of individuals or organizations in the study. I used codes instead of using the actual names to distinguish interview responses. I also shared the interview transcripts with each participant for verification of its content and maintained participant confidentiality throughout the study.

Data Collection Instruments

The data collection during the semistructured interview process entailed using a voice recorder, pen, and paper, and I wrote detailed notes to highlight all pertinent information from the interviews. The research steps included organization of the data in a centralized database for secure storage and further analysis. The data organization of interview data necessitated tagging entries of key sorting factors including the subject name, job title, and years of experience with EMR systems to allow for the efficient sorting of the data

I served as the main instrument and the interview protocol in tandem with interviews, served as secondary instruments in this qualitative study. This holistic qualitative approach to obtain the views of the implementation process at the hospital served to identify possible next steps, undertake further research, and for asking additional interview questions. When interview subjects answer candidly, personal experiences and strategies can become apparent. The interview participants can provide a list of efficacious strategies to help other health care organizations implement EMR systems.

In addition to using the interview protocol, it is critical to discuss the interview questions with each participant. For example, discussing with the hospital leaders with experience in dealing with change in the organizational environment may yield valuable insights into implementation success (Kumar, Bhatia & Chiang, 2013). Hospital leaders would have more insights into the overall implementation process. I assured reliability and validity through using transcript review and member checking (Yin, 2014). I used an interview protocol as a guide for the data collection process. The interview protocol is the script used in the interview sessions. In addition to the interview data, I used other data sources such as company documents on the process and strategies the hospital used in implementing EMR systems. For a succinct review of data, I provided participants a summary of interview responses, hospital records, and company documents for verification that the captured data are accurate, and that I have interpreted the data correctly.

Data Collection Technique

Upon receiving approval from the Walden University IRB, I first obtained permission from the organization to recruit their leaders to participate in the study. The recruitment of potential participants was via email where they submitted a signed consent form giving permission to conduct an interview. I scheduled face-to-face interviews at a preferred and comfortable location. As I commenced each interview session I emphasized the rights of the participants. I collected, recorded, and transcribed data from in-person interviews. Taking hand notes and audio recordings are crucial to prevent missing any critical information. I conducted interviews to the point of data saturation which was the point where there were no new themes emerged from the interview responses (Trotter, 2012). In addition to interviews, I augmented the interview data with hospital documents such as implementation plans and policies. Participants reviewed company documents and transcripts, and, if necessary, modify the transcript content via member checking. Member checking includes interview participants reviewing and responding to company documents and interview information for accuracy of the recorded interview responses including my interpretations of the interview data (Torrance, 2012).

Data Organization Technique

I organized the raw data into digital and physical file folders. Encryption and storing the data in a secure location that ensure and prevent unauthorized access to the data. I filed handwritten notes together with transcribed interviews in a physical folder stored in a locked location (Jacob & Furgerson, 2012). I coded the database entries with

key identifier information including each subject's reference number and details specific to the interviewee that are also not indicators of the subject site. The coding process is important to anonymize personal information of the participants. I stored the key with the information regarding the database entries in an encrypted file.

I imported the transcribed information from a Microsoft Word document to NVivo for analysis and storage. I coded the interview responses based on common themes to facilitate the identification of emerging themes within the data. Coding involved seeking the concepts and themes derived from each interview (Rowlands, Waddell, & Mckenna, 2015). Grouping participants' responses, served as a facilitative analytical technique as some participants may phrase things in different ways. Grouping, in this fashion however, is one of the dangers of a qualitative study, as interview subjects may communicate answers in a different manner and may lead to some incorrect interpretation of the data. Hence, using member checking to address the issue of incorrect interpretation and inaccuracy of interview data is important (Yin, 2014). For a succinct review of data, I provided participants a summary of interview responses, hospital records, and company documents for verification that the captured data and my interpretations of the data were accurate. To avoid misinterpretations I conducted open coding of interview responses. I stored the data on a password-protected laptop and will keep the data for a period of 5 years, after which, I will shred paper notes and destroy the electronic files.

Data Analysis

Qualitative researchers ask open-ended interview questions to explore meaning within a study (Wilson, 2012). Shown in Appendix C, I used the interview protocol in the interview process, and proceed with data analysis by (a) compiling the data, (b) disassembling the data, (c) reassembling the data, (d) concluding the meaning of the data (Yin, 2014). After the preliminary analysis was complete, I created a comprehensive report on the findings, data and audio file for further analysis. I discuss the analysis process as whole and individual aspects, for example, the financial aspects and planning phases of the implementation process.

Methodological triangulation is using other data sources such as company documents to analyze the different types of data (Streubert & Carpenter, 2011). I analyzed the data to determine any themes or similarities within the interview data through coding (Rowlands et al., 2015). By importing the interview responses and company documents into the NVivo software, the information is more clearly compiled and correlated. After transcribing the recorded interviews, I compared the different interview responses. As the researcher, I tracked themes and similarities, and grouped similar answers from interview participants into easily understood categories, using NVivo. If my analysis of interviews yielded insufficient data on successful implementation steps for system usage, I conducted additional interviews and review documents to determine the efficacious strategies that hospital leadership officials utilized when choosing and implementing a new EMR system. The structured and planned approach may facilitate the exploration of specific strategies that led to the

successful implementation of an EMR system for other organizations' potential replication and possible customization and adaptation for use in EMR system implementations. After compiling the data, I disassembled the data using a formal procedure of coding. I used the auto-coding feature within the NVivo software to identify commonalities with themes.

After disassembling the data, I began the process of reassembling the data under several arrangements until the themes that emerged were satisfactory to address the research question. I grouped the data by identifying recurring words or phrases. I coded interview responses to create categories or themes of the responses. I developed codes by arranging and grouping interview responses and company documents into categories of themes by similar ideas, phrases, or relevant information. These categories became the themes from the interview responses. I then used an open coding system to analyze interview responses of the participants to identify specific themes. I then interpreted the data and validated my interpretations through member checking. The interpretation of the data facilitated identifying the central themes and developing an understanding of the findings alignment, or nonalignment, with the conceptual framework of Kotter's (1996) eight-step process for leading change (Borrego, Foster, & Froyd, 2014).

Reliability and Validity

In any qualitative research study, reliability and validity are important criteria for determining the rigor and applicability of findings, conclusions, and recommendations. It is important to understand the context of the study and to address applicability to future research studies, should other researchers choose to use the findings of this study for

future implementation. It is vitally important to the value of any study to ensure all research ingrains necessary rigor and ingrains the process necessary to ensure the reliability of the data for developing the study's findings, conclusions, and recommendations.

Reliability

Assuring my study's reliability is imperative (Greiver et al., 2012). To mitigate the potential for inaccurate or missing interview responses that could adversely affect the study's reliability, using the interview protocol, I asked the same questions, in the same order, to all interviewees. Maintaining the same questions and order of questions does not mean that the information interview participants provide will be the same. This strategy to ensure reliability may help to assure, that although collected data may vary with each interview, the method of collecting data is consistent and will not have an adverse influence on the reliability or validity of the interview data.

I have considered other crucial means for assuring the overall reliability of the study. For example, some interview subjects may have lesser IT proficiency. Lack of IT proficiency could create a resistance to changes low IT literacy affect successful implementation (Takian et al., 2012). Leaders need to ask users questions such as employees and patients *regarding* IT competence to understand the answers in the right context. Those users who are uncomfortable with technology may have initial reservations with regard to the EMR system's efficiency or effectiveness.

Validity

Assuring a study's validity is important for enabling the understanding of the study's applicability and replicability of findings. Response validation by conducting member checking and triangulation of the data is critical for assuring the validity of the study (Torrance, 2012). To address the dependability and validity assessment issues, I ensured to thoroughly document processes in the study, and to enable future researchers to determine my conclusions' validity, and to enable them to determine the study's potential for application for other populations. To assure the validity of findings and conclusions, I used member checking. After all the interviews conclude, I transcribed the interviews. The participants received a copy of their interview transcripts, and provided necessary changes and clarifications. I obtained verification of the transcripts' accuracy by seeking approval from each respondent through placing their signatures at the bottom of each page of the interview transcript.

I employed methodological triangulation to assure the credibility of the study. Methodological triangulation strategy is the use of different data types such as observation, artifacts, and existing documents, and responses from individuals (Streubert & Carpenter, 2011). Also to assure the study's validity, I employed data triangulation by interviewing a range of different hospital leaders including (a) the chief operating officer, (b) the director of organizational performance, (c) the director of information technology, (d) the clinical information system director, and (e) the lead clinical information system educator. The term transferability refers to the degree to which the results of qualitative research are transferable to other contexts or settings. In this study, I enabled others to

assess the study's transferability through thoroughly describing the research context, the assumptions, and processes (Lopez, Brennan, Whisstock, Voskoboinik, & Trapani, 2012). The concept of conformability is the qualitative investigator's comparable concern for demonstrating objectivity. I assured confirmability by documenting the procedures for checking and rechecking the data, and providing detailed documentation to enable checking throughout the study using member checking (Lopez et al., 2012).

Transition and Summary

Section 2 includes a detailed description on the research process of this study, with the rationale to support all decisions. In this section, the discussion also covers the project design, methodology, the interview population, and ethical concerns that are relevant to the study. This section also includes the processes for data collection, analysis plans, and the means for assuring the validity and reliability of the study's data. A detailed plan and description of data gathering processes provides assurances for the study's reliability and validity. Demonstrating research reliability and validity is critical in a qualitative setting to provide future researchers with the knowledge, means, and confidence for replicating the study and comparing findings.

Assuring research rigor advances by planning and analyzing the methods to collect, store, and analyze data. Researchers and analysts can develop accurate data visualizations from accurate findings as well as develop detailed theses that may serve future researchers. Important to the success of the study is the detailed plan for the collection of data I developed and presented. In Section 3, I included discussion on (a)

the presentation of findings, (b) applications to professional practice, (c) implications for social change, (d) recommendations for action, and (e) recommendations for future study.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative descriptive single case study was to explore strategies that hospital leaders use in implementing EMR systems. The types of data I used to develop the findings were responses from interviews (in the form of transcripts) and company documents. Through coding and reviewing summaries, I analyzed the data to identify themes or similarities within the interview data (see Rowlands et al., 2015). By importing the interview responses and company documents into the NVivo software, the information was more clearly compiled and analyzed. Three primary themes emerged from the analysis: (a) strategies hospital leaders used that worked best in the implementation of the EMR system, (b) strategies hospital leaders used to address employee concerns since the implementation of the EMR system, and (c) strategies hospital leaders used to design and develop any changes in work processes since the implementation of the EMR system.

The first theme, strategies hospital leaders used that worked best in the implementation of the EMR systems, had three subthemes (see Table 2). The subthemes that are central to the first theme are (a) training, (b) technology, and (c) team effort. The second theme, strategies hospital leaders used to address employee concerns since the implementation of the EMR system, likewise had three subthemes (see Table 3). The subthemes central to the second theme are (a) listen to concerns, (b) educators, and (c) communicate updates. The third theme, strategies hospital leaders used to design and develop any changes in work processes since the implementation of the EMR system,

spawned the four subthemes (see Table 4). The subthemes central to third theme are (a) the workflows, (b) the basic components for a core, (c) the enterprise, and (d) the dissemination of changes.

Presentation of Findings

The overarching research question for the study was: What strategies do hospital leaders use in implementing an EMR system? I identified and explored the strategies and processes that hospital leaders develop and deploy for implementing EMR systems.

Tables 2-4 contain the data on subthemes that correlate with each of three primary themes: (a) strategies hospital leaders used that worked best in the implementation of the EMR system, (b) strategies hospital leaders used to address employees' concerns since the implementation of the EMR system, and (c) strategies hospital leaders used to design and develop any changes in work processes since the implementation of the EMR system.

Primary Theme 1: Strategies Used that Worked Best

In the following discussion, I present an analysis of the subthemes for Theme 1. Examples from the interviews of the participants support the theme and subthemes. I identified the three subthemes (as shown in Table 2) as: (a) training, (b) technology, and (c) team effort.

Training. Sixty percent (3) of the participants used training as one of the strategies in the EMR implementation process. Most participants engaged in training appropriate for the successful implementation of the EMR system. The significant subthemes show that 60% of participants used training, 20% technology, and 20% team effort. These findings support findings from previous studies that show the usage of

training is important to implement the EMR system. For instance, Abimbola (2015) performed a qualitative analysis where the author randomly selected 12 physicians in Nigeria for an interview. These participants reported that training was a strategy used to implement the EMR system (Abimbola, 2015). Reid (2016) performed a qualitative analysis of interview data from 26 randomly selected physicians in Ohio and determined that it was critical to use training in the implementation of the EMR system.

Yehualashet, Asemahagn, and Tilahun (2015) performed a logistic regression analysis in which they randomly selected 428 healthcare providers in the United States and asked them to complete a survey. The authors found that training had a significant relationship with healthcare providers' use of EMR (Yehualashet et al., 2015).

My findings relate to Kotter's (1996) conceptual eight-stage process of creating significant change. Kotter's eight-stage process includes empowering broad-base action. In the study, most participants used at least one of the eight stages to create significant change. To implement the EMR system, hospital leaders used training to empower and enable managers and employees. The subtheme category *training* contains the most prevalent groups of characteristics mentioned by participants. The frequency with which the subthemes were mentioned and the depth of the answers given by hospital leaders were sufficient to conclude that training satisfied the criteria to be included in Theme 1.

Participant 2 had views that were echoed in other participants' responses with respect to the vital role of training in the implementation process of the EMR system. Participant 2 noted that their frontline nurses had two days of training in the usage of the EMR system. The hospital physicians did not sit in a classroom, but instead did one-on-

one on the job training with the clinical educators. Most of the other disciplines had shorter versions of training. When they went live, they had staff they called *super users* on each shift who were knowledgeable of the EMR system and who trained other staff, in addition to the centralized education staff in their clinical informatics section.

Technology. Participant 3's responses resonated with those of Participant 2. Participant 3 said that they had to teach people how to use the computers because many of the nursing personnel had limited experience using computers. Finding out how much training the staff should receive was important. Participant 1 said the team conducted several educational meetings with staff. The educators met with staff on a monthly basis and let them know the design of the EMR system, as well as the objective and relevance of the design. Hospital leaders permitted the staff to raise pertinent questions and concerns. The team consistently emphasized to staff that the implementation of the EMR was intended to improve patient safety. The team was supportive of staff, and addressed their concerns in a timely manner. Participant 1 reflected on technology today versus older technology, and noted that previously the organization did not have iPads, smartphones, or technologically advanced devices. The focus at the time of implementation of the system was on how to use the EMR system to transition from paper to an electronic means of communication. As a result, the healthcare system started to become a paperless organization.

Team effort. Participant 4 noted the importance of team effort during the implementation process, and stated that as an enterprise they formed teams, met in those teams, and then decided which projects they could move forward with and which they

could afford. The implementation teams addressed the initiatives across smaller hospitals, which provided lessons learned to the larger hospitals, and then to the total enterprise.

Primary Theme 2: Strategies Used to Address Employees' Concerns

In the following discussion, I present the subthemes associated with Theme 2. The second theme regarding strategies hospital leaders use to address employee concerns since the implementation of the EMR system spawned the three subthemes (see Table 3). The subthemes central to Theme 2 are (a) listening to concerns, (b) educators, and (c) updates.

Listen to concerns. The responses shows 60% (3) of participants listened to the concerns of staff, and 20% deemed educators and providing updates were instrumental in the EMR implementation process. The most frequent of the subthemes was that hospital leaders listened and responded to the concerns of the staff. The results support the findings of studies which have indicated that it is important to implement the EMR system by supporting employees. Thus, my findings confirm existing knowledge in the discipline and support the findings from studies on effective business practice.

Boonstra, Versluis, and Vos (2014) performed a meta-analysis to identify key findings that hospital leaders can use in the implementation of EHR systems. Boonstra et al. (2014) reviewed 21 articles and found that leadership must understand the organizational processes and the human resource elements for motivating employees. The human factors involved in change initiatives for EMR implementation are significant, and comprehending only the technological capabilities is not sufficient for

successful change (Boonstra et al., 2014). Cucciniello, Lapsley, Nasi, and Pagliari (2015) performed a qualitative analysis to examine sociological and technology factors in the implementation of EMR systems. Cucciniello et al. randomly selected clinicians and nurses in the United States and interviewed them. The authors suggested that it is important to implement the EMR system by supporting employees. This subtheme shows ties to Kotter's (1996) stage of communicating the change vision. The participants communicated the change vision by listening to the concerns and being supportive of the staff. Sixty percent of the participants in my study mentioned that they listened to the concerns of staff. Participant 1 conducted focus groups with staff and listened to their concerns. This participant reported that the typical concerns of staff and physicians were whether the EMR system would make their work easier, and what effect it would have on patient care. Participant 1 immediately put plans in place to address the concerns.

Participant 4 stated that it was important for staff to express their concerns. Participant 4 created an environment for staff to air their concerns and then kept an extensive work list of requests for changes to the process, as well as a schedule of when the implementation of changes would take place. When people put in a change request, it was sometimes difficult to close the loop. Thus, the team published articles with questions and answers, because at times they were uncertain which specific staff member presented the issue. The administrators disseminated the articles hospital-wide to ensure communications addressed general concerns.

Participant 5 trained staff on how to create their own e-tickets so they could conveniently send their own concerns and complaints. Participant 5 allowed staff to

verbalize their concerns, which helped to mitigate conflicts because the staff felt that the hospital leaders and team listened.

Educators. Subtheme category 2 for Theme 2 shows the positive characteristics presented by Participant 4 with respect to strategies hospital leaders use to address employee concerns since the implementation of the EMR system. The subtheme that is central to the thematic category is educators. Participant 4 used educators to address employee concerns, as well as utilized the skill and knowledge of some staff members who were younger and very comfortable with using technology. However, there were older members of staff, both physicians and nurses, who were not comfortable with the technology. Participant 4 spent considerable time with those older staff who were not comfortable with the technology.

Updates. The third subtheme that is central to thematic Theme 2 is updates. Providing updates reflects the positive characteristics presented by Participant 3 with respect to strategies hospital leaders use to address employee concerns since the implementation of the EMR system. Participant 3 had developed updates and published the information in a weekly newsletter informing staff and physicians how to utilize the EMR system.

There was a newsletter for the doctors. Indicated in the newsletter was how many times the physicians utilized the system and how many times they utilized paper. Participant 3 wanted to eradicate the usage of paper as much as possible. Participant 3 also provided staff with contact information. In clinical information systems, there were

four staff members, that is, two physician educators, and two nursing educators.

Employees could contact any of the members to get questions answered.

Primary Theme 3: Strategies Used to Design and Develop Changes

The following discussion presents the subthemes of Theme 3, strategies used to design and develop changes during and since the implementation of the EMR. The third theme, strategies hospital leaders used to design and develop changes in work processes during and since the implementation of the EMR system from the four subthemes shown in Table 4. The subthemes central to Theme 3 are (a) workflows, (b) basic components for a core, (c) the enterprise, and (d) dissemination of changes.

Workflows. The responses of 40% of the hospital leaders focused on workflows. The hospital leaders reviewed current workflow to identify and develop necessary design changes in the work processes during and since the implementation of the EMR. The most significant themes show that most hospital leaders reviewed their current workflows to design and develop any changes in work processes. These findings support the findings of studies that complex workflows kept physicians from implementing EMR systems. As examples, Ramaiah, Subrahmanian, Sriram, and Lide (2012) performed a qualitative analysis and explored the workflows and implementation of EHR systems throughout various functions in an organization. Ramaiah et al. (2012) randomly selected 13 physicians in New York and Baltimore and interviewed them, finding that the complex workflows kept physicians from implementing EMR systems. Correspondingly, Ser, Robertson, and Sheikh (2014) performed a qualitative analysis on an organization's practice in using an EHR system. The authors randomly selected 33 staff in London and

interviewed them, and concluded that the complex workflows kept physicians from implementing EMR systems. These themes tie to the conceptual framework of Kotter's (1996) eight-stage process of creating significant change, which include consolidating gains and producing more change, and anchoring new approaches in the culture. In my study, most participants used at least one of the steps in the eight-stage process of creating significant change, such as, consolidating gains and producing more change by looking at their current workflows.

Subthematic category 1 of Theme 3 reflects workflows as the prevalent group of characteristics mentioned by hospital leaders. The percentage of participants who agreed with the subthemes are 40% agreed to workflows, 20% agreed to the basic components for a core, 20% agreed to the enterprise, and 20% the communication of changes. The frequency of the mentioned subthemes and the depth of the hospital leaders' answers were a common factor for subthematic Category 1.

Participants 1 and 2 had commonalities because they examined current workflows. Participant 1 said that they assessed workflow processes prior to designing their EMR system. Then the team tried to design a system that matched the workflows. Participant 1 thought that a better strategy was to look at current workflows and then design the system to match the workflow. However, when the organization went live with the EMR system, no one thought of how to get the data out of the system.

Participant 2 looked at their current workflows and flowed out every process that the EMR would touch. They not only looked at the EMR itself but they also looked at how the provider provided care that would require the EMR to interact. In addition, the

team evaluated the implementation of the EMR and assessed what made more sense to change.

The organization under study was at about 98% implementation of the EMR system. They had change requests that went through a very formal structure and operated like a senate so every hospital had the same vote. They had to learn how to lobby in a mature way to effect the necessary changes.

Basic components for a core. Subthematic category 2 of Theme 3 shows the positive characteristics presented by Participant 1 with respect to strategies hospital leaders used to design and develop any changes in work processes after the implementation of the EMR system. The subtheme that is central to subthematic category 2 is the emphasis on the basic components for a core system. Participant 1 had some tasks that they were already working on. The EMR was available to those that had the basic components for a core system. The implementation process started with specific tasks in the EMR, introduced to nursing, pharmacy, and surgery respectively. The team took in account the system components based on departmental and users' needs.

The enterprise. Subthematic category 3 of Theme 3 shows the positive characteristics presented by Participant 4 with respect to strategies hospital leaders use to design and develop any changes in work processes since the implementation of the EMR system. The subtheme that is central to thematic category 3 is the enterprise. Participant 4 customized the EMR system for the enterprise, and then encountered problems. Every time a release came out from the principal vendor, the team had to go through every line

of code, examined, and as necessary, modified the code to meet the changes to customize it for the enterprise.

The communication of changes. The fourth subtheme that is central to thematic Theme 3 is the communication of changes. Subthematic category 4 reflects the positive characteristics discussed by Participant 3 with respect to effective strategies hospital leaders used to communicate changes in work processes since the implementation of the EMR system. Participant 1 told patients what the changes were and showed them visuals depicting those changes.

Application to Professional Practice

The findings are applicable with regard to the professional practice of business since reviewing the study results could enable hospital leaders to understand possible strategies can be useful for implementing the EMR system within healthcare facilities. The findings are relevant to improved business practice because hospital leaders can use the strategies I identified to improve quality of patient care, reduce implementation costs and subsequent operation costs. Hospital leaders can apply the findings by evaluating the potential relevance of the strategies to ensure that they have the necessary framework to implement the EMR. The findings are potentially applicable to effecting improved business practice by enabling hospital leaders to apply successful strategies for implementing EMRs, and possibly applying these strategies to other types of information technology systems

The integration of a system within an organization requires leaders to understands the steps in the change model and who are able to motivate employees to act

in efficient and effective ways to benefit patients (Boonstra et al., 2014; Cucciniello et al., 2015). Planning change continues to require detailed, sequential steps for transformation, (Longest, 2012). Using a relevant change management process or model is desirable for implementing and sustaining change initiatives (Boonstra et al., 2014).

The findings are relevant to improved business practice by enabling medical personnel to spend more time with their patients, thus potentially improving both quality of healthcare and patient satisfaction. Hospital leaders can apply the findings by evaluating medical personnel strategies to evaluate and improve the general quality of healthcare and patient satisfaction.

Since training is an important strategy for the successful implementation of an EMR, hospital leaders can develop courses that enable healthcare professionals to understand the benefits from using, and their roles and responsibilities in the EMR system. Effective leadership promotes better training and higher levels of employee satisfaction (Den Hartog & Belschak, 2012). Hospital leaders that foster a strong system of employee feedback tend to be more successful, especially when complicated change must occur (Cavazotte et al., 2012). A strategy of leadership for achieving employee involvement includes mentoring employees, remaining open to concerns, and sharing in the responsibility for identifying, prioritizing, implementing, and communicating changes (Den Hartog & Belschak, 2012).

Implications for Social Change

The findings can influence social change by effecting improved quality of healthcare services. A high functioning hospital contributes to the health of the patient

population it serves. The implementation and usage of EMR systems can catalyze positive social change. There is the potential to raise awareness regarding the benefits of EMR systems to improve the quality of healthcare services for patients and their communities. In addition, there was the potential for hospital leaders to improve patient care and organizational performance specific to EMR system implementation. Medical personnel can have faster access to information on patients' medical histories for increasing the timeliness, accuracy and efficacy of diagnosis and treatments. The implementation of EMR systems can reduce costs to patients by avoiding repetition of tests by another physician within the same organization.

Recommendations for Action

Hospital leaders need to identify and implement efficacious strategies for effective and successful implementation of EMR systems. Hospital leaders should understand how to identify, review, and utilize diverse strategies for implementing EMR systems. Hospital leaders need to understand importance of addressing the following actions:

- (1) Evaluate, identify, and deploy the best strategies to implement an EMR system.
- (2) Develop training courses that help healthcare professionals implement EMR systems.
- (3) Determine how to help healthcare professionals implement EMR systems, and to prevent or mitigate potential challenges during and after implementation.

I will disseminate results from the study via literature, conferences, and training. Disseminating the results in hospital leader meetings is effective for informing key leaders how best to identify and deploy strategies for designing, implementing, and improving EMR systems and other types of information technology systems.

Recommendations for Further Research

A limitation for this study was that using a descriptive single case study research design could have affected the transferability of my results to other hospitals. In the future, researchers should use a multiple case study research design to identify and explore variations in themes. Using a multiple case study design increases the possibility of direct replication and can increase the breadth and depth of lessons learned and their potential effects for other populations (Yin, 2014).

Researchers should also follow with a quantitative study by examining the actual efficacy of strategies that hospital leaders use in implementing EMR systems on the health of the patient population. Researchers should use a larger sample size to measure the effects of the strategies that hospital leaders use in implementing EMR systems in the healthcare of the patient population.

Reflections

As a former employee of the subject organization, I could have potentially influenced the research approach and analysis of the data. I have the potential for easier access to possible participants rather than someone who has no previous relationship with the organization. The reason for selecting the specific organization is that the hospital leaders have institutionalized the EMR system.

A researcher can mitigate biases by identifying those biases that are difficult to eliminate (Wilson & Washington, 2007). The potential bias of influence can exist where I sought out information that confirms a preconceived opinion about the participants and their responses. To minimize the bias of influence I followed the research interview protocol closely to address this potential limitation. I conducted member checking to confirm the trustworthiness of the findings (Yin, 2014).

The findings revealed that participants agreed with the conclusions drawn from the literature review regarding strategies that hospital leaders use in implementing EMR systems. Reviewing the study's results enabled me to develop a broader perspective while exploring strategies that hospital leaders use in implementing EMR systems. In addition, I was motivated to move forward with future research projects related to strategies that hospital leaders use in implementing EMR systems.

Summary and Study Conclusion

The findings affirm the relevance of Kotter's (1996) conceptual framework for hospital leaders using one or more steps of the eight-stage process of creating significant change. The key steps that hospital leaders utilized in implementing the subject EMR system were (a) developing a vision and strategy, (b) communicating the change vision, and (c) consolidating gains and producing more change. Understanding the strategies that hospital leaders use in implementing EMR systems could improve quality of patient care and increase the success rates of implementation. Exploring and understanding insights from hospital leaders strategies can enable other hospital leaders to implement EMR systems to improve the healthcare of patient populations and communities.

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Appendix A: Cover Letter

Date

Dear _____:

My name is Shaunette Miller and I am a Doctor of Business Administration (DBA) candidate at Walden University. I am conducting a doctoral study project to explore strategies that hospital leaders use in implementing EMR systems. My study is intended to explore the following question: What strategies do hospital leaders use in implementing an EMR system?

Based on your experiences with the implementation of EMR systems, I would like to interview you to gather information about your perceptions and beliefs about strategies your organization used to implement the EMR. The interview will require 60-90 minutes of your time and will be scheduled at your convenience within [INSERT TIME PERIOD FOR INTERVIEW PROCESS FOLLOWING COMPLETION OF IRB PROCESS]. I will conduct this in-person interview at a location that is most convenient for you. I am also inviting you to share with me any e-mail messages, administrative documents, reports, and/or memoranda that you feel may provide additional information about strategies used in the implementation of the EMR. However, I note that the provision of any documents on your part is voluntary. If you do not wish to provide documents, I am still asking that you participate in the study as an interviewee.

Your participation in my study will be instrumental in ensuring that I gather data from a spectrum of health care leaders within your organization with direct knowledge of the EMR system implementation. If you decide to participate in my study, I will send you an informed consent form via e-mail for your review and signature. This informed consent form provides background information on the study and outlines your rights during the interview process. Please contact me if you have any questions or require additional information.

I kindly request a response to this letter indicating your agreement to participate by [RESPONSE DATE TO BE INSERTED AFTER INTERVIEW TIME PERIOD IS FINALIZED FOLLOWING IRB APPROVAL]. I thank you in advance for your consideration and your support of my study of a topic of organizational significance.

Sincerely,
Shaunette Miller

Appendix B: Informed Consent for Participants

I am inviting you to take part in a research study on strategies hospital leaders use in implementing electronic medical record (EMR) systems within your organization. The researcher is inviting health care leaders and staff with experience in the implementation of the EMR to participate in the study. This form is part of a process called “informed consent” to allow you to understand the purpose for the study to decide whether or not to take part.

This study is being conducted by Shaunette Miller, a Doctor of Business Administration (DBA) candidate at Walden University. The researcher is conducting this study in her capacity as a doctoral candidate at Walden University. The study has no relationship to the researcher’s professional activities and affiliations.

Background Information:

The purpose of this study is to explore strategies that hospital leaders use in implementing EMR systems. Some hospital leaders lack strategies in implementing EMR systems.

Procedures:

If you agree to be in this study, you will be asked to:

- Participate in a single interview requiring no more than 60-90 minutes of your time
- Agree to having the interview audiotaped for later transcription and analysis by the researcher
- Provide copies of documents (e-mail messages, administrative documents, reports, and/or memoranda) that provide additional information and perspectives on the implementation of EMR systems

The provision of documents to the researcher is voluntary and you are not obligated to do so. If you are not comfortable providing documents to the researcher, you are still requested to participate in the single interview described above.

Questions for the interview are as follows:

1. What strategies did you use that worked best to implement the EMR system?
2. What role did you play in the implementation of the EMR system?
3. How did you communicate the change vision to your employees?
4. What challenges, if any, did you encounter in implementing the strategies for developing and deploying the EMR system?
5. How did you overcome the challenges encountered?
6. What strategies do you use to address employee concerns during and since the implementation of the EMR system?

7. What strategies do you use to design and develop any changes in work processes during and since the implementation of the EMR system?
8. What are the noticeable improvements in the organization since the implementation of the EMR system?
9. What other comments would you like to add regarding strategies you used to implement the EMR system?

The researcher will provide you with a copy of the transcript for member checking purposes from your interview, and you will have the opportunity to review and concur with the transcript contents prior to the researcher proceeding with analysis of the transcript contents. At the completion of the study, the researcher will provide you with a brief document (no more than two pages in length) that summarizes findings, recommendations, and conclusions from the study.

Voluntary Nature of the Study:

This study is voluntary. You will not be provided with any *Thank You* gifts, compensation, or reimbursement (for travel costs, etc.) in exchange for your participation in this study. Your decision regarding whether or not to participate in the interview and provide documents will be respected and the researcher will not treat you differently should you elect not to participate. If you decide to participate in the study now, you can still change your mind during or after the study. You may end your participation in the study at any time. You should contact or inform the researcher if you want to withdraw from the study. My contact details are indicated in the below section in this informed consent form. You will not be penalized if you opted to withdraw from the study.

Risks and Benefits of Being in the Study:

Being in this type of study involves some risk of minor discomforts that can be encountered in daily life, such as fatigue, stress, or becoming upset should sensitive topics arise for discussion. The risk of such discomforts occurring is however, considered low. Additionally, the researcher will endeavor to ensure that the potential for personal discomfort kept to a minimum during conduct of the interview. Being in this study would not pose a risk to your safety or wellbeing.

Participation in the study will provide you with the opportunity to share your knowledge, thoughts, and experiences with the implementation of EMR systems. This study could contribute to greater understanding of successful strategies for the implementation of EMR systems. There is also the potential to raise further awareness regarding the benefits of EMR systems to improve the quality of healthcare services provided.

Privacy and Limits to Confidentiality:

Information you provide will remain confidential. However, should you reveal evidence of criminal activity or abuse during conduct of the interview, the researcher is obligated to report such evidence to relevant law enforcement authorities. The researcher will not use your personal information for any purposes outside of this research project. In

addition, the researcher will not include your name, organizational affiliation, or any other information that could identify you in study reports. Documents provided by you will be kept confidential without the use of identifiers. You must deidentify any documents that you provide for the research prior to sharing with me. Electronic data will be kept secure by participant identification and archival on a password protected laptop computer and a private cloud data storage account accessible only to the researcher. Any hard copies of data (e.g., printed interview transcripts used for notation and analysis) will be stored by the researcher in a lockable container. The researcher will keep data for a period of at least 5 years, as required by Walden University.

Contacts and Questions:

You may ask the researcher any questions you have at this time. Should you have questions following the interview, you may contact the researcher via phone or e-mail at shaunette.miller@waldenu.edu. If you want to talk privately about your rights as a participant, you can contact the Walden University Research Participant Advocate via phone at 1-800-925-3368, extension 3121210 within the USA or at 001-612-312-1210 from outside the USA. You may also contact the Walden University Research Participant Advocate via e-mail at irb@waldenu.edu. Walden University's approval number for this study is 07-28-16-0509713 and it expires on July 27, 2017. The researcher will give you a copy of this form to keep.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By replying to the email with the words 'I Consent', I understand that I am agreeing to the terms described above.

* Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically.

Appendix C: Interview Protocol

What you will do	What you will say—script
<p>Introduce the interviewer and set the stage—often over a meal or coffee.</p>	<p>Before we begin, let me start by telling you a little about myself, this project, and your rights as a participant. I work in healthcare in the human resource management field and am currently pursuing my DBA with Walden University. This project is my doctoral study research.</p> <p>This interview will last approximately 60 to 90 minutes. I will ask a series of open-ended questions prompting you to reflect upon the electronic medical record implementation that occurred in your workplace. You have the right to refuse to answer any question.</p> <p>With your permission, I will record the interview. Your name and any other information that leads to personal identification will be omitted from the interview transcript, including all presented and published data resulting from the study. Your participation is voluntary.</p>
<ul style="list-style-type: none"> • Watch for non-verbal queues • Paraphrase as needed • Ask follow-up probing questions to get more in-depth 	1. What strategies did you use that worked best to implement the EMR system?
	2. What role did you play in the implementation of the EMR system?
	3. How did you communicate the change vision to your employees?
	4. What challenges, if any, did you encounter in implementing the strategies for developing and deploying the EMR system?
	5. How did you overcome the challenges encountered?
	6. What strategies do you use to address employee concerns during and since the implementation of the of the EMR system?
	7. What strategies do you use to design and develop any changes in work processes during and since the implementation of the EMR system?
	8. What are the noticeable improvements in the organization since the implementation of the EMR system?

