Walden University
ScholarWorks

Walden Dissertations and Doctoral Studies

Walden Dissertations and Doctoral Studies Collection

2021

Healthcare Leader Strategies for Leveraging Electronic Heath Records

Danessa Thomas
Walden University

Follow this and additional works at: https://scholarworks.waldenu.edu/dissertations

 Part of the Health and Medical Administration Commons

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Management and Technology

This is to certify that the doctoral study by

Danessa Thomas

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Daniel Smith, Committee Chairperson, Doctor of Business Administration Faculty

Dr. Carol-Anne Faint, Committee Member, Doctor of Business Administration Faculty

Dr. William Stokes, University Reviewer, Doctor of Business Administration Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2021

Abstract

Healthcare Leader Strategies for Leveraging Electronic Health Records

by

Danessa Thomas

MSHRM, Troy University, 2012

MBS, Troy University, 2009

BS, Columbus State University, 2004

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

December 2021

Abstract

Healthcare organizations may incur significant losses of productivity and profit because of the absence or incomplete implementation of Electronic Health Records (EHRs). EHRs are important to healthcare leaders because they enhance communication between providers and patients, reduce unnecessary costs, and increase adherence to clinical guidelines. Grounded in the transformational leadership theory, the purpose of this qualitative multiple case study was to explore strategies that some successful healthcare leaders used to leverage EHRs in their organization to increase profit and productivity. The participants were nurse managers from four healthcare organizations that successfully implemented an EHR system in Georgia. Thematic analysis was used to analyze the data from semistructured virtual interviews and public organizational documents. Four themes emerged: the importance of effective communication between EHRs, usability of software for EHRs, requiring accurate documentation, and additional training for the medical staff. The key recommendation of the study is to ensure that the medical office staff effectively communicate with other providers to provide smooth transitions of a patient's care. Implications for social change include improving efficiencies through coordination of healthcare services, enhancing clinical decision making, and providing better healthcare at a lower cost to patients.

Healthcare Leader Strategies for Leveraging Electronic Health Records

by

Danessa Thomas

MSHRM, Troy University, 2012

MBA, Troy University, 2009

BS, Columbus State University, 2004

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

December 2021

Dedication

I give all honor and praise to Jehovah GOD for giving me the strength and allowing me to stay healthy to complete my DBA. I dedicate my research study to my one and only son, Detre'vious. I want to thank you for making me the woman that I am today. Being a teen mom was not easy, but we made it. To my grandson, Kygan, I love you so much. You are my sunshine on a cloudy day. To my sweetie, Natorvia, thank you for always encouraging me to never give up. I love you. To my siblings, Rodney, Andrea, and T.J., thank you for always having my back throughout the years with Tre', especially when I was in high school. I want to thank my parents, Tarsus and Annette, for instilling the importance of education and never giving up on me. I love you all always! Lastly, I dedicate my study to all the teen moms who never gave up and continued to push forward. This is for You.

Acknowledgments

First, I would like to thank my doctoral committee for their encouragement and support throughout this doctoral process. A special thanks to Dr. Daniel Smith, my chair and mentor, who provided scholarly advice, responding to my texts and phone calls in a timely manner and being a listening ear.

To Dr. Carol-Anne Faint, my second committee member, and Dr. William Stokes, my URR, thank you for your constructive feedback while reviewing my doctoral study. I appreciate the professionalism throughout my doctoral journey that helped me complete my study.

I want to thank my close friends who are always positive enforcements in my life. A special thanks to Dr. Peggy for your listening ear and helping each other throughout the years at Walden. Finally, thank you to the research participants that made this doctoral study possible.

Table of Contents

List of Tables

Section 1: Foundation of the Study

Background of the Problem

An electronic health record (EHR) is a real-time, digital version of patients' records that are readily available for providers to make decisions about a person's care (HealthIT.gov, 2018). An EHR contains the medical and treatment history where other healthcare providers and organizations can share information. Due to the benefits and liabilities, some clinicians believe it may not be a good idea to implement an EHR. Initially, an EHR promoted a paperless environment (Strauss, 2015). In 1992, EHR hardware quickly adapted in the medical world, making it easier to access medical information (Evans, 2016). However, some providers have continuously used paper records as well, causing privacy breach risks and potential for human errors. The Health Insurance Portability and Accountability Act (HIPAA) plays a significant role in protecting patients' privacy, such as protected health information (PHI). Nurses, physicians, and coordinators play a vital role in patient care services in healthcare organizations (Ma et al., 2016). In healthcare, EHRs are vital because they are a form of communication between providers and patients, reduce unnecessary costs, and increase adherence to clinical guidelines (Menachemi & Collum, 2011).

Problem Statement

Physicians may incur significant profit losses and lower the potential for EHR value because of the absence or incomplete implementation of EHR projects (Aldosari, 2017). As of 2017, 31% of physicians have not implemented EHRs, using only paper

records in their office (Larrison et al., 2018). The general business problem is some physicians who do not implement and use EHRs may lack in financial and production benefits. The specific business problem is that some healthcare leaders lack strategies to leverage EHR systems to increase profit and productivity.

Purpose Statement

The purpose of this qualitative, multiple case study was to explore the strategies used by healthcare leaders to leverage EHR systems to increase profit and productivity. The target population consisted of four physician offices in the west central region of Georgia, who successfully leveraged an EHR system and experienced an increase in profit and productivity. The implications for social change included: (a) enhancing medical treatments, (b) providing drug services based on accurate diagnoses and prior procedure(s), (c) convenience of locating a patient's medical record, and (d) cost-effective processes, which lead to increased overall health and safety of the populations served.

Nature of the Study

I chose the qualitative method to explore strategies for leveraging EHRs among healthcare leaders to increase profit and productivity. Qualitative researchers focus mainly on exploratory research, to gain an understanding of a phenomenon through observations, interviews, and field notes (Taguchi, 2018). Although quantitative research and mixed method research are alternative options, I did not use either as a method in my study. Quantitative research uses objective measures, such as surveys and tests, to help

examine relationships in the data (Taguchi, 2018). I am not using a quantitative method because I am not testing a hypothesis or using numerical data to examine variables' relationships or groups' differences. A mixed method combines the data collection techniques and analytical procedures of qualitative and quantitative methods (Saunders et al., 2015). In a mixed method study, the researcher is required to analyze both the quantitative and qualitative data (Murawska & Walker, 2017). I did not select a mixed method approach because the inclusion of quantitative analysis is not necessary to address my specific business problem.

I selected a qualitative, multiple case study design. The primary focus of a multiple case study is to explore the settings to understand two or more cases (Gustafsson, 2017). The case study approach is appropriate for my study due to producing a stronger effect and substantiality from having two or more cases (Yin, 2018). Other research designs considered included phenomenological and ethnographic approaches. A phenomenology design pertains to participants giving a recollection of their experiences as researchers gain insights into the meaning of participants experienced phenomena (Saunders et al., 2015). Human phenomena expand on the understanding of self and the world. However, the phenomenological design does not fit my study because I am not exploring an individual's direct, lived experience of a particular population (Pool, 2018). An ethnographic design focuses on a first-hand field study to describe and interpret the social world or cultures (Saunders et al., 2015). The ethnographic design does not fit the study because it does not explore the organizational culture (Yin, 2018). A case study investigates a phenomenon in depth and within a real-

world context, which develops a *"how"* or *"why"* question (Yin, 2018). I contemplated on whether to perform a single or multiple case study. The qualitative, multiple case study is suitable for my study because the analytical benefits from having two cases or more cases may be substantial. Also, the conclusions were more powerful and strengthened my findings (Yin, 2018). The qualitative, multi-case study design is appropriate for the research.

Research Question

What strategies do healthcare leaders use to leverage EHRs in their organizations to increase profit and productivity?

Interview Questions

1. What strategies did you use to leverage EHRs in your organization to increase profit and productivity?
2. What key obstacles did you encounter when initially implementing your EHR system?
3. How did you address and resolve the obstacles?
4. How easy or difficult was it for healthcare leaders in your organization to learn the new EHR system?
5. What were your reasons for implementing an EHR?
6. What advantages are linked to the use of EHRs?
7. What, if any, disadvantages are linked to the use of EHRs?

8. What, if anything, can you add about the implementation of effective EHR systems to increase your organization's profitability?

Conceptual Framework

I chose transformational leadership (TL) as the conceptual framework for my study. The theory originated from James Burns in 1978 for transformation leaders to inspire and motivate their followers to commit to shared goals and vision for an organization and challenge employees through mentoring, coaching, and support (Carleton et al., 2018). The TL is achievable when leaders support one another to progress to an elevated level of moral and inspiration (Khan & Ismail, 2017). The TL focuses on motivation and team building between the leader and follower that creates a connection between the two (Northouse, 2016). The four key elements of TL are inspirational motivation, idealized influence, intellectual stimulation, and individualized consideration. The leaders' and followers' behavior in TL are supportive and appeals to moral value when responsibility is shared (Vaismoradi et al., 2016). The TL aligns with my study because the application of the concepts allows the leaders' influences to help employees achieve a purpose. The TL also aligns to my study by potentially explaining why an office leader implemented EHR systems to achieve productivity and profitability (Northouse, 2016).

Operational Definitions

American Recovery and Reinvestment Act of 2009 (ARRA): American recovery and reinvestment act of 2009 provide investments needed to increase economic efficiency

by spurring technological advances and developed to preserve and create jobs and promote economic recovery (Romanow et al., 2018).

Electronic health record (EHR): An electronic health record is a single practice digital version of a patient's chart. An EHR contains the patient's medical history, diagnoses, and treatments by a particular physician, nurse practitioner, specialist, dentist, surgeon, or clinic (HealthIT.gov, 2018).

Healthcare information technology (HIT): Healthcare information technology is an area of IT for the healthcare industry, involving the design, development, creation, use, and maintenance of information systems (Remus, 2016).

Health Insurance Portability and Accountability Act of 1996 (HIPAA): Health insurance portability and accountability act of 1996 is the legislation of the United States that provides data privacy and security provisions for safeguarding medical information (Cohen & Mello, 2018).

Health Information Technology for Economic and Clinical Health (HITECH Act): Health information technology for economic and clinical health is a mandate that gives provides the capability to capture and share medical data electronically (Mishuris et al., 2016)

Protected Health Information (PHI): Protected health information is the health data created or transmitted through healthcare operations and payment for healthcare services (HIPAA Journal, 2018).

Assumptions, Limitations, and Delimitations

Assumptions

An assumption is something accepted as accurate without creditability (Ellis & Levy, 2009). Assumptions of any analysis of incomplete data are intentional (Smuk et al., 2017). Therefore, it is essential to consult with experts while engaged with assumptions and feed the assumptions into analyses (Smuk et al., 2017). The first assumption of this study is that participants understood the research phenomena and give substantial information due to their experiences with using EHRs. I explained to each physician office the research topic and obtain authorization from participants to discuss. The second assumption is being able to access data by obtaining reports, such as the implementation of the EHR system, productivity reports, and financial reports from the participants.

Limitations

A limitation is a threat or weakness in a study that is outside the researcher's control (Ellis & Levy, 2009). Some potential weaknesses of the study include some participants withdrawing from the study or a small sample size may generalize the findings of the study. The sample size of size of four nurses may be too small to generalize. Every study has a set of limitations. Therefore, each limitation should be included in the study to allow other researchers to expand or replicate (Ellis & Levy, 2009).

Delimitations

A delimitation is the element in a study that limit its scope (Yin, 2018). The delimiting factors in my study were: (a) focusing on four physician offices in a specific

geographic location (the west central region of Georgia) and (b) limited number of participants (nurses) who are knowledgeable about the system. The nurses must have had success in using strategies to increase profit and productivity.

Significance of the Study

Contribution to Business Practice

Implementing EHRs' can increase a business' profitability and productivity (Miller et al., 2005). The primary purpose of EHRs is to provide information that allows for ideal patient care through the patient's medical history. An EHR enables authorized users to view a patient's medical and treatment history, allows access to providers to make decisions about a patient's care, and streamline a provider's workflow through digital technology (HealthIT.gov, 2018). Health records were created electronically through innovative hardware and software computer programs in the 21st century (Ngo et al., 2016). The meaningful use of an EHR serves to: (a) improve health quality, (b) improve health delivery efficiency, (c) improve healthy safety, (d) increase interaction between patients and families, (e) secure and keep confidential information contained in the patients' records, (f) reduce disparities in health care, and (g) advance coordination of healthcare (Prasad, 2014) including, all factors that contribute to the profitability and productivity of a healthcare organization. For example, healthcare providers will have easier access to patients' data, improving safety with fewer medical errors, establishing and maintaining clinical workflows (Bowman, 2013). EHRs may be a value to businesses through proper EHR implementation processes that leads to cost savings and incentives for physician offices (Miller et al., 2005).

Implications for Social Change

EHRs is a social innovation that can sustain market position by providing digital solutions, such as developing mobile apps for patients to have access to their electronic records, which modernizes healthcare services globally (Wass & Vimarlund, 2015). The implications for positive social change may be achieved by helping nurse managers improve efficiencies through coordination of healthcare services, enhancing clinical decision making, and providing better healthcare at a lower cost to patients.

A Review of the Professional and Academic Literature

The purpose of this literature review is to provide background information of my study. The goal of this qualitative study is to explore strategies used by healthcare leaders to leverage EHRs to increase profit and productivity. The literature review is beneficial with answering the research question: *What strategies do healthcare leaders use to leverage EHRs in their organizations to increase profit and productivity?* A review of scholarly and peer-reviewed journal articles, books, and academic journals was useful to explain the phenomenon of healthcare leaders' benefits and financial success with implementing EHRs.

I accessed various open journals to obtain literature related to electronic health records. AOSIS OpenJournals provides public access to peer-reviewed scholarly journals from multiple academic disciplines. Similarly, ScienceDirect provides both tolled and open access to a full-text scientific database containing journal articles and book

chapters. In some instances, I accessed government websites to obtain information about EHRs.

The literature review consisted of a peer-reviewed journal and academic journals that are useful to the topic in my doctoral study. The primary databases searched comprised of Education Source, Academic Search Complete, Complementary Index, MEDLINE with Full Text, Complementary Index, and EBSCOhost. Various key search terms used for conducting research such as *TL, implementation, EHRs, patients, HIPAA privacy, providers, business strategies, healthcare information technology (HIT), The American Recovery and Reinvestment Act of 2009, and U.S. Department of Health and Human Services.* A combination of keywords is found in the articles. I used acronyms, EHR and HIT, when referring to electronic health records and health information systems. The literature review included 165 references, accounting for 99% of peer-reviewed articles and excludes website and non-scholarly articles published within the past 5 years (i.e. 2015-2020).

The outline consisted of a comprehensive, up-to-date literature review on my doctoral topic on strategies to implement electronic medical records. One half of my literature review relates to TL, the model used for the conceptual framework. Currently, my references list years ranging from 1994 – 2021. The literature found should form a cohesive argument and related to my research question and objectives to justify my research (Saunders et al., 2015).

Application to the Applied Business Problem

The purpose of this qualitative, multiple case study was to explore the strategies used by healthcare leaders to leverage EHR systems to increase profit and productivity. The findings of this study might provide insights into profit and productivity to leverage EHRs from healthcare leaders' perspectives. Exploring these strategies requires a qualitative approach, such as multiple case study design.

The findings of the study may assist with developing appropriate strategies to increase profit and productivity to leverage EHR systems. Once healthcare leaders understand the principle, the appropriate strategies may prepare them with the abilities to improve profit and productivity. By exploring application strategies in a multiple case study at physician offices, the study may help to identify strategies that healthcare leaders can use to leverage EHR systems successfully.

Transformational Leadership

Transformational leadership is a process that changes and transforms employees who need inspiration and empowerment to succeed in times of uncertainty. Transformational leaders are responsible for creating a clear vision for their organization. By treating each person with respect, satisfying their needs, and assessing their motives, an organization have productive workers that are happy with jobs and less likely to look elsewhere for employment. Deschamps et al. (2016) explored how transformational leaders motivate employees confronted with workplace uncertainty in the healthcare sector. The four components of TL are intellectual stimulation, idealized influence, individualized consideration, and inspirational motivation (Deschamps et al., 2016).

Leaders that possess these qualities show positive behaviors in their organization and healthy relationship with their employees. Olvera et al. (2017) studied management's roles in organizational trust between team performance and TL in healthcare organizations. Leaders of organizations take care of their employees through collective resources: teamwork and engagement, improving employees' collective well-being (efficacy, resilience, and engagement), and healthy organization practices (career development) implies a competitive advantage among their competitors. The TL and contingent reward identify effective leadership styles for facilitating change processes (Richter et al., 2016). Positive TL in healthcare organizations is associated with job satisfaction, better patient outcomes, productivity, group performance, and employee effectiveness. With organizational change, TL and contingent reward seem to be the most effective.

Employee burnout is common among workers in organizations, whether it is large or small. Burnout causes work-related illnesses, such as reduced physical health, reduced job performance, increased turnovers, role conflict, and emotional demands (Hildenbrand et al., 2018). Transformational leaders improved employees' perception in the workplace by motivating them to think outside the box with a purposeful vision (Hildenbrand et al., 2018). Thriving at work gives the employees feelings of aliveness and energy. The psychological state in which individuals experience gives both a sense of vitality and a sense of learning at work (Hildenbrand et al., 2018). Transformational leaders stimulate the organizations' vision through focus and change, thinking independently while providing support through an individual's journey.

Transformational leadership focuses on the relationship between transformational initiatives and influence on its followers (Khan & Ismail, 2017). Transformational leaders viewed as role models by their counterparts and respected by their subordinates due to their actual work processes and values. The behaviors of a TL on organizational learning are idealized impact, intellectual incitement, and attributed charisma. Idealized impact relates to individual learning on a positive level. Leaders contemplate the moral and ethical consequences of decisions and pay more attention to the followers' needs rather than their own (Khan & Ismail, 2017). Intellectual incitement simplifies an innovative way of thinking, which is necessary for new knowledge and technology. It encourages followers to learn new approaches and heightens creativity. Attributed charisma creates admiration, respect, and trust that followers wish to stimulate (Khan & Ismail, 2017). Leaders with these behaviors have a strong need for change due to being creative and risk-takers.

A transformational style emphasizes higher motive development, arouses followers' motivation, positive emotions using, creating and representing an inspiring vision of the future (Yanfei et al., 2018). The TL encourages employees to have an open attitude toward changes in the workplace, take risks and demonstrates innovation. Transformational leadership promotes positive results among the leaders and followers alike. The three leadership styles: transactional, laissez-fair, and transformation are different but are considered sufficient, based on the kind of leader in charge. A laissez-faire leader does not have confidence or care in the ability to lead. The transformational leader treats each employee as a unique individual and motivates each

one to conquer challenges in new ways.

Employees achieve the preferred outcomes of an organization by following the expectation of the transactional leader. The manager establishes set objectives, clarify expectations, and assign tasks for completion (Martin, 2015). This leadership style measures the employees' behaviors and observes any mishaps. However, TL does not inspire employees to achieve higher levels or create significant changes in an organization. In TL, leaders can stop the growth and change in others throughout the ranks and cause aggravation (Martin, 2015).

Democratic and task and relationship-oriented leadership are the main styles of traditional research. Cuardrado et al. (2012) found that democratic leadership encourages group members' participation in decisions. The leader involves the group to participate and consult with the leader. Leaders who use a relationship-oriented style stresses the quality of relations with others and task-oriented style highlights on achieving the tasks. Cuardrado et al. stated that per the subordinates' evaluation, female leaders are more autocratic and negotiating than men. The findings show that only two out of ten tested leadership styles are different for female and male leaders (Cuardrado et al., 2012).

Collins et al. (2014) studied how leaders' relationships with their employees influence different outcomes in organizations. Men and women have different responses to relationships in the workplace. The various outcomes associated with the leader-member exchange (LMX) theory are turnover intent, job satisfaction for subordinates and, organizational commitment (Collins et al., 2014). The LMX theory focuses on the two-way dyadic of interactions between the leaders and followers. The communal

dimension describes the welfare of others, such as being friendly and nurturing. The agentic aspect is task-oriented, with a leader being dominating, ambitious, and competitive. Employees are loyal to their leader and department with established relationships. Although the males' counterpart differs from the females', leadership is about respect, contribution, and loyalty to obtain job satisfaction in the organization (Collins et al., 2014).

To obtain a better understanding of the study, defining the framework and leadership theory is necessary. Breevart and Bakker (2018) stated that all job demands consume energy, but hindrance demands thwart personal growth and goal achievement in the challenge stressor-hindrance stressor framework. However, the challenges have the potential to contribute to learning and success (Breevart & Bakker, 2018).

Leaders' trait mindfulness is associated with TL (Carlton et al., 2018). Mindfulness is defined as an awareness of a situation, being nonjudgmental, and avoid being emotionally attached to a situation. Some leaders of companies are introducing mindfulness activities, such as mediation, to enhance employees' wellbeing. Management to inspire their subordinates to reach their goals through support, coaching, and mentoring uses TL (Carlton et al., 2018). The findings of the study indicated that there is an indirect effect of mindfulness on TL through positive affect and leaders' self-efficacy beliefs (Carlton et al., 2018).

Chief nurse executives (CNEs) used TL theory to inspire teamwork with the use of EHR in a facility setting. CNEs train other nurses on IT decisions that meet nursing practices needs, such as (a) improving organizational and patient outcomes and (b)

advance clinical practice through effective eHealth sponsors (Remus, 2016). The TL enables CNEs to successfully execute their strategies for improving patient and organizational outcomes and develop clinical practice (Remus, 2016). The TL played a role in CNEs by adopting one or more of the four TL dimensions: inspirational motivation, intellectual stimulation, inspirational motivation, and individualized consideration (Remus, 2016). Nursing informatics competencies in using EHRs are positioned to lead, influence, and make changes as transformational leaders (Remus, 2016). The TL enables CNEs to lead an integrated, high-quality care delivery in a digital-aged setting through evidence-based practices (Remus, 2016).

The TL application created medication safety training using the following strategies: (a) idealized influence (nurses who are role models), (b) inspirational motivation (nurse educators who inspires students by providing meaningful and challenge through education), (c) intellectual stimulation (encourages students to be innovative and creative), and (d) individualized consideration (one-on-one teaching) (Vaismoradi et al., 2016). The medication safety strategies are used in the healthcare industry to prevent errors of patients receiving the wrong medication.

Leadership traits, behaviors, and styles are vital when leading one or more followers to improve their job performance (Frieder et al., 2017). The qualities that transformational leader should possess are (a) self-motivation, (b) a clear vision to communicate so everyone knows what is needed to achieve it, (c) courage, (d) know the employees, and (d) always follow through (Frieder et al., 2017). By serving as role models, attend to each follower's career development needs through coaching and

mentoring, stimulates each on an intellectual level, and motivate through an influential vision (Frieder et al., 2017). Also, as a transformational leader, one must set guidelines for everyone to understand and follow.

Transformation leadership is a leadership approach that creates positive change in followers, which develops the followers into leaders. Managers become aware of employees' health behaviors and health awareness through TL (Kranbetter & Niessen, 2017). Health awareness means being sensitive to stress, whereas health behavior is taking regular breaks at work (Kranbetter & Niessen, 2017). Transformation leadership support and challenge aspects that are used by management to motivate their employees. A vital entity that enhances cynicism and exhaustion are increasing the employees' job demands. However, an employee may not notice because of the leadership approach that management uses to encourage teamwork and meeting goals. Employees view their managers as role models. Therefore, they follow their managers' instructions (Kranbetter & Niessen, 2017). Employees must protect themselves from the negative consequences of overextending themselves with work.

Implementation of EHRs

An EHR is a tool for improvement of communication between health providers (Kohli & Tan, 2016). An EHR helps facilitates a patient's health history in planning a safe and proper treatment and provide patients with becoming engaged in their health. Only 2% of U.S. hospitals by 2010 could meet the U.S. federal government criteria of "*meaningful use"*, despite efforts by governments and healthcare organizations to promote the use of EHRs (Kohli & Tan, 2016). As of 2020, meaningful EHR users is

approximately 3.1 percent for general acute care hospitals, which is reflects a +.05-percentage point adjustment required by legislation (Centers for Medicare & Medicaid Services, 2019). There is a growing gap in satisfaction between information technology (IT) professionals and physicians with EHR (Ham et al., 2016).

An EHR is imperative in healthcare because it can improve cost and quality for both patients and providers. An EHR is a form of communication between providers to exchange medical notes, review test results, and prescribing the correct medications (Lambooij et al., 2017). Some providers are resistant to implementing an EHR system due to lack of user involvement, poor design, costs, and too much pressure to adopt an EHR (Lambooij et al., 2017). The challenges that plagued stakeholders with implementation was integration and analytics. Healthcare delivery can change by designing, developing, and facilitating the use of EHR with the challenges (Kohli & Tan, 2016).

The adoption of EHRs has increased since the Health Information Technology for Economic and Clinical Health (HITECH) Act was established (Mishuris et al, 2016). The federal government is encouraging adoption by offering incentives through federal funding. In 2010, the allocation of $657 million through federal funding to providers assisted with the implementation in their practices (Kruse et al., 2016). Researchers in Hong Kong explored private clinics adopting EHR. They proactively helped healthcare organizations and designers plan and develop an effective system for other providers to use that currently does not have an EHR system (Or et al., 2014). Based on the

information provided, the technology design and implementation process factors will help others accept and adopt the system successfully.

However, there are some challenges to adopting EHRs in office practices in other countries. For example, providers in Canada are using EHRs as “electronic paper records”. However, they were not taking advantage of the advanced features. Data quality and optimization are some of the features of an EHR system. An ideal EHR system consists of drawing and photography, which is suitable for documenting medical and surgical charting (Park et al., 2017).

The EHRs are used in medical facilities to assist nurses and physicians with the patients’ medical and prescription history. The Health Insurance Portability and Accountability Act of 1996 (HIPAA) plays an important role in securing a patient’s privacy and confidentiality of releasing information. The HIPAA Security Rule established federal regulations to protect the availability of EHRs, confidentiality, and privacy through safeguard measures (Cohen & Mello, 2018). However, a malware called *Ransomware* denies users access to the data unless they pay a ransom (Cohen et al., 2017). Ransomware ties into EHRs due to health care data being vulnerable online and cybersecurity in the healthcare arena is minimal (Cohen et al., 2017).

An EHR system is an important form of communication between providers. Being able to utilize the data is vital in understanding potential strengths and weaknesses when addressing clinical care. However, it is a sensitive topic to discuss with the patients and their caregivers. The EHR documentation of any specific recommendation for driving safety was evident in a minority of patients (Vair et al., 2018). Therefore, clinical

implications show that an EHR serves as an important forum for providers to communicate within different parts of the healthcare system. An EHR's continuity of care with the consistency of information is given to the patients and their caregivers.

As of 2016, 59% of leaders of U.S. hospitals were implementing an essential EHR with data sharing between other providers (Kohli & Tan., 2016). Implementations of EHRs are successful when CNEs educate themselves on the system and able to facilitate and make decisions for nurses under their supervision (Remus, 2016).

Electronic health records give providers an advantage of linked data to birth records and maternal and infant medical claims (Meghea et al., 2016). The U.S. federal government has offered funding to increase provider use of health information technologies (HIT), such as EHRs, health information exchanges, and electronic medication prescribing (Meghea et al., 2016). Evidence showed EHRs provides potential gains through Medicaid and other healthcare programs to low-income women and infants (Meghea et al., 2016). The factors of identifying and adopting a successful implementation are (a) organizational issues, such as technical support, purchase, and maintenance; (b) human-technology interaction issues, such as security, privacy, complexity, and flexibility; (c) requirements for performing the tasks, and (d) resistance from the office staff and physicians who knows the system already (Or et al., 2014).

Meaningful Use

The promotion of meaningful use (MU) and adoption of certified EHRs are incentive programs through CMS for hospitals and physicians in an outpatient setting (Shea et al., 2015). Meaningful use is a term founded by the United States government,

defining the minimum standards for using an EHR and exchanging patient clinical data between healthcare leaders. Due to part of the implementation of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), the new term is called Advancing Care Information (Perna, 2016). The MACRA implementation has eliminated some of the measures originally required under the MU approach. One of the most important changes merged from MU to Advancing Care Information is the reporting period requirement (Perna, 2016). The Advancing Care Information changed to quarterly reporting from a one-year reporting, making it easier for providers to submit their reports.

The Medicare and Medicaid Electronic Health Care Record Incentive Program (meaningful use) offers providers incentive payments for adopting a certified EHR. Laboratories that use EHRs show an increase in two stages in results of meaningful use. Some facilities interface with the laboratory information system (LIS) with an EHR. A middleware solution is used to transmit orders to the LIS and send results to the EHR (Petrides et al., 2017). The percentages of using an EHR in an inpatient setting is 40% of laboratory use and 55% increase in structured lab result (Petrides et al., 2017). Some challenges occur in large facilities due to a multitude of clinical and lab workflows, complex technical requirements, and interface designs (Pretrides et al., 2017). However, the EHR-LIS interacts decreases the turnaround time for test ordering and results, which improve efficiencies in previous lab orders.

The applications to adopt EHRs have increased over the years. Some nonprofit and for-profit providers are implementing EHRs to take advantage of the incentives offered by the government. Between 2011 and 2016, large financial subsidies offered

from the federal government to providers that demonstrated meaningful use of EHRs (Freedman & Lin, 2018). Both for-profit and non-profit providers differ based on demographics, teaching status, and size. However, for-profit healthcare providers do not have to compete for patients. Non-profit firms are eligible to receive private donations and granted exemptions from property taxes and corporate income (Freedman et al., 2018). The study shows that the EHR adoption between the two are similar, although the characteristics are different. The Center for Medicare and Medicaid Services (CMS) provided incentives for meaningful use and adoption for EHRs, as well as penalizing those who did not follow suit. The federal government aims to lower national healthcare costs, reduce medical errors, improve coordination of health care quality and care, and offer effective methods to share and communicate information among physicians (Kruse et al., 2016). The Health Information Technology for Economic and Clinical Health (HITECH Act of 2009) created monetary incentives for providers who adopt and meaningfully use an electronic health record system (Adler-Milstein, Green et al., 2013). However, some providers are unsure about implementing a system because of expenses, such as buying the system, training office staff, and paying for technical support. Lawmakers suggested that once the system is set up and running, it will save time and money over the years. Concerning revenue, 22% is gained from EHR adoption (Adler-Milstein et al., 2013).

The United States government performed a study to measure meaningful use in three stages between urban and rural hospitals. The government developed and funded initiatives to healthcare providers to implement EHRs to improve quality of care to their

patients (Kim et al., 2017). The Center of Medicare and Medicaid (CMS) created three stages of EHR adoption, where requirements are met successfully for five years (Kim et al., 2017). Stage 1 requirements focused on data capture and sharing; Stage 2 focused on advanced clinical processes, and Stage 3 focused on improved outcomes. Kim et al. (2017) stated that hospitals must meet Stages 1 and 2 objectives to receive an incentive payment for Stage 2. The study results suggested that many rural hospitals still fall behind EHR adoptions due to the disadvantages of its location and readiness of available healthcare (Kim et al., 2017).

EHRs are expanding to developing countries that need health care services. Usually, people do not receive the proper healthcare due to poor communication systems, minimum healthcare, financial barriers, and fragmented services (Jawhari et al., 2016). By promoting a health information system (HIS), the system promises to improve quality of care and coordination of medical care. An EHR is a form of HIS, which is the central storage of patients' medical records. The World Health Organization (WHO) encourages developing countries to invest in a HIS. With so many diseases in third-world countries, adopting an EHR could help many people that need medication and proper care. In an undocumented population, it will maximize the tracking of each person through patient identification, tracking and drug distribution (Jawhari et al., 2016). The information system depends on reliability, electrical power and internet, synchronization, and networks and workstations (Jawhari et al., 2016). The software analysis will determine the efficiency, access, quality, confidentiality and security, and training, service, and support from the vendor (Jawhari et al., 2016).

Vendors Implementing EHRs

Vendors play an important role supporting providers with their HIT system containing EHRs. A vendor's role provides personnel support, such as training and education, data support, software support, and infrastructure support (Aviv et al., 2012). Vendors are usually the technical support for healthcare providers using HIT software (Aviv et al., 2012). Vendors often visit the offices or log in remotely through technical support.

Profitability in Healthcare

EHR implementations are critical in today's healthcare organizations. In 2011, the United States (U.S). Health IT market estimated a growth of 24% annually and $40 billion in information technology for their investments (Deokar & Sarnikar, 2016). The amount of incentives offered for Medical-eligible providers is $44,000 over five years and $63,750 over six years (Shea et al., 2015). However, a provider is penalized of 1% per year up to 5% maximum of the physician fee schedule if they do not demonstrate MU (Shea et al., 2015). Collum et al. (2016) examined the financial performance of hospitals after adopting an electronic health record system. The research was performed to determine whether EHR adoption impact financial performance on a longer time horizon (Collum et al., 2016). The Centers for Medicare and Medicaid Services (CMS) tracks the financial performance of all U.S. hospitals that accepts Medicare as a form of payment. Therefore, the researcher used data from the Medicare Cost Reports as a part of the study to measure the profitability ratios (Collum et al., 2016).

Some failure of Health IT implementations stemmed from redesigning work practices, user involvement, inadequate technical support and training, and less communication between physicians and office staff. Improvement for the quality and care of patients in the healthcare field are change management approaches. There must be successful implementation of changes since nearly 70% of change programs do not meet their goals, and only 25% are successful in the long term (Fronzo, 2018).

With an increase in patient involvement surrounding their healthcare, it has resulted in allowing more service choice for patients, reducing cost by identifying redundancies, and capitalizing on the patients and their networks (Goodridge et al., 2018). Although buying an EHR system may be a financial challenge, it carries out more than 70% of all outpatient consultations for clinics and private physicians (Or et al., 2014).

Competitive Advantage using EHR. Accessibility to EHRs for different physicians to patients' records without requesting paper medical records are viable (Strudwick et al., 2017). However, some medical settings, such as mental health and addiction, and acute care settings may require customization to support. Examining how to achieve use of EHR technology is important once implementation settings are successful. Electronically implementing mental health and addiction information raised some concerns due to HIPAA and patient confidentiality (Strudwick et al. 2017). Some benefits and obstacles occurred once the implementation of EHRs in providers' offices. Providers began to adopt the system since basing their decisions on information from patients' charts to support clinical reasoning (Varpio et al., 2015). The transition from

paper to electronic records has created communication and workflow problems among some physicians and their staff.

Facilities use EHR analysis to determine errors in the operating rooms (OR). The analysis measured scheduled procedure time, by calculating the scheduled procedure times between the actual time the surgery started; also, adding in add-on durations. The quality improvement analysis used will determine the scheduling error and bias, which will improve efficiency and increase OR time utilization (Attaallah et al., 2016). OR efficiency management assists with scheduling, time allocation, and controlling turnover times. Healthcare expenditures in the United States exceeded $2.3 trillion in 2012; approximately one-third of the total was due to ORs generate a large portion of the revenue (Attaallah et al., 2016). Once hospital staff can forecast time allocation for surgeries accurately, it will help surgeons' complete procedures promptly. Electronic health records will enhance satisfaction between the patient and the surgeon.

The researchers examined how work practice revisions, resource and attention constraints, and values can assimilate small physician practices using EHRs.
There is a challenge to assimilate EHRS in these small practices because attention and resources are limited (Baird et al., 2017). The constraints may be due to limited to the office staff's ability to commit as well. Although the government has advocated for healthcare leaders to implement a health information system (HIS) by offering incentives, it is a challenge. However, if they take advantage of incentives to facilitate the assimilation of the EHR, the support of management and training, will help as well.

A patient portal is a secure website that give patients access to their personalized health records and give the patients the capabilities to schedule appointments, email their physicians, and education programs (Otte-Trojel et al., 2016). There are five ways a patient's portal can influence the health and organizational performance. They are: (a) the ability to ease access to services through the portal and improve patients' satisfaction, (b) induce efficiencies in the physician's workflow and administrative tasks, (c) reduce the likelihood that patients will switch health plans, (d) improving care management through patient-physician interaction, and (e) activation and transparency of information for patients to understand and manage their health (Otte-Trojel et al., 2016). Patient portals are secure websites that give access to patients' health records (Otte-Trojel et al., 2016). The physicians can send secure emails and schedule appointments. Researchers suggested that patient portals could improve organizational performance and influence patients' health by teaching them how to use the portals to manage and monitor their care (Otte-Trojel et al., 2016).

Nate Moore, CPA, MBA, an independent consultant, explained the capabilities of using Excel to analyze EHR data. A group called the Excel Users Medical Group Management Association Community, are practice administrators that show office staff how to run reports using their practice management (PM) data in Excel (Colwell, 2015). The data exports into the financial reports using the PM and the EHR can analyze overdue accounts, gauge productivity, monitor workflow, analyze the provider's patients' base, and group data.

Personal emergency response systems (PERS) are for older patients that are 65

years and older. A fall alert system calls for emergency services with a push of a button. The system provides a sense of security for older adults, reduces anxiety about falling, and improves confidence in performing everyday activities (Agboola et al., 2017). A study conducted between 2011 - 2015 to analyze the utilization of PERS records and healthcare. The PERS piloted using a 30-, 90-, or 180-day readmission rate from clinical encounter data in electronic health records (Agboola et al., 2017).

An EHR is useful when tracking patients that receive infusion therapy at a facility. Pharmacy leaders in transferring medication data from patients to the facility's EHR introduced equipment called a smart pump-EHR. The ECRI Institute reported in 2013 that smart pump-EHR interoperability makes it possible for infusion pump programming to automatically check against medication orders (Biltoft & Finneman, 2018). Therefore, the smart pump could prevent 75% of pump-related medication safety issues (Biltoft & Finneman, 2018). Pharmacy leaders suggested this system will decrease keystroke errors and increase accuracy, medication safety, increase revenue in care, and improve nurse and pharmacist times with their patients.

The EHRs will help with the successful administration of intracerebral spinal fluid chemotherapy (ICC). ICC administered by qualified health-care professionals follows safe chemotherapy guidelines. These health-care professionals were train to independently verify and document the drug, dose, and route at the time of preparation before each administration (Clement & Holle, 2017). Currently, the ICC process is manual, which causes an inability to track each ICC dose from prescription to administration. The training program is implementing a fully integrated EHR and

ordering system. The system will have to assist with annual training for all staff on prescribing, verifying, manufacturing/dispensing, transporting, administering, and patient monitoring have ICC administration (Clement & Holle, 2017). The program's expectation notates as a milestone where nurses and pharmacists could benefit from the training.

A study conducted by Tsourounis et al. (2016) characterized the significance of clinical pharmacists using a new EHR system to prevent medication harm among their patients. A cross-sectional study was performed for one month in January 2015 to evaluate intervention medications, categorized as *other* under the type of *iVent*. The most common medications (vancomycin, warfarin, acetaminophen, heparin, and hydromorphone) and the response rate of how the medications impacts pharmacists were analyzed as well (Tsourounis et al., 2016). The study's results show many iVents were miscategorized under the existing classification system. However, due to the new EHR system, it allowed pharmacists to document both their interventions and their impact.

The patterns of using an EHR were assessed to measure the usage of clinical information being used in a tertiary hospital in Seoul, South Korea. The EHR's usage patterns were (a) the user characteristics and tasks, (b) CPU's usage count of utilization rate and overtime compared, and (c) defining the peak usage intervals (Kim, Lee, Lim, Kim, Lee, & Lee, 2017). The study's results indicated that the system was best designed for physicians to facilitate information when there were location and time constraints.

The American Recovery and Reinvestment Act of 2009

The Centers for Medicare & Medicaid (CMS) reimburses providers as an incentive for using an EHR. Congress passed the 2009 American Recovery and Reinvestment Act (ARRA) to fund the meaningful use of health information technology, including $27 billion (Romanow et al., 2018). Computerized provider order entry (CPOE) is a system used to explore patient satisfaction and improved coordination in patient care teams (Romanow et al., 2018). Romanow et.al. (2018) adopted a deep structure use (DSU) perspective to understand how teams use CPOE to coordinate care with availability, frequency of use, and duration for the health information technology. The results indicated that patient care team members would be able to coordinate patient through CPOE, hospital administrators can achieve more face-to-face interaction with patients with less data entry, and DSU improves the high mortality risk for patients (Romanow et.al., 2018).

The American Recovery and Reinvestment Act (ARRA) of 2009 is a stimulus plan that invested $59 billion in healthcare initiatives, including $19 billion in healthcare information technology (Prasad, 2014). CMS established the EHRs Incentive Program to support the nationwide implementation, adoption, and meaningful use of EHR technology (Lippincott et al., 2017). The purpose of the study was to explore the relationship between nursing excellence and EHR adoption. Although the use of health information technology can improve the quality of patient care, numerous challenges still arise in the implementation process.

Productivity in Healthcare

Physicians using a combination of EHRs and paper charts showed an increase from 25% to 34% at the same time (Price et al., 2013). The benefits of using EHRs in healthcare are care coordination within a practice, positive financial return on investment, diabetes care outcomes, and efficiency of communication. The use of EHRs has doubled between 2011 and 2014 among healthcare providers, where primary care physicians (PCPs) are the most frequent users (Olaywiola et al., 2016). Implementing health information system (HISM) requires a lot of time, money, commitment, and resources. The benefits are significant once the system is running, and the staff trained properly. However, the consequences sometimes outweigh the benefits based on the providers. A survey of 400 physicians felt that their professional satisfaction decreased due to the current EHR system, involving poor usability and the degradation of clinical documentation (Olaywiola et al., 2016).

The effects of hospital-based eHealth technologies on quality, safety, and efficiency of care and clinical outcomes were aimed to digitize all major facilities by 2020 (Keasberry et al., 2017). The implementation will include computerized decision support systems (CDSS), electronic prescribing (ePrescribing), EHRs, and a computerized provider order entry systems (CPOE) to improve efficiency, improve quality and safety in healthcare and minimize rising healthcare costs (Keasberry et al., 2017). The evidence suggest EHRs can potentially increase the accuracy of clinical information and reduce documentation time; escribing will reduce medication errors, CDSS will improve processes and quality of care and CPOE improves laboratory

turnaround times. The clinical system focused on managing the care of their patients, whereas the administrative system focused on resource management for all patients (Morquin & Ologeanu, 2016). Both systems provide real-time work processes inside of a hospital for clinicians and support functional activities. Information technologies are used to follow up information flows related to the patient care process, physical flows (as patients and drugs), and hospital flows (Morquin & Ologeanu, 2016).

Lenhoff (2018) created a system called advanced data systems (ADS) that help healthcare facilities operate efficiently through optimized electronic data interchange (EDI), workflow, and reporting. The system helped maximize revenue and support the clinical side with EHRs for other specialties, such as medical billing companies, imaging centers, labs, facilities, and behavioral health organizations (Lenhoff, 2018). The ADS corporation provides training and ongoing support for the staff. Also, ADS is responsible for the hardware, implementation, and IT services.

Healthcare providers are beginning to transfer their patients' paper medical records to a digitize system due to some patients experiencing communication problems (O'Connor et al., 2016). Lack of care coordination for patients, poor access to the records, and healthcare costs are increasing (O'Connor et al., 2016). The digital health interventions (DHIs) promote preventive care, reduce costs, and utilization. Each patient will be able to connect with their providers while managing their chronic illness and self-care at home (O'Connor et al., 2016).

Patients having access to their EHRs is important so they can obtain a better understanding of their health and treatments given by their providers. Critically, it is

important to engage patients and their relatives to play an active role in their healthcare process (Rexhepi et al., 2018). Being able to access an individual's EHR allows each patient to schedule appointments, send messages to a physician, and refill prescriptions. However, some patients prefer to communicate verbally or in-person and do not wish to have electronic access. There are some concerns that someone can hack into their medical records online and review the information without permission. Further research on developing services related to EHR systems and methods for facilitating improved and secure communication between patients and healthcare are needed (Rexhepi et al., 2018). The EHRs made an impact on the healthcare industry when transitioning from paper records (Stevenson et al., 2018).

Researchers reviewed the advantages and disadvantages of using an electronic medical record system at Wishard Memorial Hospital and the University of Indiana Medical Center. The facility has electronic records for 1.4 million patients, including 6 million prescription records; millions of physician orders entered annually, 100 million coded patient observations and lab results, 200,000 EKG tracings, and hundreds and thousands of historical documents (Darr, 1998).

However, physicians continue to keep paper medical records and write notes about the clinic and hospital visits. The facility's EHR does not include notes. The advantages of implementing an EHR is providers having access to the same medical information at multiple sites, reduction in storage and cost of storing paper records, improvement care process, and clinical guidelines are automated, and support of quality improvement and research. One disadvantage of EHRs is the inability to interface with different

departments within the hospital. Although some providers will continue to use paper medical records, the progression of EHRs will continue.

The importance of documentation in medical records is critical for both patients and physicians. Documentation is important to know who is responsible for documenting, when to document, how to document, and what to document. However, transitioning from paper records to an EHR may result in technical errors. A provider who gives care to a patient is responsible for documenting the recommendations provided on every visit. Clinical notes should provide pertinent information such as the patient's name, age, gender, medical history, date and time, and diagnosis of the patient due to the findings (Ngo et al., 2016). The EHR system have tools to help with decision-making and alerts the providers to potential issues, such as when a section is blank and need physician's notes (Ngo et al., 2016).

HIPAA Privacy

The EHRs used in medical facilities assist nurses and physicians with the patients' medical and prescription history. The Health Insurance Portability and Accountability Act of 1996 (HIPAA) plays an important role in securing a patient's privacy and confidentiality of releasing information. On May 12, 2017, Ransomware attacked the British National Health Service (Cohen et al., 2017). Ransomware (malware) is malicious software (malware) that denies users access to the data unless they pay a ransom (Cohen & Mello, 2018). The HIPAA Security Rule established federal regulations to protect the availability of EHRs, confidentiality, and privacy through safeguard measures (Cohen &

Mello, 2018). Therefore, the HIPAA Privacy rule violated the patients' privacy, and breaches occurred.

U.S. Department of Health and Human Services

The Institute of Medicine defined the quality of healthcare as the degree to which healthcare services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (Agency of Healthcare Research and Quality, 2018). The quality domain of healthcare consist of (a) effectiveness: provides care processes and achieving goals; (b) efficiency: maximizing the quality of care delivered through healthcare, health benefits, or healthcare resources; (c) equity: providing an equal need of healthcare to anyone with a different characteristics or illness; (d) patient-centeredness: educating, supporting, and meeting patients' needs and preferences; and (e) safety: providing safety to actual or potential bodily harm, and timeliness, minimizing delays while obtaining care for patients (Agency of Healthcare Research and Quality, 2018).

An organization is responsible for creating ethical workplace practices with positive change due to their beliefs and values. The improvements of corporate social responsibility (CSR) in healthcare are protecting the patients and their rights, contributing to protect the environment, respecting stakeholders and their interests, implementing a code of ethics, and being accountable for decisions and performances from management. Dana et al., (2016) created a management change model called ADKAR (Awareness, Desire, Knowledge, Ability and Reinforcement), which considers the stages of implementation and adaption of business. The model studies the elements of business

change, which includes the scope and business objectives, solutions for implementing new business, and business opportunities.

Improvement of quality in healthcare stems from patient engagement, quality scorecards, and population health management. Patient engagement creates ways to get the patient involved with their health, treatment, and medications. The quality scorecards are used to keep track of a provider's contract with each patient, whereas, population health management uses data and analytics to help providers assess population risk, identify risks/gaps, close gaps, and improve quality. Healthcare providers must be willing to implement quality improvement programs to integrate improved healthcare through health promotion, disease prevention, diagnosis treatment, and palliative care services (Engineer et al., 2015).

Patients' Care

Cancer patients' attitudes and experiences of having access to their medical records online using e-Health portal, a secure Internet portal. E-health provides patients will solely access to their health information, schedule app ointments, and prescription refills. The patient can send secure messages to their provider (Rexhepi et al., 2018). Although it is not the ideal way for patients and providers, the majority feel empowered to have access and make informed decisions about their health. However, some do not agree with the availability of medical records online.

The intensive care unit (ICU) is a department of a hospital where patients are kept under direct observation due to a severe illness or accident. The study sought to evaluate the validity and reliability of CERTAIN, an electronic tool that aims to provide decision-

support, to chart and prompting for standardization (Kogan et al., 2017). Emergency room physicians sometimes make quick decisions and perform life-saving procedures. Although ICU organizations are a vital component in mortality prevention, 20% - 30% of mortality occurs globally (Kogan et al., 2017). CERTAIN is an electronic chart used as a real-time interface that documents diagnostic strategies, decision-making using a decision-support format for critically ill patients. The results showed that all CERTAIN charting was completed immediately on the initial patient's assessment.

Providers using EHR systems

An EHR information system (IS) has many advantages in the medical community. Efficiency and improved medical decision-making in the emergency departments (ED) at hospitals increased (Ben-Assuli & Leshno, 2013). However, ER physicians make unnecessary, hasty decisions due to overcrowding. The decisions results in fewer necessary admissions and more unnecessary admissions, which cost the facility more money and time wasted. The EHRs retrieved data from many medical systems about the patient's demographics and medical history. The impact of an EHR's information system with a function level of being overcrowded was studied by physicians in a high-stress environment in seven hospitals (Ben-Assuli & Leshno, 2013).

A growing gap noted in satisfaction between information technology (IT) professionals and physicians with EHRs (Ham et al., 2016). In 2009 and more recently, in 2014, CMS provided incentives for the adoptions of EHR systems by healthcare providers (Crowson et al., 2015). Open-source software (OSS) is adopted in healthcare and domains such as databases, enterprise tools, and operating systems (Safadi et al.,

2015). The software's advantages are the healthcare leaders, low cost of maintenance and acquisition, and the customizing (Safadi et al., 2015). However, the disadvantages are a lack of technical support and training with understanding the OSS model.

Canadians have created an EHR database called The Canadian Primary Care Sentinel Surveillance Network (CPCSSN), where family physicians, pediatricians, and nurse practitioners can access the patients' records (Williamson et al., 2017). Many physicians continuously use electronic and paper medical records, or hybrid charts, which causes some confusion where data resides (Greiver et al., 2012). The expectations of transitioning from paper records to EHRs were improving and able to measure the quality of care. The services measured was the flu vaccination, pap smear, or screening mammograms for eligible patients, from 2006 – 2007. The change of rates of selected preventive services was calculated from the medical record audits with the change in administrative data sets (Greiver et al., 2012). The primary data source were EHRs. However, data from paper charts were retrieved if unavailable in an EHR. In the early phase of EHR implementation, the administration did not enter the data for preventive services. The services were notated on paper records instead. Therefore, the data measured were not reliable when measuring EHRs to paper medical records.

Transition

Section 1 successfully identifies the foundation of the study by addressing the (a) background of the problem, (b) the problem statement, (c) purpose statement, (d) nature of the study, (e) research question, (f) interview questions, (g) conceptual framework, (h)

operational definitions, (i) assumptions, limitations, and delimitations, (j) significance of the study, and the (k) review of academic and professional literature.

Section 2 establishes the purpose statement again and discuss the role of the researcher, participants, the research method and design, population and sampling, ethical research, data collection instruments, data collection technique, data organization technique, data analysis, reliability and validity, and transition and summary. Section 3 provide an outline of the study, the presentation of the findings, application to professional practice, implications for social change, recommendations for action, recommendations for further study, reflections, summary, and study conclusions.

Section 2: The Project

In Section 1, I conveyed the background of the business problem and the purpose statement. In Section 2, I recapped the purpose statement, a description of the role of the researcher, the participants, the research method and design, population and sampling, ethical research, data collection instruments and technique, data organization techniques and analysis, and reliability and validity.

Purpose Statement

The purpose of this qualitative, multiple case study was to explore the strategies used by healthcare leaders to leverage EHR systems to increase profit and productivity. The target population of the study consisted of four physician offices in the west central region of Georgia, who successfully leveraged an EHR system and experienced an increase in profit and productivity. The implications for social change may be achieved by helping nurse managers improve efficiencies through coordination of healthcare services, enhancing clinical decision making, and providing better healthcare at a lower cost to patients..

Role of the Researcher

My primary role as the researcher was to provide detailed analysis and collect data on the results for the study (Yin, 2018). Since the study is qualitative, I was the primary instrument in the data collection process and conducted virtual interviews with participants (Fusch & Ness, 2015). I collected data through semistructured interviews and obtain documentation and statements, such as implementation of the EHR system,

productivity reports, and financial reports. I have experience with medical records from working in the health insurance industry since 2003. I have experienced the use of an EHR on two occasions at a dermatologist's office and urgent care. The information submitted was electronic, on a tablet with a stylus.

The CITI certificate shows the completion of a program of study, which identified ethical principles, involving human subjects and guidelines addressing the conduct of behavioral research. Three basic ethical principles are relevant to the ethics of research involving human subjects. The three principles are respect for persons, beneficence, and justice. The Belmont Report is a foundational document that reset the ethics of human subject research (Adashi et al., 2018). The Belmont Report argues that researchers "are obliged to give forethought to the maximization of benefits and the reduction of risk that might occur from the research investigation" (Brothers et al., 2019). Information is collected from participants to protect an individual, with goals to enhance the quality of life for members and safeguard our society from harm (Gauthier, 2009).

I mitigated bias and avoid observing data from a personal perspective by following the interview protocol. An interview protocol is an overview of the case study, the procedures involved in the data collection process, the research question, and a guide for the case study report (Yin, 2018). As a researcher, I adhered to an interview protocol to identify wording issues and evaluate the logical ordering of questions (Fusch & Ness, 2015). I did not let my personal opinions interfere with the data that I collected.

Participants

The participants were four nurses in physician offices that are knowledgeable about EHR systems located in the west central region of Georgia. Qualified participants with knowledge and experience will improve the integrity and quality of the case study (Poland et al., 2019). By selecting participants with experience on the research topic, it facilitated the collection of data that represents the phenomenon of the study (McIntosh & Morse, 2015). I gathered information from public websites, such as Anthem, Valley Healthcare System, Piedmont Healthcare, and St. Francis Family Practice. Yin (2018) stated that a researcher might conduct a qualitative study of a single unit with multiple participants. The websites provide the physician's (a) name, (b) address(s), (c) telephone number, (d) services, and (e) certifications. Also, I selected participants with eligibility criteria such as working in a physician's office, experience in successfully implementing an EHR system, and willing to consent to a recorded interview session.

Gaining access to participants requires continuous negotiations and consent from the researcher (Hoyland, et al., 2015). By creating a relationship of respect and trust, I was able to obtain permission from possible participants and gain access to interview each one (Hoyland et al., 2015). Once IRB approved, I reached out to potential participants via email and phone. The participants had extensive knowledge of the productivity and profitability of an EHR system in their physician's office.

The informed-consent process in research studies, guidelines were created to help foster the protection of the rights of research participants (Yakubu et al., 2017). I established a working relationship with each participant through email and phone. After

each participant's consent, I emailed detailed information about the doctoral study, such as the consent process, the study's topic, and interview questions. The informed consent form with the reply, 'I Consent' validated the participant's willingness to interview.

Research Method and Design

Research Method

I used a qualitative method for the study. In healthcare settings, qualitative research studies are becoming necessary to understand complex challenges (Fritzen-Pedicini et al., 2019). The qualitative research method was appropriate to use than the quantitative or mixed methods because the study's purpose was to explore the strategies used by healthcare leaders to leverage EHR systems to increase profit and productivity. Using a quantitative method did not fit the research because I did not use any numerical data. Although mixed-method research combined the use of quantitative and qualitative, it does not fit my study due to the quantitative portion. The mixed-method involves (a) multiple sources and types of data; (b) develops and integrates theoretical and conceptual frameworks into the development of research questions; and (c) systematically integrates different types of data to counterbalance the weaknesses of each data type and maximize the strengths of different data types (Johnson, 2019).

Research Design

I used a multiple case study design for my doctoral research. The case study provided the best fit because it inquired on a topic with a real-life setting (Yin, 2018). Case studies also rely on multiple sources of evidence, with data needing to converge in a triangulating fashion (Yin, 2018). The benefits of using a case study design were the

interview methods, capturing details through observation, and document review (Baskarada, 2014). Case studies facilitate the collection of rich data by supporting a greater understanding of the research phenomenon (Morse & McEvoy, 2014). I selected a multiple case study design to gain a better understanding of leveraging EHRs from different physicians. The other research designs that I considered were phenomenological design and ethnography design. Neither design fit my study.

Phenomenology focus on participants' recollections and interpretations of live experiences, whereas, ethnography, studies the culture of a group (Saunders et al., 2015). Researchers use the phenomenological design to study a participant's experience related to a phenomenon (Alase, 2017). The design enables the researcher to collect data based on the participant's experience and collected data in their environment (Sousa, 2014). The phenomenological design did not meet the needs of the study because I did not explore the participants' lived experiences. I interviewed four participants for the study using the case study design

The ethnography design studies the culture of a group and focus on interpreting and describing the social world through first-hand field study (Saunders et al., 2015). The design involves long periods in the field with detailed observational and interview evidence of a culture (Yin, 2018). I did not use an ethnography design because the study did not explore the social behaviors of culture or group.

Data saturation was achieved through collected data from semistructured interviews no new codes or themes developed. Data saturation was reached once new information or suggested themes provided little data (Saunders et al., 2015). Some factors

affected the sample size needed to acquire data saturation. They are: (a) the topic of study and interest, (b) study participants, (c) existence of an established theory, (d) methods of data collection, and (e) methods of data analysis (Tran et al., 2016).

Population and Sampling

I used criterion sampling to obtain the correct participants for my study. The main goal of criterion sampling was to focus on participants' specific components who have experienced the implementation of EHRs. Criterion sampling is a selection process based on a determined set of characteristics (Patton, 2015). The population for the study were four physician offices in the west central region of Georgia, who successfully leveraged an EHR system and experienced an increase in profit and productivity.

Criterion sampling limits the number of participants in the study. Criterion sampling were used to identify and understand cases that are information-rich and meet some predetermined criterion of importance (Patton, 2015). The focus of how and why the issue occurred and hoping for direct replication suggest that the analytic benefits from having two or more cases may be substantial (Yin, 2018).

Data saturation occurs when the researcher is unable to obtain new data (Fusch & Ness, 2015). I reached data saturation through semistructured interviews, office records, and public organizational documents. The three data sources that I used connected any gaps that occurred from the interviews. The interview questions were asked in the same format and wording to each participant. Data saturation was enhanced when a researcher maintains a focus on the research topic (Fusch & Ness, 2015). Also, I continued to interview until I reached data saturation.

I selected participants based on their knowledge and expertise of the productivity and profitability of an EHR system in their practice. Participants that accrue experience within an organization are expected to provide knowledge of the topic (Lamm et al., 2019). Once the participants were selected and agreed to an interview, I obtained each participant's job location and work schedule to conduct a virtual interview using Zoom based on their availability. By establishing trust and building a rapport with the participants, it may contribute to a positive relationship (Dang et al., 2017). I provided a comfortable, virtual interview setting that is quiet and free from interruptions.

Ethical Research

I began collected data once I received approval from Walden University's institutional review board (IRB). The approval number for this study is 07-29-20-0731217 with an expiration date of August 2, 2022. All data collected is stored on a password-protected hard drive, in a secure place for five years. The data was disposed of afterwards. The data analyzed contained reports containing specific material from the participants. I ensured protection of all confidential information and participants involved in my study.

Once the IRB approved my proposal, I provided all participants with an informed consent form, which gives an overview of the study and anticipated contributions. I explained to each participant that it was strictly voluntary with no incentives or intimidation on anyone's part. Participants have the right to withdraw from the interview process at any given time, and all information will be deleted (Thorpe, 2014). I explained via email the specifics of the study to the participants and their rights to withdraw from

the study without penalty. The involvement of the study was minimal risk to the participants.

The word “incentivizing” is synonymous with offering payment (Burson & Harvey, 2019). Although more people will be motivated to respond to increased incentives, I explained to the expectant participants the outline of the study (Burson & Harvey, 2019). There were no incentives given to the participants for participating in the research study. By offering incentives, it may produce seemingly inconsistent responses or outcomes of the study (Burson & Harvey, 2019). Therefore, I did not offer any financial or non-financial incentives.

Researchers should protect the participants’ privacy and confidentiality that participate in the study (Yin, 2018). Breaches in confidentiality can damage the public’s trust in researchers and shatter the researcher-subject relationship (Kaiser, 2009). It is vital to protect each individual so they will not receive requests to participate in future studies by others or myself (Yin, 2018). Under the U.S. Department of Health and Human Services, researchers and IRBs must ensure enough provision to protect the participants’ privacy and maintain confidentiality (Kaiser, 2009). To protect the participants’ identities, I used pseudonyms, such as P1, P2, P3, and P4.

Data Collection Instruments

The primary instrument for data collection in a qualitative study was me, the researcher (Yin, 2018). The data collection tools used to collect the data that addressed the research question were semistructured virtual Zoon interviews, public organizational documents, and observation. The data collection approach included eight interview

questions for each participant. I used an interview protocol as a guide to remain on course with the interview (see Appendix A). Qualitative researchers can strengthen the reliability of interview protocols by refining the four-phase interview protocol refinement framework (IPR) (Castillo-Montoya, 2016). The four-phase process includes: (a) ensuring interview questions align with the research question, (b) constructing an inquiry-based conversation, (c) receiving feedback on interview protocols, and (d) piloting the interview protocol (Castillo-Montoya, 2016). I greeted and introduced myself to the participant, emailed a copy of the consent form, explain the interview and their voluntary participation in the study, and answered any questions or concerns prior to the interview.

In a qualitative case study, a researcher is required to collect data using multiple data collection sources to strengthen the creditability of the research (Yin, 2018). Methodological triangulation converged three data collections sources: semistructured interviews, organizational documents, and observations. If the data is cross-referenced, different types of information are accessed to compare the findings (Johnson et al., 2017). Methodological triangulation enhanced the credibility of the research findings (Carter et al., 2014). An informed consent form was given to each participant that voluntarily agreed to participate in the study. My responsibility was to educate the participants about the consent form, such as the benefits and risks, the study's purpose, and confidentiality. I obtained their consent before the interview process started. An interview protocol is a guide in the data collection process that list general rules and procedures a researcher follows to collect data during the interview (Yin, 2018). The interview protocol contained

information related to the research's purpose and research question and listed in Appendix A of this study.

I enhanced the reliability and validity of the data collection process using member checking. Member checking is known as participant verification, in which a researcher seeks to improve the accuracy, credibility, and validity of what has been recorded during the research interview (Rager, 2005). I cross-referenced the data obtained from the interviews with the participants. Through member checking, I observed and collected the findings concluded with the same results.

Data Collection Technique

I followed an interview protocol (see Appendix A) while conducting virtual, semistructured Zoom interviews with the participants. In preparation, I defined the research question, gained approval for my case study, and defined protective measures of the participants (Yin, 2018). I obtained permission from each participant to use a digital voice recorder and video to record each interview. I used Audacity, which is an audio editor and recorder to record the interviews and Zoom to record the video interviews for clarity and reliability of each answer. I tested the equipment's quality before the interviews. The advantages of using a digital voice recorder are optimal noise control, high performance, and affordability (Cho, 2018). I collected data once I received approval from the IRB after the oral defense presentation met the requirements. In advance, I planned the time it took to collect, organize, analyze, and interpret the data. I estimated (a) the time for planning, contact and schedule the interviews, (b) meeting time, (c) conducting the actual interviews, and (d) transcribing the interviews. Triangulating

the data using multiple methods supports the validity's findings in the research (Morse, 2015). I communicated with the participants via email and Zoom. The participants were nurses who used successful strategies for implementing and using EHRs in their respective physician's office. They were knowledgeable about EHRs and involved with various implementation efforts. Yin (2018) indicated that the principal method of data collection in a qualitative case study is interviewing participants to understand their experience. The data collection technique included semistructured virtual Zoom interviews, which lasted between 30-45 minutes, outlined in the interview protocol in Appendix A. I asked each participant eight interview questions about the study (see Appendix B). The ability to obtain additional new information, and further coding is no longer feasible to replicate the study once data saturation is reached (Fusch & Ness, 2015). When conducting semistructured virtual Zoom interviews, it was imperative to present a professional appearance and ask appropriate questions related to the topic. My approach to questioning produced reliable data and reduced bias.

I conducted semistructured virtual Zoom interviews to obtain information from participants leveraging EHR systems to increase profit and productivity. When the researcher has more information about the topic, the semistructured interviews are relatively standardized (Morse, 2015). Researchers can prepare questions ahead of time and appear confident during the interview. In qualitative case studies, the interview method is the most common data collection instrument and usually the primary research instrument (Yin, 2018). To maintain consistency, I asked each participant the same question in the same order. To enhance the reliability and validity of the instruments, I

used the member checking strategy. Member checking verified the accuracy of data once the researcher had completed the collection and possibly the analysis of the data (Naidu & Prose, 2018). I used member checking of the data interpretation by cross-referencing the data obtained from the interviews with the participants. After recording the interviews, I listened to each one and transcribe the data.

A secondary collection method were organizational documents. Multiple sources of triangulation help achieve data saturation due to the enhancement of internal validity and the reliability of results (Fusch & Ness, 2015). I requested the nurses to provide training guides and procedures related to the EHR system. However, I was unable to obtain training guides and used public online documents from Cerner and Epic for assistance. I extensively reviewed the information that provided profit and profitability in each practice. I requested financial statements from the nurses to check the profit of using an EHR system. However, I was unable to obtain this information as well.

Observation (direct and participant) is a third collection method in qualitative studies. Denzin (2009) stated that no single method, theory, or observer could capture all that is relevant or important. However, methodological triangulation let the researcher explores different perspectives of the same phenomenon (Denzin, 2009). By using participant observation, I engaged with the participants due to my role and interest in the study. With direct observation, I observed the actual behavior during the interview.

There are some advantages and disadvantages of using semistructured interviews, organizational documents, and observation. A researcher doing a case study would need to know how to execute the full variety of data collection techniques (Yin, 2018).

Therefore, each technique must be used properly. An advantage of using semistructured interviews as a selected method was allowing participants to share their experiences and feelings (Peesker et al., 2019). Semistructured interviews are flexible but a structured method because they obtain a rich set of data analysis (Peesker et al., 2019). An advantage for using organizational documents are accessibility and reliability (Bowen, 2009). Also, called document analysis, the documents are cost-effective, and consent is usually not required (Bowen, 2009). It is imperative to thoroughly evaluate, investigate, and understand the data in the documents to preserve the credibility of the research (O'Leary, 2014).

An advantage of using direct observation is observing details while being able to notate the actual behavior of the participants, which might otherwise go unnoticed (Mangione et al., 2018). It helped the researcher record the behaviors themselves versus self-reporting from the participant. An advantage of using participant observation is providing opportunities to access the participant's culture, which improves the quality of data collection and interpretation (Kawulich, 2005). Being able to gain the participants' trust will enable the researcher to obtain information needed for the study.

A disadvantage of using semistructured interviews are social cues, such as body language and facial expressions, that affect the participant's behavior towards the interviewer (Opdenakker, 2006). The participant's responses may be biased and give answers they think the researcher want to hear (Yin, 2018). A disadvantage of organizational documents is insufficient, inaccurate, or gaps in the data (Bowen, 2009). Also, some documents, such as financial records, may not be easily accessible. An

incomplete collection of documents is biased selectivity (Yin, 2018). A disadvantage of direct and participant observation is implementing short time, scheduling, and delivering constructive feedback (Gauthier et al., 2018). The uncertainty of how to effectively implement frequent and high-quality direct and participant observation is a disadvantage (Gauthier et al., 2018).

Data Organization Technique

Data organization is imperative in qualitative research. Data organization allow the researcher to keep track of data using reflective journals, research logs, and cataloging. I used a reflective journal to keep track of the progress in the study. The reflective journal served as a permanent record of experiences and thoughts, which promoted critical and reflective thinking (Dumlao & Pinatacan, 2019). The reflective journal gave me an opportunity to reflect on the development of my research from the beginning to the end. Also, using a reflective journal developed skills such as organizing data, enhance writing, creating tables, and writing observations (Zulfah & Aznam, 2018).

A research log template was created using electronic, paper, and written text, detailing a record of each source, notate the purpose of the source, and a summary of each finding during the research process (Fulk, 2015). The research logs focused on documentation and reflected on the progress of the research (Fulk, 2015). I created a password-protected template in Excel for the reflective journal and the research log for my study. Other data used in the study, such as, documents and other materials collected from the field, are included in the case study database (Yin, 2018).

I used pseudonyms, such as, P1, P2, P3, and P4 to identify participants in the study. Pseudonyms protects the identity of data of the subjects (names and addresses), improving confidentiality against those who are not authorized to access it (Kohlmayer et al., 2019). A transcript and coding template were used to identify codes and associated themes, using colored text for each interview. Coding in qualitative research enabled collected data to be assembled, categorized, and thematically sorted, facilitating data analysis and steps to serve the purpose of the research study (Williams & Moser, 2019). The color coding aligned the themes and the transition from codes to themes constructed meaning from the data (Williams & Moser, 2019). I securely stored all raw data used in the research in a password-protected computer. All raw data is securely stored for five years.

Data Analysis

Data analysis is the process for collecting and analyzing qualitative data involving synchronized sub-processes of data reduction, data display, and drawing and verifying conclusions (Saunders et al., 2015). Researchers use methodological triangulation to ensure the validity of the study by expanding the understanding through one research method (Morse, 2015). I used methodological triangulation for my doctoral study. The purpose of methodological triangulation involves using more than one source of data and method of collection to validate the data, analysis, and interpretation (Saunders et al., 2015). Methodological triangulation involved a combination of methods, such as interviews, organizational documents, and observation, to understand a given reality (Abdalla et al., 2017). With a case study research, it is vital to use a computer-assisted

qualitative data analysis software (CAQDAS) or word-processing tools to arrange numeric and narrative data (Yin, 2018). I downloaded the NVivo12 software for a Mac operating system for coding my qualitative data analysis. NVivo12 is a computer-assisted/aided qualitative data analysis software (CAQDAS) designed to organize, sort, and classify data and makes it easier to retrieve (Swygart-Hobaugh, 2019). NVivo12's has a denoting and connoting coding segment called NVivo codes. The NVivo12 software assisted in cataloging the raw data and identified themes. The NVivo 12 software transcribed codes and identified themes from the interviews. The NVivo codes readily coded a single text segment/indicator at multiple concepts when it was analytically warranted (Swygart-Hobaugh, 2019). I also denoted the texts manually as well. I underlined the text segments with a highlighter to single out the important ones. To connote the denote text segments, I linked each one to the segment (Swygart-Hobaugh, 2019).

Yin (2018) stated that data analysis consists of examining, categorizing, tabulating, testing, or recombining evidence to produce empirically based findings. The five analytic techniques used in case studies are pattern matching, explanation building, time-series analysis, logic models, and cross-case synthesis. The technique I used for my case study is pattern matching. Yin (2018) described pattern matching as one of the most desired techniques to use in a case study. The technique is used when developing internal validity and external validity with previously noted problems in case study research (Yin, 2018).

After reviewing the recorded interviews, I analyzed the transcripts, coded the data, and developed the themes to answer the research question. I used a color-coded system to keep track of data identified with codes and associated themes. I transcribed the responses by using a company called TranscribeMe. TranscribeMe provide services, such as transcription, speech recognition, and translation. Also, I used NVivo12 software for Mac for coding. There is a transcript and coding template that transcribed codes and identified themes from the interviews. As stated, all raw data are securely stored for five years.

Reliability and Validity

Reliability and validity are related to qualitative research when a researcher can replicate and achieve the same findings, showing that the research is reliable. Validity states the appropriateness of the measures used, accuracy of the results, and generalization of the results (Saunders et al., 2015). Validity refers to the relevance of the measures used, the accuracy of the analysis results, and the generalization's findings. Reliability denotes consistency and replication. While measuring validity and reliability, one can be valid but not reliable, reliable but not accurate. There are instruments designed to re (test) in multiple settings, which is needed for evidence of reliability and validity (Tang, 2015). Qualitative research defines the methodologies researchers adopt during the design of their research project and assumptions associated when collecting, analyzing, and interpreting their data (Moon et al., 2016). It will be challenging to understand the study and assess the quality of the study if insufficient information is not provided on the research design and data interpretation (Moon et al., 2016). To determine

credibility, transferability, confirmability, and dependability, a researcher must provide enough information about their research design (Moon et al., 2016).

The importance of reliability and validity in a qualitative research study measured the appropriateness, accuracy, and generalization used in the results and findings. As a researcher, one should be able to attain the same outcome when conducting the same steps performed in previous research. The reliability's goal is to reduce the biases and errors in a study (Yin, 2018). External validity uses replication logic in multiple-case studies (Yin, 2018). In a case study research, it is difficult to identify and achieve specific tactics. I must establish the generalizability of my findings to other contexts so it can be used in other organizations related to the study (Saunders et al., 2015). External validity is concerned with the findings of one organization in a doctoral study that applies to other organizations to use (Yin, 2018).

Dependability

Dependability in qualitative research is the consistency and reliability of the research findings, how the research procedures are documented and allowing an outside researcher to follow, audit, and critique the research process (Moon et al., 2016).

To determine dependability, I cross-referenced the data obtained from the interviews with the participants through member checking. Member checking is used to validate the trustworthiness of a qualitative study (Birt et al., 2016). I used member checking by returning each interview transcript to the participants to review and analyzed the data. Through member checking, I used the interview transcript data from each participant (Birt et al., 2016). Member checking verifies the accuracy of data once the

researcher has completed the collection and possibly the analysis of the data (Naidu & Prose, 2018). To establish dependability, I recorded the interviews and transcribed through member checking. Once complete, I emailed a copy to each participant to review for accuracy and validation. The three data collection techniques that I used through the data collection process were semistructured virtual Zoom interviews, public organizational documents, and observation. It is essential to rely on key informants to facilitate and verify our understanding of data as the research process unfolded (Naidu & Prose, 2018).

Validity

To ensure validity in the study, I addressed creditability, transferability, confirmability, and data saturation. I ensured credibility through methodological triangulation and member checking. Methodological triangulation is the use of two or more independent sources of data or data-collection methods within one study to help ensure the data to confirm findings, increased validity, and enhance understanding of studied phenomena (Saunders et al., 2015). The data analysis process is most appropriate for my doctoral study because I am using multiple sources of evidence to strengthen my case study. I conducted semistructured virtual Zoom interviews, reviewed organizational documents, and used direct and participant observations in my study. As a researcher, I relied on the voice of each participant to provide the information needed to support the study. Qualitative approaches are suggested to explore and understand the phenomenon when there is little knowledge about the phenomenon of interest (Tavakol & Sandars, 2015).

Transferability

From a qualitative perspective, the results of a case study predict future trends, uncover hidden issues, and provide an understanding by finding themes and outcomes (Ridder, 2017). Transferability is the responsibility of the researcher to generalize the results. Transferability is critical due to management relying on data, conclusions, and recommendations from evidence in research findings in research projects (Moon, et al., 2016). I ensured transferability by using member checking to identify and explain the phenomena that are not yet clearly defined (Moon et al., 2016).

Confirmability. Confirmation of the results to a degree in a study is confirmability. I achieved confirmability by demonstrating the relevance of the results linked to the conclusions. Researchers must demonstrate that the results are linked to the conclusions and as a process, can be replicated (Moon et al., 2016). I reported steps taken based on the experiences of the participants' interviews. A researcher's beliefs, assumptions, and predisposition are a significant criterion of confirmability (Miles & Humberman, 1994).

Data Saturation. Data saturation ensues when the researcher is unable to obtain new data (Fusch & Ness, 2015). I reached data saturation through semistructured virtual Zoom interviews with the participants in the study. The interview questions were asked in the same format and wording for each participant. I continued to collect qualitative data, such as conducting additional interviews until little or no information and themes are created (Saunders et al., 2015). Data saturation is enhanced when a researcher maintains a

focus on the research topic (Fusch & Ness, 2015). Data saturation was ensured through direct and participant observation and organizational documents as well.

Transition and Summary

Section 2 successfully identifies the purpose statement again and discuss the role of the researcher, participants, the research method and design, population and sampling, ethical research, data collection instruments, data collection technique, data organization technique, data analysis, reliability and validity, and transition and summary. The section provided an outline of the study, the presentation of the findings, application to professional practice, implications for social change, suggestions for action, recommendations for further research, reflections, summary, and study conclusions.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative, multiple case study was to explore the strategies used by healthcare leaders to leverage EHR systems to increase profit and productivity. The selection of qualified participants was Nurse Managers that worked in four physician offices in the west central region of Georgia. Four themes developed from the data analysis: (a) the importance of effective communication between EHRs, (b) usability of software for EHRs, (c) requiring accurate documentation, and (d) additional training for the medical staff.

Presentation of the Findings

The central research question for the study is "What strategies do healthcare leaders use to leverage EHRs in their organizations to increase profit and productivity?" The study's participants were four nurse managers from four physician offices in the west central region of Georgia who successfully leveraged an EHR system and experience an increase in profit and productivity. Burns (1978) transformational leadership model formed the conceptual framework for this study. I used TL as the conceptual framework. The primary data collection method for the case study included semistructured virtual Zoom interviews due to the COVID-19 pandemic. I was unable to conduct face-to-face semistructured interviews as previously noted. I started the process of transcribing and data analysis after completion of the interviews.

I used the TL model to construct themes based on the four factors: (a) idealized influence, (b) inspirational motivation, (c) intellectual stimulation, and (d) individualized

consideration. The first theme, the importance of effective communication between EHRs, is related to intellectual stimulation. The second theme, usability of software for EHRs, is associated with individualized consideration. The third theme, requiring accurate documentation, is linked to inspirational motivation. The fourth and last theme, additional training for the medical staff, is related to idealized influence, which are constructs of TL. After transcribing the interviews and gathering public organizational documents on the EHRs systems, the data was imported into NVivo for coding and analysis.

I used NVivo 12 to import the data to find the codes and create the themes based on the responses from the participants. I triangulated the data from the interview transcripts and public organizational documents available online. After each Zoom interview, I sent the recordings to TranscribeMe, which transcribed and sent transcriptions of each interview. To ensure accuracy, I manually transcribed the interviews as well. I conducted member checking by sending each participant a transcript of their interview. Only two participants responded, indicating no changes were needed. The results of the study can be useful to nurse managers who are trying to leverage the use of their EHRs to increase profit and productivity in their physician offices.

Table 1

Demographic Characteristics Table

Participants' Title, Years of Work Experience in a Physician Office, and Years of EHR Experience

Participant	Title	Work Experience	EHR Experience
1	NP	9	5
2	NP	11	13
3	RN	18	16
4	NP	15	15

Nurse Practitioner (NP)
Registered Nurse (RN)

Table 1 included a list of the participants' title, years of work experience, and years of EHR experience. The nurses shared the common goal of providing quality patient care while displaying knowledge and experience with implementing and using an EHR system that consist with the daily workflows in the physician office. I used methodological triangulation as the primary data collection source. As a secondary data collection source, I reviewed public organizational documents regarding the EHR systems, Cerner and Epic, used in the physician offices.

Table 2 illustrated the repeated terms used by the participants in their interviews. NVivo12 software, used to analyze the data in the research, constructed the table based on the frequency of occurrence. I focused on the common themes that developed and relevant to the conceptual framework and the research question. The following themes developed from the data analysis: the importance of effective communication between

EHRs, usability of software for EHRs, requiring accurate documentation, and additional training for the medical staff.

Table 2

Frequency of Themes Identifying Strategies for Nurse Managers

Theme	Frequency	% Interviews
The Importance of Effective Communication between EHRs	12	100%
Usability of Software for EHRs	16	100%
Requiring Accurate Documentation	13	100%
Additional Training for the Medical Staff	14	100%

Theme 1 – The Importance of Effective Communication between EHRs

The first theme developed was the importance of effective communication between EHRs. The importance of effective communication between EHRs pertains to systems designed to communicate with other providers accessing patients' medical records which contributes to the continuity of care. Working in a healthcare environment is stressful with high demands and with little to no room for errors. Over 70% of incidents cause patients harm in healthcare facilities due to communication failure (Smothers et al., 2016). Participant 3 emphasized, "Our leadership team decided to switch to a Cerner system because they were bought out by a for-profit corporation. The office

was previously state-owned and now it is privately-owned." Participant 2 stated, "Our office switched to Epic because it was easier to review and transfer patients' records to the larger facilities, like Piedmont and Emory." Participant 1 mentioned, "The workflow setting flows better when using electronic health records." Due to the dynamic nature of today's organizational environment, understanding the nuances among these variables is vital to effective performance at the individual and organizational level (Smothers et al., 2016). The four participants' responses suggest the need to leverage EHRs to increase profit and productivity is based on the importance of effective communication between providers. The findings of the study suggest that using an EHR system is beneficial for physicians to facilitate communication with other providers.

Navigating EHR implementation and leveraging challenges is a subtopic of Theme 1 and related to contacting technical support and vendors when an issue arises, such as a virus in the software or system updates affecting the daily workflow. Participant 2 stated, "We contact the company's vendor and IT support through Epic when we are unable to figure out the problem." Participant 1 noted, "We have a global IT department that we notify any time we have any problems, such as, when the system goes down or updates making the system run slow. The IT department also keeps the system running and up to date." The participants stated that their office is equipped with technical support services 24 hours a day, 7 days a week. Participant 4 indicated, "The computer may go out or sometimes records are not interchangeable because the new system updates are being implemented. The IT support team and the vendor are still working the bugs out." It causes abrasion among the staff when EHRs are unavailable due to an

update (unknown to the staff) or a virus. Participant 3 reported, “If we have IT issues, it is a disadvantage because we have to wait until the issue is fixed.” Teamwork between the staff, technical support, and the vendors is needed to successfully implement and run the system. The participants appeared to be open to innovations of improvising when faced with challenges, such as, technical setbacks, privacy threats, and disruption of workflow. Reflecting on current work methods and looking for ways to improve them encourages the staff to think outside the box (Rashkovits, 2019). The open communication between other physicians will empower the medical office staff (nurses, techs, and administration) if the healthcare leader is intellectually stimulated.

In the current research, the four participants’ responses reflect ideas in their strategies to leverage EHRs. The findings and concepts were related to the TL conceptual framework as well. The importance of effective communication between EHRs emerged from the analysis related to intellectual stimulation (IS) in the TL framework. Intellectual stimulation encourages innovation and creativity, as well as thinking and problem-solving (Northhouse, 2015). The importance of effective communication between EHRs is aligned with the IS concept based on establishing and defining roles and patterns within the communication channels in an organization. Through IS, applying new ideas and knowledge on the EHR system, organizational innovation creates new services and products in the physician’s office (Ghasabeh et al., 2015). The leader’s behaviors stimulate the follower’s performance through the follower’s work characteristics, which identifies with the leader and follower’s innovation climate (Thuan, 2019). Also, establishing and defining roles with consistent patterns and clear channels of

communication will help in an organization run smoothly. The next theme focused on usability of software for EHRs.

Theme 2 – Usability of Software for EHRs

The second theme developed was usability of software for EHRs. In relation to the study's central research question, usability of software for EHRs is essential to the staff and patients to meet their healthcare needs. The participants were nurse managers, who are a part of nurse leadership, and involved with implementing and using EHRs in a healthcare setting. The participants stated that the EHR systems used in their practice are Cerner and Epic. The software digitally stores the health information of each patient. It can be shared among different providers. The participants mentioned that EHRs were implemented to save money, increase profit, keep track of medical notes, and a mandate to use an EHR by the State of Georgia. Participant 2 stated, "Our office switched to Epic because it was easier to review and transfer patients' records to the larger facilities, like Piedmont and Emory." The findings of the study suggest that using EHR software is beneficial for physicians to facilitate communication with other providers. The participants' responses suggest the need to leverage EHRs to increase profit and productivity based on the usability of software for EHRs, such as Cerner and Epic.

Theme 2 is associated with the subtopic, time management, which relates to organizing and planning on how to divide time between charting and patient's care. Time management must be in place to improve job satisfaction, patient satisfaction and outcomes. Participant 2 stated, "We reach out to patients and schedule their appointments to come in the office. We schedule future vaccinations, testing, and mammograms to

efficiently manage each appointment and take care of the patients with care, without rushing." Participant 3 mentioned, "Continuity of care plays a major role where we all cooperate to provide quality of care." The participants implied prioritizing, decision-making, scheduling, and multi-tasking will improve the usability of software for EHRs.

Participant 3 stated, "A patient's care is lax when unnecessary time is spent doing bedside charting." Participant 4 indicated, "Everyone cannot be in the system creating notes. If so, the notes are deleted and have to be rekeyed." The EHR systems, Cerner and Epic, has an automatic patient record reconciliation, which reduces clinician "data hunting time (Cerner, 2019; EPIC, 2019). It restores an estimated tens of thousands of hours per year to physicians (Cerner, 2019). Duty to the patient is a unique professional responsibility that regularly challenges physician time management (Pitre et al., 2018).

Usability of software for EHRs emerged from the analysis related to individualized consideration (IC) in the TL framework. IC represents leadership who provides a supportive environment and listens to concerns or needs expressed by employees (Northouse, 2015). IC provides guidance and building trust, which is an important requirement for team performance and more effective under higher workload conditions (Martinez-Corcoles et al., 2018). When employees rethink strategies, it creates new and useful ideas for improving products and services, while pursuing goals (Le Cong, 2019). Therefore, when a problem arises, the employees feel comfortable going to their subordinate with their concern and trusting that a solution follows. The research continues to support IC as a significant indicator of leveraging EHRs to increase profit

and productivity in organizations aligning with the theme. The next theme focused on requiring accurate documentation.

Theme 3 – Requiring Accurate Documentation

The third theme was requiring accurate documentation. Requiring accurate documentation, relates to the central research question, as physicians and nurses accurate recording of medical information regarding a patient's demographics, medical history, diagnoses, and prescription record. Quality documentation that accurately supports the diagnosis assigned and reflects the core delivered for appropriate reimbursement is based on the software used. Teamwork plays a vital part in accurate documentation because multiple people will be reading the medial notes and the patient's health depends on accurate documentation. Participant 1 stated:

Documentation is mostly due to human error, not the system itself. Documenting is difficult because there are a lot of codes to use, which differs with ordering labs or medication. It is important to document correctly for the next physician/nurse to review and move forward with the patient's care.

Participant 3 indicated, "A lack of documentation can become an issue if the medical information is not charted and uploaded it to the system. Everyone has access to the system so one person can add or delete from a patient's record. Participant 4 noted, "Electronic health records make it easier for documenting because we don't have to keep up with papers. It is easier because the records are stored in the computer, get copies, and transfer as needed." Usability of software for EHRs coincides with requiring accurate documentation due to the accurateness of the physicians' notes that is notated in the

system. The patient's medical records are updated in real-time, instantly available, and seen by authorized users. The responses of the participants suggest that requiring accurate documentation increases profit due to concise billing, with the ability to charge more for the services provided.

Paper charting and productivity are subtopics of requiring accurate documentation, which is a result of using paper to write down the patients' medical information when the system is down, which affects productivity. Paper charting was standardized by the American College of Surgeons (ACOS), where patient's paper charts were handwritten and kept in files on specially designed shelves until the mid to late 20th century, when new technology was being developed (Neuman, 2019). Although the office may result to paper charting on occasion, paper charting is an alternative when the system malfunctions. The staff must show patience that the issue will be resolved, although using an alternative route is daunting. All the participants stated that they result to paper charting when the system goes down. Participant 1 said:

Paper charting is important because the patient comes first. However, it causes a big conflict when the physicians want to stand there and chart the information right then, and the nurses must write down everything on paper. Once the system comes back up, the nurses must put in the vitals and orders. It causes conflict because it is a time constraint, especially on a busy day.

Participant 2 stated:

Paper charting is messy because charts would get mixed up and it is a lot of filing. Also, the office was unable to share information with other providers. It is a

disadvantage because human error occurs, and critical things could have been missed.

Participant 3 indicated, “It is time consuming and things can get misplaced or lost.”

Participant 4 emphasized:

> It is time consuming as well due to the patient’s information has to be completed and closed in the electronic record that day. Also, it is an inconvenience having to sift through years of paper records and keep tracking of them.” Nevertheless, the staff is being productive while continuously working and providing their patients with care. Since the nurses and staff works closely with the physician, the physician must have effective communication and listening skills. Everyone must understand the office protocols when the system goes down and result to paper charting.

Productivity also plays a role in requiring accurate documentation due to measuring the work performed by the staff in a physician’s office. Productivity is measured by (a) the number of procedures performed by the procedure code(s) billed for a period of time, (b) multiplied the number of procedures by the total of RVUs (relative value units – a physician’s fee scheduled to determine payments on each service), and (c) total of the products (Texas Medical Association, 2020). Productivity can increase when majority of the notes are completed during the point of care and ensures accuracy in documentation. Productivity in the office improves job satisfaction for clinicians and

staff, such as: less duplication of work, less need for tedious tasks, more focus on patients' care, improve retention rate, and practice morale (Vant, 2016). Based on the participants' responses, paper charting is still productive although there is a concern if the documentation is accurate.

This theme is related to inspirational motivation (IM), which motivate employees to excel in their work through communication via pep talks and encouragement. Everyone plays a key role in the future growth of the company. IM is inspired through leaders who encourages their followers to commit to an organizational goal, work hard, and reach objectives. Motivating employees to work together in accomplishing a goal improves employee job performance (Langat et al., 2019). Creating and continuously making a profit is probable when accurately documenting the records using EHRs. The physician achieved inspirational motivation by raising the level of consciousness about the importance and value of outcomes, ways of reaching them and transcending self-interest for the sake of the office staff (Brandt et al., 2016). The success in today's business environment is not achievable without employing an effective leadership that can enable organizations to accomplish their goals (Ghasabeh et al., 2015). Inspirational motivation is effective because it drives the employees to maintain a positive relationship between motivation and job performance as well as intrinsic motivation and job satisfaction (Langat et al., 2019). By working to achieve a thorough understanding of issues in the workplace, employees come to believe they are capable of expressing their ideas, which inspires them to challenge the existing state of affairs and voice thoughts (Jiang et al., 2018). The next theme focused on additional training for the medical staff.

Theme 4 – Additional Training for the Medical Staff

Additional training for the medical staff, as it relates to the central research question, is obtaining additional learning skills of the EHR system through clinical modules to train and develop an individual on their respective job position. The consultants for the EHR companies are experts of the software vendor's application and managing people through change. Additional training includes web-based, in-classroom (before Covid-19), and 1 on 1 training. Participant 3 stated, "A lot of our employees were re-trained on the new Cerner system. It was hard because some were not computer-savvy. The training was conducted by Cerner's consultants." Participant 2 mentioned, "Our employees struggled when we went to the Epic system." Participant 1 emphasized, "It was difficult because there were a lot of codes to learn. By taking notes and writing down the steps, it helped because the steps are repetitive." Participant 4 indicated, "During training, the system was easy to navigate and learn quickly but not user-friendly."

The staff's workload and profit are subtopics with additional training for the medical staff. The tasks assigned to the staff (physicians, nurses, lab techs, and administration) are used for planning and controlling production. The staff uses different sections in an EHR system due to their position and workload. When leadership inspires the employees and organization, it enhances self-identification and energizes teamwork (Salas-Vallina & Fernandez, 2017). Participants 2 and 3 stated, "There is no uniform way in using the system for everyone because the navigation between screens and entering the patients' information in the system are different." Also, Participant 3 indicated, "When

updates are made, it is a waste valuable time that could be used towards the patients. They have to figure out the updates and usually the physicians have the most difficult time since they do not use the system as much." Participant 1 indicated, "Using different screens depends on the service. For example, if a lab or medications need to be ordered, a different subtopic is used with both. Also, the nurses must make sure they are ordering the correct lab or medication, so it is difficult." Navigating through an EHR system is different for everyone. The physicians and administration may have a hard time because they do not use the system as much. Additional training is needed due to transition because their screens did not mirror those of the nurses and techs. Therefore, the trainers and modules guide them on how to use and maneuver through the system.

Profit plays a role in additional training for the medical staff due to improving operational efficiency, lowers overhead, and increase revenue due to accurate billing and coding. Affordability, profit margin, and meaningful use contribute to the success of implementing and using an EHR in a physician's office. The EHRs used to achieve a healthier bottom line with clinical, financial, and operational data all working together (Cerner, 2020). The software used with the system gives providers better equipped to manage chronic disease, control costs, and produce complete and compliant clinical documentation required for reimbursement (Cerner, 2020). A quantifiable benefit for profit is calculating the return on an EHR system. The participants indicated their respective office increased their profit margin through billing and coding after implementing a new system with software to accurately price the medical services rendered. Participant 2 indicated, "Some procedure codes, such as vaccinations and

mammograms, increase their profit margin at the end of each quarter." As an employee, it is vital to express the significance for the need to grow and participate in decisions affecting work and career (Brandt et al., 2016). Participant 4 indicated, "In order to increase profit, the system must grow with the company." Participant 3 stated, "After switching to Cerner, it gave the providers the ability to charge for more services." Additional training for the medical staff is conducive with satisfaction with the staff, some things are uncontrollable, such as, erratic schedules, work interruptions, emotional and physician fatigue, and unforeseen patient-care management changes (Pitre et al., 2018). As the participants disclosed, the intent to leverage EHRs to increase profit and productivity must strategically improve scheduling control to correlate positively with the staff's career satisfaction. Career satisfaction associates with decreased physician burnout (Pitre et al., 2018). Engaged medical staff have higher career satisfaction and may stay in their current role due to a connection characterized by dedication to their patients and work ethics.

Additional training for the medical staff emerged from the analysis related to idealized influence (II) in the TL framework. It provides a clear vision and a sense of belonging, where followers identify having high standards of moral and ethical conduct and counted to do the right thing (Northouse, 2015). Idealized influence has a significant effect on employee optimism and has positive influence in the workplace (Azizah et al., 2020). Training related to II based on the physician being a role model to his office staff and encourage them to embrace the training so everyone can be proactive in using the system. Training courses are used to increase the capability of employee through

empowerment behaviors (Algatawenh, 2018). Therefore, the participants conveyed that the strategy, additional training for the medical staff, improves an employee's productivity and performance while increasing profits for the physician.

Documentation Analysis

My review of public documents of EHRs supported data from the interviews and notable themes. Documents, such as a physician portal user guide and a financial statement, were useful in understanding the strategies to leverage EHRs to increase profit and productivity. I was able to obtain a public financial statement from two of the participants' physician office that use EPIC, a healthcare software company. The financial statement, the Combined Statements of Operations, is an income statement that show the company's revenues, expenses, and calculated the company's net profit or net loss for fiscal year 2018. Based on the annual EHR implementation costs, operating income in June 2017 and June 2018, the total amounts show revenues in excess of expenses presented the need to leverage EHRs and illustrate the financial benefit of the services. The statement displays a gain in profit after the EMR implementation. The financial statement confirms the themes, effective communication between EHRs and usability of software for EHRs, relates to the financial progression needed to implement and maintain an EPIC EHR system in the office.

An organizational document, physician portal user guide by Cerner, gave viable instructions to access patients' information. The user's guide gives step by step instructions on: (a) accessing the health physician portal; (b) finding the patient; (c) ambulatory summary page; (d) viewing lab result details; (e) viewing documents and

radiology, microbiology, or pathology reports; and (f) printing reports. There are three report templates that physicians use to review the patient's health information in the physician portal. The report templates are allergies, meds, immunizations, problems, provider notes, and test results. The health information is meant for the office staff use only and should not be given to the patient. The user portal confirms that the themes, requiring accurate documentation and additional training for the medical staff, relates to a useful guide for training the staff on the office's EHR system and assuring that documentation is accurate due to templates viewed by other providers electronically.

Safe and appropriate nurse staffing levels are a vital topic within health care systems in the United States (Hummel et al., 2020). Nurse leaders of all levels influence and contribute to developing and delivering the medical organization's digital plans for EHRs. The National Data Base of Nursing Quality Indicators stated that 83% of nurses agree that an improvement in nurses' workload would promote nurse retention (Hummel et al., 2020). The nurses indicated that enthusiasm for the job they love is not easily extended towards the technology being used. The technology of EHRs could make their professional lives more manageable, which leads to better care for their patients.

Currently, EHRs are widely used to create a single, shared, and reliable source of patient data throughout healthcare organizations and implemented because of they promise improved patient service, quality, healthcare safety with reduced costs. EHRs are designed to integrate medical specialties' healthcare safety with reduced costs. EHR workarounds are behaviors that may differ from an organization's prescribed or intended procedures. The workarounds circumvent or temporarily fix an evident or perceived

workflow hindrance meeting a goal of achieving it more readily (Boonstra et al., 2021). In an EHR context, a workaround can involve skipping prescribed steps, entering data that others should join, or registering activities later in the EHR system rather than letting the system guide these activities (Drexler, 2020). Based on my findings, the nurses stated that additional training for the medical staff is needed on their EHR system since the staff uses different sections due to their position and workload. There is no uniform way to use the system because navigating between the screens are different for the physician, the nurse, the lab tech, and the office manager. These challenges are further complicated when nurses fail to communicate documentation issues to the designers of the electronic record. Nurses manage these issues by creating workarounds. Workarounds' consequences are perceived as unfavorable and potential for medical errors (Drexler, 2020). Consequences can occur when workarounds are performed around an EHR system. Some examples are (a) placing a copy of a patient's ID in several places, (b) not checking the system for medication verification, and (c) dispensing medication before an order is confirmed in the system.

EHR databases are constantly updated with all patient healthcare encounters, such as medical visits and procedures, laboratory tests or medical imaging, drug dispensing, hospital stays over a period or sometimes a lifetime. The databases, by their richness and their depth, contain information not available in medical charts. Hence, they may provide a holistic overview of the patient journeys in real-life settings (Thurin et al., 2021). There is no room for error when working in the medical field, and a patient's health is at stake. Most EHRs lack patient data regarding the pre-symptomatic stage of the disease.

Therefore, many EHR databases will be of limited benefit to researchers who intend to investigate aspects of the early stages of disease onset, such as the pre-symptomatic stage of Alzheimer's disease (Wakabayashi et al., 2021). Based on my findings, the participants indicated that their offices used electronic health records because it was easier to transfer patients' records to more extensive facilities, review and update the patient's clinical accordingly.

The nurse leader's role was central in brokering knowledge and innovation and spanning boundaries between disciplines and departments (Kirwan et al., 2020). Moving forward, embracing technology to assist with making staffing decisions may improve consistency and standardization, ultimately increasing staff and patient satisfaction (Hummel et al., 2020). The findings in my study indicate that time management plays an essential role in using EHRs due to scheduling appointments, prescribing medications, and inputting medical notes during the patient's visit. The benefits of EHR systems are recognized mainly to support continuously providing excellent care, improving clinical decisions, and reducing medical resources. However, without systematic evaluation, the system use could negatively affect the job performance of clinical staff (Salleh et al., 2021). EHRs are created from integrated health information systems through secured computer networks. These networks are available to authorized care providers for consultation and exchange purposes across health care settings (Salleh et al., 2021). Challenges in the implementation of HIS, including (a) workflow disruptions with changing and complicated processes, (b) lengthy training procedures for learning HIS handling, (c) low computer hardware and network connectivity, and (d) loss of interest of

physicians and nurses for using HIS due to lack of IT skills. EHR vendors are vital with software updates, saving money on maintenance, and technical support. The technical team also provides other services to the physician offices, such as training and education, data support, software support, and infrastructure support. Researchers suggested this was risking patient safety because the IT systems do not communicate with one another, making cross-referencing difficult and potentially leading to errors (Foster, 2020). Per the findings in my study, quality documentation is needed to support the diagnoses assigned and treat the patient effectively. It is vital to document the patient's medical history so the next provider can review and plan the patient's care as needed.

When addressing EHRs, chief nursing officers (CNOs) struggle to address the question of having the tools to perform their work in the physician's office (Drexler, 2020). Despite the benefits and financial investment of EHRs, the transition and implementation have created challenges for nurses. The participants in my study specified that the nurses used the EHR system more than the physician or administration. Therefore, nurses have ideas to present with making the system user-friendly. Some nurses would like to be included in the implementation, design, sustainability of electronic documentation. Nursing leaders are well-positioned to address these challenges and facilitate a more effective change process for nurses. Successful nursing managers were able to achieve these outcomes through the implementation of EHR systems.

My findings align with the new literature, which supports the positive impact of leadership among nurse managers and the medical staff using EHRs. Their desire to

participate in the study was used as a foundation where others nurse managers and healthcare leaders can be educated and mentored to understand the benefits of using an EHR to increase profit and productivity in their practice. Transformational leadership inspires positive changes in employees, whereas the fundamentals of empowerment are necessary to contribute to the organization positively. Nurse managers can become actively engaged in problem-solving to improve nurse satisfaction with EHRs. The financial results of using EHRs may be increased adoption, optimization, and utilization. The productivity results may enhance recruitment and retention, improved nursing practice and processes, and improved nurse satisfaction.

Applications to Professional Practice

Nurse managers can apply the findings from this study to professional practice by establishing strategies to improve profit and productivity, two critical financial assets in a healthcare organization. The healthcare sector has strategic goals, seeking to meet objectives created to increase revenue and operations. The updated changes with EHRs, with proper training and continuous learning, providers will see an increase in profit and productivity. Providers must meticulously promote the routine of using the software to their staff by highlighting the clinical, operational, and financial features supporting the quantifiable and nonquantifiable benefits. Nurse managers must keep themselves and their patients in mind when integrating EHR systems. Problems will arise, such as, high costs (purchase, implementation, and maintenance), training, and technical issues. These problems must be anticipated, and a contingency plan should be established. The

strategies are necessary in developing acceptance and a positive change to leverage EHRs to increase profit and productivity.

Nurse managers may apply this study's findings to develop strategies to improve healthcare operations by developing and creating an organizational culture that promotes interoperability and usability tools for the EHR systems. The staff's feedback in the implementation and training stages can provide valuable information. The information can provide insight into the healthcare operations to overcome obstacles related to EHRs. Furthermore, by evolving the medical community in accepting EHRs, the physician offices will be able to control overhead costs, produce error-free documentation, and manage patients' healthcare for proper reimbursement with accurate billing.

Implications for Social Change

The implications for social change may be achieved by helping nurse managers improve efficiencies through coordination of healthcare services, enhancing clinical decision making, and providing better healthcare at a lower cost to patients. The objectives are to improve the interoperability of EHRs for providers and access to data for patients. The Office of the National Coordinator for Health Information Technology (ONC) stated that patients will be able to interact more easily with their data through patient portals and mobile health apps, and "shop" for care by comparing costs, understanding possible treatments, and expected health outcomes (Rodriguez et al., 2020). The United States Department of Health and Human Services (HHS) is making health data more computable and giving patients more control of their medical record (HealthIT.gov, 2018). Building on more than 300,000 health apps and $7.4 billion in

digital health investments in 2019 alone, this policy environment may significantly transform the ways patients access care (Rodriguez et al., 2020). EHRs can sustain market position by providing digital solutions, such as developing mobile apps for patients to have access to their electronic records, which modernizes healthcare services globally (Wass & Vimarlund, 2015). With a patient having access to their medical record, social change may be achieved with coordinating healthcare and preventative services between the physician and patient and enhancing clinical decision making during the process, which satisfies the patient regarding their healthcare needs.

Recommendations for Action

Nurse managers in the west central region of Georgia have an opportunity to provide other nurse managers with new insight that they could use to improve profit and productivity in their respective practices. Increasing profit and productivity in the healthcare sector is imperative when leveraging EHRs. As the federal government's meaningful use incentives dismantle the financial obstacles that hindered EHR implementations, individual practices will get a chance to realize the operational and clinical benefits associated with the technology (Dente, 2011). The benefits with using EHRs are real-time shared health data with relevant information on each patient. Other nurse managers in the same region of Georgia who have not implemented an EHR and still paper chart, can benefit from these strategies. The failure of nurse managers to implement feasible strategies to leverage EHRs in their organizations to increase profit and productivity might have a negative effect on business operations. The information shared by the participants in this study may benefit the medical offices that does not show

an increase in their profit and productivity using their EHR system. It may result in improved operational efficiency, improved job satisfaction for physicians and staff, and improved patient satisfaction and outcomes.

The findings of this study will be disseminated through certification courses held by the EHR companies, such as Epic and Cerner; customized peer to peer training, presentations in employee workshops with literature and a training manual that is readily available to the medical staff. The participants will receive a 1-2 pages summary to distribute the recommendations to their colleagues and other nurse managers. Also, I will share and deliver the findings of this research through Zoom meetings and conferences with electronic instructional guides.

Recommendations for Further Research

The purpose of the study was to identify strategies that some nurse managers have used to leverage EHRs in the west central region to increase profit and productivity. Further research will add to the current research on operations performed in the physician's office and communication between most EHRs. The findings may lower overhead costs, duplication of work and tedious tasks, and improve tools and best practices related to improving patients' outcomes. My first recommendation for further research is to duplicate the study in other rural areas in Georgia. My second recommendation for further research is EHR workarounds that focus on users (medical staff) who enact on all the workarounds perform daily through direct and indirect observations. Also, I recommend having a larger sample size of participants that work in a physician's office with different titles, work experience, and EHR experience. Due to

the Coronavirus pandemic, some practices were not making money and 40% or more of their revenue were going towards overhead costs (Rubin, 2020). People were afraid of visiting their physicians or hospitals and sitting in the waiting room for fear of being exposed to the virus. Telehealth has intensified in the last past year (2020) due to the virus. Therefore, nurse managers knew the importance of telehealth EHR implementation because majority of their patients are considered high risk or elderly (Jason, 2020). Prior to the Coronavirus, some providers were not interested in using telehealth and few patients were using it. By researching the telehealth tool being embedded into the EHRs, it can be a potential research topic and might provide additional knowledge about effective strategies.

Reflections

My experience in the DBA program at Walden University was a smooth process until I started writing my prospectus in 2018. I had attended both residencies and I was interested in medical records since I worked in the health insurance industry for over 17 years. Once I decided on the research topic, "Nurse managers strategies for leveraging electronic health records", I began reading on the subject because I was unfamiliar with EHRs. My current physicians currently use paper charting; therefore, I was intrigued to learn about EHRs. My biggest challenge was not becoming bias on the use of EHRs. After approval of my proposal and IRB material to start data collection, I obtained a better understanding of why my personal views were unnecessary to voice about EHRs to the participants.

I encountered a few setbacks while working on my doctoral study. My first setback was finding a new first chair two weeks after my first oral presentation approval because my old one left Walden. I was in the middle of completing my IRB form, while reviewing the chairs that would be a good fit for me. After approval from IRB, I began the tedious process of sending email invitations to potential participants to participate in the study. My second setback was due to COVID-19 and being unable to receive a response from the physician's offices to participate. I could not conduct face to face interviews or receive a signature on the consent form. Most practices were not fully staffed because few people were making appointments. Out of 13 email invites, only four replied back with 'I Consent' to an interview. The data collection process started making sense once I finished the interviews, learned NVivo 12, and transcribing the data analysis. However, in October 2020, my third setback occurred. I was involved in an accident and I was unable to work on my study for two weeks. I was devastated but I pushed forward to catch up with my work. It was challenging but it was worth the time and effort to complete this study. In the future, I hope I can present my findings to other nurse managers so they can review and maybe began the process of implementing an EHR system in their respective practice.

Conclusion

Increasing the profit and productivity for nurse managers by leveraging EHRs are vital for cost-effective processes, accurate diagnosis and treatments, which increases overall health and safety for patients. The findings from the participants' interviews suggested that: (a) effective communication between EHRs, (b) usability of software for

EHRs, (c) requiring accurate documentation, and (d) additional training for the medical staff were strategies used to answer the central research question. However, some healthcare providers continue to paper chart and use paper files. Therefore, some nurse managers lack strategies to leverage EHR systems to increase profit and productivity. Additional research is needed to identify other strategies that will be effective with increasing profit and productivity for other nurse managers that have not implemented an EHR system.

Semistructured interviews through Zoom were conducted with four nurses in the west central region of Georgia. I triangulated the data from the interview transcripts and voice recordings from Zoom videos of the participants' responses to the interview questions and member checking. The results of the multiple case study attested that (a) effective communication between EHRs, (b) usability of software for EHRs, (c) requiring accurate documentation, and (d) additional training for the medical staff were effective with increasing profit and productivity in the physician's office when leveraging an EHR system. I recommend that nurse managers use the findings to obtain a greater understanding and develop strategies to increase profit and productivity.

References

Abdalla, M., Oliveira, L., Azevedo, C., & Gonzalez, R. (2017). Quality in qualitative organizational research: Types of triangulation as a methodological alternative. Administração: Ensino e Pesquisa, *19*(1), 66-98. https://doi.org/10.13058/raep.2018.v19n1.578

Adashi, E., Walters, L., & Menikoff, J. (2018). The Belmont Report at 40: Reckoning with time. *American Journal of Public Health, 108*(10), 1345-1348. https://doi.org/10.2105/AJPH.2018.304580

Agboola, S., Golas, S., Fischer, N., Nikolova-Simons, M., den Buijs, J., Schertzer, L., Kvedar, J., Jethwani, K., & Op den, J. (2017). Healthcare utilization in older patients using personal emergency response systems: An analysis of electronic health records and medical alert data. *BMC Health Services Research, 17,* 1-10. https://doi.org/10.1186/s12913-017-2196-1

Agency of Healthcare Research and Quality. (2018). Understanding Quality Measurement. *U.S. Department of Health & Human Services*. https://www.ahrq.gov/

Adler-Milstein, J., Green, C., & Bates, D. (2013). A survey analysis suggests that electronic health records will yield revenue gains for some practices and losses for many. *Health Affairs, 32*(3), 562-570. https://doi.org/10.1377/hlthaff.2012.0306

Alase, A. (2017). The interpretative phenomenological analysis (IPA): A guide to a good a qualitative research approach. *International Journal of Education and Literacy*

Studies, 5(2), 9-19. https://doi.org/10.7575/aiac.ijels.v.5n.2p.9

Aldosari, B. (2017) Causes of EHR projects stalling or failing: A study of EHR projects in Saudi Arabia. *Computers in Biology and Medicine, 91*, 372-381. https://doi.org/10.1016/j.compbiomed.2017.10.032

Alqatawenh, A. (2018). Transformational leadership style and its relationship with change management. *Business: Theory & Practice, 19*, 17-24. https://doi.org/10.3846/btp.2018.03

Andreou, P., Christodoulos, L. & Petrou, A. (2016). Organizational learning and corporate diversification performance. *Journal of Business Research, 69*(9), 3270-3284. https://doi.org/10.1016/j.jbusres.2016.02.022

Attaallah, A., Elzamzamy, O., Phelps, A., Ranganthan, P., & Vallejo, M. (2016). Increasing operating room efficiency through electronic medical record analysis. *Journal of Perioperative Practice, 26*(5), 106-113. https://doi.org/10.1177/175045891602600503

Azizah, S., Nurhayati, S., Anggraeni, A., & Helmy, I (2020). The impact of transformational leadership on innovative capability: mediating role of employee optimism. *Management Science Letters, 11*(2), 435-440. https://doi.org/10.5267/j.msl.2020.9.025

Baird, A., Davidson, E., & Mathiassen, L. (2017). Reflective technology assimilation: facilitating electronic health record assimilation in small physician practices. *Journal of Management Information Systems, 34*(3), 664-694. https://doi.org/10.1080/07421222.2017.1373003

Bar-Lev, S. (2015). The politics of healthcare informatics: Knowledge management using an electronic medical record system. *Sociology of Health & Illness, 37*(3), 404-421. https://doi.org/10.1111/1467-9566.12213

Baskarada, S. (2014). Qualitative case study guidelines. *The Qualitative Report, 19*(40), 1-18. http://nusworks.nova.edu/tqr/vol19/iss40/3/

Batsakis, G. & Mohr, A. (2017). Revisiting the relationship between product diversification and internationalization process in the context of emerging market MNEs. *Journal of World Business, 52*(4), 564-577. https://doi.org/10.1016/j.jwb.2016.11.005

Ben-Assuli, O. & Leshno, M. (2013). Using electronic medical records in admission decisions: A cost effectiveness analysis. *Decision Sciences, 44*(3), 463-481. https://doi.org/10.1111/deci.12018

Biltoft, J. & Finneman, L. (2018). Clinical and financial effects of smart pump-electronic medical record interoperability at a hospital in a regional health system. *American Journal of Health-System Pharmacy, 75*(14), 1064-1068. https://doi.org/10.2146/ajhp161058

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research, 26*(13), 1802-1811. https://doi.org/10.1177/1049732316654870

Boca, G., Mukaj, L., & Vishkurti, M. (2016). Creating a model culture of management change. *Annals of the University of Oradea, Economic Science Series, 25,* 871-880.

Boehmer, K., Kyriacou, M., Behnken, E., Branda, M., & Montori, V. (2018). Patient capacity for self-care in the medical record of patients with chronic conditions: A mixed-method retrospective study. *BMC Family Practice, 19*, 1-7. https://doi.org/10.1186/s12875-018-0852-0

Boostra, A., Jonker, T., van Offenbeek, M., & Vos, J. (2021). Persisting workarounds in electronic health record system use: types, risks, and benefits. *BMC Medical Informatics & Decision Making, 21*. https://doi.org/10.1186/s12911-021-01548-0

Bowen, G. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9*(2), 27-40. https://doi.org/10.3316/QRJ0902027

Bowman, S. (2013). Impact of electronic health record systems on information integrity: Quality and safety implications. *Perspectives in Health Information Management*, 1-19.

Brandt, T., Laitinen, E., & Laitinen, T. (2016). The effect of transformational leadership on the profitability of Finnish firms. *Emerald Insight, 24*(1), 81-106. https://doi.org/orf10.1108/IJOA-03-2014-0744

Breevart, K. & Bakker, A. (2018). Daily job demands and employee work engagement: The role of daily transformational leadership behavior. *Journal of Occupational Healthy Psychology, 23*(3), 338-349. https://doi.org/10.1037/ocp0000082

Brothers, K., Rivera, S., Cadigan, R., Sharp, R., Goldenberg, A., Cook-Deegan, R., Majumder, M., & McGuire, A. (2019). A Belmont reboot: Building a normative foundation for human research in the 21st century. *Journal of Law, Medicine, &*

Ethics, 47(1), 165-172. https://doi.org/10.1177/1073110519840497

Brown, M. (2016). Can't you just pull the data? The limitations of using of the electronic medical record for research. *Pediatric Anesthesia, 26*(11), 1034-1035. https://doi.org/10.1111/pan.12951

Burson, J. & Harvey, N. (2019). Mo money, mo problems: When and why financial incentives backfire. *Journal of Management Information & Decision Sciences. 22*, 191-206.

Carleton, E., Barling, J., & Trivisonno, M. (2018). Leaders' trait mindfulness and transformational leadership: The mediating roles of leaders' positive affect and leadership self-efficacy. *Canadian Journal of Behavioural Science, 50*(3), 185-194. https://doi.org/10.1037/cbs0000103

Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., & Neville, A. (2014). The use of triangulation in qualitative research. *Oncology Nursing Forum, 41*(5), 545-547. https://doi.org/10.1188/14.onf.545-547

Castillo-Montoya, M. (2016). Preparing for interview research: The interview protocol refinement framework. *The Qualitative Report, 21,* 811-831. https://nsuworks.nova.edu/tqr/vol21/iss5/2/

Centers for Medicare & Medicaid Service (2019). Fiscal year (FY) 2020 Medicare hospital inpatient prospective payment system (IPPS) and long term acute care hospital (LTCH) prospective payment system (CMS-1716-F). www.cms.gov.

Cerner. (2020). Clinical Documentation Improvement. www.cerner.com.

Cho, Y (2018). Noise source visualization using a digital voice recorder and low-cost sensors. *Sensors, 18*(4), 1-17. https://doi.org/10.3390/s18041076

Clement, J. & Holle, L. (2017). Safe administration of intracerebral spinal fluid chemotherapy: Time for guidelines. *Journal of Oncology Practice, 13*(11), 713-718. https://doi.org/10.1200/JOP.2017.022038

Collum, T., Menachemi, N., & Sen, B. (2016). Does electronic health record use improve hospital financial performance? Evidence from the panel data. *Health Care Management Review, 41*(3), 267-274. https://doi.org/10.1097/HMR.0000000000000068

Cohen, I. & Mello, M. (2018). HIPAA and protecting health information in the 21st century. *JAMA: American Medical Association, 320*(3), 231-232. https://doi.org/10.1001/jama.2018.5630

Cohen, I., Hoffman, S., & Adashi, E. (2017). Your money or your patient's life? Ransomware and electronic health records. *Annals of Internal Medicine, 167*(8), 587-588. https://doi.org/10.7326/M17-1312

Collins, B., Burrus, C., & Meyer, R. (2014). Gender differences in the impact of leadership styles on subordinate embeddedness and job satisfaction. *Leadership Quarterly, 25*(4), 660-671. https://doi.org/10.1016/j.leaqua.2014.02.003

Colwell, J. (2015). Analyze EHR data to improve financial reporting. *Medical Economics, 92*(22), 43. http://www.advanstar.com/index_allpubs.html

Covington, M. (2015). Ethical climate change policy and the individual moral challenge. *Ecology Law Quarterly, 42*, 521.

Crowson, M., Vail, C., & Eapen, R. (2015). Influence of electronic medical record implementation on provider retirement at a major academic medical centre. *Journal of Evaluation in Clinical Practice, 22*(2), 222-226. https://doi.org/10.1111/jep.12458

Cuardrado, I., Navas, M., Molero, F., Ferrer, E., & Morales, J. (2012). Gender differences in leadership styles as a function of leader and subordinates' sex and type of organization. *Journal of Applied Social Psychology, 42*(12), 3083-3113. https://doi.org/10.1111/j.1559-1816.2012.00974.x

Dang, B., Westbrook, R., Njue, S., & Giordano, T. (2017). Building trust and rapport early in the new doctor-patient relationship: A longitudinal qualitative study. *BMC Medical Education, 17*(32), 1-10. https://doi.org/10.1186/s12909-017-0868-5

Darr, K. (1998). Electronic medical records: The future-at some point. *Hospital Topics, 76*(1), 29-31. https://doi.org/10.1080/00185869809596489

Denzin, N. (2009). *The research act: A theoretical introduction to sociological methods.* Aldine Transaction.

Deokar, A. & Sarnikar, S. (2016). Understanding process change management in electronic health record implementations. *Information Systems & e-Business Management, 14*(4), 733-766. https://doi.org/10.1007/s10257-014-0250-7

Dente, M. (2011). EHR benefits in action. How leveraging actionable knowledge will strengthen public health effects. *Health Management Technology, 32*(3), 32. www.healthmgttech.com

Deschamps, C., Rinfret, N., Lagace, M., & Prive, C. (2016). Transformational leadership and change: How leaders influence their followers' motivation through organizational justice. *Journal of Healthcare Management, 61*(3), 194-212. https://doi.org/10.1097/00115514-201605000-00007

Drexler, D. (2020). Using a nursing professional governance approach to improve nurse satisfaction and participation with health information technology. *Nurse Leader, 18*(3), 276-280. https://doi.org/10.1016/j.mnl.2020.03.003

Dumlao, R. & Pinatacan, J. (2019). From practice to writing: Using reflective journal instruction in enhancing pre-service teachers' professional development. *International Journal of Instruction, 12*(4), 459-478. https://doi.org/10.29333/iji.2019.12430a

Dyer, J., Godfrey, P., Jensen, R., & Bryce, D. (2016). *Strategic management: Concepts and tools for creating real world strategy.* Hoboken, NJ: John Wiley & Sons.

Ellis, T. & Levy, Y. (2009). Towards a guide for novice researchers on research methodology: Review and proposed methods. *Issues in Informing Science & Information Technology,* 6, 323-337. https://doi.org/10.28945/1062

Engineer, C., Aswani, M., Peters, D., Gundla, A., & Bennett, S. (2015). Empower integrated healthcare delivery: Rapid review of change management across

healthcare organizations. *International Journal of Integrated Care (IJIC), 15*(8), 35-37. https://doi.org/10.5334/ijic.2304

Epic. (2020). Epic: with the patient at the heart. www.epic.com.

Evans, R.S. (2016). Electronic health records: Then, now, and in the future. *Yearbook of Medical Informatics, 25*, 48-61. https://doi.org/10.15265/IYS-2016-s006

Foster, S. (2020). Digital can make a difference. *British Journal of Nursing, 29,*75. https://doi.org/10.12968/bjon.2020.29.1.75

Freedman, S. & Lin, H. (2018). Hospital ownership type and innovation: The case of electronic medical records adoption. *Nonprofit & Voluntary Sector Quarterly, 47*(3), 537-561. https://doi.org/10.1177/0899764018757025

Frieder, R. Wang, G., & Oh, I. (2017). Linking job-relevant personality traits, transformational leadership, and job performance via perceived meaningful at work: A moderated mediation model. *Journal of Applied Psychology, 103*(3), 324-333. https://doi.org/10.1037/apl0000274

Fritzen-Pedicini, C., Bleasdale, S., Brosseau, L., Moritz, D., Sikka, M., Stiehl, E., & Jones, R. (2019). Utilizing the focused conversation method in qualitative public health research: a team-based approach. *BMC Health Services Research, 19*(1), 1-7. https://doi.org/10.1186/s12913-019-4107-0

Fronzo, C. (2018). Understanding change management: A clinical improvement p programme to transform your practice. *British Journal of Nursing, 27*(6), S3-S4. https://doi.org/10.12968/bjon.2018.27.Sup6.S3

Fluk, L. (2015). Foregrounding the research log in information literacy instruction. *The Journal of Academic Librarianship, 41*(4), 488-498. https://doi.org/10.1016/j.acalib.2015.06.010

Fusch, P. & Ness, L. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report, 20,* 1408-1416. http://nsuworks.nova.edu/tqr/vol20/iss9/3/

Gauthier, S., Melvin, L., Mylopoulos, M., & Abdullah, N. (2018). Resident and attending perceptions of direct observation in internal medicine: A qualitative study. *Medical Education*, *52*(12), 1249-1258. https://doi.org/10.1111/medu.13680

Ghasabeh, M., Soosay, C., & Reaiche, C. (2015). The emerging role of transformational leadership. *The Journal of Developing Areas, 49*(6), 459-467. https://doi.org/10.1353/jda.2015.0090

Goodridge, D., Isenger, T., & Rotter, T. (2018). Patient family advisors' perspectives on engagement in health-care quality improvement initiatives: Power and partnership. *Health Expectations, 21*(1), 379-386. https://doi.org10.1111/hex.12633

Greiver, M., Barnsley, J., Glazier, R., Harvey, B., & Moineddin, R. (2012). Measuring data reliability for preventive services in electronic medical records. *BMC Health Services Research, 12*(1), 116-125. https://doi.org/10.1186/1472-6963-12-116

Gustafsson, J. (2017). Single case studies vs. multiple case studies: A comparative study. (Thesis. Halmstad, Sweden: Halmstad University.

Ham, P., Anderton, T., Gallaher, R., Hyrman, M., Simmerman, E., Ramanathan, A., Fallaw, D., Holsten, S., & Howell, C. (2016). Development of electronic medical record-based rounds report results in improved resident efficiency, more time for direct patient care and education, and less resident duty hour violations. *American Surgeon, 82,* 853-859.

HealthIT.gov (2018). *Benefits of EHRs.* https://www.healthit.gov/topic/health-it-basics/benefits-ehrs

Hildenbrand, K., Sacramento, C., & Binnewies, C. (2018). Transformational leadership and burnout: The role of thriving and followers' openness to experience. *Journal of Vocational Behavior. 23,* 41-51. https://doi.org/10.1037/ocp0000051

HIPAA Journal. (2018). What is protected health information? www.hipaajournal.com/what-is-protected-health-information/

Houghton, C., Casey, D., Shaw, D., & Murphy, K. (2013). Rigour in qualitative case-study research. *Nurse Researcher, 20*(4), 12-17. https://doi.org/10.7748/nr2013.03.20.4.12.e326

Hoyland, S., Hollund, J., & Olsen, O. (2015). Gaining access to a research site and participants in medical and nursing research: A synthesis of accounts. *Medical Education, 49,* 224-232. https://doi.org/10.1111/medu.12622

Hummel, C., Laabs, L., Tyczkowski, B., Teuteberg, B., Franzen, K., & Pelkola, J. (2020). Using the electronic medical record to engage staff in equitable workload and justify staffing levels. *Nurse Leader, 18*(4), 376-380. https://doi.org/10.1016/j.mnl.2019.09.018

Iangat, G. Linge, T., & Sikalich, D. (2019). Influence of inspirational motivation of employee job performance in the insurance industry in Kenya. *International Journal of Research in Business and Social Science, 8*(6). https:/doi.org/10.20525/ijrbs.v8i6.488

Jason, C. (2020). How EHR telehealth integration evolved patient care during COVID-19. *EHR Intelligence-xtellingent Healthcare Media.* www.ehrintelligence.com

Jawhari, B. Keenan, L., Zakus, D., Ludwik, D., Isaac, A., Saleh, A., & Hayward, R. (2016). Barriers and facilitators to electronic medical record (EMR) use in an urban slum. *Journal of Medical Informatics, 94,* 246-254. https://doi.org/10.1016/j.ijmedinf.2016.07.015

Jiang, J., Gao, A., & Yang, B. (2018). Employees' critical thinking, leaders' inspirational motivation, and voice behavior the mediating role of voice efficacy. *Journal of Personnel Psychology, 17,* 33-41. https://doi.org/10.1027/1866-5888/a000193

Johnson, M., O'Hara, R., Hirst, E., Weyman, A., Turner, J., Mason, S., Quinn, T., Shewan, J., & Siriwardena, A. (2017). Multiple triangulation and collaborative research using qualitative methods to explore decision making in pre-hospital emergency care. *BMC Medical Research Methodology, 17.* https://doi.org/10.1186/s12874-017-0290-z

Johnson, S. (2019). Impact, growth, capacity-building of mixed-methods research in the health sciences. *American Journal of Pharmaceutical Education, 83*(2), 136-139. http://www.aacp.org.

Kaiser, K. (2009). Protecting respondent confidentiality in qualitative research. *Qualitative Health Research, 19*(11), 1632-1641. https://doi.org/10.1177/1049732309350879

Kawulich, B. (2005). Participation observation as a data collection method. *Qualitative Social Research, 6*(2), 1-23.

Keasberry, J., Sullivan, C., Staib, A., Scott, I, & Ashby, R. (2017). Going digital: A narrative overview of the clinical and organisational impacts of eHealth technologies in hospital practice. *Australian Health Review, 41,* 646-664. https://doi.org/10.1071/AH16233

Khan, S. & Ismail, W. (2017). To evaluate the impact of transformational leadership on organizational learning. *Clear International Journal of Research in Commerce & Management, 8*(9), 1-6.

Kim, J., Lee, Y., Lim, S., Kim, JH., Lee, B, & Lee, JH. (2017). What clinical information is valuable to doctors using mobile electronic medical records and when? *Journal of Medical Internet Research, 19*(10), e340. https://doi.org/10.2196/jmir.8128

Kim, J., Ohsfeldt, R., Gamm, L., Radcliff, T. & Jiang, L. (2017). Hospital characteristics are associated with readiness to attain Stage 2 meaningful use of electronic health records. *The Journal of Rural Health: Official Journal Of The American Rural*

Health Association And The National Rural Health Care Association, 33, 275-283. https://doi.org/10.1111/jrh.12193

Kirwan, S., Keogh, B., & Donohue, G. (2020). Nurse leadership in implementing digital change in an Irish mental health service. *Mental Health Practice.* https://doi.org/10.7748/mhp.2020.e1524

Kogan, A., Pennington, K., Vallabhajosyula, S., Dziadzko, M., Bennett, C., Jensen, J., Gajic, O., & O'Horo, J. (2017). Reliability and validity of the checklist for early recognition and treatment of acute illness and injury as a charting tool in the medical intensive care unit. *Indian Journal of Critical Care Medicine, 21,* 746-750. https://doi.org/10.4103/ijccm.IJCCM_209_17

Kohli, R. & Tan, S. (2016). Electronic health records: How can is researchers contribute to transforming healthcare? *MIS Quarterly, 40,* 553-574. https://doi.org/10.25300/MISQ/2016/40.3.02

Kohlmayer, F., Lautenschlager, R., & Prasser, F. (2019). Pseudonymization for research data collection: Is the juice worth the squeeze? *BMC Medical Informatics and Decision Making, 19,* 178-185. https://doi.org/10.1186/s12911-019-0905-x

Kranbetter, C. & Niessen, C. (2017). Managers as role models for health: Moderators of the relationship of transformational leadership with employee exhaustion and cynicism. *Journal of Occupational Health Psychology, 22,* 492-502. https://doi.org/10.1037/ocp0000044

Kruse, C. Kristof, C., Jones, B., Mitchell, E. & Martinez, A. (2016). Barriers to electronic health record adoption: A systematic literature review. *Journal of Medical Systems, 40*(252), 1-7. https://doi.org/10.1007/s10916-016-0628-9

Lambooij, M., Drewes, H., & Koster, F. (2017). Use of electronic medical records and quality of patient data: Different reaction patterns of doctors and nurses to the hospital organization. *BMC Medical Informatics and Decision Making, 17,* 1-11. https://doi.org/10.1186/s12911-017-0412-x

Lamm, K., Nguyen, N., Edgar, D., Borron, A., & Lamm, A. (2019). Know thy self: An examination between individual core self-evaluations and demographic characteristics among agricultural leadership development program participants. *Journal of Leadership Education, 18,* 15-27. https://doi.org/10.12806/V18/I4/R2

Larrison, C., Xiang, X., Gustafson, M., Lardiere, M., & Jordan, N. (2018). Implementation of electronic health records among community mental health agencies. *The Journal of Behavioral Health Services & Research, 45,* 133-142. https://doi.org/10.1007/s11414-017-9556-9

Le Cong, T. (2019). Motivating follower creativity by offering intellectual stimulation. *International Journal of Organizational Analysis, 28*(4), 817-829. https://doi.org/10.1108/IJOA-06-2019-1799

Lenhoff, A. (2018). Automated data management solutions help labs maximize efficiency and profitability. *NP Communications, LLC, 50*, 36. https://www.mlo-online.com

Lin, J., Mauntel,-Medici, C., Heinert, S., & Baghikar, S. (2017). Harnessing the power of the electronic medical record to facilitate an opt-out HIV screening program in an urban academic emergency department. *Journal of Public Health Management and Practice, 23*(3), 264-269. https://doi.org/10.1097/PHH.000000000000448

Lippincott, C., Foronda, C., Zdanowicz, M., McCabe, B, & Ambrosia, T. (2017). The relationship between magnet designation, electronic health record adoption, and medicare meaningful use payments. *CIN: Computers, Informatics, Nursing, 35*(8), 385-391. https://doi.org/10.1097/CIN.0000000000000336

Ma, C., Kuang-Ming, K., & Alexander, J. (2016). A survey-based study of factors that Motivate nurses to protect the privacy of electronic medical records. *BMC Medical Informatics and Decision Making, 16(*13), 1-11. https://doi.org/10.1186/s12911-016-0254-y

Mangione, S., Mockler, G., & Mandell, B. (2018). *Journal of General Internal Medicine, 33*(12), 2244-2247. https://doi.org/10.1007/s11606-018-4666-5

Martin, J. (2015). Transformational and transactional leadership: An exploration of gender, experience, and institution type. *portal: Libraries and the Academy, 15*(2), 331-351. https://doi.org/10.1353/pla.2015.0015

Martinez-Corcoles, M. Stephanou, K., & Schobel, M. (2018). Exploring the effects of leaders' individualized consideration in extreme contexts. *Journal of Risk Research, 23*(2), 167-180. https://doi.org/10.1080/13669877.2018.1517385

McIntosh, M. & Morse, J. (2015). Situating and constructing diversity in semi-structured interviews. *Global Qualitative Nursing Research, 2,* 1-12.

https://doi.org/10.1177/2333393615597674

Meghea, C., Corser, W., & You, Z. (2016). Electronic medical record use and maternal and childcare and health. *Maternal and Child Health Journal, 20,* 819-827. https://doi.org/10.1007/s10995-015-1912-x

Menachemi, N. & Collum, T. (2011). Benefits and drawbacks of electronic health record systems. *Risk Management and Healthcare Policy, 4*, 47-55. https://doi.org/10.2147/RMHP.S12985

Miles, M. & Humberman, A. (1994). *Qualitative data analysis: an expanded sourcebook.* Sage Publications, Inc.

Miller, West, Brown, Sim, & Ganchoff (2005). The value of electronic health records in solo or small group practices. *Health Affairs, 24,* 1127-1137. https://doi.org/10.1377/hlthaff.24.5.1127

Mishuris, R., Yoder, J., Wilson, D., & Mann, D. (2016). Integrating data from an online diabetes prevention program into an electronic health record and clinical workflow, a design phase usability study. *BMC Medical Informatics and Decision Making, 16*, 88-102. https://doi.org/10.1186/s12911-016-0328-x

Moon, K., Brewer, T., Jamuchowski-Hartley, S., Adams, V., & Blackman, D. (2016). A guideline to improve qualitative social science publishing in ecology ad conservation journals. *Ecology and Society, 21*(3), 17-27. https://doi.org/10.5751/ES-08663-210317

Morquin, D. & Ologeanu, T. (2016). Professional facing coercive work formalization:

Vicious circle of the electronic medical record (EMR) implementation and appropriation. *Procedia Computer Science, 100,* 652-657. https://doi.org/10.1016/j.procs.2016.09.207

Morse, J. (2015). Critical analysis of strategies for determining rigor in qualitative inquiry. *Qualitative Health Research, 25,* 1212-1222. https://doi.org/10.1177/1049732315588501

Morse, A. & McEvoy, C. (2014). Qualitative research in sport management: Case study as methodological approach. *The Qualitative Report, 19,* 1-13.

Moustakas, C. (1994). *Phenomenological research methods*. Sage Publications, Inc.

Murawska, J. & Walker, D. (2017). Visual tools for eliciting connections and cohesiveness in mixed methods research. *Mid-Western Educational Researcher, 29,* 274-290. https://www.mwera.org

Mullen, C. & Berrill, J. (2017). Mononationals: The diversification benefits of investing in companies with no foreign sales. *Financial Analysis Journal, 73*(2), 116-132.

Naidu, T. & Prose, N. (2018). Re-evisioning member checking and communicating results as accountability practice in qualitative research: A south-african community-based organization example. *Qualitative Social Research, 19,* 783-797. https://doi.org/doi:10.17169/fqs-19.3.3153

Neuman, D. (2019). History of paper charting. *Elation.* www.elationhealth.com/primary-care-physicians-blog/history-charting.

Ngo, E., Patel, N., Chandrasekaran, K., Tajik, J., & Paterick, T. (2016). The importance of the medical record: A critical professional responsibility. *The Journal of Medical Practice Management, 31*, 305-308.

Northouse, P.G. (2016). *Leadership: Theory and practice* (7th ed.). Sage Publications, Inc.

O'Connor, D. (2013). The apomediated world: Regulating research when social media has changed research, *Journal of Law Medicine & Ethics. 41,* 470-483. https://doi.org/10.1111/jlme.12056

O'Connor, S., Hanlon, P., O'Donnell, C., Garcia, S., Glanville, J. & Mair, F. (2016). Understanding the factors affecting patient and public engagement and recruitment to digital health interventions: A systematic review of qualitative studies. *BMC Medical Informatics and Decision Making, 16,* 120-135 https://doi.org/10.1186/s12911-016-0359-3

O'Leary, Z. (2014). *The essential guide to doing your research project* (2nd ed.). Sage Publications, Inc.

Olaywiola, J., Willard-Grace, R., Rubin, A., Slomoff, T. & Woldeyesus, T. (2016). Strategies for primary care stakeholders to improve electronic health records (EHRs). *Journal of the American Board of Family Medicine, 29,* 126-134. https://doi.org/10.3122/jabfm.2016.01.150212

Olvera, J., Llorens, S., Salanova, M. & Acosta, H. (2017). Transformational leadership and horizontal trust as antecedents of team performance in the healthcare context. *Anales De Psicologia, 33,* 365-375. https://doi.org/10.1037/t03624-000

Opdenakker, R. (2006). Advantages and disadvantages of four interview techniques in qualitative research. *Qualitative Social Research, 7*(4), 1-11.

Or, C., Wong, K., Tong, E., & Sek, A. (2014). Private primary care physicians' perspectives on factors affecting the adoption of electronic medical records: A qualitative pre-implementation study. *Work, 48*(4), 529-538. https://doi.org/10.3233/WOR-131808

Otte-Trojel, T., Rundall, T., de Bont, A., van de Klundert, J., & Reed, M. (2016). The organizational dynamics enabling patient portal impacts upon organizational performance and patient health: A qualitative study of Kaiser Permanente. *BMC Health Services Research, 15*, 559. https://doi.org/10.1186/s12913-015-1208-2

Park, J., Sharma, R., Poulis, B., & Noble, J. (2017). Barriers to electronic medical record implementation: A comparison between ophthalmology and other surgical specialties in Canada. *Canadian Journal of Ophthalmology, 52*, 503-507. https://doi.org/10.1016/j.jcjo.2017.02.018

Patton, M. (2015). *Qualitative research and evaluation methods* (4th ed.). Sage Publications, Inc.

Peesker, K., Ryals, L., Rich, G., & Boehnke, S. (2019). A qualitative study of leader behaviors perceived to enable salesperson performance. *Journal of Personal Selling & Sales Management, 39,* 319-333. https://doi.org/10.1080/08853134.2019.1596816

Perna, G. (2016). New health IT program continues legacy of meaningful use. *Medical Economics, 93*(11), 51. https://www.MedicalEconomics.com

Petrides, A., Bixho, I., Goonan, E., Bates, D., Shaykevich, S., Lipsitz, S., Landman, A., Tanasijevic, M., & Melanson, S. (2017). The benefits and challenges of an interfaced electronic health record and laboratory information system: Effects on laboratory processes. *Archives of Pathology & Laboratory Medicine, 141,* 410-417. https://doi.org/10.5858/arpa.2016-0146-OA

Pitre, C., Petit, K., Ladd, L., Chisholm. C., & Welch, J. (2018). Physician time management. *MedEdPORTAL*. https://doi.org/10.15766/mep_2374-8265.10681

Poland, F., Charlesworth, G., Leung, P., & Birt, L. (2019). Embedding patient and public Involvement: Managing tacit and explicit expectations. *Health Expectations, 22,* 1231-1239. https://doi.org/10.1111/hex.12952

Pool, N. (2018). Looking inward: Philosophical and methodological perspectives on phenomenological self-reflection. *Nursing Science Quarterly, 31*, 245-252. https://doi.org/10.1177/0894318418774912

Prasad, A. (2014). EMR & the American Recovery and Reinvestment Act of 2009. *Medcity News.* https://medcitynews.com

Price, M., Singer, A., & Kim, J. (2013). Adopting electronic medical records: Are they just electronic paper records? *Canadian Family Physician, 59*, e322-e329.

Rager, K. (2005). Self-care and the qualitative researcher: When collecting data can break your heart. *Educational Researcher, 34*(4), 23-27. https://doi.org/10.3102/0013189X034004023

Rashkovits, S. (2019). The importance of the nurse leader's proactivity and intellectual stimulation in the nursing team workload-learning relationship: A cross-sectional study. *Journal of Advanced Nursing, 75*(11). 2647-2658. https://doi.org//10.1111/jan.14047

Remus, S. (2016). Advancing the digital health discourse for nurse leaders. *Studies in Health Technology and Informatics, 225*, 412-416. https://doi.org/10.3233/978-1-61499-658-3-412

Rexhepi, H., Ahlfedt, R., Cajander, A., & Huvila, I. (2018). Cancer patients' attitudes and experiences of online access to their electronic medical records: A qualitative study. *Health Informatics Journal, 24*, 115-124. https://doi.org/10.1177/1460458216658778

Richter, A., von Thiele Schwarz, U., Lormudd, C., Lundmark, R., Mosson, R., & Hasson, H. (2016). iLead-a-transformational leadership intervention to train healthcare managers' implementation leadership. *Implementation Science, 11*, 1-13. https://doi.org/10.1186/s13012-016-0475-6

Ridder, H. (2017). The theory contribution of case study research design. *Business Research, 10,* 281-305. https://doi.org/10.1007/s40685-017-0045-z

Rodriguez, J., Clark, C., & Bates, D. (2020). Digital health equity as a necessity in the 21st century Cures Act era. *The Journal of the American Medical Association, 32*(23), 2381-2383. https://doi.org/10.1001/jama.2020.7858

Romanow, D., Rai, A., & Keil, M. (2018). CPOE-enabled coordination: Appropriation for deep structure use and impacts on patient outcomes. *MIS Quarterly, 42,* 189-212. https://doi.org/10.25300/MISQ/2018/13275

Rubin, R. (2020). Covud-19's crushing effects on medical practices, some of which might not survive. *JAMA, 324*(4). https://doi.org/10.1001/jama.2020.11254

Safadi, H., Chan, D., Dawes, M, Roper, M., Faraj, M. (2015). Open-source health information technology: a case study of electronic medical records. *Health Policy and Technology, 4,* 14-28. https://doi.org/10.1016/j.hlpt.2014.10.011

Salas-Valina, A. & Fernandez, R. (2017). The HRM-performance relationship revisited inspirational motivation, participative decision making, and happiness at work (HAW). *Employee Relations, 39*(5), 626-642. https://doi.org/10.1108/ER-12-2016-0245

Salleh, M., Abdullah, R., & Zakaria, N. (2021). Evaluating the effects of electronic health records system adoption on the performance of Malaysian health care providers. *BMC Medical Informatics & Decision Making, 21*. https://doi.org/10.1186/s12911-021-01447-4

Saunders, M., Lewis, P., & Thornhill, A. (2015). *Research methods for business students* (7th ed.) Essex, England: Pearson Education Limited.

Schneider, T. & Sachs, S. (2017). The impact of stakeholder identities on value creation in issue-based stakeholder networks. *Journal of Business Ethics, 144,* 41-57. https://doi.org/10.1007/s10551-015-2845-4

Shachak, A., Barnsley, J., Montgomery, C., Tu, K., Jadad, A., & Lemieux-Charles, L. (2012). End-user for a primary care electronic medical record: a qualitative case study of a vendor's perspective. *Informatics in Primary Care, 20,* 185-195. https://doi.org/10.14236/jhi.v20i3.24

Shea, C., Reiter, K., Weaver, M., Thornhill, J., & Malone, R. (2015). Associations between practice characteristics and demonstration of Stage 1 meaningful use for the electronic health record incentive program. *North Carolina Medical Journal, 76,* 280-285. https://doi.org/10.18043//ncm.76.5.280

Smothers, J., Doleh, R., Celuch, K., Peluchette, J., & Valadares, K. (2016). Talk nerdy to me: The role of intellectual stimulation in the supervisor-employee relationship. *Journal of Health & Human Services Administration*, *38*(4), 478-508.

Smuk, M., Carpenter, J., & Morris, T. (2017). What impact do assumptions about missing data have on conclusions? A practical sensitivity analysis for a cancer survival registry. *BMC Medical Research Methodology*, *17*, 1-7. https://doi.org/10.1186/s12874-017-0301-0

Sousa, D. (2014). Validation in qualitative research: General aspects and specificities of the descriptive phenomenological method. *Qualitative Research in Psychology, 11*, 211-227. https://doi.org/10.1080/14780887.2013.853855

Strauss, L. (2015). Electronic medical records – Benefits and liabilities. *Journal of Health Care Compliance*, *17*(2), 57-58. https://www.as-penpublishers.com.

Stevenson, J., Bath, P., Petersson, G. & Israelsson, J. (2018). Factors influencing the quality of vital sign data in electronic health records: A qualitative study. *Journal of Clinical Nursing, 27,* 1276-1286. https://doi.org/10.1111/jocn.14174

Strudwick, G., Booth, R., Bjarnadottir, R., Collins, S., & Srivastava, R. (2017). Exploring the role of the nurse manager in supporting point-of-care nurses' adoption of electronic health records: Protocol for a qualitative research study. *BMJ Open, 7,* 1-6. https://doi.org/10.1136/bmjopen-2017-018129

Swygart-Hobaugh, M. (2019). Bringing method to the madness: An example of integrating social science qualitative research methods into NVivo data analysis software training. *IASSIST Quarterly, 43*(2). 1-16. https://doi.org/10.29173/iq956

Taguchi, N. (2018). Description and explanation of pragmatic development: Quantitative, qualitative, and mixed methods research. *System, 75,* 23-32. https://doi.org/10.1016/j.system.2018.03.010

Tang, K. (2015). Estimating productivity costs in health economic evaluations: A review of instruments and psychometric evidence. *Pharmacoeconomics, 33,* 31-48. https://doi.org/10.1007/s40273-014-0209-z

Tavakol, M. & Sandars, J. (2015). Quantitative and qualitative methods in medical education research: AMEE guide no 90: Part I. *Medical Teacher, 36,* 746-756. https://doi.org/10.3109/0142159X.2014.915298

Texas Medicine Association. (2014). What's a good way to measure physician productivity. https://www.texmed.org.

Thorpe, A. (2014). Doing the right thing or doing the thing right: Implications of participant withdrawal. *Organizational Research Methods, 17,* 255-277. https://doi.org/10.1177/1094428114524828

Thurin, N., Bosco-Levy, P., Blin, P., Rouyer, M., Jove', J., Lamarque, S., Lignot, S., Lassalle, R., Abouelfath, A., Bignon, E., Diez, P., Gross-Goupil, M., Soulie, M., Roumiguie, M., Le Moulec, S., Debouverie, M., Brochet, B., Guillemin, F., Louapre, C. & Maillart, E. (2021). *BMC Medical Research Methodology, 21.* https://doi.org/10.1186/s12874-021-01285-y

Tran V., Porcher, R., Falissard, B., & Ravaud, P. (2016). Point of data saturation was assessed using resampling methods in a survey with open-ended questions. *Journal of Clinical Epidemiology, 80,* 88-96. https://doi.org/10.1016/j.jclinepi.2016.07.014

Tsourounis, C., Sohlberg, S., & Pollock, A. (2016). Characterizing the significance of pharmacist interventions within an electronic medical record at a large academic medical center. *Research in Social and Administrative Pharmacy, 12*(4), e8. https://doi.org/10.1016/j.sapharm.2016.05.021

USF Health. (2018). *Federal mandates for healthcare: Digital record-keeping requirements for public and private healthcare providers*. https://www.usfhealthonline.com/resources/healthcare/electronic-medical-records-mandate

Vaismoradi, M., Griffiths, P., Jordan, S., &, Turunen, H. (2016). Transformational leadership in nursing and medication safety education: A discussion paper. *Journal of Nursing Management, 24*, 970-980. https://doi.org/10.1111/jonm.12387

Vair, C., King, P., Gass, J., Eaker, A., Kusche, A., & Wray, L. (2018). Electronic medical record documentation of driving safety for veterans with diagnosed dementia. *Clinical Gerontologist, 41,* 66-76. https://doi.org/10.1080/07317115.2017.1312654

Vant, A. (2016). Calculating the return on your EHR investment. *Health Affairs.* https://www.ehrinpractice.com/calculating-the-return-on-your ehrinvestment.html

Varpio, L., Day, K., Elliot-Miler, P., King, J., Kuziemsky, C., Parush, A., Roffey, T., & Rashotte, J. (2015). The impact of adopting EHRs: How losing connectivity affects clinical reasoning. *Medical Education*, *49*(5), 476-486. https://doi.org/10.111/medu/12665

Varpio, L., Rashotte, J., Day, K., King, J., Kuziemsky, C. & Parush, A. (2015). The EHR and building the patient's story: A qualitative investigation of how EHR use `obstructs a vital clinical activity. *International Journal of Medical Informatics*, *84*(12), 1019-1028. https://doi.org/10.1016/j.ijmedinf.2015.09.004

Wakabayashi, Y., Eitoku, M., & Suganuma, N. (2021). Characterization and selection of Japanese electronic health record databases used as data sources for non-interventional observational studies. *BMC Medical Informatics & Decision Making, 21*. https://doi.org/10.1186/s12911-021-01526-6

Wass. S. & Vimarlund, V. (2015). Challenges of stimulating a market for social innovation – provision of a national health account. *Studies in Health Technology And Informatics*, 210. 546-550. https://doi.org/10.3233/978-1-61499-512-8-546

Williams, M. & Moser, T. (2019). The art of coding and thematic exploration in qualitative research. *International Management Review, 15*, 45-55.

Williamson, T., Miyagishima, R., Derochie, J., & Drummond, N. (2017). Manual review of electronic medical records as a reference for case definition development: a validation study. *CMAJ Open, 5*(4), E830-E833. https://doi.org/10.9778/cmajo.20170077

Yakubu, A., Hyder, A., Ali, J., & Kass, N. (2017). Research ethics committees in Nigeria: A survey of operations, functions, and needs. *IRB: Ethics & Human Research, 39*(3), 11-19.

Yanfei, W., Yangliu, Z., & Yu, Z. (2018). How transformational leadership influences employee voice behavior: The roles of psychological capital and organizational identification. *Social & Personality: An international journal, 46*, 313-322. https://doi.org/10.224/sbp.6619

Yin, R. (2018). *Case study research: Design and methods* (5th ed.). Sage Publications, Inc.

Zulfah, H. & Aznam, N. (2018). Development of natural sciences module with reflective learning journal to enhance student's reporting-interpretative skills. *Biosaintifika: Journal of Biology & Biology Education, 10,* 362-368. https://doi.org/10.15294/biosaintifika.v10i2.14319

Zwijze-Koning, K. & de Jong, M. (2005). Auditing information structures in organizations: a review of data collection techniques for network analysis. *Organizational Research Methods, 8,* 429-453. https://doi.org/10.1177/1094428105280120

Appendix A: Interview Protocol

1. Greet the participant.
2. Introduce myself to the participant.
3. Give the participant a copy of the Consent Form, obtain the signature, keep a copy for myself and give a copy to the participant.
4. Answer any questions or concerns prior to the interview.
5. Explain the interview and their voluntary participation in the study.
6. Advise the participant about recording the interview.
7. Start the recorder.
8. Begin the interview by giving the participant's pre-assigned coded name, date, time and

   location.
9. Reiterate the research question to the participant.
10. Ask the eight interview questions. Allow the participant ample time to answer the

    questions.
11. Listen carefully and ask follow-up questions, if needed.
12. Complete the interview and explain member checking.
13. Thank the participant and provide my contact information if they have any questions.

Appendix B: Interview Questions

What strategies did you use to leverage EHRs in your organization to increase profit and productivity?

2. What key obstacles did you encounter when initially implementing your EHR system?
3. How did you address and resolve the obstacles?
4. How easy or difficult was it for healthcare leaders in your organization to learn the new EHR system?
5. What were your reasons for implementing an EHR?
6. What advantages are linked to the use of EHRs?
7. What, if any, disadvantages are linked to the use of EHRs?
8. What, if anything, can you add about the implementation of effective EHR systems to increase your organization's profitability?