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Using Human Capital Development to Reduce Healthcare Administrative Costs

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Walden University

College of Management and Technology

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Pamela J. Wyatt-Elkins

has been found to be complete and satisfactory in all respects,
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Walden University
2020

Abstract

Using Human Capital Development to Reduce Healthcare Administrative Costs

by

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MBA, Spring Arbor University, 2012

BS, Central Michigan University, 2005

Doctoral Study Submitted in Partial Fulfillment

Of the Requirements for the Degree of

Doctor of Business Administration

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Abstract

Some healthcare leaders are unable to address complex billing and insurance activities, which results in increased administrative costs and a significant reduction in revenue. Grounded in the theory of human capital development, the purpose of this qualitative single case study was to explore training and development strategies used by health care leaders to address complex billing and insurance requirements. The participants included 5 leaders from different areas of the revenue cycle in one healthcare organization in Michigan, who successfully implemented strategies to reduce administrative costs. Data were collected using semistructured interviews and a review of organizational documentation. Thematic analysis using Yin's approach to data analysis resulted in the emergence of 6 themes: (a) providing workflow specifics and visual aids, (b) using managers as training and development coaches, (c) identification of a formal training program, (d) validation of training effectiveness, (e) hands-on practice and review of examples, and (f) alignment to organizational performance goals. A key recommendation is for healthcare leaders to adopt a training and development program that emulates the lean training model, improving administrative costs through the individuals' skills and knowledge. Implications for positive social change include the potential to develop skills and knowledge to address the complexities of billing and insurance requirements and reduce delays in care for individuals and administrative costs for healthcare organizations and society.

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Dedication and Acknowledgements

I dedicate this doctoral study to my best friend, twin flame, and husband, James Elkins. He has provided undying support of this journey and I thank God that he survived a major health issue and will be able to see the completion of OUR effort. I would also like to dedicate this doctoral study to my children, Robert, Nicholas, Amelia, Jeremy, Katie, and Sierra; they (and their children) have been my inspiration and reason for not giving up. I would also like to dedicate this doctoral study to my life mentor and professor during my MBA course work, Dr. Sharon Norris. Without her encouragement, I would not have consider obtaining a doctoral degree. And finally, and not least, I would like to acknowledge my doctoral mentor, Natalie Casale. I would not have had the strength to finish this journey if it had not been for her passion, support, and unwavering commitment to her students. She encouraged me and helped me to make this study something that I am proud to accomplish. Along with the support of my second chair, Dr. Olivia Herriford, thank you for taking the time to review my work so thoroughly. Again, this helped me feel proud of my work. And to Dr. Rocky Dwyer: thank you for recognizing my efforts and approving my study as part of the requirements for a doctoral degree. I have been supported by an amazing team at Walden University. Thank you.

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Section 1: Foundation of the Study

The projected cost of healthcare in the United States is 34% of the gross domestic product (GDP) by 2040 (Centers for Medicare and Medicaid Services, 2019). Americans pay more for healthcare than other nations because of higher administrative costs (Fuchs, 2015; Papanicolas, Woskie, & Jha, 2018). The reason for the high administrative costs is due to the nature of healthcare financing through complex billing procedures involving several public and private insurance payers (Fuchs, 2015; Jiwani, Himmelstein, Woolhandler, & Kahn, 2014). To secure payment from insurance payers, hospital leaders and physicians use substantial administrative staff (Amadeo, 2018; Fuchs, 2015).

To address the complex billing procedures, healthcare managers recognize well-trained human capital resources are essential to reducing administrative costs (Jiwani et al., 2014; Uhrin, Brugue-Camara, & Moyano-Fuentes, 2017). The lean method is used to engage employees, simplify complex activities, and eliminate waste and errors (D'Andreamatteo, Ianni, Lega, & Sargiacomo, 2015; Kastberg & Siverbo, 2017; Schonberger, 2018). The objective of this qualitative case study was to explore the training and development strategies healthcare professionals used to reduce administrative costs. I performed a qualitative case study to explore the use of lean management principles to promote human capital development to reduce administrative costs through error reduction and waste elimination.

Background of the Problem

The cost of healthcare in the United States has continued to grow, despite the efforts of healthcare reform to reduce costs (Colander, 2017; Henry J Kaiser Family

Foundation, 2015a). Healthcare costs are projected to increase by 34% of the GDP by 2040 with current estimates at around 20% (Centers for Medicare and Medicaid Services, 2019). In a comparison study, researchers found healthcare service utilization in the United States was similar to other nations with inferior health outcomes (Papanicolas et al., 2018). Individuals in the United States are not using hospital services more often than individuals in other countries (Papanicolas et al., 2018). Researchers identified areas of high cost within the United States as specialized diagnostic procedures (i.e., magnetic resonance imaging), pharmaceuticals, salaries, and administrative costs (Papanicolas et al., 2018). Billing administration accounted for 24% of revenue for physician practices and hospitals in the United States (Himmelstein, Campbell, & Woolhandler, 2020; Tseng, Kaplan, Richman, Shah, & Schulman, 2018). The administrative costs of hospitals in the United States exceeded other nations by as much as 50% (Himmelstein et al., 2020). Himmelstein et al. (2020) calculated billing and insurance activity cost at 34.2% of the total cost of healthcare. In this study, I explored valuable training and development strategies used by healthcare managers to reduce administrative costs associated with billing and insurance activities.

Problem Statement

Healthcare managers experience complex billing and insurance activities, increasing administrative costs and significantly reducing revenue (Tseng et al., 2018). The estimated cost of healthcare in 2015 was \$2,439 trillion, with approximately 20% attributed to billing and insurance (Bureau of Economic Analysis, 2018; Rappaport, 2014). The general business problem was some healthcare managers have erroneously

contributed to increased administrative costs from billing and insurance activities. The specific business problem was that some healthcare managers lack effective strategies to reduce administrative costs using employee training and development.

Purpose Statement

The purpose of this qualitative single case study was to explore training and development strategies healthcare managers use to reduce administrative costs. The population was healthcare professionals from one Michigan healthcare organization who have developed strategies to reduce administrative costs using employee training and development. This study may contribute to social change by highlighting the complexities of billing and insurance activities, the cost of administrative tasks for healthcare organizations, and strategies to reduce errors and rework through training and development.

Nature of the Study

The three research methods include qualitative, quantitative, and mixed methods. A qualitative method is appropriate for a study designed to use open-ended questions and allow participants experiences to emerge (Fassinger & Morrow, 2013; Yin, 2018). Qualitative methods are also appropriate to explore and describe the influence of different strategies on the behavior of individuals (Denzin, 2009; Wolcott, 2009). In contrast, a quantitative study is used to collect data using closed-ended questions to test a hypothesis (Fassinger & Morrow, 2013). The mixed method uses both the qualitative and quantitative method (Fassinger & Morrow, 2013). The quantitative method is used to test a hypothesis and uses discrete data to validate the hypothesis (Fassinger & Morrow,

2013). I wanted to explore and deepen the understanding of the experiences of healthcare managers, making the qualitative method the most appropriate method for my study.

I considered three research designs one could use for a qualitative study on reducing administrative costs: phenomenological, ethnography, and case study. The phenomenological study involves making direct observations of a group (Ellis & Levy, 2009; Moustakas, 1994). I did not make direct observations; therefore, the phenomenological design was not appropriate for my study. The ethnography study involves gaining participant meaning (Ellis & Levy, 2009). In this study, I did not seek participant meaning but hoped to gain insight into participant experiences. The case study methodology is appropriate when a researcher hopes to discover participant experiences (Fassinger & Morrow, 2013; Yin, 2018). The case study design is appropriate to explore and explain the current circumstances experienced by the target population (Yin, 2018). A case study is used to bring focus to the experiences of the target population (Stake, 2006). I used the case study design to bring clarity and understanding regarding the experiences of the participants from one healthcare organization.

Research Question

The central research question of this study was: What training and development strategies do healthcare managers use to reduce administrative costs?

Interview Questions

I used the following interview questions:

1. What training and development strategies do you use to reduce administrative costs due to complex billing procedures?
2. What types of training and development do you find most beneficial to improve billing and insurance errors for your employees and why?
3. What are the training and development requirements of your employees who work with billing procedures?
4. How do training and development strategies help your employees address complex billing procedures?
5. What are the biggest challenges of implementing training and development for your organization?
6. What other information can you provide about the influences of implementing training and development strategies to reduce your administrative costs?

Conceptual Framework

The conceptual framework for this study was human capital theory. Adam Smith introduced the foundational thought regarding human capital in 1776 when he wrote *The Wealth of Nations* (Sweetland, 1996). The essence of the theory is that human capital development results in economic benefits (Sweetland, 1996). In Japan during the 1930s and until after World War II, Toyota executives became interested in understanding how to manage the resources of production more effectively and began to develop the lean management philosophy (Womack, Jones, & Roos, 2007). The Toyota executives used the philosophy of human capital development to guide their focus on employee training and development within the manufacturing industry. In recent years, healthcare managers

have used this philosophy in the healthcare industry (Hallam, Valerdi, & Contreras, 2018; Parkes, 2015; Vlachos & Siachou, 2018). In the United States, Gary Becker further developed human capital theory in 1964, as did Thomas Schultz from 1971 to 1981 (Junita, 2016; Schultz, 1981; Sweetland, 1996). Becker presented a view of human capital theory in relationship to organizational performance (Junita, 2016). According to Becker (1962) and Schultz (1981), corporate investment in human capital involves on-the-job training for employees to improve the knowledge required to enhance organizational performance. Training and development provide employees with the knowledge and skills necessary to address the complexities of billing and insurance activities. The concept that skills and knowledge development can promote quality and improve productivity supported the focus of my study. Through a literature review, I illustrate the connection between the lean philosophy and human capital theories of Schultz and Becker.

Operational Definitions

Billing and insurance activities: Procedures healthcare institutions perform related to payments received from insurance payers (Tseng et al., 2018). The tasks conducted by healthcare employees include verifying insurance coverage, obtaining prior authorizations, preparing a theory, and filing claims for payment (Jiwani et al., 2014).

Inpatient care: Healthcare services received by individuals in the hospital or a skilled nursing facility (Mossialos, Wenzl, Osborn, & Sarnak, 2016). Services include care for acute diseases, surgery recovery, diagnostic procedures, disease treatment, and rehabilitation from injuries (Mossialos et al., 2016).

Lean management: A philosophy used to engage the skills of employees to improve performance through increased efficiencies, elimination of waste, and reduction of rework and errors (Parkes, 2015).

Multiple-payer systems: In the United States, the insurance payer system has multiple payers that include the public (i.e., Medicare and Medicaid) and private insurers (i.e., Blue Cross, Aetna, Humana, and others) known as multiple-payer systems (Jiwani et al., 2014).

Outpatient care: Healthcare services received by individuals outside of a hospital or skilled nursing facility (Mossialos et al., 2016). Outpatient care includes doctor visits, diagnostic procedures, emergency department visits, disease treatments, and rehabilitative services (Mossialos et al., 2016).

Prior authorization: A insurance payer authorizes a specific healthcare service before the individual receives the medical service (Jiwani et al., 2014).

Payer: An insurance organization that finances service expenditures for individuals covered under a healthcare insurance plan (Bradbury, 2015). Some of the payers in the United States are Medicaid, Medicare, Blue Cross, Aetna, Health Alliance Plan, and Priority Health (Jiwani et al., 2014).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are based on the researcher's concept of the phenomenon before the study begins (Kirkwood & Price, 2013). The characteristics of the assumptions believed to be accurate are considered irrelevant to the research (Kirkwood & Price, 2013). I

expected participants to answer the interview questions honestly and without bias. I presumed participants were familiar with administrative costs related to billing and insurance and would therefore provide meaningful answers. I believed participants would have knowledge and experience with tools that resemble lean principles of management. I assumed the leaders interviewed reflected the beliefs of other healthcare managers.

Limitations

Limitations are threats to validity and elements of the study that are beyond the researcher's control (Brutus, Aguinis, & Wassmer, 2012). Three limitations to qualitative studies include threats to internal validity, construct validity, and generalizability (2012). A limitation of this study was the possibility participants would not answer honestly about strategies used to reduce administrative costs related to billing and insurance due to unknown relationships between variables with the participants. Another limitation of my study was that the findings would not apply to other organizations within the broader healthcare industry.

Delimitations

Delimitations are the characteristics of the study that determine the boundaries of the study and restrict transferability (Cunliffe, 2011). In choosing the case study design, my interviews were limited to a small number of participants located in Michigan. Therefore, the findings of this study may not be transferable to other organizations in Michigan or other regions in the United States.

Significance of the Study

The administrative cost of billing and insurance activities contributes to the high cost of healthcare in the United States (Himmelstein et al., 2020; Papanicolas et al., 2018; Tseng et al., 2018). The relatively high administrative cost is due in part to the complex billing and insurance requirements that have high levels of errors and rework (Himmelstein et al., 2020). Complex administrative requirements create a burden, not only to individuals seeking care in the United States healthcare system, but also to hospitals and physicians who lose revenue and have increased administrative costs (Friedberg et al., 2015; Himmelstein et al., 2020; Jiwani et al., 2014). The value to health care leaders is to provide information regarding the development of employee knowledge and skills (human capital) using the lean management philosophy with the goal of reducing healthcare administrative costs.

Contribution to Business Practice

Billing and insurance activities account for over 30% of the cost of health care (Himmelstein et al., 2020). The cost of performing billing and insurance activities increases administrative costs for healthcare managers and may cause errors that result in reduced, delayed, or non-payment for health services provided (Himmelstein et al., 2020; Tseng et al., 2018). In the United States, administrative costs account for about 30 percent of the cost of healthcare due billing complexities with inherent waste (Amadeo, 2018; Tseng et al., 2018). Healthcare managers are interested in strategies that reduce administrative costs and improve revenue (Tseng et al., 2018). The study had the

potential to inform other healthcare managers of strategies that could reduce the overall administrative cost of complex billing procedures.

Implications for Social Change

The cost of health affects many areas of society: (a) individuals, (b) businesses, (c) healthcare systems, and (d) government agencies (American Cancer Society, 2015). Business leaders experience the impact of health through lost productivity, worker's compensation, and treatment costs covered by government and employer insurance plans (Pearce, et al., 2016). Studies related to health incidents indicate early diagnosis and treatment are fundamental to lower costs to individuals, healthcare systems, and organizations (Pearce, et al., 2016; Mortensen, 2014). The administrative activities required by the current multipayer system create delays and issues with access due to costs and documentation complexities (Department for Professional Employees, 2016; Lee, Abbey, Heim, & Abbey, 2016; Tseng et al., 2018).

This study may contribute to social change by highlighting the importance of training and development strategies used by healthcare managers to simplify insurance and billing complexities. Managers of healthcare deal with a multipayer system and billing complexities to obtain payment for services (Lee et al., 2016; Tseng et al., 2018). Policy makers may have limited knowledge to drive change without understanding the experiences of individuals (Tseng et al., 2018). The goal of this study was to highlight that complexity. This has the potential to change the system and reduce the administrative cost of billing and insurance activities (Lee et al., 2016). Reducing billing and insurance

activity costs could potentially impact the overall cost of healthcare in the United States by lowering the administrative costs associated with the multipayer system.

A Review of the Professional and Academic Literature

The purpose of this qualitative case study was to explore the training and development strategies healthcare managers use to reduce administrative costs. In this subsection, I provided a detailed analysis and synthesis of the existing literature, including books and peer-reviewed access through Google Scholar and the Walden University Library. The organization of the review began with a discussion of the supporting theory, leading to the topics related to the research problem and known strategies used to support training and development in a lean environment. The theoretical discussion includes Schultz's (1981) human capital theory and the underlying performance improvement implications of investing in people (Becker, 1962; Schumpeter, 1934; Schultz, 1981). Other topics include factors contributing to the complexity of healthcare billing and insurance activities and the lean management philosophy used in other complex industries.

I gathered information on the high level healthcare revenue cycle activities and training and development strategies used in a lean workplace. Information was located in peer-reviewed articles, government websites, trade websites, books, and seminal sources. The specific databases used included (a) Science Direct, (b) Business Source Complete, (c) ProQuest, (d) Emerald Management Journals, (e), Quality Management Journal, (f) Biomed Central (g) Government databases, including Centers for Medicare and Medicaid Services and CDC, (h) Google Scholar, and (i) Sage Premier. Keywords used to search

the databases included combinations of *healthcare administrative cost, healthcare, cost, health, human capital, human capital theory, lean, lean in healthcare, billing and insurance activities, finance, performance management, performance improvement, Society for Human Resource Management (SHRM), human resource management, healthcare insurance, organizational performance, revenue cycle, healthcare revenue cycle management, James Womack, Gary Becker, Charles Perlow, Jeffrey Liker, training and development, on the job training, training within industry, and Theodore Schultz.*

The literature review includes peer-reviewed articles of which 86% are published within 5 years of 2020. There are 107 articles in the study and 97% are peer-reviewed. In this study the most relevant topics include Schultz's human capital theory, lean management philosophy, background of healthcare costs, revenue cycle management, and training and development.

Human Capital Theory

Scholars use the human capital theory to explain the drivers of performance within business organizations (Aryee, Walumbwa, Seidu, & Otaye, 2016). In 1776, Adam Smith introduced the foundational thought regarding human capital in *The Wealth of Nations* (Sweetland, 1996). The basis of human capital proposed by Smith was economic wealth is dependent on the acquired skills of individuals, and the attainment of those skills has a fixed cost (Sweetland, 1996). Smith stated that human capital development is an essential component to productivity as the use of tangible assets in the production of a product (Sweetland, 1996). Schultz (1981) further developed Smith's foundational theory, basing his development of human capital in the theory of economics.

In Schultz's version of the human capital theory, he posited the economic wealth of a nation is dependent on the health and education of its people. An original concept of his theory is that individuals confronted with limited or scarce resources will develop skills or obtain the education that will support solving the challenge (Schultz, 1981). Schultz evaluated the development of skills related to farmers within the constrained industry of agriculture. Schultz (1981) also posited that individuals respond to decreases in profits by learning new techniques that improved profitability. He also found that individuals can improve their situation with proper tools, research, and training (Schultz, 1981). Gary S. Becker furthered this theory in 1964 highlighting the importance of human capital development through workplace training programs, formal education, and providing relevant information to employees performing the job (Junita, 2016; Becker, 1993; Sweetland, 1996).

Human capital theory, considering past and modern development, is relevant to current events because the education and training of individuals provide benefits to both organizations and the nation (Junita, 2016; Becker, 1993). The founders and developers of human capital theory view human beings as a valuable resource to organizations (Junita, 2016; Becker, 1993; Schultz, 1981). Managers create resource-based value when they invest in human capital. The investment provides organizations with a competitive advantage and performance differentiators (Hallam & Contreras, 2016; Uhrin et al., 2017). Building on Becker's theory, Blaug (1970) highlighted the importance of education in the successful operations of an organization. Blaug constructed three components of Becker's theory: (a) production-function approach, (b) human capital

formation, and (c) measurement of the returns (Blaug, 1970; Sweetland, 1996).

Healthcare managers address these components by treating billing procedures as a production process and then measure the output of an individual's abilities to address complex billing procedures after training and development (Knol, 2018; Sisson, 2015; Uhrin et al., 2017).

Nassau William Senior brought forth a slightly different theory related to human capital theory in 1836. Nassau William Senior introduced the term intellectual capital (IC), relating it to human capital and expressed the importance of IC for productivity (Pirozzi & Ferulano, 2016). Researchers in this field focus on the use of IC as a resource for production versus developing human capital to obtain organizational benefit (Pirozzi & Ferulano, 2016). Under the theory of IC, competitive advantage is a firm's ability to fully use human capital similar to other tangible assets (Pirozzi & Ferulano, 2016). In essence, IC or human capital is difficult to replicate and is an important productivity measure for organizations looking for new ideas and innovation in complex environments (Pirozzi & Ferulano, 2016; Teodoro & Switzer, 2016). Managers in healthcare organizations operating under this theory employ strategies focused on utilizing human capital efficiently but ignore the importance of human capital development to promote organizational performance (Cooper & Davis, 2017; Teodoro & Switzer, 2016).

Another counter theory to Schultz's theory belonged to Thomas Robert Malthus. Malthus posited that the quantity of the population is more important than quality and contributes more significantly to the ability to use resources efficiently (Schultz, 1981). In contrast to this note on resource use and increased quality, Schultz (1981) posited that

better quality is a product of acquired abilities. In other words, individuals who have obtained additional skills and knowledge can use resources more efficiently (Schultz, 1981). Another counter to Schultz's theory is screening theory (Cooper & Davis, 2017). Cooper and Davis (2017), in their theory, acknowledged that the development of human capital occurred through a mixture of education and personality traits of the individual. Human capital development results in performance due to the ability to learn, motivate, and train others through the sharing of knowledge and expertise (Cooper & Davis, 2017; Teodoro & Switzer, 2016). Screening theory, on the other hand, is the practice organizations use to screen for education as an indication of the performance abilities of the individual (Cooper & Davis, 2017). Those who take this approach assume that learning occurs outside of the organization and ignore the implications of firm-specific skills for the incumbent (Cooper & Davis, 2017; Cullinane, Bosak, Flood, & Demerouti, 2017; Uhrin et al., 2017).

Lean Management Philosophy

Dr. Jeffrey Liker researched and experienced the importance of human capital development and promoted the lean management approach in his groundbreaking work in *The Toyota Way* (Liker, 2004). Business leaders recognize Toyota as a leader in organizational improvement and performance. The use of lean in healthcare has been increasing, driven by the success of the principles of lean in manufacturing (Malmbrandt & Ahlstrom, 2013). Research regarding lean principles in service organizations has focused on challenges, barriers, and contributors of success (D'Andre Matteo et al., 2015; Li, Field, & Davis, 2017; Malmbrandt & Ahlstrom, 2013). The use of lean

principals to improve the work performed provides real-time benefits to an organization with cost savings (D'Andreamatteo et al., 2015). Toyota leadership developed the lean philosophy to explain how thoughts and actions guide people to interact with each other daily (Coetzee, van der Merwe, & van Dyk, 2016). The goal of the lean philosophy is to improve the skills of the worker and engage the worker in efforts to reduce variability (which leads to errors and rework) or simplify the activities (Schneider et al., 2017). Managers realize the goal of lean with a focus on the customer and the development of the skills and capabilities of individual workers (Hopp, 2018; Jayaram & Xu, 2016). These aspects of the lean philosophy influence cost and quality, along with the dependability and flexibility of the workforce (Jayaram & Xu, 2016). In healthcare, the performance priorities identified are lower cost, higher quality, improved access (delivery), and innovative solutions to the increasing complexities of billing and insurance activities (Himmelstein, et al., 2020; Jayaram & Xu, 2016).

From a human capital perspective, investments in on-the-job training may result in a period of lower productivity and higher expenditures (Teodoro & Switzer, 2016). However, managers experience the long-term effect of increased productivity and lower expenses (Becker, 1962; Hallam et al., 2018; Uhrin et al., 2017). With knowledge investment focused on performance needs, knowledge becomes an asset to the organization (Becker, 1993; Donate, Pena, & Sanchez de Pablo, 2016; Jayaram & Xu, 2016). The success of lean in healthcare and performance improvement depends on employee participation, knowledge, and desire to improve (D'Andreamatteo et al., 2015; Li, Field, & Davis, 2017). With a focus on the individual worker's environment, lean

management principles of adding value through development and organizational learning link to the human capital theory of developing the skills and knowledge of the individual to improve performance (D'Andre Matteo et al., 2015; Li et al., 2017; Liker & Meier, 2007).

Researchers have suggested that the link between human capital theory and lean is a dynamic interaction of intellectual and structural capabilities that increase the ability of individuals working collectively to improve performance (Pirozzi & Ferulano, 2016). Enablers support the natural interactions between employees that improve the skills of the individual (Hopp, 2018; Pirozzi & Ferulano, 2016). Value and performance improvement are a by-product of the development of employee skills (Hopp, 2018; Pirozzi & Ferulano, 2016). The dynamic interaction of these capabilities may be essential in the rapidly changing environment of healthcare and require further understanding through research (Jansen, Shipp, & Michael, 2016). In human capital theory and the lean philosophy, high levels of performance result from developed people, clearly defined processes, and organizational infrastructure and technology (Malmbrandt & Ahlstrom, 2013).

In the current healthcare industry, leaders desire increasing or maintaining financial margins and challenge individuals to refine their work processes (D'Andre Matteo et al., 2015; Lindskog, Hemphala, & Eriksson, 2017). Some studies regarding lean in healthcare indicated that employees were engaged and used as change agents with team-based techniques but in most cases fell short of sustained results (D'Andre Matteo et al., 2015; Jansen et al., 2016; Shakoor, Jadayil, Jaber, & Jaber, 2017). Finance managers focused on reducing billing and insurance errors and increasing

the quality of processes use strategies to develop human capital (Aryee et al., 2016; Schultz, 1981). As a mechanism for addressing complexity, health care managers may use lean management to simplify tasks, reduce errors, and rework to reduce the cost of healthcare (D'Andreamatteo et al., 2015). However, many healthcare organizations have worked to adopt the tools of lean while falling short of the need to develop a philosophy that embraces a lean culture (Blackmore & Kaplan, 2016; Liker & Meier, 2007). More importantly, some healthcare leaders have adopted the tools but lack a focus on the development of front-line employees' skills for sustained results (D'Andreamatteo et al., 2015). Under the "true" lean management philosophy, managers view front line workers as "knowledge workers" versus a "pair of hands" (Cullinane et al., 2017, para 1).

Treating employees as knowledge workers has been the primary focus of lean management in a genuinely lean environment and has resulted in sustained results for companies such as Toyota (Hallam et al., 2018; Liker, 2004, 2014; Liker & Meier, 2007).

Background of Healthcare Costs

The cost of healthcare continues to rise despite containment efforts (Stadhouders, Kruse, Tanke, Koolman, & Jeurissen, 2019). Some researchers have evaluated the efforts to contain cost through policy and ignore the systematic issues dealt with by healthcare leaders and patients (Emanuel, 2018; Stadhouders et al., 2019). The projected cost of healthcare in the United States is 34% of the GDP by 2040 (Cox, 2017). In 2019, the Center for Medicare and Medicaid Services published the cost of healthcare at \$3.6 trillion or 17.7% of the GDP for 2018 (Center for Medicare and Medicaid Services, 2019). The most recent estimate by other experts of the GDP percentage for the United

States is 17.8% (Papanicolas et al., 2018). This estimate is a substantially higher estimate than other countries that are part of the Organization for Economic Cooperation and Development (OECD) (Papanicolas et al., 2018). The healthcare costs for those countries average 9.6% to 12.4% of a nation's GDP (Papanicolas et al., 2018). A recent estimate of the growth rate of healthcare costs in the United States is 4.0% compared to the historical rate of 3.8% (Amadeo, 2018). Many researchers agree on one component driving the cost of healthcare in the United States: the multiple payer systems (Emanuel, 2018; Himmelstein et al., 2020; Larjow, 2018). In a landmark study published in 2003 by the *New England Journal of Medicine*, researchers concluded the healthcare administration costs in the United States were \$1,059 per capita versus \$307 per capita in Canada (Woolhandler et al., 2013). More recent studies have shown the cost per capita for administrative costs in the United States as significantly higher than other OECDs (Emanuel, 2018).

Despite the platforms of several political campaigns claiming to address this problem, the cost of healthcare in the United States continues to rise (Byrd, Smith, & Helms, 2015). To increase public understanding, the American Medical Association published an article on healthcare spending in the United States compared to other high-income countries (Emanuel, 2018). Some of the identified drivers include utilization of high-cost procedures, hospitalizations, individual lifestyles, the prevalence of disease, use of pharmaceuticals, salaries, and administrative costs (Schoen et al., 2013; Tseng et al., 2018). Several experts have researched and identified the underlying causes, yet there is a long-standing debate about a practical solution (Colander, 2017).

Drivers of cost fall into three categories: clinical care (72.7%), billing and insurance activities (18%), and other administrative activities (9.4%; Jiwani et al., 2014; Tseng et al., 2018). Billing and insurance activities include all activities required to receive payment for healthcare services provided by physicians, hospitals, and other medical services (Lee et al., 2016). The cost and complexity of these activities are burdening not just patients, but employers, governments, physician practices and hospital systems (Himmelstein et al., 2014; Owaid, 2017; Tseng et al., 2018). The cost of these activities is estimated to impact revenue to physicians and hospitals by as much as 14% and 10.8% respectively (Himmelstein et al., 2020; Jiwani et al., 2014). The estimated cost of billing activities in one healthcare system was 14.5% of revenue for providers, and 25% for the hospital (Tseng et al., 2018). The estimated cost is due to the complexities of the multiple payer systems which requires providers and hospitals to maintain knowledge and skills regarding the differing requirements for payment from each payer in the insurance industry (Emanuel, 2018; Larjow, 2018). Billing and insurance activities are necessary to receive payment for medical services provided. Researchers of the administrative costs of healthcare indicate that considering clinical care costs, billing, and insurance costs, and administrative expenses are essential when attempting to understand the overall rise in healthcare costs (Emanuel, 2018).

Revenue Cycle Management

Healthcare reform has been a topic of debate since the early 1900s (Henry J Kaiser Family Foundation, 2015b). The discussion has centered on providing insurance coverage for individuals unable to access care due to the prohibitive cost of healthcare

services and insurance (Colander, 2017; Schoen et al., 2013). The insurance industry began in the early part of the 20th century in response to the increasing cost of healthcare and the lack of access for those in need of care (Byrd, Smith, & Helms, 2015). The employer-sponsored health insurance industry emerged from the depression years of the 1940s to increase employee productivity (Henry J Kaiser Family Foundation, 2015b; Department for Professional Employees, 2016). From the inception of employer-sponsored insurance plans until the late 20th century, the payment process included the patient treated, and payment was for the most part well-timed for providers (Byrd et al., 2015; Owaid, 2017). As payments began to slow, the insurance companies agreed to remove the patient from the process and increased the opportunity for errors (Byrd et al., 2015). Once healthcare organizations and insurance payers removed the individual or patient from the process, the patient no longer felt the impact of healthcare costs (Colander, 2017; Owaid, 2017; Starr, 2013).

There is no direct accounting system allowing the individual to agree to and verify services (Byrd et al., 2015). The burden of tasks related to insurance verification, determining services, and proper payment rests on the providers and hospitals' financial departments (Byrd et al., 2015; Porter & Olmsted Teisberg, 2006). In response to a system lacking accounting principles of checks and balances, insurance payers and the government have set up complex auditing processes used to detect errors, abuse, and fraud (Porter & Olmsted Teisberg, 2006; Stadhouders et al., 2019). Without patient verification and proper checks and balances, the payment process is subject to errors,

rework, and fraud causing an increase in cost for administration for all parties in the system (Byrd et al., 2015; Stadhouders et al., 2019).

The United States has a multipayer system comprised of many health plans and individual benefit coverage (Himmelstein et al., 2020; Papanicolas et al., 2018). The complexity of the multipayer system involves an increased number of interactions (rework) with payers to secure benefit determination, obtain prior authorizations, and determine patient copayments and deductibles (Himmelstein et al., 2014; Himmelstein et al., 2020; Lee et al., 2016; Oregon Health & Science University, 2016). The administrative complexity requires healthcare systems and providers to spend a significant percentage of revenue to stay abreast of the differing and ever-changing requirements of each payer (Amadeo, 2018; Jiwani et al., 2014).

To simplify the overall revenue cycle, Lee et al. (2016) illustrated the healthcare revenue cycle through a triadic contractual relationship between the provider, patient, and insurance company. The contractual relationship and the disconnection between the parties involved contribute to the complexity (Amadeo, 2018; Tseng et al., 2018). The seemingly simple process may flow efficiently within a single provider's office, however, if the patient needs follow-up from another provider or entity within the healthcare system, the complexity grows (Lee et al., 2016). Each provider could provide different documentation regarding the nature of the patient's illness, thus creating a disconnect for the payer (Lee et al., 2016). At this point, the triadic relationship complicates insurance and billing activities, as the information and data shared between managers, healthcare providers, and payers are complex (Lee et al., 2016). The parties may not freely share

that information for many reasons, but mostly, this would add another layer of complexity (Amadeo, 2018; Lee et al., 2016).

The dyadic reimbursement processes include documentation, coding, and billing that do not involve the patient but relies heavily on provider notes in the medical record and a feedback loop between billing staff and the insurance payer (Lee et al., 2016). Billing employees receive training and investigate the requirements of each payer to minimize the complexity of the feedback loop (Himmelstein et al., 2014; Himmelstein et al., 2020). Health and benefit plans have different documentation requirements, forms, rules for billing, prior authorization requirements, and appeals processes (Owaid, 2017). Over the years, this complexity has grown due to healthcare reform (Himmelstein et al., 2014; Schoen et al., 2013). To obtain payments, healthcare managers participate in the activities necessary to receive reimbursement from each payer (Erickson, Rockwern, Koltov, & McLean, 2017; Tseng et al., 2018).

The goal of billing and insurance activities is a payment from the insurance companies (Lee et al., 2016; Mindel & Mathiassen, 2015). Many activities performed from the first interaction with the patient (example: documentation of demographics, insurance information, condition and physician orders) drive the ability to collect those payments (Mindel & Mathiassen, 2015; Tseng et al., 2018). Delays and denials of payment occur when essential activities are missed or done in error (Colander, 2017; Owaid, 2017; Semigran, Mehrotra, & Hwang, 2016). The activities related to healthcare billing begin when physicians contract with an individual to perform diagnostic and treatment services (Lee et al., 2016; Tseng et al., 2018). The specific actions that support

healthcare billing and insurance activities include: insurance payer contracting, patient scheduling and pre-registration; point of service registration and payment collection, insurance benefit analysis, cost share determination, evaluation of formulary restrictions, benefit prior authorization, claim coding, claim validation, claim submission, remittance processing, denials management, and accounts receivables management (Lee et al., 2016; Oregon Health & Science University, 2016). The sheer number of tasks needed to complete the task of billing highlights the complexity of the system (Amadeo, 2018). Task completion is complicated and drives the costs due to the nature of the triadic and dyadic relationships (Lee et al., 2016; Oregon Health & Science University, 2016).

The management of reimbursement occurs in three distinct and often disconnected areas of the healthcare system: patient access, midcycle operations, and the business office (Advisory Board, 2017; Lee et al., 2016). From a process perspective, patient access includes tasks that support reimbursement from the payers. The process starts with the patient's initial interaction with the healthcare organization, including the proper scheduling of an appointment (Lee et al., 2016; Mindel & Mathiassen, 2015; Tseng et al., 2018). In an ideal situation, this process involves capturing patient demographic information, securing insurance plan information, and determining provider and patient availability (Lee et al., 2016; Mindel & Mathiassen, 2015; Tseng et al., 2018). These front-end activities are essential to many other activities to receive reimbursement promptly (Brand, Fontana, & Landsman, 2017). Front-end patient access is often overlooked or seen as mundane and completed without a view of the impact on the overall importance of reimbursement (Brand et al., 2017; Lee et al., 2016).

A front-end patient access activity essential to appropriate reimbursement occurs once the patient is scheduled and involves healthcare staff performing pre-registration activities (Lee et al., 2016; Tseng et al., 2018). The pre-registration activities could include obtaining prior authorization from the payer or determining medical necessity (Lee et al., 2016; Tseng et al., 2018). During the preregistration activities, a review of insurance plan benefits is completed and compared to service cost estimates to determine patient costs (Lee et al., 2016; Tseng et al., 2018). Determining the cost to the patient is not a requirement; however, mature healthcare systems work to determine and notify the patient (Byrd et al., 2015; Lee et al., 2016; Tseng et al., 2018). The lack of attention related to notifying patients can delay treatment due to the cost prohibitive nature of many healthcare services, and providers' desire to avoid operational write-offs (Byrd et al., 2015; Lee et al., 2016; Tseng et al., 2018).

When the patient arrives at the appointment, clerical staff perform several administrative tasks under the term *registration* before the patient sees a provider or receives treatment or a diagnostic procedure (Lee et al., 2016; Tseng et al., 2018). Registration tasks include obtaining releases, verification of identity and insurance, reviewing the cost of services, and obtaining patient payments (Lee et al., 2016; Mindel & Mathiassen, 2015; Tseng et al., 2018). Patient payments involve collecting copayments, application of deductibles, obtaining additional insurance information, additional payment supports (i.e., grants, rebates, drug assistance), and setting up payment plans (Advisory Board, 2017). These completed activities are necessary before the patient sees the provider or receives the healthcare services – except emergency

services (Lee et al., 2016; Tseng et al., 2018). Nonemergent services (i.e., cancer treatments), in most cases, are required activities before a patient receives any services (Brand et al., 2017; Lee et al., 2016).

With all care provision requirements met, the process shifts to midcycle operations and the patient engages in the healthcare service (Lee et al., 2016; Mindel & Mathiassen, 2015; Tseng et al., 2018). In midcycle operations, the provider becomes the central component to the assurance of payment from the payer (Lee et al., 2016; Tseng et al., 2018). The provider is responsible for a set of complex activities that involve documentation, charge capture, and coding of patient conditions (Lee et al., 2016; Tseng et al., 2018). The knowledge required to ensure the right combination of these activities increases the burden on providers (Larjow, 2018; Lee et al., 2016). Some researchers estimate that providers spend up to approximately 50% of their time on administrative tasks related to reimbursement (Advisory Board, 2017; Erickson et al., 2017; Larjow, 2018).

To improve provider documentation and payer coding requirements in progressive healthcare systems, leaders have hired medical directors whose primary responsibility is ensuring the education and support of other providers in reimbursement activities (Advisory Board, 2017). If the system or provider cannot afford this additional support, there is further pressure to maintain or prevent decreasing margins and address increased pressures from insurance payers (Erickson et al., 2017; Lee et al., 2016). Some healthcare organizations have developed departments devoted to clinical documentation improvements (CDI) with goals to support higher reimbursement for sicker patients

(Advisory Board, 2017; Erickson et al., 2017; Lee et al., 2016). During the visit with the provider, there may not be a consideration for additional services required and future cost implications to the patient (Erickson et al., 2017; Lee et al., 2016). The task of determining additional services often occur separately from a provider's knowledge of specific insurance plan provisions for each patient (Erickson et al., 2017; Lee et al., 2016). At the close of the visit, the patient's visit undergoes an administrative review to determine additional out of pocket cost, needed follow-up visits, procedures, and tests, as well as pharmaceuticals prescribed (Erickson et al., 2017; Lee et al., 2016).

After discharge from mid-cycle operations, the business office process begins with a review of relevant documentation, validation of service codes, and the preparation of a claim for the insurance payer (Lee et al., 2016; Tseng et al., 2018). There can be several follow-ups with providers and other healthcare staff to ensure completeness and accuracy of the services (Lee et al., 2016; Tseng et al., 2018). Behind the scenes, billing departments create charge description masters (CDM) that link service charges to the billing requirements of each payer (Lee et al., 2016; Tseng et al., 2018). Electronic billing edits are also developed to check for missing information, potential mismatched diagnosis and procedure codes, and specifics related to alternative payment arrangements based on insurance payer requirements (Lee et al., 2016; Tseng et al., 2018). These mechanisms are designed to identify claim issues and allow billing staff to perform follow up with administrative staff at the provider site (Lee et al., 2016; Tseng et al., 2018). When a claim is confirmed *clean*, in other words, free from error, it is sent to the payer for reimbursement (Lee et al., 2016; Tseng et al., 2018). The payer performs a

claim review and, based on findings, either pays or denies the claims (Lee et al., 2016; Tseng et al., 2018).

Reimbursement is not guaranteed. An estimated 30% of claims submitted for payment are denied due to billing errors (Byrd et al., 2015; Lee et al., 2016). A denied claim requires a return to the provider and resubmission with corrections (Lee et al., 2016; Mindel & Mathiassen, 2015). If the provider asserts a claim as clean, or a denial as inappropriate, an appeal process is initiated (Lee et al., 2016). The appeal process can take months to years and requires high levels of administrative management, reengagement of the provider, and stress to the patient involved (Lee et al., 2016). A paid claim is also not guaranteed as complete, as payers reserve the right to review claims through an auditing process, which in recent years has been increasing in frequency (Byrd et al., 2015; Lee et al., 2016). The appeal process is an additional administrative burden on revenue cycle staff and providers (Erickson et al., 2017; Lee et al., 2016). Healthcare systems that create a greater connection between the three distinct areas of reimbursement (patient access, midcycle operations, and the business office) may result in easing the burden on all the entities involved in reimbursement.

For example, for a cancer patient, a visit to a primary care doctor can result in a suspicious finding that requires follow up (American Cancer Society, 2018). Cancer is considered the second most costly disease in the United States for the patient, provider, and employers (Pearce, et al., 2016). As the patient contacts the healthcare organization, questions about insurance coverage and the determination of costs begin (Erickson et al., 2017; Lee et al., 2016; Tseng et al., 2018; Wen, Divers, Lingohr-Smith, Lin, & Ramsey,

2018). Once a patient receives a cancer diagnosis, the cost implications are astronomical (American Cancer Society, 2015; Pearce, et al., 2016). Services required can include surgery, chemotherapy, drug therapy, radiation, and other supportive services (i.e., behavior health, pastoral, palliative, and rehabilitative; American Cancer Society, 2018; Wen et al., 2018). Each service requires an independent review of the tasks described above (Lee et al., 2016; Tseng et al., 2018). Mature administrations in healthcare systems have developed supports that review a cancer patient's needs holistically (Erickson et al., 2017; Wen et al., 2018). It is unknown how many of the thousands of healthcare systems have the capability (or direction) to view the patient in this way (Advisory Board, 2017; Papanicolas et al., 2018). Often the implementation of such supports is cost prohibitive due to the constraints on margins already discussed (Brand et al., 2017; Lee et al., 2016).

The three primary factors of the revenue cycle that drive administrative costs are complexity, variation, and friction (Himmelstein et al., 2020; Kahn, 2009). Complexity is evident in the multiple steps of billing and insurance activities, including activities related to patient access, mid-cycle operations and the billing office, to receive payment (Lee et al., 2016; Oregon Health & Science University, 2016). Variation is due to the multipayer system and how it impacts manager and employee experience (Himmelstein et al., 2020). For example, several insurance providers offer hundreds of individualized plans with various benefits (Himmelstein et al., 2020; Papanicolas et al., 2018). Friction occurs when plan benefits require prior authorizations or have formulary restrictions that can result in an initial denial (10 to 15%) or underpayment of contracted amounts (5 to 10%) (Himmelstein et al., 2020; Kahn, 2009). Friction affects the billing costs not just through

complexity but also the need to write off accounts receivable (Himmelstein et al., 2020; Kahn 2009). Managers in healthcare services faced with complicated insurance and billing costs experience low to no margin of profitability and illustrate the complexities within the administration of healthcare (Owaid, 2017).

Revenue cycle management is dependent on external factors as well as internal factors that include human resource management (Lee et al., 2016; Mindel & Mathiassen, 2015). Mature healthcare organizations have developed complex administrative processes to reduce the impact on patients and maintain margins (Brand et al., 2017; Erickson et al., 2017). From a process perspective, high-level revenue cycle activities include preregistration, registration, physician billing activities, charge entry, coding, discharged but not billed edits and holds, claim edits, claim scrubbing, insurance follow-up, and payment received (Lee et al., 2016; Tseng et al., 2018). Within any of the high-level activities lie opportunities for error that could result in rework, denials (non-payment), fraud, or abuse (Stadhouders et al., 2019; Tseng et al., 2018). Researchers in a study performed with participants in the state of Washington on the cash conversion cycle reported a positive relationship between accounts receivable collection and total profit margin (Upadhyay, Sen, & Smith, 2015). They evaluated the entire revenue cycle found a positive impact on profit margins through a streamlined and standardized approach (Lee et al., 2016; Tseng et al., 2018; Upadhyay et al., 2015).

Reducing errors and rework may be limited when managers focus solely on process improvement without the inclusion of human capital elements of success (D'Andre Matteo et al., 2015; Lindskog et al., 2017). Researchers have pointed to delays

in care and treatment decisions influenced by the complex revenue cycle (Lee et al., 2016; Roemeling, Land, Ahaus, Slomp, & Bijllaardt, 2017; Teodoro & Switzer, 2016). While time is another factor related to the delivery of care, the goal of this study is to explore training and development strategies used to reduce administrative costs. The portion of the cash conversion cycle included in the focus of this study relates to healthcare billing, accounts receivable collection, and the importance of human resources.

Vital attributes of a sustainable health system are affordability, the acceptability of key constituents, and adaptability (Bloomberg View, 2018). Removal of the patient from the payment process has led to a lack of price transparency and a complicated administrative process due to insurance payment requirements (Bryd et al., 2015). When compared to other developed countries, the United States ranks highest in healthcare spending per capita (\$9,086), spending on pharmaceuticals per capita (\$1,034), and hospital discharge spending (\$20, 991) (Bureau of Economic Analysis, 2018). The United States has the highest mortality rate (115 deaths per 100,000 population) and obesity rate (35.3%) when compared to those same countries (Mossialos et al., 2016).

In previous studies related to billing and insurance activities, researchers associated administrative costs with the amount of action required to receive payment from insurance payers (Himmelstein et al., 2014; Himmelstein et al., 2020). The researchers of a study performed by the Commonwealth Fund posited that one factor related to complexity and the excessive administrative costs is the multipayer system (Himmelstein et al., 2014; Himmelstein et al., 2020). Healthcare managers within a

multipayer system work with each insurance payer to follow billing requirements (Himmelstein et al., 2014). Himmelstein et al. (2020) highlighted three cost drivers in healthcare due to billing and insurance activities: complexity, variation, and friction. One purpose of lean is to simplify tasks inherent in complex environments into visible blocks of activity designed to reduce errors and result in cost improvements (Chaplin & O'Rourke, 2018; Hallam et al., 2018). When tasks become visible, it can raise awareness of interactions, complexities, wasteful activities, and opportunities to avoid errors (Chaplin & O'Rourke, 2018; Hallam et al., 2018). Few studies have identified the need to improve employee knowledge regarding the actions within healthcare revenue cycle through training and the use of lean principals of management (Hopp, 2018; Uhrin et al., 2017).

Training and Development

Recent studies have emerged related to the trend of effective use of lean in healthcare. Leggat et al. (2018) examined hospital staff involved in lean efforts and their responses to process improvement and change due to lean interventions. While lean utilization in healthcare has been increasing over several years, there are mixed results regarding the effectiveness of such efforts (Leggat et al., 2018; Matthais & Brown, 2017; Parkhi, 2019; Sisson & Elshennawy, 2015). In two studies, researchers were interested in staff involvement using lean principles and the overall impression of the efforts (Leggat et al., 2018; Parkhi, 2019). In a lean management environment, employee engagement and development are essential to successful efforts to improve performance (Liker, 2007; Onofrei, Prester, Fynes, Humphreys, & Wiengarten, 2019). Staff impression of lean

initiatives was positive across several sites when accompanied by training and engagement programs (Leggat et al., 2018).

Several factors identified to support the development of employees in successful lean environments include leaders as teachers or coaches, the promotion of employee self-development, the creation of vision and alignment to goal, and daily realization of needed improvements through team interaction and development of skills and abilities (Halldorsson, Gremyr, Winter, & Taghavhi, 2018; Toledo, Gonzalez, Lizarelli, & Pelegrino, 2018). Managers that support these factors create an environment of learning that supports on-the-job training (Hopp, 2018; Halldorsson et al., 2018; Uhrin et al., 2017). On-the-job training is the primary mode of increasing the productivity of employees used by organizations (Becker 1962; Hopp, 2018). Training and development programs, such as Training Within Industry (TWI) service, emerged in response to the demands for production during the post-World War II era (Ahadi & Jacobs, 2017; Torraco, 2016). The approach of TWI service effectively allowed the United States to keep up with the high levels of production required to supply the war but have been scarcely used by organizations unless there is a lean approach (Ahadi & Jacobs, 2017; Dzubakova & Koptak, 2015; Torraco, 2016). Within an organization, managers can measure the acquired skills of employees by their ability to solve issues that inhibit productivity and quality (Sweetland, 1996; Uhrin et al., 2017; Vlachos & Siachou, 2018). Managers balance the fixed cost of acquiring skills against the development of abilities for individuals that benefit the organization (Hallam et al., 2018; Magnani, Carbone, & Moatti, 2019; Sweetland, 1996). The economic value of human capital is the service

individuals provide to improve or enhance the benefits to society (Chaplin & O'Rourke, 2018; Hallam & Contreras, 2016; Sweetland, 1996). The benefits include the reduction of administrative costs that drive the overall cost of healthcare in the United States.

All staff and physician training and development is essential to lean implementation aimed at reducing billing and insurance activity costs. Researchers identified lean enablers as employee training and knowledge development, management commitment, and infrastructure elements (Becker, 1993; Halldorsson et al., 2018; Hopp, 2018; Malmbrandt & Ahlstrom, 2013). Employee capabilities and job-related training will increase performance that leads to higher levels of quality and increased efficiencies (Jayaram & Xu, 2016; Uhrin et al., 2017). The presence of lean enablers can lead to increased employee understanding regarding quality targets, data related to performance, customer expectations, knowledge of primary processes, and employee involvement in change initiatives (Cullinane et al., 2017; D'Andreamatteo et al., 2015; Hopp, 2018; Jansen et al., 2016; Pearce & Pons, 2017). Utilizing lean principles leads to employee knowledge development, continuous improvement, the long-term sustainability of enhanced performance through change, and cost savings (D'Andreamatteo et al., 2015; Onofrei et al., 2019; Uhrin et al., 2017). Essential enablers for lean adoption and performance improvement are employees and training and development (Malmbrandt & Ahlstrom, 2013).

Adequate training and development programs begin with the understanding of the organizational supports, structure, and need underpinning the success of lean initiatives (Leggat et al., 2018; Liker, 2007; Veingerl Cic, Muleij, & Sarotar Zizek, 2016). The steps

recommended are performing an organizational needs assessment, determining the organizational structure, creating development and training plans, and selecting and developing mentors and coaches (AlShamsi & Ajmal, 2018; Liker & Meier, 2007). On the surface, an assessment and review of the organization for readiness related to training and development is uncomplicated, yet it is the most critical aspect of preparing and is often shortened to hasten the start of a program (AlShamsi & Ajmal, 2018; Liker & Meier, 2007; Veingerl Cic et al., 2016). Critical questions considered include determining why training and development are needed (Knol, Slomp, Schouteten, & Lauche, 2018; Liker & Meier, 2007). Other determinations considered are the business goals of the organization, skills needed, and customer requirements (Asif, 2019; Liker & Meier, 2007). With these questions answered, leaders will evaluate the current organizational structure and evaluate whether adequate support mechanisms are present for the frontline workers or restructuring is needed (Leggat et al. 2018; Liker & Meier, 2007; Veingerl Cic et al., 2016).

After the initial assessment, leadership understanding of the importance of coaches or mentors within the process is another critical success factor (AlShamsi & Ajmal, 2018; Liker, 2007; Veingerl Cic et al., 2016). Based on the business goals and needs assessment, managers create a training and development plan and identify knowledgeable mentors (Toledo et al., 2018). Transferred knowledge begins through training and knowledge management with frontline employees (AlShamsi & Ajmal, 2018; Liker, 2007). Leaders to frontline staff act as change agents and recognize the importance of promoting employee self-development, coaching, and creating alignment

to organizational goals (Halldorsson et al., 2018; Pearce & Pons, 2017). Leaders actively facilitate employee self-development through on-the-job skills development, encouragement of teamwork through the exchange of ideas and opinions, and promoting self-directed teams armed with problem-solving abilities (Liker & Meier, 2007; Uhrin, 2017).

The development program is also built based upon key high-level components of successful completion of the task (AlShamsi & Ajmal, 2018; Liker, 2007). Managers use standard work and task identification to identify essential knowledge for proper training (Liker & Meier, 2007; Toledo, et al., 2018; Uhrin, 2017). With a completed assessment and structure in place for each job category, “critical knowledge” is defined based on “specific skills, task, accumulated knowledge and the ability to make appropriate decisions” (Cullinane et al., 2017; Liker & Meier, 2007, p. 1581). To improve specificity, managers categorize tasks by variety and analyzability (Liker & Meier, 2007; Uhrin, 2017). Liker and Meier (2007) suggested further classification of work tasks as routine, technical, non-routine, and craft. With work in specified categories, evaluated job assignments determine the skills required, standard practice, and job breakdown (Cullinane et al., 2017; Liker & Meier, 2007). Standard work becomes the basis for understanding the skills and job breakdown that form the training for each role (Dzubakova & Koptak, 2015, 2017; Liker & Meier, 2007). One of the primary purposes of standard work is to identify waste (Dzubakova & Koptak, 2015; Liker & Meier, 2007). During the process of creating standard work, the fundamentals of the job are identified and become the basis for training development (Dzubakova & Koptak, 2015, 2017; Liker

& Meier, 2007). Recognizing the high-level fundamentals of the job leads to an understanding of the skills required including knowledge and expertise in fundamental skills, core-job specifics, ancillary task knowledge, policies, judgment, and accumulated know-how (Liker & Meier, 2007; Lundkvist & Gustavsson, 2018; Toledo et al., 2018). Skills development occurs through classroom training, on-the-job training, mentoring, coaching, and a lean four-step method for ensuring the performance of the tasks (Ahadi & Jacobs, 2017; Dzubakova & Koptak, 2015; Liker & Meier, 2007). The four-step method includes preparing the student, presenting the task, allowing the student to practice skills, and following up to verify satisfactory performance (Ahadi & Jacobs, 2017; Dzubakova & Koptak, 2015; Liker & Meier, 2007).

With any performance improvement effort, the last step is to evaluate the success of the training and development against performance goals (Liker, 2007; Veingerl Cic et al., 2016). A useful structure of lean management training includes strategies that improve the transfer of “critical” knowledge and successful learning (Leggat et al., 2018; Liker & Meier, 2007; Veingerl Cic et al., 2016). The basis of the training and development plan identifies critical success factors to the organizational goals (Liker & Meier, 2007; Veingerl Cic et al., 2016). Success factors include managers as teachers that understand tasks and environmental aspects that support success, support the employee through training and the development of problem-solving skills, and allow employees to participate in improvement efforts that may include changes to job structure and tasks (Liker & Meier, 2007; Toledo et al., 2018). Ultimately the program is designed

to address the training needs of all employees within the organization and promote a learning environment (Dzubakova & Koptak, 2015; Liker & Meier, 2007).

Transition and Summary

Employee development is central to the success and sustainability of any efforts to improve performance (Liker, 2007; Onofrei et al., 2019). Many organizations implement lean tools yet neglect the development of staff performing the work (Hopp, 2018; Liker, 2007; Onofrei et al., 2019). Healthcare managers who understand the importance of a well-structured training and development program can contribute to the furthering of training and development strategies in other organizations (Ahadi & Jacobs, 2017; Liker & Meier, 2007). In this study, I explored training and development efforts related to staff and providers included in the revenue cycle of healthcare.

Section 1 of this study was an overview of the research and included the background, problem, and purpose statement, the nature of the study, and the research questions. In Section 1, I also reviewed the conceptual framework, operational definitions, assumptions, delimitations, limitations, the significance of the study, implications for social change, and a review of the relevant literature. In Section 2, I discussed the methodology and design chosen for this study. Section 2 also contained a restatement of the purpose, the role of the researcher, study participants, and ethical procedures. Section 2 included research and design, population and sampling methods, data collection instruments, data organizations, analysis techniques, reliability, and validity. In Section 3, I aimed to present an overview of the study and the findings, the application of the results to business practice, implications for social changes, and

recommendations for action. I also provided opportunities for further study, reflection and summary comments, and conclusions.

Section 2: The Project

Managers in healthcare experience excessive administrative costs due to complex billing procedures. The estimated cost for the administration of billing and insurance activities is approximately 25% of revenue for physicians and hospitals (Tseng et al., 2018). Several researchers over the last decade have performed studies focused on administrative costs using quantitative methods (Papanicolas et al., 2018). In this qualitative case study, I explored the training and development strategies used by healthcare managers to reduce administrative costs. In Section 2, I present the methodology and design chosen for this study. There is a restatement of the purpose, the role of the researcher, study participants, and ethical procedures. I include the research and design, population and sampling methods, data collection instruments, data organizations, analysis techniques, reliability, and validity.

Purpose Statement

The purpose of this qualitative single case study was to explore training and development strategies healthcare managers use to reduce administrative costs. The population was healthcare professionals from one Michigan organization who developed strategies to reduce administrative costs using employee training and development. This study can contribute to social change by highlighting the complexities of billing and insurance activities, the cost of administrative tasks for healthcare organizations, and strategies to reduce errors and rework through training and development.

Role of the Researcher

In a qualitative research study, I was the primary data collection instrument. According to Yin (2018), the researcher is often the data collection instrument in a qualitative case study. My role as the researcher was to select the appropriate research design, identify the host organization, select participants, and interview and collect artifact information as data for the study. The data collection consisted of semistructured interviews and a review of relevant documentation on training and development programs.

As a professional working in the field of healthcare insurance and billing, I had insider knowledge that provided an opportunity to explore the appropriate questions. Insider knowledge occurs when the researcher works within the target field and has first-hand experience regarding the phenomenon (Berger, 2015). I followed the protocols of the Belmont Report for research ethics by providing each participant with informed consent and a statement of confidentiality. I assessed the risks and benefits of carefully selected participants to uphold the moral framework of the study. As a professional in the field performing a case study, it was essential to reflect on any bias regarding the process I may have brought to the interviews. To do this, I found sources of information that challenged my experiences. As an experienced professional, Berger (2015) posited that a researcher could gain the trust of participants by showing an understanding of the complexity of their work. I expected to understand the complexities of healthcare billing and insurance since I work in the field. To reduce potential bias, I suspended judgments based on my experience and avoided sources that supported my understanding.

Suspending judgment minimizes bias (Booth, Colomb, & Williams, 2008). I remained open-minded about the study phenomenon using semistructured interview questions based on the study framework and guided by the interview protocol. The goal of the interview protocol was to allow for the exploration of participant experience and discover information not previously reported.

Participants

The participants in the study were healthcare professionals in a Michigan healthcare organization with involvement in billing and insurance work within the revenue cycle of the organization. I identified appropriate participant qualifications to include knowledge regarding front-end activities, mid-cycle operations, post-discharge activities, and other financial processes that support payment collection. Gaining and maintaining access to research participants challenged me and depended on the potential organizational leader's interest in the study (Saunders & Townsend, 2018). To address this challenge, I gained access to an organization through a consortium focused on using lean principals to improve the performance of organizations in Michigan. Targeting organizational leaders with interest in the focus of the study may have minimized the rejection of access to the organization (Saunders & Townsend, 2018). I presented the details of the proposed study to the professional organization through an email introduction with a subsequent video conference presentation to showcase the study goals. Gaining access to the organization is essentially the goal of recruiting participants (Saunders & Townsend, 2018).

An agreement from the target organizational leader was the first step in securing participants. Once the leader agreed, I obtained email addresses of potential participants from a contact inside the target organization. The knowledge regarding training and development for revenue cycle of each participant was essential for contribution to the study. The impact of the participant's knowledge regarding the study topic is essential to create a quality study (Maramwidze-Merrison, 2016). After securing the organization's cooperation, I sent an email to the potential participants requesting their agreement to participate in the study. I scheduled each participant for a video conference instead of meeting face-to-face, given the current stay-at-home order in Michigan due to the coronavirus pandemic. Rapport is necessary to build trust with the participants (Saunders & Townsend, 2018). To establish a trusting relationship, a researcher performs onsite visits or phone conferences to inform and address any questions or concerns of participants (Braaksma, Klingenberg, & Veldman, 2013). I conducted a video conference to inform the potential participants about the study and performed a brief survey to ensure that qualifications align with the participation criteria.

Research Method and Design

Research Method

There are three research methods available to researchers: qualitative, quantitative, and mixed method (McCusker & Gunaydin, 2014). A qualitative method provides researchers a subjective approach to the meaning of experiences for participants versus an objective analysis of relevant data (McAdam et al., 2014; Snape & Spencer, 2003). A researcher following a qualitative method uses an interpretive approach and

supports the exploration of a phenomenon (Yin, 2018). A qualitative method is appropriate to accomplish an in-depth evaluation of a phenomenon within a broader context (Brault et al., 2014). This method is suitable to clarify technical issues in a complex environment (Abma & Stake, 2014; Roberts & Castell, 2016).

In contrast to a qualitative study, quantitative researchers use discrete data points with known sources of information regarding a phenomenon to test a hypothesis and quantify results (Abma & Stake, 2014; Yin, 2018). Quantitative methods are used to accumulate numerical data but lack contextual meaning for lived experiences (Bezzina & Saunders, 2014). The mixed method approach uses both qualitative and quantitative approaches (Clark, 2016). In a mixed method, researchers use qualitative exploration and validate findings with identified data points (Clark, 2016). Researchers may use the combination of the two methods to guide the interpretation of the results through data analysis (Holden et al., 2015).

For this study, I chose a qualitative research method to perform an in-depth exploration of a phenomenon. I did not select a quantitative method because I want to uncover unknown details regarding any strategy healthcare leaders have used to develop employees and reduce the administrative costs of billing. I did not intend to collect discrete data to perform quantitative analysis; therefore, the quantitative method or mixed method was not appropriate for this research study.

Research Design

There are three qualitative research designs I considered for this study: phenomenology, ethnography, and case study. A case study is a suitable approach to

explore and explain the current circumstances experienced by the target population (Brault et al., 2014; Yin, 2018). A single case study is fitting when time is a constraint to the project. The case study method is applicable over other designs as it addresses the *how* and *why* of a contemporary issue (Yin, 2018). The case study design is relevant to an exploration of the experiences of participants, as researchers use the approach to understand a real-world phenomenon and contextualize the conditions of those experiences (Yin, 2018). The case study design is appropriate to understand the practices of healthcare managers within the multipayer system and to document the strategies of healthcare managers within that system. The time constraints were considered essential in the determination of completing a multiple or single case study. In this case, a single case study supported the limited time available to complete the study.

Researchers use the phenomenological approach when interested in examining the experiences of individuals in their environment (Giorgi, 2010). The phenomenological study could also involve making direct observations of a group (Moustakas, 1994; Norlyk & Harder, 2010). The direct observation contrasts the case study, where the researcher interacts with participants through semistructured questions, collecting artifacts, and reviewing the relevant documentation (Giorgi, 2010; Norlyk & Harder, 2010). I did not intend to make direct observations; therefore, the phenomenological design was not appropriate for my study.

The ethnography design involves gaining participant meaning (Ellis & Levy, 2009). Based on the case study approach, I did not plan to discover participant meaning but hoped to gain insight into participant experience. The ethnographic study differs from

a case study in the discovery of meaning versus experiences (Ellis & Levy, 2009; Yin 2018). The researcher may conduct the research in the participant's environment versus a formal interview (White, Drew, & Hay, 2009). The ethnography study supports the discovery of participant meaning (Wolcott, 2009). In contrast to the ethnographical designs, using the case study approach to explore the experiences of participants in the complex environment of healthcare billing was a better fit.

Population and Sampling

A researcher can choose to obtain depth within one case (Boddy, 2016; Guetterman, 2015). The number of organizations met the requirement of at least one organization for case study research (Braaksma et al., 2013; Yin 2018). The population I selected for this qualitative study included healthcare professionals that have participated in training and development practice and use lean processes and methodologies. I used purposeful sampling to obtain three to five leaders within one organization with experience in training and development who are information-rich, providing the opportunity to collect in-depth knowledge of training and development strategies. To reach data saturation, a researcher performs three to five in-depth interviews with identified participants (Boddy, 2016). A sample of three to five participants is used from the case population to reach data saturation standards (Yin, 2018). If necessary, I planned to use snowballing and emergent techniques to obtain a sufficient number of participants. Snowballing is the process of identifying additional participants through the research process (Guetterman, 2015). To reach the required amount, I identified other participants through the interview process with the initial participants. As the relationships and trust

build, I planned to identify additional participants through leaders within the target organization that agreed to partake in the study. The planned sample of participants was large enough to achieve this goal yet small enough for one researcher to manage in an efficient and timely manner. Since I wanted to obtain detailed knowledge of a single case, conducting in-depth interviews with three to five leaders was sufficient to reach data saturation.

Ethical Research

A researcher must follow the three-basic ethics of research outlined in *The Belmont Report* involving human subjects; (a) respect of persons, (b) beneficence, and (c) justice (Belmont Report, 1979). I safeguarded the data and information collected to protect the rights and privacy of the participants. I securely stored any data, documents, study notes, or other information collected for five years. I used secured electronic storage, so each item scanned is securely stored on an external hard drive with password protection. I did not use the names of the participants or their organization in the publication or distribution of the study findings. Instead, I referred to the participants by number and discussed the results without any identifying information. This study did not include any patient-relevant information. Therefore, any inadvertently mentioned patient-relevant information was explicitly excluded from any study findings, documents, or other information collected. After explaining the research process and the goal of the study, I presented each participant with the informed consent to obtain their signature (see Appendix B). The form includes an explanation of the study process, the participant's rights, and protection, as well as the goal of the study. Through the review

of the informed consent by phone and at the onset of the interview by video conference, the participants were informed of the ability to withdraw from the study at any time. I also emailed the participants a copy of the informed consent, explained the interview procedure and noted their ability to withdraw. Participants were informed that if they wished to withdraw, they could contact me through email or phone indicated in the consent form. Upon completion of the study, I provided a hand-written thank you note as well as a summary document of the study findings. It was essential to protect the rights and privacy of the research participants (Yin, 2018). Therefore, I conducted the study after receiving approval from the IRB at Walden University (approval # 07-09-20-0419713) to ensure ethical research procedures.

Data Collection Instruments

In this qualitative case study, I was the primary data collection instrument. There are six sources of evidence commonly collected in case study research: documentation, archival records, interviews, direct observation, participant observation, and physical artifacts (Yin, 2018). A primary collection instrument is open-ended semistructured interviews (Braaksma et al., 2013; Brault et al., 2014). To provide a deeper level of understanding regarding responses from participants, I used documentation, archival records, and physical artifacts to probe further into the research question and generalize across the research questions. Face to face interviews are a mechanism to build trust (Braaksma, Klingenberg, & Veldman, 2013; Saunders & Townsend, 2018). The interview questions following an interview protocol are in Appendix A. Utilizing an interview protocol provides the basis for reliability (Yin, 2018). I followed the

established protocol as I interviewed the participants to remain focused on my topic and study reliability.

Member checking involves the process of gathering feedback from participants regarding the accuracy of the data collected (Brault et al., 2014; Yin, 2018). I performed member checking and created a chain of evidence that captured the essential steps to promote the reliability of the study. As research progresses, information collected that does not apply to the research question threatens the research validity (Vaismoradi, Bondas, & Turunen, 2013). To limit threats to validity, I performed data cleansing to remove data that did not conform to the focus of the research.

Data Collection Techniques

The data collection techniques were video and phone conference interviews utilizing semistructured questions and gathering archival documents related to training and development. Semistructured, open-ended questions allow participants to expand on their experiences and provide details not available through close-ended questions (Malmbrandt & Ahlstrom, 2013; McAdam et al., 2014). Interviews conducted with semistructured questions prevent the researcher and participant from expanding on information not relevant to the study (Malmbrandt & Ahlstrom, 2013). The advantage of a semistructured interview is the opportunity to see the focus of the research in a different way (Stuckey, 2013). The survey is to be conducted via Skype using the software capabilities to provide face to face meetings, presentations, and sharing of documents. I recorded the participant interview using Skype video recording capabilities or the recorder on my Android phone using the internal microphone on my laptop or phone. I

intend to use the Audio Recorder application on my mobile phone as a backup to my laptop. To ensure proper functioning, I checked both devices before recording. Face-to-face interviews provide visual contact with the participants enabling observations to gain further insight and a better understanding regarding responses (Boblin, Ireland, Kirkpatrick, & Robertson, 2013). The interview was conducted using video conferencing or phone based on the participant's desire. Face-to-face was ideal but not always possible due to social distancing. Therefore, video conferencing was used as an alternative when able to provide the ability to observe body language and other non-verbal cues. As I progressed through the questions with each participant, I requested archival documents relevant to and supportive of the participant's responses. A recorded video conference with semistructured interviews was the primary method of data collection.

There are disadvantages to interviews for data collection. During an interview, participants may answer questions with explanations based on what they believe the researcher wants to hear (Yin, 2018). The researcher may ask questions in a manner that limits or influences the participant's response and creates bias (Yin, 2018). There is an opportunity the researcher's opinion may affect the interpretation of the data collected through the interview (Diefenbach, 2008). I minimized the disadvantages of semistructured interviews by adhering to the interview protocol (see Appendix A). To improve the accuracy of the interpretation of data collection, I performed member checking by making my interpretation of the data available to participants for review. Researchers use member checking to obtain reliability in the data collected (Connelly, 2016). The participants review the data results for an accurate representation of the

information provided (Connelly, 2016; Morse, 2015). A transcribed copy of the interview and data summary was provided to participants to review for any necessary corrections.

Data Organization

The organization of the data collected from the study supports the ability to interpret the findings with reliability (Battistella, 2014). The data was transcribed immediately after the interview into a Microsoft Word document. To organize the interview notes, I captured the transcription under the related question. As a study progresses, the researcher captures field findings, collects documented materials, and stores each in an organized manner (Battistella, 2014; Yin, 2018). I collected and organized the organizational and archival documents obtained for the study. To assemble the supporting information, I used Excel to capture each question, transcription, and noted the supporting documents with links to the actual documents within a cell. As I reviewed the narrative for conclusions or themes, I documented and developed the case study report using a Microsoft Excel database. Organization and collection techniques that are clearly defined establish a process that serves as the chain of evidence and provide clear steps regarding the approach of the study (Yin, 2018). I used NVivo software to code and analyze the data. The collection and storing of the data followed IRB requirements using a number system to protect the participants and their organization. I used P1, P2, P3, P4, and P5 to indicate each participant and the organization is referred to as the “host organization”. I am the only person that has access to the data, protected with a password on an external hard drive. I plan to delete the data

after five years from the approval of this study. All paper documentation is to be stored in a lockbox for five years, after which it will be shredded.

Data Analysis

The data analysis technique used was triangulation. Triangulation is the recommended technique to increase the strength of the case study using various sources of evidence (Yin, 2018). The goal of triangulation is to create a convergence of the data into corroborated evidence of the findings (Yin, 2018). The purpose of triangulation is to provide a meaningful interpretation of the experiences of the participants, reduce bias, and prevent misleading the reader. Triangulation is a method of data analysis used to achieve a greater understanding of the phenomenon being studied and involves validation of findings through the evaluation of multiple data sources (Hussein, 2009; Morse, 2015). I used methodological triangulation (within-method) to achieve completeness and validation of the results. For qualitative research, using methodological triangulation confirms the strength of results especially from single observer, single method, and single theory studies (Hussein, 2009). To achieve triangulation, I expect to discover supporting information regarding the experience of participants from process documentation, interviews, observations, and archival organizational documents. Yin (2018) suggested utilizing the four general strategies to analyze case study data: (a) use the conceptual framework, (b) develop a detailed description of the case, (c) examine divergent explanations, and (d) identify emergent themes. I analyzed the data using the approach of pattern matching and emergent themes. I performed member checking as the data was

collected regarding emerging themes and provided additional support for the findings based on relevant evidence found in other documentation.

Reliability and Validity

Reliability

I intended to establish reliability of the study to ensure the ability of another researcher to perform the study and develop similar results. To ensure reliability, I followed case study protocols and developed a Microsoft Excel spreadsheet of the findings. The case study database developed as a Microsoft Excel document provided details regarding the analytic methods used to establish the findings. As indicated by Yin (2018), a protocol is essential to a case study as the goal is to repeat the procedures consistently from case to case. Utilizing the suggestions of Yin (2018), the case study protocol has four sections: (1) overview of the case study, (2) data collection procedures, (3) data collection questions, and (4) guide for the case study report. Researchers recommend achieving reliability through a coding system that can be readily interpreted by a second coder (Morse, 2015). I followed the case study protocol with documented data collection procedures based on the study questions as a guide for future researchers to follow.

Validity

There are three types of validity used by researchers to strengthen the case study: construct, internal, and external (Connelly, 2016). A threat to construct validity is the potential to base findings on personal beliefs regarding the phenomenon (Yin, 2018). To prevent this threat, I used multiple sources of evidence, developed a chain of evidence,

and performed member checking. Yin (2018) posited that internal validity is not relevant to exploratory studies. To generalize the findings to organizations outside of the study, I developed external validity. I expected to establish external validity for a case study by ensuring the use of “how” and “why” questions. I used the questions to prevent simple documentation of the phenomenon and to discover a deeper understanding of the phenomenon.

Credibility is a strategy used by researchers to achieve the internal validity of a qualitative study and increase the trustworthiness of the findings (Connelly, 2016). Approaches to increase credibility include prolonged engagement, persistent observation, triangulation, peer debriefing, and member checking (Morse, 2015). For this study, I used triangulation and member checking. Member checking involves presenting the study findings to the participants to validate the interpretation of the findings (Morse, 2015). Triangulation strengthens the results providing a deeper understanding of a phenomenon (Hussein, 2009; Morse, 2015). I used triangulation as a second method to improve the credibility of the study. While each strategy has advantages and disadvantages, I used the member checking and triangulation to improve the internal credibility of the study.

Like credibility, the goal of transferability is to increase the trustworthiness of the study (Morse, 2015). A researcher strives to reach transferability to increase the likelihood that the findings transfer to other organizations or interested parties (Connelly, 2016; Morse, 2015). When the external validity of the results can be generalized to an organization or group outside of the study, transferability is achieved (Morse, 2015). To

achieve transferability, I used a coding method that removes the subjectivity and identified applicable themes or concepts regarding the phenomenon explored.

Creating a structure for data analysis that can be repeated and validated by other researchers or experts within the field is a method to achieve confirmability (Morse, 2015). When performing data analysis, a finding is compared to other forms of data and information to confirm the finding through triangulation (Hussein, 2009; Morse, 2015). Creating an audit trail involves documenting the steps taken to achieve the result so other researchers can replicate the findings (Connelly, 2016; Morse, 2015). For this study, I used triangulation and created an audit trail to establish confirmability.

Through the process of inquiry, the achievement data saturation occurs through the collection of thick, “rich” data (Morse, 2015). Achieving data saturation occurs when no new information emerges from the interview questions (Hancock et al., 2016). To confirm and illustrate data saturation, researchers may use the method of developing themes (and subthemes) and creating a graph to demonstrate each time a participant discussed the ideas (Hancock et al., 2016). To ensure data saturation, I used a coding system to develop themes and subthemes within the data. As the themes emerge, I tracked how many times each participant mentioned the subject. By keeping track of the specified item, I demonstrated the ability to replicate the findings. Replication is the process of confirming the attributes of the findings and increases the reliability of the results (Morse, 2015). When I was confident there are no new themes to discover; I created a graph that illustrates the number of times participants discussed each theme.

Transition and Summary

In Section 2, I discussed the purpose statement, addressed the role of the researcher, discussed the participant selection criteria, and provided details regarding the research methodology and design. I also articulated the population and sampling method, ethical research practices used, data collection instruments, techniques and organization, and the data analysis techniques. I concluded Section 2 with a discussion of the methods and techniques used to ensure the reliability and validity of my study. In Section 3, I provided an introduction and presentation of the findings. I present the application to professional practice, implications for social change, and recommendations for action and conclude with recommendations for future research, a personal reflection, and a conclusion.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative case study was to explore training and development strategies healthcare managers use to address billing and insurance complexities that contribute to the administrative cost of healthcare. I collected data from five leaders from one healthcare organization in the state of Michigan, using video and phone interviews, organizational documents, and a review of organizational data related to training programs. The participants provided their experiences and perspectives of the training and development program they use to address billing and insurance complexities. I used NVivo release 1.3 software to conduct a thematic analysis of the data. Six themes emerged: (a) providing workflow specifics and visual aids, (b) using managers as training and development coaches, (c) identification of a formal training program, (d) validation of training effectiveness, (e) hands-on practice and review of examples, and (f) alignment to organizational performance goals.

Presentation of the Findings

The central research question of this study was: What training and development strategies do healthcare managers use to reduce administrative costs? A nation's economic health is dependent on the education and health of its society (Schultz, 1981). Investments in people form the basis of organizational growth and performance and meet the challenges of a complex environment (Becker, 1962; Liker, 2007; Vlachos & Siachou, 2018). I collected data using semistructured interviews and viewed documents from the participants, comparing it to the lean training philosophy. I analyzed the data

with qualitative data analysis software, NVivo release 1.3, to perform methodological triangulation. I used member checking to ensure that I accurately interpreted the interview responses to maximize the reliability and validity of this study. Six training and development strategies emerged from the thematic analysis: (a) providing workflow specifics and visual aids, (b) using managers as training and development coaches, (c) identification of a formal training program, (d) validation of training effectiveness, (e) hands-on practice and review of examples, and (f) alignment to organizational performance goals. To protect the privacy of the participants, I refer to them as P1, P2, P3, P4, and P5. I have structured the findings by theme, including the detailed analysis of the data collected from the interviews and organizational documents, supported with recent research in the field of training and development. Table 1 is a list of the key themes identified for training and development strategies.

Table 1

Training and Development Strategies

Key themes	# of Participants	Frequency of theme
Providing workflow specifics and visual aides	5	54
Using managers as training and development coaches	5	47
Identification of a formal training program	5	36
Validation of training effectiveness	4	35
Hands-on practice and review of examples	5	31
Alignment to organizational performance goals	5	26

Theme 1: Providing Workflow Specifics and Visual Aids

A strategy identified by each participant in response to several of the interview questions was visual aids and everyday work. Specific visual aids included PowerPoint

presentations, webinars, tip sheets, and workflow reviews. Given the current stay-at-home order due to the COVID-19 pandemic, these tools have become invaluable to leaders. Table 2 is a list of the factors auto-coded and word frequency determined by NVivo software. I organized with the theme of workflow specifics and visual aids.

Table 2

Theme 1: Providing Workflow Specifics and Visual Aids

Themes/Auto-codes/Words	Frequency of occurrence
Theme: Providing workflow specifics and visual aids	54
Auto-code: Billing/department/payer/work	45
Words: Work, department, process, etc.	331

Participants highlighted not only the use of visual aids but also shared the importance of the aids in the breakdown of high-level components into critical tasks. They expressed the importance of the development of training that is based on the critical nature of those tasks ability to apply global training across departments and roles. P4 provided the following remarks:

We take a lot of the material and requests for information and make it either a high level or break down those high-level concepts. Then we train the supervisors and managers, to take that information to their staff. So, we train them, and they train their staff based on how it applies to their workflow.

The development of standard work provides the identification of “critical knowledge” based on “specific skills, tasks, and accumulated knowledge” and supports the ability to make decisions without second-guessing the interpretation of complex payer requirements (Culliane et al., 2017; Liker & Meier, 2007, p. 1581). While participants did

not specifically identify the development of their training materials as standard work, the description of the use of tip sheets and PowerPoint presentations represent the intent of standard work. The training model used as the conceptual framework for this study highlights the importance of developing standard work for training (Liker, 2007; Liker & Meier, 2007). The benefit of developing standard work, as P2 stated, is “it saves them the need to have to do all of this additional research because the research has already been done and placed in a common location.” Task categorizations include skills development and effectiveness of the training program. The challenge with any visual aid is the current virtual environment. P1 stated, “before we were, we were able to gather the folks together...even though it is virtual, it still counts.”

Theme 2: Using Managers as Training and Development Coaches

Supported through the literature review is leaders as teachers or coaches (Toledo, Gonzalez, Lizarelli, & Pelegrino, 2018). Participants reported the importance of this role, given the complex nature of healthcare billing requirements and the need for experts within a given area. The need for expertise highlighted the importance of understanding the overall or general requirements concerning payer specifics that could influence the completion of tasks. As teacher, the leader facilitates the transfer of knowledge regarding on-the-job skills development related to the accurate completion of tasks (AlShamsi & Ajmal, 2018; Liker & Meier, 2007). P1 stated, “I am going to go back to my team and train, and add in specific details, how that applies” to my team. One element not highlighted by the participants related to leaders as the teacher was the manager’s ability to also function as a change agent, although this may be inherent in the role of coach. A

coach often helps people overcome challenges in becoming successful (Halldorsson et al., 2018; Pearch & Pons, 2017). A challenge identified by the participants related to the leaders as coaches or teachers is the reliance on those individuals to provide the level of energy and clarity around the organizational expectations for performance. Table 3 is a list of the factors auto-coded and word frequency determined by NVivo software, organized with the theme of using managers as training and development coaches.

Table 3

Theme 2: Using Managers as Training and Development Coaches

Themes/auto-codes/words	Frequency of occurrence
Theme: Using managers as training and development coaches	47
Auto-code: Meetings/team(s)/manager/coach	22
Words: Manager, review, coach, meet, etc.	293

The training team implements a survey to gain feedback and participates in coaching sessions to ensure leader and staff alignment to organizational goals for performance. The formal trainers also provide one-on-one feedback to the managers regarding their approach to training staff. P3 stated,

We do hear that from teams and we always take that back to the supervisors, with your approach makes a difference, you're their leader, you are their direct report, they look up to you, we need to make sure you're trained as our expectations are.

The statement from P3 points out the importance of recognizing the leader approach is effective as a change agent and essential to employee enthusiasm and willingness to self-develop in support of organizational goals.

Theme 3: Identification of a Formal Training Program

The participants identified specific strategies for the overall training and development program. The conceptual framework followed the lean management approach to training and development proven successful by efforts from companies like Toyota. Each leader was purposeful in identifying components of training program, using terms such as “training university”, with modules and defined material that used webinars, external references, and training materials in PowerPoint or tip sheets. The participants also clearly identified training goals with program length and expected scores and time to complete. Table 4 is a list of the factors auto-coded and word frequency determined by NVivo software, organized with the theme of identification of a formal training program.

Table 4

Theme 3: Identification of a Formal Training Program

Themes/auto-codes/words	Frequency of occurrence
Theme: Identification of a formal training program	36
Auto-code: Training/courses/information/session	46
Words: Training, information, trainer, level, etc.	255

The overall training and development components include the manager as a teacher or coach, employee self-development, alignment to organizational vision and goals through the process and critical task identification, and daily realization of needed improvements (Halldorsson et al., 2018; Toledo et al., 2018). The lean management philosophy follows the continual improvement cycle of plan, do, check, and act (Deming, 1986). The structure of the lean approach to training and development follows the same

approach: plan the training and ensure the alignment to organizational goals, provide the opportunity to do the task with the support of a coach, provide real-time and continuous feedback on performance, and adjust the training and development content as needed.

Theme 4: Validation of Training Effectiveness

The validation of the training and development program was identified by several participants through several questions. As with a lean training approach, the last step of training and development is to confirm the program's success toward the performance goals (Liker, 2007; Veingerl Cic et al., 2016). Validation involved the use of a survey to gain participant feedback, the review of denial rates, and test scores, to validate the expectations of the training and alignment to the overall goals of the organizations. Participants identified the importance of this step not only to understand the impact of training on the development of skills but also to ensure improvement toward the performance objectives. If the participants reported the need for further clarification, the trainers would revisit the training materials to adjust the presentation or materials covered. P3 stated,

We do SurveyMonkey, and we see that this particular team has some weaknesses or concerns, we try to work with them. But the ultimate validation is the numbers. At the end of the day, it is how the numbers are improving.

Four of the participants reported the use of regular feedback regarding performance and adjustments to training should it become necessary based on a lacking skill in the team. As outlined in the conceptual framework, the final validation of the effectiveness of a training and development program is the team's progress toward the goals of improving

the activities related to billing and insurance-related activities. P1 also stated, “and so, all the initiatives on education and coaching and training should be reflected on how these (denials) numbers are coming down.” Table 5 is a list of the factors auto-coded and word frequency determined by NVivo software, organized with the theme of validation of training effectiveness.

Table 5

Theme 4: Validation of Training Effectiveness

Themes/auto-codes/words	Frequency of occurrence
Theme: Validation of Training Effectiveness	35
Auto-code: accuracy/denial/specific/survey	38
Words: understand, accuracy, denial, survey, etc.	255

Theme 5: Hands-On Practice and Review of Examples

Each job has specific skills or task identified as critical to the successful completion of a unit of work (Alshamsi & Ajmal, 2018; Liker, 2007). In a lean environment, critical tasks are identified and form the basis of the development of standard work and facilitate on the job training (Liker & Meier, 2007; Uhrin, 2017). All participants reported the importance of hands-on practice to strengthen understanding regarding the tasks. During coaching sessions, each leader described the process of looking at performance in relationship to the quality of the tasks and the elimination of denials or account errors, by reviewing specific accounts, task steps, or the interpretation of payer specific rules regarding claim submission requirements. P1 remarked, “so the supervisor and the billers have a regular schedule with their supervisor, on a monthly basis, for just looking at claims, you know reviewing them, sitting with the billers,

identifying some issues, or things like that.” Table 6 is a list of the factors auto-coded and word frequency determined by NVivo software, organized with the theme hands on practice and review of examples.

Table 6

Theme 5: Hands on Practice and Review of Examples

Themes/auto-codes/words	Frequency of occurrence
Theme: Hands on practice and review of examples	31
Auto-code: Claim/coding/example	28
Words: See, look, account, trying, etc.	210

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Participants also reported the importance of the review of specific accounts and allowing staff the opportunity to ask questions, especially when new to the role. P5 remarked, “for my new employees, when they come in, I have them sit with one person throughout their whole entire training.” This benefits the employee by allowing work on accounts while having a seasoned staff person available for questions and validation of correctness and increases the likelihood of effective training. Hands-on practice (or training) is similar to the process of on-the-job training and an essential mechanism to increase productivity and quality, which in turn decreases administrative costs (Hopp, 2018).

Theme 6: Alignment to Organizational Performance Goals

The creation of alignment to the overall goals of an organization is essential to engage employees in active improvement of skills and knowledge (Halldorsson, Gremyr, Winter, & Taghavhi, 2018; Toledo, Gonzalez, Lizarelli, & Pelegrino, 2018). Table 7 is a list of the factors auto-coded and word frequency determined by NVivo software, organized with the theme alignment to organizational performance goals.

Table 7

Theme 6: Alignment to Organizational Performance Goals

Themes/auto-codes/words	Frequency of occurrence	
Theme: Alignment to organizational performance goals	26	
Auto-code: Performance/standardize/groups	20	II
Words: Everyone, expectations, performance, etc.	205	part

A

Participants alluded to the alignment of training objectives, manager as a coach, and employees skills development to organizational expectations or goals. Specifically, three of the participants mentioned performance coaching, specific performance goals, or expectations regarding quality checks in alignment to the broader organization. For example, P5 stated the following when referencing other departments,

We have to understand how we can join together and how we work together and collaborate together in order for our steps to be clear and making sure we are not impeding, or are making anything more complicated for someone else.

Participants also noted people want to do a good job and reassured that their efforts are in line with the organizational goals and performance expectations. As P2 remarked,

We have aligned our interpretations within that coding manual, with other coding areas in the health system, because we know that claims not only come to our work queue, but after we are done it might go somewhere else and we don't want to cause any additional work to another team. So as all those interpretations were decided upon, and published, we aligned with the inpatient coders, the central billing office coders, in the way that they also interpreted those guidelines and applied them in their areas.

As a lean enabler, consistent feedback regarding quality, performance, critical processes, and employee involvement in development opportunities, leads to employee understanding and engagement in organizational efforts toward successful performance (Cullinane et al., 2017; D'Andreamatteo et al., 2015; Hopp, 2018).

Findings Related to the Conceptual Framework

The conceptual framework used for this study, human capital theory, provided the foundational thought regarding the importance of skills and knowledge of individuals. From a practical perspective, and based on industry success, the lean model of training was used for comparison. The lean management model identifies several components of successful training and development programs. The model includes: (a) utilizing managers as teacher or coach, (b) employee self-development, (c) vision and alignment to goals, (d) daily realization of needed improvements, and (e) the use of a four-step process to understand the needs, create organizational structure, develop a plan, and identify and develop mentors or coaches (Liker, 2014; Liker & Meier, 2007). The case in this study provided evidence of the importance of the manager as coach or teacher, the need for validation and identification of improvement opportunities, alignment to organizational goals, and the need for a formal training and development plan. The participants did not acknowledge employee self-development but relied more heavily on leadership discretion regarding training needs. The importance of this factor is indicated through the lean acknowledgement that no process improvement effort is complete without the use of front-line staff to support the identification of improvement needs and the subsequent training that implies (Liker, 2007; Liker, 2014). Recent literature on the focus of

employees in improvement efforts highlight the importance of engagement and employee self-development on organizational performance (Asif, 2019; Magnani, Carbone, & Moatti, 2019).

Applications to Professional Practice

The purpose of a training and development program is to ensure individuals carry out activities in an efficient and effective manner that support organizational performance. The daily realization of opportunities for improvement is identified by team interactions and result in the development of specific skills and abilities through on-the-job training (Becker 1962; Hopp, 2018). As employees interact in teams, the team's combined knowledge and skills are used to problem solve and identify improvement opportunities (Sweetland, 1996; Uhrin et al., 2017; Vlachos & Siachou, 2018). Lean enablers for employee development include a formal training and development program, management commitment, and the organizational structure (Becker, 1996; Halldorsson et al., 2018; Hopp, 2018; Malmbrandt & Ahlstrom, 2013).

Recognizing the purpose of lean enablers leads to development efforts with mechanisms that identify improvement goals, provide a regular measurement of effectiveness, highlight primary processes, and promote employee involvement in daily and ongoing change management (Cullinane et al., 2017; D'Andreamatteo et al., 2015; Hopp, 2018; Jansen et al., 2016; Pearce & Pons, 2017). The recommended steps for the development of a lean management training program include a needs assessment, understanding the components of the organizational structure, development of a formal training and development program, and identification and development of mentors and

coaches (AlShamsi & Ajmal, 2018; Liker & Meier, 2007). The critical components of the training and development program include coaches and mentors, employee self-development, the promotion of teamwork interactions, and standard work development (Halldorsson et al., 2018; Liker, 2007; Liker & Meier, 2007; Pearce & Pons, 2017; Toledo et al., 2018).

One of the essential components that supports the efforts of on-the-job training is the development and training regarding standard work (Dzubakova & Koptak, 2015, 2017; Liker & Meier, 2007). Standard work development based on organizational processes, structural supports, and policies, and allowing for the use of judgment and accumulated knowledge of team members and leaders provide the most effective training focus for meeting organizational goals (Dzubakova & Koptak, 2015, 2017; Liker & Meier, 2007). The trainers deliver the training program through various means: classroom (virtual or in-person), on-the-job training, and mentoring or coaching. The student is prepared for the training, presented a task through a formal training mechanism (lecture or presentation), allowed to practice, and their performance verified (Ahadi & Jacobs, 2017; Dzubakova & Koptak, 2015; Liker & Meier, 2007). As a final component, leaders validate training effectiveness through individual, team, and organizational feedback and performance.

Implications for Social Change

Health care organizations are challenged with administrative complexities due to billing and insurance activities for decades (Himmelstein, Campbell, & Woolhandler, 2020). The administrative cost of billing and insurance activities is driven by errors and

rework necessary due to that complexity. Recognizing the benefits of training and development has implications for individuals, organizations, and society. For the individual, training and development strategies focused on the quality of initial claims would prevent delays in care and issues with coverage and access due to incorrect capturing of benefit information (Department for Professional Employees, 2016; Lee et al., 2016; Tseng et al, 2018). For organizations, managers would benefit from the knowledge that a formal training and development plan, following the lean philosophy could help with the difficulty of dealing with the multipayer system and billing complexities to obtain payment for services (Lee et al., 2016; Tseng et al., 2018). Health care organizations may benefit from focused training and development strategies that address these complexities and prevent errors and rework that drive administrative costs.

For society, the importance of specific training and development strategies that clarify the complexity of billing and insurance activities, could benefit society with the recognition of the need for simplification and impact on the overall cost of healthcare. For policy makers, this study may highlight that complexity through the experiences shared by the participants in the study, and their challenges related to billing complexities. It is possible that despite the successful strategies of health care leaders, the overall cost of the administrative cost of healthcare does not change, and highlight the need for policy changes that would impact the various payer requirements that drive the billing and insurance complexity. Reducing billing and insurance complexity could potentially impact the overall cost of healthcare in the United States by lowering the administrative costs associated with the multipayer system.

Recommendations for Action

For organizational health and performance, focused efforts on training and development are essential. Successful training and development programs are structured to address the following:

1. Recognize that leaders are not just managers and practical training programs engage the leaders in the work areas as teachers and mentors.
2. Design the training and development program with alignment to an organization's key performance indicators, organization performance goals, and an understanding of critical processes and critical tasks within each role.
3. Ensure there are opportunities for team collaboration and employee self-development.
4. Ensure a regular feedback loop regarding improvement opportunities and adjust training to meet the team's knowledge needs.

Leaders in organizations responsible for training and development programs would benefit from a comparison to the structure of their programs against the conceptual model and feedback from this organization. The benefits of a well-structured training and development program reach across industries, as shown through the application of lean to manufacturing and the health care industry. Lean efforts that ignore the needs for employee training and development may have limited results and would benefit from a review of training and development structure. This type of information, shared through

human resource conferences, lean management conferences, and journal articles focused on training, development, education, and human capital theory, benefits others.

Recommendations for Further Research

The focus of this study was the broad training and development strategies used by one healthcare organization. Further research into the specific components of a training and development program or a comparison study between organizations or industries may reveal the program's most effective training components. Further research may also address the limitation of generalizing the findings to other industries and organizations, as the focus of this study was one organization. A quantitative study would validate the reported qualitative findings regarding the effectiveness of the different components or evaluation of a program's overall effectiveness when compared to organizational performance. Performing a quantitative study would also address the limitation regarding honesty from participants, highlighting variables, and providing data to validate the effectiveness of training and development strategies.

Reflections

As I moved through the DBA doctoral study process, my experience in the healthcare industry had the potential to create a personal bias, and preconceived opinion regarding the challenges healthcare leaders face regarding billing and insurance activities. By developing the structure of the study (limitations, validity, reliability), I recognized the need to limit this bias as much as possible. For this reason, the first step toward limiting the bias was to focus on an approach to healthcare billing and insurance activities that I would not be familiar with going into the study. Training and development

strategies were new territory for me and provided the ability to limit the risk to participants. At the same time, one goal of the study was to highlight the complexities of billing and insurance activities and the related administrative costs; focusing on training and development strategies provided an opportunity to focus on something within the participants' control. When I started this journey, I assumed that the value of focusing on training and development strategies would be limited. However, through the research regarding human capital development and training and development strategies, I have a new appreciation for the value of creating a comprehensive program like the ones recommended in a lean environment.

Conclusion

Complex billing and insurance activities drive the administrative cost of healthcare. Leaders in healthcare may feel challenged and as if they are limited in their ability to affect the changes needed to address the insurance industry. The lean management philosophy is a management approach that addresses an organization's internal processes and provides a framework to engage leaders and staff in practical training and developed strategies. The case study design allowed the discovery of successful training and development strategies healthcare managers use to reduce billing and insurance errors, as a strategy within their control, to improve the administrative costs associated with the activities.

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Appendix A: Interview Protocol

Interview: Using Human Capital Development to Reduce Healthcare Administrative Costs

- A. I will request the participant read the consent form, allow them to ask any questions, and sign the consent form if they still agree to participate.
- B. The participant will be emailed a copy of the consent form for their records.
- C. The interview session will begin with an introduction of myself and the research topic.
- D. I will thank the participant for agreeing to be a part of my research study.
- E. I will remind the participant that the session will be recorded and confirm their agreement to be recorded.
- F. I will turn on the recorder and state the date, time, and location.
- G. A sequential identification of the participant (i.e., participant 1, participant 2, etc.) will be indicated on the audio recorder as well as my copy of the signed consent form and any note pages for the interview.
- H. I will inform the participant that I will make a copy of the transcript available to them after my transcriptions is complete.
- I. If I notice any discomfort from the participant, I will ask them if they are okay to proceed with the interview.
- J. I expect to present each of the open-ended questions in a manner that allows the participants to identify specific training and development strategies used to improve billing and insurance activities. I will inductively ask each question.
- K. During the interviews, I will allow for additional questions, in addition to the central questions, to further explore the participants' experiences.

- L. I will capture relevant documentation from participants either during the session or directly after based on the availability of those documents to the participant.
- M. At the conclusion of the interview, I will thank the participant for their participation in my research study.
- N. After all data is collected, I will share the preliminary interpretations of the information provided to the participants in order to validate the completeness of the information and provide an opportunity for clarification or additional comment.