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Strategies Hospital Leaders Use to Reduce Cost While Improving the Quality of Care

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This is to certify that the doctoral study by

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Abstract

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MS, Troy University, 2005

BS, Albany State University, 2000

Doctoral Project Submitted in Partial Fulfillment

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Abstract

Hospitals in the United States spend more on healthcare than other modernized countries, yet the nation has a lower life expectancy. Some U.S. healthcare leaders lack effective strategies to balance cost reduction and quality care, leading to financial strain, declining net patient revenue, and compromised patient outcomes. As a result, hospitals face increased risks of closure, which negatively impacts access to care and overall healthcare system sustainability. Grounded in the complex adaptive system and Lean Six Sigma, the purpose of this qualitative pragmatic inquiry was to identify and explore effective strategies healthcare leaders in the United States use to improve the quality of patient care at a lower cost. Data were collected from six healthcare leaders via semistructured interviews. Four themes emerged: (1) transitioning from fee-for-service to value-based care models, (2) leveraging data analytics and technology to monitor patient outcomes and reduce waste, (3) incentivizing physicians to align with cost-saving measures, and (4) fostering systemwide collaboration between clinicians and business leaders. A key recommendation is for healthcare leaders to employ strategies to identify and eliminate medical procedures that do not meet medical necessity and cause wasteful spending. The implications for positive social change include the potential to increase patients' quality of care while sustaining the financial viability of local hospitals.

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Section 1: Foundation of the Project

Improving healthcare quality in the United States has been a significant agenda item for city and state officials. Many city and government officials develop policies that help prevent hospital closures by addressing issues and solving day-to-day problems. Access to quality healthcare is a fundamental element of U.S. healthcare, and policymakers have long recognized the relationship between a hospital's financial sustainability and patients' access to quality healthcare (Crowley et al., 2020). However, hospital leaders may need to clarify structures for governance, accountability, and monitoring of efforts to improve quality at a lower cost to secure commitment to quality and cost savings through consensus-building (Syed et al., 2018). The United States spends twice as much on healthcare as comparable nations in the Organization for Economic Cooperation and Development (OECD). Still, Americans experience worse health due to lifestyle choices (Tanne, 2023). The Commonwealth Fund, which supports research to promote better healthcare, focused its latest analysis on excess U.S. health spending (Tanne, 2023). Hospital leaders who can provide a higher quality of care at lower costs can decrease hospital closures, improve access to care for patients, and increase job opportunities.

Background of the Problem

In 2021, $4.3 trillion was spent on healthcare-related goods and services, which was 18.3% of the nation's gross domestic product. According to the Centers for Medicare and Medicaid Services (CMS), national health expenditure (NHE) was projected to grow at an average annual rate of 5.6% over the period 2016–2028 and increase to 19.9% of

gross domestic product (GDP) by 2028, with total healthcare spending rising to $6.2 trillion in 2025 (CMS, 2021). Hospitals in the United States spend more on healthcare than other modernized countries, but the life expectancy in other countries is higher than the life expectancy in the United States. The general business problem is that the rising cost of healthcare, declining net patient revenue, and quality of care issues have led to hospital closures.

Business Problem Focus and Project Purpose

The specific business problem is that some healthcare leaders in the United States lack strategies to reduce the cost of healthcare while improving the quality of patient care. I used the purposeful sampling method to recruit and interview hospital leaders currently working at various health systems in the United States. I used LinkedIn connections to access hospital leaders with at least 6 years of executive leadership experience in strategy. Semistructured interviews were conducted with six healthcare leaders. The purpose of this qualitative pragmatic inquiry was to identify and explore effective strategies for healthcare leaders in the United States to improve the quality of patient care at a lower cost.

My study used the concepts within the complex adaptive systems theory (CAS) and the Lean Six Sigma (LSS) methodology as a composite conceptual framework for this research. The CAS theory is based on the work of John Holland. Holland (1992) defined the CAS theory as a network of diverse agents (components) that adapt to the environment in parallel to achieve adequate performance. Interactions and relationships

between components affect and shape the performance of a system. Holland's theories have helped hospital leaders better understand complex systems (García-Arias, 2020).

Research Question

What strategies do hospital leaders in the United States use to reduce costs while improving the quality of care?

Assumptions and Limitations

Assumptions

According to Theofanidis and Fountouki (2018), assumptions are the things that researchers take for granted regarding a research topic's context. Assumptions are an essential and unavoidable part of quantitative research. In this quantitative research, several explicit assumptions must be addressed. I assumed that administrative hospital leaders were fully engaged in my study because of their desire to identify cost-saving strategies. The second assumption was that clinical hospital leaders may be reluctant to migrate from old fee-for-service (FFS) platforms due to the complexities and in-depth learning curves associated with migrating to new platforms.

Limitations

Limitations are factors, usually beyond the researcher's control, that may affect the results of a study or how the results are interpreted (Bornovalova et al., 2020). Limitations are potential weaknesses that are out of the researcher’s control with the associated research study (Theofanidis & Fountouki, 2018). One limitation of my study might have been that hospital leaders might be restricted from providing key data elements due to internal ethics and compliance protocols. Another limitation was that due

to time restraints associated with patient care delivery, clinical hospital leaders might be rushed during the interviews and might not give their full attention to answering the questions. Using a remote interview process and ensuring that interview times are flexible and offered at the convenience of the participants could have helped to overcome this limitation.

Transition

In Section 1, I provided an in-depth overview of the project's foundation that reflected the impact of the rising costs of U.S. healthcare. The background of the problem section stated what the United States currently spends on healthcare. In the business problem focus and the project purpose section, I discussed the basis of the problem and the purpose. I discussed the research design, sampling method, target size, target population, target geographical location, access method, participant eligibility criteria, and overall alignment to the specific business problem, which was stated in the business problem focus and the project purpose. I discussed the conceptual framework and the path to understanding how hospital leaders can improve healthcare quality at a lower cost in the United States. The study's research question was identified in addition to the assumptions and limitations that might impact the study.

In Section 2, I discuss the literature review opening narrative, which describes the content of the literature. I introduce the problem and the purpose and identify the conceptual framework in the application to the applied business problem subsection. I also provide a detailed organizational review of the literature.

In Section 3, I identify the target population, the selection criteria, and the sampling method. A detailed description of the sampling method and the methods used to ensure data saturation is also provided. I provide a detailed list of interview questions, along with a description of the study's data collection tools. I also include the data tracking and analysis method, data validation and trustworthiness, and analysis software plan.

In Section 4, I present my findings, how they can be applied to professional practice, the implications for social change, and future research recommendations.

Section 2: The Literature Review

A Review of the Professional and Academic Literature

The literature review analyzes and synthesizes various literature sources to better understand the research topic. I accessed peer-reviewed scholarly journal articles through the Walden University Library database, ABI/INFORM Complete, ProQuest, eBook Collection (EBSCOhost), Emerald Management Journal, SAGE Premier, Thoreau, Google Scholar, government websites, and seminal scholarly books. This literature review provides a comprehensive analysis of the conceptual framework, the foundation, and the relationship between the research topic and the conceptual framework. I selected a minimum of 85% of literature review sources published within 5 years of this study's completion date. For this literature review, 115 out of 129 articles, journals, and seminal books were published within 5 years of my anticipated graduation date. From the search results of peer-reviewed articles, I analyzed 129 articles relevant to my area of study and the conceptual framework for the review of the literature. Of the 129 articles, 119 were peer-reviewed articles. This literature review was an essential part of my doctoral studies, and I ensured that all sources were recent and peer reviewed to provide the best evidence for my research. In Sections 2, 3, and 4, I review the professional and academic literature, describe the research project methodology, and present the findings and conclusions.

Conceptual Framework

Healthcare business leaders require distinct approaches for successful decision-making to improve healthcare quality at a lower cost. Healthcare leaders can use the CAS framework and the LSS principles to identify strategies healthcare leaders can adapt to

changes in a fragmented system. As leaders in healthcare systems transform towards a value-based, patient-centered care delivery model, new complexities relate to improving the structure and management of healthcare delivery. For example, improving the integration of processes in care delivery for patient-centered chronic disease management and implementing cooperative actions are essential for generating positive results in improved workflow processes and cost-saving opportunities. There is no standard process for migrating to a valued-based program or accountable care organization (ACO) model strategies for healthcare leaders to utilize to improve the quality of care at a lower cost. These are complicated issues throughout the healthcare industry. To adapt best practices, hospital leaders must identify successful strategies to improve overall patient outcomes and team dynamics through the CAS conceptual framework. My study used concepts within the CAS and the LSS methodology as a composite conceptual framework for this research.

Complex Adaptive System

Pioneered by John Henry Holland in 1992, the CAS theory adopts a perspective of open and adaptive systems. Open means that systems are continually exposed to relatively autonomous pressures that stem from their dynamic environment (Hartman, 2021). It is helpful to look at a particular system to better understand complex adaptive systems—to understand what makes them complex and adaptive (Holland, 1992). For example, the immune system consists of many highly mobile units, called *antibodies*, that continually repel or destroy an ever-changing cast of invaders (bacteria and biochemicals) called *antigens* (Holland, 1992). It is impossible for the immune system to simply list all

possible invaders because they come in an almost infinite variety of forms. The available space would simply not allow storing all that information, even if possible. As new invaders appear, the immune system changes or adapts ("fits to") its antibodies. As a result of their ability to adapt, these systems are difficult to simulate.

The immune system faces the additional complication that it must distinguish itself from others; the system must determine the legitimate parts of its owner from the ever-changing cast of invaders (Holland, 1992). Due to the tens of thousands of types of cells and biochemical constituents in a human being's body, this is a very challenging task. It is rare, but mistakes in identification can result in autoimmune diseases, which can be fatal. As a result of the immune system's ability to self-identify, it is Holland's best scientific means of defining individuality at present. For instance, an immune system will not confuse the body’s cells with those in a sibling's skin graft.

The study of CAS comprises a set of tools and techniques for modeling and analyzing the complexity emerging in diverse fields, including social science, ecology, economics, and technology (Roci et al., 2022). The science of complexity (sometimes referred to as complexity theory) and CAS investigates complex and nonlinear relations between constituent entities under continuous change and includes studies on themes such as adaptation, coevolution, emergent system behavior, interactions between agents and entities, and decentralized control (Roci et al., 2022). At its core, CAS consists of a population of diverse rule-based agents arranged in a network-like structure. Individual agents contribute to the character of a system. An adaptive complex system often contains many dynamic, autonomous, highly interactive, learning, and adaptive agents. Agents of

CAS act in ways that are based on a combination of their knowledge, experience, feedback from the environment, local values, and formal system rules (Makleff et al., 2020). These change over time, leading to continuously changing interactions and adaptations that are often novel and hard to predict, especially in social systems (Makleff et al., 2020). CAS involves agents interacting with and adapting to other agents and systems.

Lean Six Sigma

The LSS approach is a systematic methodology used to eliminate waste within a business process or system. Lean management philosophy originated from the Toyota group's "Toyota production system," which was developed throughout the latter half of the 20th century and which strategy was largely credited with transforming Toyota from a small automatic loom manufacturer into one of the world's largest automakers (Khadem et al., 2008).

Six Sigma, which Motorola pioneered in the late 1980s, was increasingly blended with lean philosophy by the early 2000s (George, 2003). The term *Six Sigma* originated from terminology associated with the statistical modeling of manufacturing processes, a Six-Sigma process being one in which 99.99966% of all outputs are expected to be defect-free (George, 2003). The joint term "Lean Six Sigma" was created by Barbara Wheat, Chuck Mills, and Mike Carnell in 2001 (Wheat et al., 2001). Lean management's focus on waste elimination was a natural marriage with Six Sigma's structured processes designed to reduce variability and defects, and the terminology and practices of LSS have since become commonplace (Wheat et al., 2001).

Synergistically, lean exposes sources of process variation, and Six Sigma aims to reduce that variation by enabling a virtuous cycle of iterative improvements toward the goal of continuous flow (Wheat et al., 2001). By eliminating all “muda,” the Japanese term for waste, increasing flow, and minimizing variation, the LSS philosophy aims to provide high-quality and low-cost products and services. Essentially, lean is centered on making what adds value obvious by reducing everything else within the process, as exemplified by lowering inventory levels to make systemic production problems more obvious (May & Dominguez, 2023).

LSS combines well-known waste elimination and process improvement techniques, lean manufacturing, and Six Sigma. Spector and West (2006) concluded that LSS is most effective in process improvement and is widely implemented in top-performing organizations. It came from the manufacturing environment and found its way to services. Snee (2010) described LSS as a well-structured theory-based methodology to improve performances and develop effective leadership, customer satisfaction, and bottom-line results. Together, lean manufacturing and Six Sigma become more powerful and eliminate the cons of each approach. This joint approach applies the tools and techniques of both lean manufacturing and Six Sigma. Define, measure, analyze, improve, control (DMAIC) and define-measure-analyze-design-verify (DMADV) are applied in a lean environment to achieve bottom-line results (Q. Zhang et al., 2012).

Customers today expect high-quality products, competitive costs, and faster delivery, all of which organizations must be able to meet in today's complex market

environment. An organization must apply a comprehensive concept and method to manage this requirement. Various industries use LSS, which has been widely used in multiple research fields. A review of the method is necessary to find the most common solution.

Lean manufacturing is a concept adopted to eliminate waste and processes that do not add value to customer satisfaction. It also aims to increase the efficiency and effectiveness of the company (Tampubolon & Purba, 2021). Meanwhile, the Six-Sigma method is needed to reduce process variability. Motorola was one of the companies that successfully adopted the Six Sigma method in the 1980s to increase the quality level by continuously and consistently reducing variability in manufacturing operations (Olanrewaju et al., 2019).

Six Sigma is dedicated to what customers want from a product of the highest quality. On the other hand, lean manufacturing, in particular, is focused on reducing waste and nonadding value for customer satisfaction. LSS has become a leading business improvement methodology that has been successfully implemented since being implemented in all types of businesses (Tampubolon & Purba, 2021). LSS aims to drive business improvement with the key features of lean and Six Sigma and incorporate these features into an integrated approach toward improving business performance. Six Sigma focuses on eliminating critical quality issues affecting business organizations, while companies focus on systematically creating value and reducing waste (Thomas et al., 2016).

Application to the Applied Business Problem

Healthcare leaders have identified problems with the FFS reimbursement system, including unsustainable growth in costs, excessive waste, and poorer, unjustifiable health outcomes considering excessive money spent. Based on data from the OECD, leaders estimated that healthcare costs, as a percentage of GDP, across 36 OECD member countries grew from 9% in 2000 to 12% in 2019 (Larsson et al., 2022). The United States is an outlier, spending nearly 20% of GDP on health care, roughly double the percentage of other developed countries. Even worse, in recent years, it is clear that a significant portion of this spending—estimates suggest anywhere from 20% to 40%, depending on the country (Shrank et al., 2019)—is wasted on low-value and, in many cases, medically inappropriate care (Shrank et al., 2019). In addition, the pharmaceutical industry is responsible for the research, development, production, and distribution of medications. The market has experienced significant growth during the past 2 decades, and pharma revenues worldwide totaled $1.27 trillion in 2020 (Congressional Budget Office, 2021). Various factors contribute to CMS's rising NHE. However, this study focused on improving the quality of care at a lower cost at the healthcare provider level.

Background of the Problem

Based on the latest estimates, the average OECD health expenditure to GDP ratio declined from 9.7% at the height of the pandemic in 2021 to 9.2% in 2022 (OECD Data Explorer, 2023). The share of GDP going to health remained above the prepandemic level of 8.8%, even if in 11 OECD countries, the ratio in 2022 is expected to have fallen below 2019 prepandemic levels (Salvatori, 2022). In country-level data, the health expenditure

to GDP ratio remained by far the highest in the United States at 16.6% in 2022, followed by Germany at 12.7% and France at 12.1%, according to the database (OECD Data Explorer, 2021).

U.S. healthcare leaders spent nearly double the average percentage of the nation's GDP. According to CMS, the NHE grew 2.7% to $4.3 trillion in 2021, $12,914 per person, and accounted for 18.3% of the GDP (CMS, 2023). As a result of these statistics, U.S. healthcare leaders have increased their emphasis on providing quality care at lower costs (CMS, 2021). Large-scale initiatives have catalyzed the focus on improving value. For example, former President Obama's 2010 Affordable Care Act created incentives for improving quality while reducing costs through Medicare Shared Savings and bundled payment programs (Snee, 2010). In addition, healthcare leaders from the American Board of Internal Medicine's Choosing Wisely initiative generated lists of low-value services across a range of specialties to reduce the use of services that have little or no benefit to patients (S. N. Landon et al., 2022). For example, FFS practices had higher rates of low-value service utilization than capitated practices, community health centers had higher rates of high-value care and lower rates of low-value care than private practices, and hospital-based practices had higher use of low-value services than community-based practices (S. N. Landon et al., 2022).

Healthcare has evolved over the past decades. Braithwaite, Glasziou, et al. (2020) suggested that while change is everywhere, performance has flatlined: 60% of care on average is in line with evidence- or consensus-based guidelines, 30% is some form of waste or low value, and 10% is harmful. The 60-30-10 Challenge has persisted for 3

decades (Braithwaite, Glasziou, et al., 2020). Incorporating patient preferences into decision-making can be improved with deep learning systems that better exploit traditional and newer types of big and small-scale health data. For example, a deep learning system will support healthcare's desire to continually improve and make gains on the 60-30-10 dimensions (Braithwaite, Glasziou, et al., 2020). Despite the abundance of data in modern health systems, it has not been possible to utilize that information, operationalize it, and make better, more timely decisions based on it.

Healthcare leaders traditionally use top-down, hierarchy-based, and standardization strategies to address this problem. However, these strategies have not been effective. It is essential for healthcare leaders to combine ideas from complexity science and continuous improvement to create a health system that can learn from experience. Data such as patient histories, clinical information, and patient, laboratory, and cost information can be gathered by healthcare leaders. This process can improve decision-making in real time or close to real time. In addition to being evidence-based, healthcare leaders can reduce wasteful and harmful care with appropriate action.

Healthcare leaders will need to have a purpose-designed digital backbone and infrastructure, apply artificial intelligence (AI) to support diagnosis and treatment options, harness genomic and other new data types, and create informed discussions of options between patients, families, and clinicians (Braithwaite, Glasziou, et al., 2020). Healthcare leaders should promote the widespread adoption of a comprehensive, innovative decision model that enables evidence-based care with minimal waste, regardless of how many variants exist.

In a study analysis, healthcare leaders created rapid-learning systems that involve ongoing improvement, regular feedback to stakeholders, and the inclusion of patients' perspectives and choices in decision-making (Vindrola-Padros et al., 2021). Healthcare leaders facilitate learning and improvement by integrating supportive technologies into the sociotechnical systems that make up healthcare. In this case analysis, healthcare leaders can expect a variety of new models aligned with local conditions and workplace cultures to emerge, most likely centered on the clinical microsystem (Braithwaite, Glasziou, et al., 2020). Unlike most outdated concepts of care centered around individual clinicians or top-down views of highly structured and hierarchical systems, popular with policymakers is a defined, organized group of care workers and associated personnel that care for a specific group of patients. Rather than rigid and static, an ideal clinical microsystem as a learning system is adaptable and fluid, with features more closely aligned with CAS. With information about health status, patients' expectations, genomic data, cost and benefit schedules, and lifestyle and history characteristics, healthcare leaders should encourage the widespread use of an innovative, comprehensive decision model that facilitates evidence-based care with less waste.

Healthcare value appears to be driven by a complex interplay between system hospitals, providers, and patient-level factors. S. N. Landon et al. (2022) found evidence supporting the role of insurance incentive schemes, the intensity of care, and culture as key drivers of healthcare value. Although some overlap exists between factors driving quality of care and factors driving healthcare value, S. N. Landon et al. found that they are not identical. Thus, the two constructs must be considered as distinct entities. In

addition, high-value care appears to be driven by different factors from low-value care (S. N. Landon et al., 2022). Developing interventions to improve healthcare value and establishing standards for defining and measuring value are important considerations.

Known Strategies Used by Hospital Systems

Healthcare transformation requires a change in how the business of healthcare is done. Traditional decision-making approaches based on stable and predictable systems are inappropriate in healthcare because of the complex nature of healthcare delivery (Gerritse et al., 2022). My study aims to challenge traditional decision-making approaches in healthcare and explore successful leaders' insights to create a pragmatic set of recommendations for other healthcare leaders to use in their decision-making process.

CAS as a Strategy

The CAS theory states that the system comprises multiple elements interacting dynamically (Holden et al., 2021). In complex systems, various agents interact with and are controlled by distributed control, emerge, adapt, and spontaneously order themselves (Kok et al., 2021). When identifying changes in healthcare systems, these factors must be considered. To effectively adapt, systems must balance exploration and exploitation (Holland, 1992). Exploration produces new knowledge and capabilities, whereas exploitation efficiently uses existing information (Holland, 1992). García-Arias (2020) emphasized that change, adaptation, and efficiency are open-ended processes. As a result, a CAS never achieves equilibrium.

Healthcare leaders can also utilize the CAS theory to improve health services' understanding and upscaling. By using the CAS theory, healthcare leaders can focus on

embracing uncertainty, nonlinear processes, context variations, and emergent characteristics in decision-making (Shahid et al., 2019). The interdependent factors of clinical practice, organization, information management, research education, and professional development are based on multiple self-adjusting interacting systems (Glover et al., 2020). In a distributed system, agents (e.g., users) respond to their environment based on internalized rule sets that are not necessarily shared or require understanding by other agents (Glover et al., 2020). Internalized rules and compliance often include negotiated contracted fee schedules with payors, codes of conduct, and written policies and procedures based on patient-centric service offerings. In this context, healthcare leaders have internal compliance and best practices that are only internal to individual hospitals. While hospital leaders are reluctant to share internalized rules and compliance with external health leaders, lessons learned from internalized regulations and compliance assist other healthcare leaders in responding to complex emergent environments using artificial neural networks (ANN) based decision-support tools. Healthcare organizations are leveraging machine-learning techniques, such as ANN, to improve the delivery of care at a reduced cost (Shahid et al., 2019).

Healthcare leaders at various levels can apply artificial neural networks across all healthcare organizational structures. As a result of advancements in the field, decision-makers are incorporating hybrid models of neural networks to tailor solutions to specific problems. Shahid et al. (2019) suggested that ANN-based solutions applied on the meso- and macro-level of decision-making promise to be used in complex, unstructured, or limited information contexts. The ethical, societal, and economic implications of applying

ANN to healthcare organization decision-making may need to be better understood by healthcare leaders for successful implementation and adoption.

Several theoretical implications emerge from various ANN studies and findings. Shahid et al. (2019) suggested that healthcare organizations are complex adaptive systems embedded in larger complex adaptive systems. Healthcare leaders can appropriately rely upon ANN as an internalized rule set. The change in healthcare delivery and evolving needs must be defined and managed (e.g., support required for collaborative care or patient participatory medicine; Tan, 2019). Traditional decision-making processes based on stable and predictable systems are outdated because of the complex and emergent nature of contemporary healthcare delivery systems (Tan, 2019). Leaders within the healthcare organizational decision-making process focus on visible problems, while the more extensive system within which healthcare delivery organizations exist remains unacknowledged (Tan, 2019). Healthcare leaders can use AI to enhance adaptability to change by strengthening communication among agents. This fosters rapid collective response to change because AI can generate a collective memory for social systems within an organization (Shahid et al., 2019).

Healthcare decision-makers focus on understanding and coordinating financial incentives for healthcare providers to bear financial risk, similar to Tan's (2019) findings. CAS theory can facilitate bottom-up organizational behaviors that foster collaboration, respect, and learning among front-line staff, according to Sturmberg and Bircher (2019). Two recent complementary definitions of health and disease have emphasized the importance of understanding the purpose of health care as improving health. As a result

of the economic models underpinning today's healthcare - profit maximization - the focus has been shifted away from the primary purpose of healthcare. It is also important to note that economic considerations should serve rather than dominate healthcare delivery. Finally, the universally accepted Declaration of Geneva 2017 codifies the behavioral norms expected of health professionals - to always consider the health and well-being of patients first (Arnold, 2017). Considering these three aspects, it becomes clear that CAS in healthcare systems needs mindful top-down/bottom-up leadership supporting innovation for healthcare driven by local needs (Sturmberg & Bircher, 2019). Significant savings can be achieved by improving people's health. Hospital leaders should provide patients and society with high-quality, low-cost medical care (Sturmberg & Bircher, 2019).

For example, the Mayo Clinic has adopted a patient-centered/patient outcomes system approach. Over the past 100 years, the Mayo Clinic has maintained a successful healthcare organization in a constantly changing environment. The Mayo Clinic is regarded as the benchmark for high-quality, cost-effective patient care based on Sturmberg and Bircher's (2019) analysis. Healthcare organization leaders may benefit from Mayo Clinic practices for operational efficiency.

LSS as a Strategy

The National Institutes of Health (NIH), a part of the U.S.Department of Health and Human Services, the nation’s medical research agency — making important discoveries that improve health and save lives, the World Health Organization (WHO), United Nations agency that connects nations, partners, and people to promote health,

keep the world safe and serve the vulnerable so everyone, everywhere can attain the highest level of health and CMS explore strategies to reduce costs but increase quality have shown the LSS method to be effective. Health systems that implement systematic up to date cost efficiency innovations are more able to maintain competitiveness. Throughout the world, medical care is becoming increasingly expensive at an unsustainable rate. In addition to the aging population, technological advancements increase the cost of medical care. In modern society, technological advancements and demographic changes are factors that can't be controlled. Inefficient operations and excessive material consumption further increase healthcare costs. Over the past few years, healthcare professionals have become more aware of operational inefficiencies. The healthcare sector can benefit from LSS because of its ability to reduce material consumption at wards and to distribute materials effectively.

Despite rising costs for providing care and decreasing reimbursement rates, healthcare leaders are struggling to maintain operational efficiencies while improving quality. When implemented in an organization, LSS helps to increase the process capability and efficiency by reducing defects and waste (Rathi et al., 2022). conducted a study that systematically reviews the impact of LSS in the healthcare sector. It was found that comparatively fewer studies are focused on improving the medical processes, and most of the studies target the management processes. Moreover, fewer studies were being conducted for developing nations, but now it seems that the focus of research scholars has shifted toward developing nations. However, it was observed that the studies in these nations were majorly empirical, and very few studies were conceptual or exploratory

(Rathi et al., 2022). There is a need to guide healthcare professionals in creating a continuous improvement environment that sustains the improvements achieved after LSS implementation. The LSS method also promotes more efficient, streamlined, and accurate patient-centric processes. Integrating lean and Six Sigma approaches in healthcare organizations leads to improved quality performance by increasing patient satisfaction and loyalty (Ahmed, 2019). The literature demonstrates that successful LSS implementation in hospitals has reduced patient waiting time reduction, medical record department turnaround time, and medication errors (Antony et al., 2019). These methodologies have resulted in many improvements, including enhanced patient safety, increased patient satisfaction, reduced costs, greater team communication, and improved team dynamics (Trubetskaya et al., 2023).

Lean management is a process of streamlining that enhances organizational revenues, reduces expenses, and improves customer satisfaction by reducing wasteful activities (Capolupo et al., 2023). The lean approach is more straightforward, efficient, cost-effective, and provides users with adequate quality of service (Marolla et al., 2022). This method focuses on increasing the process speed of delivery, providing a method for assessing and reducing costs, tools for monitoring process flow and delay times, and growing process speed by decreasing lead time and waste (Bhat et al., 2020). Service organizations, such as healthcare ecosystems, may combine lean and Six-Sigma methodologies to decrease costs and enhance customer satisfaction since quickness and quality cannot be sorted when improving operations (La Forgia et al., 2023). Reducing unnecessary expenses and waste in healthcare requires both techniques to improve the

user experience. Six sigma emphasizes reducing variances, whereas lean emphasizes eliminating waste.

Although Six Sigma does not explicitly address speed or decrease invested capital, and lean enhances productivity while failing to provide any instrument to fix quality issues, combining both is essential for improving operations (Capolupo et al., 2023). Healthcare systems must consider critical success factors when implementing LSS for quality performance. These factors include top management involvement, leadership, financial assistance, creating a positive work environment, developing better strategies, and promoting continuous improvement. By combining statistical analysis with lean principles, LSS eliminates waste and minimizes defects through process improvement. In addition to enhancing process quality and efficiency, LSS seeks to reduce costs and improve customer satisfaction. LSS is based on a DMAIC approach that assists organizations in identifying and resolving problems' root causes by reducing the improvement process into smaller components (Trubetskaya et al., 2023). Studies have shown that implementing LSS in hospitals has resulted in various short-term benefits within the specific processes of well-identified units and work teams (Kuiper et al., 2022; Madhani, 2022). There is a clear connection between LSS implementation and QP. Nonetheless, LSS projects may have shortcomings regarding service quality and organizational effectiveness. Individual initiatives may not be adequate for delivering broad-based change without a strategic and shared orientation that involves all organizational levels (Antony et al., 2019).

Leadership Styles as a Strategy

A quantitative study of 70 Serbian public, secondary, and tertiary health organizations were conducted by Horvat and Filipovic (2020) to understand the changing relationships within health systems. Horvat and Filipovic examined leadership styles using quality indicators in complex healthcare organizations. In this study, doctors discovered that management positions differed in the quality of care they could access and the access to care they could provide under managerial, adaptive, and enabling leadership styles. The leadership style of hospital leaders had a positive influence on hospital stays. A higher rate of hospital readmissions was found among those with an enabling leadership style (Horvat & Filipovic, 2020). Their organization's executives monitored interactions to identify workflow barriers. There are differences between Horvat's and Filipovic's leadership styles in regard to quality indicators. It is common for leaders to make workflow changes to improve patient quality and satisfaction scores and increase revenue from net patient visits to improve quality at a lower cost.

Healthcare leaders are faced with many challenges as they transition to value-based care. They must develop strategies to help their organizations succeed and thrive in an increasingly value-based economy. Additionally, they must lead organizational transformation, leading to more effective working methods and evolving organizational and clinical practices. It is even more critical that they look beyond the interests of their organizations to become stewards of the value-based transformation of the entire healthcare sector. The transition from traditional health care to value-based care is ultimately up to their institutions.

Strategies for Adding Value

Healthcare leaders continuously adapt to industry changes required to promote quality patient care while reducing the cost of care. To achieve improved value, better patient experience, clinical quality, health outcomes, and lower costs of care, leaders should use significant employee incentives to improve the care process and enhance patient experiences (Hookmani et al., 2021). Hookmani et al. (2021) discussed that payment contracts that are incentive compatible, which directly encourage better care and reduced cost, will provide structure incentives and will align patient incentives with value. These strategies can include implementing evidence-based clinical decision support tools, developing quality improvement initiatives, and incentivizing healthcare providers to follow best practices. Additionally, hospital leaders should ensure adequate communication among clinical and operational teams to promote better patient outcomes. Mjåset et al. (2020) suggested that strengthening government involvement in driving change, focusing on continuous IT improvements to ensure the availability of outcome data across the entire care cycle, and instituting a valued based-ACO culture among providers may prove to be pivotal in accelerating the implementation of the value-based and ACO platform for hospital leaders.

Payment reform has been at the forefront for healthcare leaders regarding the cost of care and the overall movement toward higher value in the United States healthcare system (Outland et al., 2022). A common belief is that volume-based incentives embedded in FFS need to be replaced with value-based payments (Wiesing, 2020). While

this belief is well-intended, value-based payment also contains perverse incentives, which are perceived as the cornerstone of payment reform.

Rutherford et al. (2022) suggested that healthcare leaders from The Department of Health and Human Services and CMS are leading the reform efforts, using aspects of the value-based and ACA programs that focus on paying for the quality of care rather than the quantity of care. Leaders of healthcare organizations who operate under traditional FFS platforms must consider the type of risk they are willing to accept and the various ways to integrate value-based models in the coming years, as most reimbursements will be tied to a form of value or quality measure. Current value-based models that have varying accountability, care collaboration, and development are ACOs, patient-centered medical homes (PCMHs), and bundled payments (Rutherford et al., 2022). By adding upside and downside risks to FFS systems, these alternatives can influence how healthcare leaders approach value-based care, impacting their overall reimbursements and the quality of care. Each payment mechanism requires different processes and resources. However, value-based billing focuses on patient outcomes and the overall quality of care. Value-based billing promotes cost savings, improved resource utilization, and incentives to prioritize preventive care and population health management.

There has been a growing awareness that high prices, rather than high quantities of services, are the main reason that per capita spending on healthcare services is higher in the United States than in other developed countries (Gale, 2019). Health policy analysts say FFS payments incentivize physicians to prescribe more low-value services. The analysts also suggested that FFS payments increase the overall cost of healthcare

services. B. E. Landon (2022) indicated that because total spending is equal to price times quantity, high prices increase total spending directly, holding quantity constant and indirectly through an induced increase in the supply of services. As a result of the pricing problem, new payment reform models have been developed, such as ACOs and bundled payment initiatives.

CMS has promoted bundled payment programs nationwide as a flagship value-based payment reform. Value-based payment reform can be defined as payment models in which clinicians and healthcare organizations are held accountable for the quality and cost of care instead of being paid based on the volume of services they deliver (Casalino & Khullar, 2019). Clinicians are held accountable for the quality and costs of care they provide in bundled payments (Casalino & Khullar, 2019). As a result, provider reimbursement has shifted in recent years from FFS to alternative payment models that incentivize value by shifting financial risk for both healthcare costs and quality onto providers. Rawal (2021) explained that such models include ACOs, advanced primary care medical homes, and bundled (or episode-based) payments. B. E. Landon (2022) suggested these are reasonable steps toward more efficient pricing. Still, ACOs and bundled payment initiatives primarily create incentives to constrain the volume of services provided to beneficiaries. Despite of the progress made, Casalino and Khullar (2019) suggested that ACOs are unlikely to bend the cost curve. CAS has the capacity to be a beneficial tool that healthcare leaders can use to impact and improve the quality of care at a lower cost.

The key symptom of this value crisis is healthcare leaders that are resistant to change and innovation variations in the health outcomes delivered to patients across countries and regions within countries between different socioeconomic and racial groups (Gavurova et al., 2021) and even between various hospitals and clinical sites treating the same types of patients often with no clear correlation between money spent and health outcomes delivered (Y. Zhang et al., 2021). Again, the United States is an outlier, spending more per capita than other developed countries but delivering significantly lower health-adjusted life expectancy (World Health Organization, 2020) and poorer health outcomes in critical areas such as infant and maternal mortality (OECD Data Explorer, 2023). In the Dartmouth Atlas of Health Care Project, Wennberg concluded that a significant portion of healthcare outcomes are driven by unwarranted or medically inappropriate variations in clinical practice and noted a lack of good practice treatment standardization among healthcare institutions (Wennberg, 2011).

Known Challenges to Hospital Systems

Crisis as a Challenge

Research and clinical practice are increasingly disconnected, resulting in a value crisis and a crisis of evidence. In recent decades, biomedical knowledge and a proliferation of diagnostic and therapeutic tools have exploded, resulting in the evidence crisis. As clinicians gain access to more patient data and have more diagnostic and therapeutic options available, they may become paralyzed by information overload. The lack of appropriate decision-support tools has caused difficulties when applying new knowledge or matching patients' circumstances with the most appropriate treatment,

which is extremely challenging. Despite the decades of evidence-based medicine and the proliferation of clinical guidelines as standards of care, scientific evidence does not yet exist for the effectiveness of many clinical interventions, and the evidence that does exist is often surprisingly weak (Tricoci et al., 2009). The global health sector spends about $400 billion annually on research and development. Still, much of that money is not being used to analyze the comparative effectiveness of different treatments or therapies despite the evidence crisis.

According to D'Alessandro et al. (2022), healthcare workers' experiences are increasingly disconnected from the values that drew them to the profession. Lancet (2019) believed a crisis of *purpose*, the growing disconnect between the values that draw people to work in the healthcare sector, and the reality of their experience. For years, there has been considerable discussion of the extremely high rates of stress and burnout in the health professions). The COVID-19 pandemic worsened the problem (Shanafelt et al., 2022). De Hert (2020) suggested that a deeper trend is causing burnout and stress in the global healthcare industry: the system's increasing complexity. In addition, diagnostics and therapeutics are becoming increasingly available due to advancements in biomedical science. As a result, clinical care is becoming more complex. Many challenges are associated with the fragmentation and specialization of the healthcare system, including minimizing wait times, maximizing capacity utilization, and managing cost satisfaction (Yogesh & Karthikeyan, 2022). In effect, healthcare has become a classic example of what system scientists term a *complex adaptive system* (Borghmans et al., 2024)

Leaders in healthcare organizations typically respond to complexity in a way that causes the purpose crisis. They have established various standardized processes, structures, guidelines, and key performance indicators but lack the understanding to manage and control complexity and costs. As a result, clinicians often lose their professional autonomy to adhere to strict regulations and their overall focus on compliance. At the same time, it has become more difficult for them to work together across organizational units and specialties to make the tradeoffs necessary to provide value to their patients. As a result of these difficulties, unnecessary layers of organizational complexity on top of the complex tasks that must be accomplished.

Despite of modern medicine's complexity and the healthcare industry's complexity, creating more complicated management systems won't help managers manage complex adaptive systems effectively. Instead, all stakeholders need to work together to define a limited but comprehensive set of principles called "simple rules" to determine the organizational structure to foster innovation and value-enhancing behavior. According to the literature on CAS, four types of rules are essential:

- Stakeholders can align around an articulated purpose.
- Stakeholders' actions and interactions can be informed by data and information directly relevant to that purpose.
- Incentives and resources aligned with the goal of fostering the right behaviors.
- Mechanisms of governance that promote autonomy, innovation, and self-organization while protecting against self-dealing and abuse (Torchia et al., 2015).

Measured Outcomes as a Challenge

Healthcare leaders should ideally position the patient at the center of a value-based healthcare system to augment the best possible outcomes for money spent. This goal puts the individual patient at the heart of the health system and reconnects clinicians and other health professionals with the reason they entered the field in the first place. Value-based health systems simplify healthcare by using patient value, which evolutionary biologists call a selection principle, used to evaluate the effectiveness of health-system reform initiatives and the contribution and performance of all institutions in the system (Harrill & Melon, 2021).

It is essential for industry leaders to continuously measure the health outcomes and costs associated with patient care to improve the value of patient care constantly. Relevant outcomes are tracked depending on the profile of patients with specific diseases or groups of patients with similar risk profiles (Harrill & Melon, 2021). Comparing standardized outcomes by population allows leaders to identify clinical best practices, generate evidence for better clinical guidelines, reduce variation in outcomes and practice across providers, reduce waste, and tailor care delivery to patient segment needs. Health systems need four essential resources and incentives to reorient themselves around patient value. Among the first is the development of dynamic provider ecosystems, in which new organizational models and roles (referred to as “delivery organizations”) facilitate better access to appropriate care, engage clinicians in continuous improvement, and adapt to new opportunities and innovations through the networks of providers and suppliers (Harrill & Melon, 2021). Providing incentives for

behavior, such as prevention and better collaboration along the care pathway, is a key enabler of value-based health care. Two additional enablers are needed to integrate health outcomes measurement into clinical practice fully. Open digital platforms (belonging to the category of "informatics") are required for routinely collecting, sharing, and analyzing health outcomes. The rapid accumulation of standardized patient data requires new analytical tools for benchmarking and research to translate the data into clinical guidelines. Ultimately, advanced decision-support tools will inform clinical practice and improve value for defined patient segments through increasingly customized interventions, more precise care pathways, and more precise decision-support tools (Batko & Ślęzak, 2022).

Value-based healthcare systems are heavily governed and regulated. Several enabling guardrails can help speed up the transition to value-based care. When Teisberg et al. (2020) examined the past decade through this framework, they immediately noticed that Innovations and progress had been made in all model dimensions.

A critical component of the health data infrastructure is the government's institutionalization of health outcomes measurement. Many national health systems worldwide are integrating outcomes measurement into their standard approaches to quality assessment as a first step. This objective will be a significant change because, in most countries, most metrics used to assess provider quality do not address the actual health outcomes delivered (Lansky, 2022). Young and Smith (2022) suggested that Healthcare institutions should be mandated to measure and report comprehensive outcomes. Regulatory agencies should require standardized health outcome data reporting

in the healthcare sector, equally as they require financial disclosures from all public companies.

Multiple benefits would result from such a reporting system. Continuous improvement and organizational learning would be stimulated. Consumers would also have more informed choices among providers and treatment options if outcomes, including those directly affecting their quality of life, were routinely transparent to the public (National Institutes of Health, n.d.). The intervention would also have a fundamental impact on the market as it would orient competition around patient value, reducing the number of providers and other contributors in the system by creating the right kind of selection pressure, encouraging meaningful innovation, fostering value-based provider ecosystems, and stimulating the transformation of the system based on value.

A second approach is for governments to take advantage of the fact that they are the primary payers in the national health system to redefine payments to promote high-quality care. Informed patient choice of providers and interventions should be rewarded in healthcare budgets and payment models (Simmons et al., 2024). For these goals to be achieved, we must implement new value-based payment models and measure health outcomes more effectively. Health outcomes must be measured and reported for value-based payment reform to be sustainable; therefore, value-based health care provides better health outcomes. By tracking metrics that reflect the actual health outcomes provided to patients, payers, and providers can better link payments to outcomes that matter to patients. In addition to increasing their efficiency (or at the very least not

diminishing their effectiveness), hospital leaders can implement new payment models. Without payers' demand that hospitals track outcomes, significant efforts to reorganize payment systems will not substantially improve patient outcomes (Liu et al., 2021). It is necessary to assess how value-based payment models affect health outcomes to confirm cost containment (Werner et al., 2021).

Providers who deliver better outcomes should not necessarily be paid more. Pay-for-participation rather than pay-for-performance is an alternative approach to offering a bonus to providers who make their outcomes data transparent. For example, in three leading cataract surgery centers, the French Ministry of Health and France's national payer recently launched a pilot project utilizing the ICHOM cataract outcome measurement set towards establishing a national cataract registry and a standard methodology and model for measuring health outcomes in France (Larsson et al., 2022). In this project, a proof-of-concept demonstration is conducted. In the pilot project, cataract surgeons who share their patients' outcomes receive additional payment. Payers can encourage clinicians to collect and share data by offering a transparent bonus demonstrating that outcome measurement is a real part of clinical best practices.

A new incentive system should integrate health and social welfare budgeting and planning to improve health outcomes. Even though social determinants have been increasingly emphasized as a key factor in population health, budgets for interventions to address them are often spread across multiple government agencies, preventing coordination, planning, and rational allocation of resources. It is common for prevention and public health to be underfunded. Governments should take budgeting for health care

and social welfare more holistically and integrate them, as they are the primary financiers of healthcare (Torchia et al., 2015).

Digital Healthcare Infrastructure as a Challenge

Developing a digital infrastructure using next-generation digital technologies is necessary for continuously improving health outcomes that matter to patients. Three key areas will need to be invested in: (a) improved cybersecurity to protect patient data while enabling data sharing and analytics; (b) health information systems should be interoperable thanks to shared technical standards; and (c) integrating new technologies into clinical practice and balancing privacy and transparency of data with new practices, rules, and regulation (Stoumpos et al., 2023).

By establishing robust standards for interoperability and cybersecurity, governments can facilitate health outcomes through data collection, sharing, and analysis. In addition, governments can facilitate public transparent reporting of health outcomes. Moreover, they can revive clinical research and trials and bring better evidence for clinical guidelines by collaborating with clinical researchers, providers, and drug and med-tech companies.

The beginnings of such an approach can be seen in the recent evolution of the US government's efforts to encourage health information interoperability. In 2009, Congress passed the Health Information Technology for Economic and Clinical Health Act (HITECH). This Act set aside $37 billion in incentives to support the adoption and "meaningful use" of electronic medical records (EMR). Developing a digital infrastructure for information exchange was an essential first step. However, the EMR

initiative focused primarily on digitizing existing patient records (Patel et al., 2023). This resulted in significant compatibility issues of systems created by different vendors and even those customized for different institutions by the same vendor.

As a result of the 21st Century Cures Act of 2016, things changed. Health institutions were permitted to share health data and that data electronically. In 2020, the federal government's Office of the National Coordinator for Health Information Technology (ONC), the principal federal entity charged with coordination of nationwide efforts to encourage and support the electronic exchange of health information, published the final rule outlining the critical regulations for implementing that new legal requirement (Tripathi, 2022).

To prevent information blocking, the new rule defines enforcement mechanisms. It also designates a specific data-sharing standard for the first time in ONC's history. This was the open-source Fast Healthcare Interoperability Resources or FHIR standard for the application programming interfaces that all health IT developers must include in their systems and applications so that they can communicate with each other (HeathIT.Gov., 2021). As a final step, it establishes a legal agreement and technical standards for connecting health information networks.

One area where international cooperation could pay off is creating global standards for the 21st-century digital health infrastructure. Governments can significantly accelerate current national and international benchmarking and research by cooperating to develop such standards to enable secure data collection, sharing, and analysis. The healthcare industry needs the equivalent of the effort to establish the TCP/IP

networking standard. This laid the foundation for the modern internet. In this effort, critical government, academia, and private industry institutions worked together to develop technical standards that had a transformative impact (Holroyd, 2022). Institutionalizing outcomes measurement, aligning payment with health outcomes improvement, and creating a 21st-century digital health infrastructure will require considerable investment over an extended period to accomplish these goals. Critics can easily argue that our moonshot agenda represents an impractical bridge too far in today's resource-starved healthcare environment. Nevertheless, the value-based healthcare movement and the global health sector need to embrace strategic ambition now more than ever.

In the United States, a potential important step in the right direction is the recent creation of the Advanced Research Projects Agency for Health (ARPA-H), proposed by the Biden Administration and authorized by Congress in March 2022 (Zhou et al., 2023). Modeled on the Defense Advanced Projects Research Agency (DARPA), the new agency's mission is to make pivotal investments that will transform important areas of medicine and health for the benefit of all patients (National Institutes of Health, n.d.). Core ARPA-H priorities should include the design of the necessary data infrastructure and technology platform for a comprehensive U.S. health outcomes measurement system and the digital learning networks of the future (Zhou et al., 2023).

Comparisons Among Strategies and Organizations

System leadership takes a variety of forms. In some cases, institutions are partnering across sector boundaries to improve health outcomes at the regional or

national level. One example is the network of 23 collaborative quality initiatives (CQIs) in Michigan, probably the most extensive collection of multi-hospital quality-improvement programs in the United States (Howard et al., 2022). The program is a joint venture of the state's hospitals and Blue Cross Blue Shield of Michigan, the state's largest payer, which supports the centralized coordinating centers that lead the CQIs with more than $61 million in annual funding and has created a variety of financial incentives to encourage participation in the improvement initiatives. The program has been instrumental in institutionalizing innovations in care delivery in hospitals across the state (Howard et al., 2019). A value-based health system is also developed by working with industry trade associations. In the case of medical technologies, MedTech Europe has played a key role in developing a framework for value-based purchasing (Palatino, 2023).

In still other cases, governments are taking the lead. The European Union has passed legislation authorizing a €2.4 billion Innovative Health Initiative (IHI), a public-private partnership that brings together the EU Commission and a network of industry stakeholders to facilitate innovation in areas of unmet healthcare need (Cristinacce et al., 2022). One focus of this initiative is the Health Outcomes Observatory (H2O), a collaboration between patients, clinicians, regulators, and the industry to develop a governance model for incorporating health outcomes, including patient-reported outcomes, into healthcare decision-making across Europe (Stamm et al., 2021). The next frontier for this kind of multi-stakeholder collaboration to accelerate value-based health care will be to extend cooperation to the global level. World Economic Forum's Global

Coalition for Value in Healthcare is perhaps the most far-reaching initiative of system leadership at the global level (Maitin-Shepard & Hamilton, 2020).

A public-private partnership founded in 2019, the coalition works to transform health systems worldwide based on value-based principles (Kalouguina & Wagner, 2020). Coalition members identify and catalog best practices for key system enablers of value-based health care since its founding and a series of global innovation hubs that are examples of best practices in value-based health care (Kalouguina & Wagner, 2020). To accelerate the value-based transformation of the world's health systems, these initiatives will become nodes in a global collaboration network that identifies and shares best practices among its members.

Healthcare leaders will be increasingly responsible for leading multi-stakeholder initiatives into the value-based future as the sector moves rapidly to a value-based future. There is no single institution that can make value-based health care a reality. Deficiencies in global health systems are systemic issues that require a concerted collective effort to address.

Transition

In Section 2, I described the literature, including a critical analysis and synthesis of the research included. I provided an outline of the organization of the literature and provided a detailed summary of the references. I identified the purpose statement and the purpose of the project. I provided a detailed overview of the study's two frameworks (LSS and CAS). I explained how the LSS and CAS frameworks could be utilized by healthcare leaders to identify strategies healthcare leaders can adapt to changes in a

fragmented system. In the application of the business subsection, I provided a detailed overview of the background of the problem that aligns with the problem statement. I also provided a detailed summary and supporting research for strategies for adding value, known crises in healthcare, and comparisons among strategies and organizations.

In Section 3, I identified the target population, the selection criteria, and the sampling method. I also provided a detailed overview of the sampling method and the methods that will be utilized to ensure data saturation. In the following subsection, I described the tools that will used to collect data, provided a detailed list of the interview questions, and the methods that will be utilized to ensure that the data is trustworthy. I also described the data tracking method and provided an overview of the software used.

In section 4, I presented my findings, how they can be applied to professional practice, the implications for social change, and future research recommendations.

Section 3: Research Project Methodology

Research methods are a strategy, process, or technique for collecting data or evidence for analysis to uncover new information or better understand a problem. For accurate and reliable data collection, rigor is essential (Saunders et al., 2019). In order to have reliable and accurate data collection, the researcher must establish and maintain rigor (Saunders et al., 2019). In this study, I used a qualitative research approach that involved individual semistructured interviews to document ethical issues systematically. Ethical issues surrounding qualitative research relate directly to initiating, commencing, and terminating those relationships, which were identified in the project ethics. Reliability and validity were demonstrated to establish trust and confidence in my findings to ensure that data are sound and replicable and that the results in this qualitative research are accurate. The nature of the project consisted of the qualitative research method and the pragmatic inquiry design to observe and interview the organization's employees within a site boundary, review documents, and analyze and triangulate the data for meaning to identify what effective strategies healthcare leaders are using to attempt to improve patient outcomes at lower costs. The population, sampling, and participants sections provided an in-depth overview of the target population, sampling method, and selection criteria.

This pragmatic inquiry study aimed to identify and explore strategies that successful leaders of hospital systems use to reduce costs to improve patient care quality. I interviewed hospital leaders from various hospital systems in the United States. The semistructured interviews (see Appendix B) consisted of seven probing open-ended

questions listed in this study's interview questions (see Appendix B) portion. I used the thematic analysis strategy, an analytic method to identify patterns across data identified in the data organization and the analysis techniques portion of this study.

Project Ethics

Researchers are responsible for maintaining data collection rigor while representing participants' responses in a reliable and accurate way (Saunders et al., 2019). As the primary data collector in this qualitative research study, I identified the participants' beliefs, assumptions, and biases. Many ethical issues surrounding qualitative research relate directly to initiating, commencing, and terminating those relationships. Most ethical issues arise during the preparation of a study. It is, therefore, essential to maintain relationships during research. To establish trust with the research participants, a researcher must maintain or establish mutual relations, which, in turn, may help them provide more trustworthy responses and richer findings. Qualitative researchers should aim to develop mutually beneficial relationships, which not only aid the researchers in securing better and more extensive data, but also support the participants in solving issues (Kang & Hwang, 2021). While conducting qualitative research, researchers should aim to uphold and adhere to ethical conduct to avoid any ethical issues or dilemmas (Kang & Hwang, 2021).

Maintaining or establishing mutual relations constitute ethical conduct often considered a prerequisite for building trust with the research partakers (Kang & Hwang, 2021). As a healthcare consultant with over 24 years of healthcare experience and exposure, I have established relationships with hospital leaders worldwide due to my

extensive background and areas of expertise in healthcare and the ability to promote positive social change by decreasing AR days that directly impact net patient revenue. However, some research ethics boards have created checklists to help novice researchers build trusting relationships through respecting or understanding differences (Thambinathan & Kinsella, 2021). Thambinathan and Kinsella (2021) also suggested that discussing ethical standards, exercising compassion, maintaining respectful relationships, and demonstrating humanity are at the core of cultural competence in establishing trust with research participants.

Thambinathan and Kinsella's (2021) findings are similar to *The Belmont Report*, which was developed in 1978 in the United States and regulates studies today. *The Belmont Report* contains three basic ethical principles: (a) respect for persons, (b) beneficence, and (c) justice (U.S. Department of Health and Human Services, 1978). *The Belmont Report* provides a research-based protective implementation for informed consent, risk/benefit assessment, and participant selection (Arrant, 2020). *The Belmont Report* provides protocols for recruiting participants to ensure confidentiality, informed consent, and confidentiality (Arrant, 2020). I used an interview protocol (see Appendix A) that illustrated the following:

- Participation was voluntary, and the participant could withdraw from the study at any time.
- Any information that the participant provided was kept confidential. Any identifying information provided during the interviews was purposely amalgamated with other data and participant information to ensure that the

participants' identities were not disclosed to any study reader. I did not use participant data for any purposes outside of reporting the results of this research project.

- The study was entirely voluntary; there was no reimbursement or payment for time.
- Research data will be kept secure by password protection and data encryption. Data will be kept for at least 5 years, as the university requires.
- Participants were provided an informed consent letter if they chose to participate in the study. To begin the study, the participant needed to click the survey link at the end of the consent letter.

In addition to the protocols identified in *The Belmont Report*, the researcher is responsible for the ethical protection of each participant. The Institutional Review Board (IRB) provides protocols to assess the risks and benefits to participants, ensuring that risks are minimized and equitably distributed in relation to maximized benefits (U.S. Food & Drug Administration, 2018). Participants must never be exposed unnecessarily to potential harm. Researchers are to strictly follow the guidelines outlined in the IRB application and the standards adhered to by the IRB (U.S. Food & Drug Administration, 2018). My final doctoral project document included Walden University's IRB approval number: 08-14-24-1030729.

Nature of the Project

A qualitative research method explores concepts, typically using open-ended interview protocols, questionnaires, or observations to determine what is taking place or

has taken place (Yin, 2018). I used the qualitative research method to interview healthcare leaders in the United States, review documents, and analyze and triangulate the data to identify what effective strategies healthcare leaders use to improve patient outcomes at lower costs.

Using the pragmatic inquiry design, researchers can capture the richness of qualitative data. Pragmaticism draws inspiration from many facets of qualitative methods. At its most basic, pragmatic fieldwork relies on qualitative research's social modes of data collection (Lindlof & Taylor, 2017). It requires the researcher to become a human instrument (Ruslin et al., 2022). I used the pragmatic inquiry design to identify strategies hospital leaders can use to improve the quality of care at a lower cost through interviews about their current processes, procedures, and past lessons learned.

Population, Sampling, and Participants

Population

The target population for this qualitative pragmatic inquiry design was six or more hospital leaders in the United States from health systems who had 5 to 10 years of executive leadership experience in strategy, innovation, or digital transformation experience. Participants included females and males. I used LinkedIn connections to access hospital leaders from various health systems. The objective of my research was to collect depth of knowledge by conducting six or more interviews with selected participants.

Sampling

This section addresses the sampling method and design and the sample size. Data saturation provided the overarching rationale for the sample size planned for this study. Using Guest et al. (2020) as an example, data saturation was determined by the number of interviews needed. Depending on run length, base size, and threshold for new information, Guest et al. chose data saturation and sample size. Research studies differ in what is considered an appropriate sample size based on their data saturation. A study by Mthuli et al. (2021) found that data saturation could be achieved with as few as six interviews, whereas other studies may require a larger sample size and more interviews.

Sampling Method and Design

In qualitative research, convenience sampling is used to collect nonprobability data. This sampling technique often selects clinical cases or participants available around a location (such as a hospital), medical records database, internet site, or customer-membership list (Stratton, 2021). I used the purposeful sampling method to recruit and interview hospital leaders currently working for various large academic hospital systems in the United States. Participant motivation is essential when conducting convenience sampling in qualitative research. The purposeful sampling process selected participants based on their experience and expertise with testing.

Sample Size and Data Saturation

The sample consisted of six or more hospital leaders who met the criteria established for the study, as described in the Participants section. In qualitative research, Guest et al. (2020) discussed how many interviews are required to achieve saturation.

According to Guest et al., the base size, run length, and new information threshold are three factors that can be used to determine data saturation. Data saturation varies from study to study, which is considered an adequate sample size. According to Mthuli et al. (2021), data saturation could be accomplished with as few as six interviews, whereas other studies may require a larger sample size and more interviews. The objective of my research was to collect in-depth knowledge by conducting six or more interviews with selected participants.

Data saturation is the most commonly used concept for estimating sample sizes in qualitative research. This body of work has advanced the evidence base for sample size estimation in qualitative inquiry during the design phase of a study before data collection. Still, it does not provide qualitative researchers with a simple and reliable way to determine the adequacy of sample sizes during and/or after data collection (Guest et al., 2020). Qualitative research requires high levels of data saturation (Guest et al., 2020). The study cannot be replicated if no new or valuable information is available (Fusch et al., 2018). I conducted semistructured interviews for the pragmatic inquiry study to confirm and identify deviations from standard interview questions and formats.

Participants

To collect data in a research study, researchers must determine whether the participants are eligible (Yin, 2018). The participants were hospital leaders from various hospitals in the United States. I interviewed six or more hospital leaders, such as vice presidents, chief operating officers, chief financial officers, and members of the clinical teams. To be a participant in this study, a leader needed to meet the following criteria:

- have at least 6 years of executive leadership experience in strategy, innovation, or digital transformation;
- have at least 2 years of experience successfully implementing cost-reduction strategies that have improved the quality of care at a lower cost in large provider environments;
- have knowledge of FFS and value-based billing/accountable care organization platforms

To gain access to hospital leaders, I utilized a LinkedIn connection to identify hospital leaders with the appropriate background and skill set. During the follow-up process, I allowed at least 2 hours for email correspondence, telephone calls, and Microsoft Teams meetings with potential participants.

Data Collection Activities

There are a variety of sources of data that can be used in qualitative research. In qualitative research, there are many methods for collecting qualitative data. However, qualitative research uses the researcher. Most experts consider the researcher an instrument (Wa-Mbaleka, 2020). There is always the question, “What does it really mean?” Wa-Mbaleka (2020) explained what qualitative researchers are expected to do as instruments throughout the study. This role is critical not only for ethical reasons, but also for practical reasons. Typically, qualitative data are collected by interviewing, taking field notes, keeping diaries, and observing practices. A journal of observations was my primary data collection instrument to mitigate bias throughout my research study. In addition, I collected data based on the responses from the semistructured interviews (see Appendix

B) and other essential information. Additionally, I reviewed publicly assessable data consisting of net patient revenue metrics, quality performance indicators, and current processes and procedures.

According to Ruslin et al. (2022), semistructured interviews are more effective than other interview types for qualitative research because they allow researchers to gather in-depth information from interviewees while keeping the study's focus in mind. Compared to an unstructured interview, which does not fully consider the interview's direction, semistructured interviews allow researchers to remain flexible and adaptable (Ruslin et al., 2022). To conduct my study, I used semistructured interviews, which took between 30 and 45 minutes each. Based on the responses to these semistructured interviews (see Appendix B), follow-up probing questions were asked.

Research results can be affected by how the data collection technique is chosen (Ruslin et al., 2022). Therefore, one should decide which data collection technique to use based on the type of information one wants to collect (Ruslin et al., 2022). For example, a pragmatic inquiry focuses on one particular aspect of education rather than trying to assess the entire population and determine common factors. Thus, the type of data collection technique used in a case study is primarily determined by what needs to be covered (Ruslin et al., 2022). A semistructured interview in which open-ended questions are asked was utilized to collect data for this qualitative pragmatic inquiry. I interviewed senior executives from multiple hospital systems in the United States.

To enhance the reliability and validity of the data collection process, I used the member-checking strategy by the research subjects to verify that their transcribed

interview content reflected their personal reflection and understanding of their answers to my questions. Data and interpretations are checked by members based on feedback from participants (Motulsky, 2021). A valid test of robust qualitative studies is widely accepted and recommended (Motulsky, 2021). A research design without member checking may be assumed by editors, peer reviewers, IRBs, dissertation advisors, and supervisors to be unsound (Motulsky, 2021). Participant validation, or member checking, is a technique for assessing results' credibility (Amin et al., 2020). It is important to return participants' data or results so that they can confirm accuracy and resonance with their own experiences. An email summary of my interpretations of the participant's responses was sent to each participant following each interview session. I conducted follow-up interviews if participants preferred to confirm the accuracy of their data. Member checking is often mentioned in a list of validation techniques (Amin et al., 2020).

Interview Questions

1. What specific strategies were used to improve the quality of care while reducing the cost of healthcare?
2. How is the quality of care monitored and assessed?
3. How does migrating to the specific strategies/improved processes and procedures improve the quality of care while lowering the cost of healthcare?
4. What mitigation plans were established to ensure clinical team members were fully onboard and supportive of migration processes?
5. What metrics did healthcare leaders take to ensure the hospital budget was sufficient to accommodate the migration?

6. What role has the CAS principle played in improving the quality of care at a lower cost?
7. What role has the LSS principle played in improving the quality of care at a lower cost?

Data Organization and Analysis Techniques

There are a variety of data analysis methods available to researchers when conducting qualitative research. Researchers use raw data to uncover patterns, insights, or concepts, according to Yin (2018). There are four general strategies for analyzing case study data: using the conceptual framework, describing the study in detail, evaluating divergent explanations, and identifying emerging themes (Yin, 2018). Multiple methods of data collection assist the researcher in understanding information more descriptively. As part of the analysis, I used thematic analysis to identify patterns across data sets (Braun & Clarke, 2021). The first step in qualitative research is to prepare and organize data for thematic analysis. The observation notes were converted to electronic format (e.g., MS Word or Adobe PDF), and interview files were organized into one location along with photocopies of paper documents (Lester et al., 2020). Each file was tagged with a name, such as Participant 1 (P1), Participant 2 (P2), etc., and I created a master data catalog listing data sources, storage locations, creators, and collection dates. This critical stage develops the data corpus (Lester et al., 2020). The data set was prepared so that NVivo software could be used to analyze it qualitatively. Research raw data will be kept secure by password protection and data encryption. Data will be kept for at least 5 years, as Walden University requires.

During this stage of the coding process, inference reaches its highest level. While earlier phases aimed to identify what was happening by minimizing the size and complexity of the data set, this phase connects statements, experiences, and reflections to specific conceptual and theoretical ideas (Lester et al., 2020). It is possible to specifically highlight statements or comments coded as conceptual or theoretical during the previous round of coding.

In thematic analysis, coding the data plays an important role. Generally, a code is a short, descriptive phrase that provides meaning to data pertaining to a researcher's analysis. It is important to think of coding as occurring in multiple phases for a thematic analysis despite coding being often unstructured (Lester et al., 2020).

Reliability and Validity

Reliability

To determine the reliability of a study, it must be replicated. Rather than using a sampling approach, it is recommended that pragmatic studies utilize the replication methodology (Quintão et al., 2020). Dependability is an alternative expression of reliability. Dependability refers to consistency and stability in every research step, providing the researchers with a detailed overview of the entire research process (Sumrin & Gupta, 2021). During the data collection process, reliability should be taken into consideration.

While using a data-collection technique or tool, data must be stable, precise, and reproducible (Olanipekun et al., 2022). Quintão et al. (2020) suggested that using several data analysis methods to increase the reliability of a study, such as recording interviews,

coding responses, and applying statistical analyses, can increase the reliability of the study. I used various methods to cross-study and analyze the angles of data (Quintão et al., 2020). Noble and Heale (2019) suggested that triangulation can enhance research reliability and validity. Triangulation is the process of confirming the findings of a study. Researchers, interviewers, investigators, data analysts, and observers form a triangulation of investigators in a study (Bans-Akutey & Tiimub, 2021). Using various researchers, interviewers, and data analysts is similar to the investigator triangulation approach.

Validity

The validity of the construction should be the first consideration. Multiple sources of evidence must be used, triangulated data must be reviewed, interviewee reports must be reviewed, and a logical chain of events must be outlined in research studies (Quintão et al., 2020). I achieved validity by following Fusch et al. (2018) recommendations by using different data sources, namely by conducting interviews with multiple participants and including publicly accessible documentation that can help to triangulate the interview data.

In qualitative research, there is often disagreement about which criteria should be used to assess trustworthiness. Research trustworthiness can be determined through credibility, transferability, confirmability, and authenticity (Kyngäs et al., 2020). In research studies, credibility refers to the ability to believe that the findings are valid (Kyngäs et al., 2020). As described by Shufutinsky (2020), I used a combination of use-of-self-related methods to achieve and display bracketing to enhance rigor, validity, credibility, and trustworthiness. Depending on the level of dependability and

transferability, findings can also be applied in other contexts (Kyngäs et al., 2020). According to Nyirenda et al. (2020), transferability refers to applying findings in different contexts. To ensure transferability, I provided participants with an explanation of the study context, proposed interview questions, and assumptions. To achieve confirmability, I utilized the member-checking strategy by the research subjects to verify that their transcribed interview content reflects their personal reflection and understanding of their answers to my questions. As previously indicated, I used multiple sources of evidence that consist of the review of data triangulation data, the review of interviewee reports, and a logical chain of outlined events to ensure data saturation is met (Quintão et al., 2020).

Transition and Summary

My project uses a qualitative research approach involving semistructured individual interviews to document ethical issues. Identifying ethical issues surrounding qualitative research as they relate directly to initiating, commencing, and terminating relationships is a part of the project ethics. For my qualitative study to be trustworthy and credible, reliability and validity were demonstrated to ensure the data is reliable and replicable and the results are accurate. I utilized qualitative research methods and pragmatic inquiry designs to observe and interview employees of the organization within a site boundary, review documents, and analyze and triangulate data for meaning to identify what effective strategies healthcare leaders are using to reduce costs and improve patient outcomes. A detailed description of the target population, sample method, and criteria for selecting participants is presented in the population, sampling, and participants sections.

An assessment of various hospital systems structures was conducted to determine the "what, how, and why" of cost-reduction strategies that improved patient care quality through a pragmatic inquiry study. I interviewed hospital leaders from a variety of U.S. hospital systems. This study's interview questions (Appendix B) section lists probing, open-ended questions was used in semistructured interviews. As part of this study, I used the thematic analysis method to identify patterns across data specified in the data organization and analysis techniques sections.

Section 4 presents my findings, applications to professional practice, implications for social change, and recommendations for future research.

Section 4: Presentation of Findings

Presentation of the Findings

The overarching research question for this study was the following: What strategies do hospital leaders in the United States use to reduce costs while improving the quality of care? The target population for the study included six hospital leaders with a minimum of 6 years of executive leadership experience in strategy, innovation, or digital transformation with at least 2 years of experience successfully implementing cost-reduction strategies that had improved the quality of care at a lower cost in large academic hospitals in the United States. A triangulation of data was conducted using six semistructured interviews and organizational documents from the system. Along with the semistructured interviews, the organizational documents included comparing palliative care initiatives by cost and preanalytical revenue volumes.

My qualitative data analysis identified four themes related to improving healthcare quality at a lower cost. These themes included migrating from FFS to value-based models, implementing data analytics and technology protocols to monitor and access patient outcomes while eliminating waste, offering physicians incentives, and implementing streamlined systemwide teaming for clinicians and business leaders. Six participants participated in the interviews after signing informed consent forms and answering seven semistructured interview questions. During the session, participants discussed how their respective organizations utilized metrics to improve healthcare quality at a lower cost. Throughout the transcripts of the interviews, I identified common themes. As part of the member-checking process, I discussed my interpretation of the

interviews with all participants. As part of the member-checking process, I emailed each participant a copy of the transcribed interviews and a list of identified themes. A total of five of the six participants checked the documents for accuracy without any issues. A follow-up attempt was made to reach a participant multiple times, but they did not respond. There were no revisions to the member-checked content provided by the participants. Table 1 is the participant coding for the study.

Table 1

Participant Coding

Participant code	Years of exp	Location	Title
P1	20	US	Vice President of Payment Integrity
P2	25	US	Vice President of Digital Healthcare
P3	40	US	Chief Operation Officer
P4	16	US	Chief Revenue Officer
P5	28	US	Chief Nurse Information Officer
P6	22	US	Vice President of Revenue Cycle

My analysis of the data revealed four major themes, including migrating from FFS to value-based models, implementing data analytics and technology protocols to monitor and access patient outcomes while eliminating waste, offering physicians incentives, and implementing streamlined systemwide teaming for clinicians and business leaders. I verified the credibility of data collected through interviews, member checks, organizational reports, and field notes through methodological triangulation. A summary of the study's major themes and core strategies can be found in Table 2.

Table 2

Major Themes and Core Strategies

Major theme	Core strategies
Improving patient outcomes	Value-based care Data analytics & technology
Quality monitoring	Clinical documentation Direct observation
Streamlined processes	Eliminate waste Improve efficiency
Physicians' engagement	Incentives Physician champion & teaming

The conceptual framework for my study was the CAS theory and the LSS principles. For healthcare leaders to improve healthcare at a lower cost, distinct approaches are needed. Healthcare leaders can use the CAS framework and the LSS principles to adapt to a fragmented healthcare system. Healthcare leaders face new complexities as they strive to implement strategies to improve patient outcomes.

Improvements in process integration and implementing cooperative actions are essential for improving workflow processes and reducing costs while improving the quality of care. Healthcare leaders cannot utilize a standard migration process to improve quality at a lower cost using a value-based program strategy. Healthcare is a complex industry with many complicated issues. Using LSS principles and the CAS framework, hospital leaders can identify effective methods for improving patient outcomes and team dynamics.

Major Theme 1: Improving Patient Outcomes

Value-Based Care

Healthcare organizations operating under traditional FFS platforms must consider the type of risk they are willing to accept and how value-based models can be integrated in the coming years, as most reimbursements will be determined by a measure of value or quality in the future (Rutherford et al., 2022). As the healthcare industry changes, healthcare leaders constantly adapt to ensure high-quality patient care while reducing costs. To achieve improved value, better patient experience, clinical quality, health outcomes, and lower costs of care, leaders should migrate to value-based care to improve patient outcomes (Hookmani et al., 2021). P1 stated, “To reduce healthcare costs, we embrace the value-based platform to focus on high-quality outcomes and prevent unnecessary treatments.” P3 suggested, “Adopting a value-based billing platform based on population health care will improve patient outcomes.”

Data Analytics & Technology

It is essential for any executive agent in healthcare to understand the principles of CAS. By improving adaptability, resilience, data, and technology innovation within healthcare systems, long-term patient outcomes will improve, as will individual healthcare agents' interests (Glover et al., 2020). Integrating data and technology effectively is crucial for effective healthcare adaptation. In order for CAS theory to reach its full potential, it must overcome challenges related to interoperability and data sharing (Glover et al., 2020). P1 also stated, “They enhance care coordination and communication to reduce redundancies and errors, and then also, you know, I'm using

technology and data analytics to optimize, and resources used to improve decision making without sacrifice." Mjåset et al. (2020) suggested that to accelerate the implementation of a value-based care platform for hospital leaders, it may be crucial to strengthen government involvement in driving change, focus on continuous IT improvements, and create a culture of value-based care among providers.

Electronic health records (EHRs) and various other technological innovations have helped improve patient outcomes by utilizing telehealth platforms during COVID-19. P4 stated, "assets are a foundational piece in value-based healthcare, but it begins with the value construct. Providing value in healthcare is the key to making the case." Per P4, "The LSS enables the second, extremely important component, evidence-based practices, a component of value-based care."

P5 suggested, "they use data analytics to drive their decision-making by analyzing data from all aspects of the organization, patient care outcomes, and the associated cost of care. Based on their findings, they opted to migrate to a value-based platform." Per P5, they "figured out how to use data analysis to help us tweak certain areas within healthcare that we can." P5 also suggested that "data analysis was one major strategy they to utilized reduce healthcare costs and increase quality of care."

Transforming healthcare requires integrating data into bedside care, population health models, and sophisticated strategies to translate analytics into improved outcomes. The access to, analysis of, and effective use of data in healthcare remain a challenge for many organizations. To realize quality improvement, many practices and institutions must change their culture. By applying health informatics and converting data into useful

information with timely delivery, healthcare systems benefit; this transformation requires expertise and technology (Macias & Carberry, 2021). P5 stated, “They use data analytics to drive their decision-making by analyzing data from all aspects of the organization, patient care outcomes, and the associated cost of care. Based on their findings, they opted to migrate to a value-based platform.” Per P5, they “figured out how to use data analysis to help us tweak certain areas within healthcare that we can.”

Major Theme 2: Quality Monitoring

Clinical Documentation

The importance of clinical documentation cannot be overstated when it comes to providing the best possible care to patients. EHR adoption may depend on how well it supports clinical documentation. Integrating clinical documentation and electronic health records aims to reuse data (Ebbers et al., 2022). The direct structure of clinical documentation has been prioritized in computer-based documentation systems. P5 stated,

> The quality of care depends on how hospital leaders leverage the data, like administrative data, medical data, and direct observation from the collection of diverse data sets, as well as the ability to monitor and, if necessary, make some changes.

Several studies have shown that clinical documentation of precise diagnoses in the medical record improves quality metrics, administrative database accuracy, hospital reimbursement, and perception of patient complexity (Sanderson & Burns, 2020). Per P4,

> If hospital leaders need a change, they made changes based on information about childbirth, depths, infant mortality, direct observation, and those kinds of things

that define the quality of care directly impacts, and it has a clear linkage and correlation. Still, they should be able to leverage medical record data.

Direct Observation

Per P1, "With direct observation, the resources were intensive but useful for examining clinical processes and verifying the guidelines." P2 suggested that "direct observation directly impacts improving patient outcomes and has a clear linkage and correlation to improving quality." The direct observation method can be used in various ways to monitor the quality of care, including identifying problems, improving performance, and understanding the healthcare system's complexity (Catchpole et al., 2017). Despite the inefficiencies and increasing burden on healthcare providers caused by current quality measurement strategies, there is growing evidence that observation data can be captured efficiently and sustainably over time by observing real patients directly following initial content coding validation (Kelley et al., 2023). Per P2, "direct observation does not compare to the medical data that is retrieved from EHRs. However, anytime there are systematic issues, most clinicians rely on direct observation." Despite direct observation's reputation for being too resource-intensive, there are ways to minimize costs and make it more efficient for continuous quality measurement (Catchpole et al., 2017). P3 suggested that "quality can be monitored by direct observation, but often, direct monitoring is a burden on the clinical team due to staff shortages."

Major Theme 3: Streamlined Processes

Eliminate Waste

Per P3,

> LSS can eliminate waste if implemented effectively. For example, using LSS to streamline the registration process to ensure preauthorization is obtained before office visits will decrease the associated person-hours needed to manage denials, a major issue at all hospitals. Business-centric processes are also more efficient, streamlined, and accurate with the LSS method.

In healthcare organizations, integrating LSS methods improves quality performance, resulting in an increase in net patient revenue and an overall reduction in cost (Ahmed, 2019). P2 suggested that "when analyzing cost-effective care, they consider enablement criteria of streamlining administrative processes to eliminate unnecessary, redundant paperwork, reducing bureaucratic inefficiency." LSS implementation in hospitals has been demonstrated to reduce administrative redundancy, medical record turnaround times, and medication errors (Antony et al., 2019).

P1 stated, "Value-based care was utilized to enhance care coordination, communication, and technology to improve the quality of care by focusing on patients, reducing unnecessary treatments, and optimizing resources, which lowers healthcare costs." Studies have suggested that implementing value-based care and process optimization reduces waste, and patients spent 40% less time at the hospital undergoing unnecessary examinations (Goretti et al., 2020). Value-based care aims to maximize the ratio of health outcomes to costs.

Major Theme 4: Physicians Engagement

Incentives

P2 suggested that “financial incentives are the biggest motivator for encouraging clinicians to participate in cost-of-care reduction strategies that will improve the quality of healthcare.” One of these is the creation of dynamic provider ecosystems, where new organizational models and roles (delivery organizations) facilitate better access to appropriate care, engage clinicians in continuous improvement, and adapt to new opportunities and innovations by connecting providers and suppliers (Harrill & Melon, 2021). As a critical enabler of value-based health care, providing incentives for behavior, such as prevention and better collaboration, is essential. P4 suggested that “incentives in the form of structured bonuses were utilized to promote clinician engagement when migrating to cost-reduction strategies that directly impacted and improved healthcare quality.”

In order to reduce costs and increase value in the U.S. healthcare system, payment reform has been at the forefront of healthcare leaders' minds (Outland et al., 2022). P4 mentioned that “providers must follow the money. The transition will fail if payers, including Medicare and Medicaid, don't provide better reimbursement for transitioning from fee-for-service to value-based care.” There is a common belief that volume-based incentives should be replaced by value-based payments (Wiesing, 2020). Although this belief is well-intentioned, value-based payment also contains perverse incentives, which are perceived as the cornerstone of payment reform. P4 indicated that “incentives based

on the fee-for-service volume structure are unethical. Still, for physicians to engage in cost-reduction strategies, there must be a financial reward."

Physician Champion & Teaming

Improving healthcare quality at a lower level has been impacted using a collaborative approach led by an expert steering committee and real-world inputs from multidisciplinary teams, physician champions, and quality-improvement workshop participants (Temkin et al., 2022). P5 suggested that "one of the best strategies to promote physician engagement in cost reduction strategies that directly impact healthcare quality is facilitating physician champion programs." Implementation effectiveness can be attributed to healthcare implementation champions (Nallamothu et al., 2023).

P3 and P6 mentioned, "Hospital administrative leaders teaming with physician champions has been a critical strategy that has impacted the quality of care. The physician champion has been a crucial resource in migrating from a fee-for-service platform to value-based care." Administrative leadership can assist physician champions in securing resources for appropriate equipment, advocating participation in a resuscitation database, and ensuring adequate training for healthcare professionals to implement evidence-based protocols, policies, and procedures (Nallamothu et al., 2023). P2 also suggested, "Teamwork is essential. Administrative leaders can assist by offloading physicians' nonclinical administrative activities so that physicians can focus on clinical activities."

Business Contribution and Recommendations for Professional Practice

Value-Based Care

The adoption of value-based healthcare can lower healthcare costs without sacrificing patient care. This strategy provides high-quality treatment based on patient needs, primarily focusing on quality outcomes (Rutherford et al., 2022). By focusing on the value and effectiveness of their services instead of on their quantity, LSS can be used to streamline processes, eliminate unnecessary tests and procedures, and increase efficiency (Ahmed, 2019). Value-based healthcare aims to provide comprehensive patient care, which means managing funds wisely to maximize results and minimize costs. P1 stated, “To reduce healthcare costs, we embrace the value-based platform to focus on high-quality outcomes and prevent unnecessary treatments.” P3 suggested that “adopting a value-based billing platform based on population health care will improve patient outcomes.”

Evidence-Based Care

The adoption of evidence-based procedures is crucial to cost-cutting without sacrificing patient care. A patient's preferences, clinical knowledge, and the best available information are considered when guiding healthcare decisions in evidence-based medicine. It is possible to prevent unnecessary and costly treatment by adopting evidence-based practices and standards and providing adequate and efficient patient care through evidence-based practices and standards (Nallamothu et al., 2023). Additionally, scientifically proven procedures can reduce costs and improve patient safety. Per P4,

“The LSS enables the second essential component, evidence-based practices, a component of value-based care.”

Care Coordination and Communication

Care coordination and communication must occur to reduce costs without compromising patient care. Redundancies and errors in healthcare can be reduced through improved provider collaboration, optimized workflows, and enhanced information sharing. Streamlining communication channels facilitates prompt and accurate transmission of information, enabling patient care coordination and preventing unnecessary duplication. This concept increases patient safety, quality of care, and overall healthcare efficiency. P1 stated “We enhance care coordination and communication to reduce redundancies and errors, and then also, you know, I'm using technology and data analytics to optimize, and resources used to improve decision making without sacrifice.” P1 suggested that “value-based care was utilized to enhance care coordination, communication, and technology to improve the quality of care by focusing on patients, reducing unnecessary treatments, and optimizing resources, which lowers healthcare costs.”

Data Analytics and Technology

The use of data analytics and technology can reduce healthcare expenses without compromising patient care. Various tools, including EHR, telehealth platforms, and analytics tools, are available to enhance productivity, optimize resource use, and reduce costs (Ebbers et al., 2022). Through the use of technology, administrative procedures can be streamlined, workflows can be automated, and better treatment can be provided.

Identifying cost drivers and trends that drive healthcare costs is necessary for healthcare leaders. As a result, hospital leaders can make more cost-effective decisions without compromising the safety of their patients or the quality of their care. Per P6, "They started with technology data analytics and so on. EHRs and other technological innovations have helped improve patient outcomes using telehealth platforms during COVID-19." Any executive agent in healthcare needs to understand the principles of CAS. Improving adaptability, resilience, data, and technology innovation within healthcare systems will improve long-term patient outcomes, as will individual healthcare agents' interests (Glover et al., 2020). Integrating data and technology effectively is crucial for effective healthcare adaptation. For CAS theory to reach its full potential, it must overcome challenges related to interoperability and data sharing (Glover et al., 2020).

Monitoring Quality

The quality of a product can be measured in many different ways using various data sources. The most often used data sources are:

- Clinical Documentation:
    - Most administrative and managerial information is available electronically, but quality measurement and research are rarely conducted using this data. Data from providers and patients are stored in several registries, including registries specific to diseases, such as cancer registries (Ebbers et al., 2022). In addition to documenting the patient's condition, tests and treatments received, and follow-up care, medical records contain

the most comprehensive clinical information. P5 suggested that “the quality of care depends on how we can leverage the data, like administrative data, medical data, and direct observation from the collection of diverse data sets, as well as the ability to monitor and, if necessary, make some changes.”

- Direct Observation
    - Healthcare leaders may use direct observation for research purposes. It is possible to observe clinical processes through direct observation, such as compliance with clinical guidelines and the availability of basic structures (Kelley et al., 2023). Per P2, “Direct observation doesn’t compare to the medical data retrieved from EHRs. However, anytime there are systematic issues, most clinicians rely on direct observation.”

Streamlined Processes

It is possible to reduce administrative burdens by providing cost-effective care. It is essential to streamline administrative processes, eliminate unnecessary paperwork, and reduce bureaucratic inefficiencies to provide cost-effective care. The use of technology can help healthcare workers focus on patient care and clinical decisions rather than administrative tasks. The healthcare industry also benefits from collaboration and teamwork when providing cost-effective care. Providing cost-effective care requires effective communication and cooperation among team members. Consequently, interdisciplinary collaboration, coordination, and information sharing are encouraged. Healthcare leaders can also benefit from a more collaborative and supportive

work environment. P2 suggested that “when analyzing cost-effective care, we consider enablement criteria of streamlining administrative processes to eliminate unnecessary, redundant paperwork.” Per P3, “LSS can eliminate waste if implemented effectively.” LSS implementation in hospitals has been demonstrated to reduce administrative redundancy, medical record turnaround times, and medication errors (Antony et al., 2019).

Physicians’ Engagement

Adapt to changing market conditions by providing physicians with flexibility. Financial incentives are critical to encouraging physicians to migrate to cost-reductive strategies. Incentives may be paid to clinicians, hospitals, and health systems based on specific metrics such as cost, quality, or equity. P2 suggested that “financial incentives are the biggest motivator for encouraging clinicians to participate in cost-of-care reduction strategies to improve healthcare quality.” One of these is the creation of dynamic provider ecosystems, where new organizational models and roles (delivery organizations) facilitate better access to appropriate care, engage clinicians in continuous improvement, and adapt to new opportunities and innovations by connecting providers and suppliers (Harrill & Melon, 2021).

Incentives or bonuses may be structured in various ways, but factors motivating providers include migrating to a physician champion structure. Implementing a physician champion structure is also a key to improving care quality at a lower cost. Physician champions may consist of only a physician or advanced practice provider. Physicians and other clinicians may also receive incentives for offloading

nonclinical responsibilities. P3 and P6 mentioned that “hospital administrative leaders teaming with physician champions has been a critical strategy impacting the quality of care.” Administrative leadership can assist physician champions in securing resources for appropriate equipment, advocating participation in a resuscitation database, and ensuring adequate training for healthcare professionals to implement evidence-based protocols, policies, and procedures (Nallamothu et al., 2023).

Having redefined disease and health in complementary ways, it is important to consider the purpose of health care as improving health and experiences. The main purpose of healthcare has been shifted away from profit maximization, the economic model that drives today's healthcare. A second consideration is that while economic considerations are important, they should not be the determining factor in healthcare provision. Third, the universally accepted Declaration of Geneva 2017 codifies the expected behavior of health professionals - to always consider patients' health and wellbeing first. Based on these three aspects, it becomes apparent that complex adaptive healthcare systems require top-down and bottom-up leadership that supports local needs-driven innovation. By improving people's health, cost reductions will be significant.

The Implications for Social Change

The implications for positive social change include the potential to increase patients' quality of care while sustaining the financial viability of local hospitals. The complexity of the US health system, surrounded by the impact of social change, increases challenges related to the quality of care (Braithwaite, Vincent, et al., 2020). Kim et al. (2022) examined how care quality could improve at a lower cost. Providers are

reimbursed based on the value of each service they provide from an approved list. In the FFS billing model, clinical providers are rewarded for volume, not quality. This model often resulted in clinicians performing costly procedures that didn't benefit patients to generate revenue. An ACO is a group of healthcare providers held jointly responsible for achieving a defined set of outcomes over a specified period at a specified cost (Kim et al., 2022). This module motivates clinicians to improve patient care versus revenue generation.

It is widely acknowledged that healthcare costs and quality should be addressed, but the relationship between them is one of the more controversial topics in health policy. A higher level of quality could result in higher costs (or a lower level of quality could result in lower costs), while improving quality would result in fewer complications and fewer hospital readmissions, which could lower costs. There is probably some middle ground between these two extremes in terms of cost and quality, meaning that some healthcare costs are associated with high quality while others with low quality. Social needs interventions can improve the quality of care at a lower cost, as evidenced in this study that reviews a rapidly growing body of research describing the links between social needs and health.

Recommendations for Further Research

To improve the quality of healthcare at a lower cost, various researchers have different perspectives on what the focus point should be. While interviewing healthcare leaders in the United States with an in-depth background and exposure to cost-reduction strategies that improved patient outcomes, the research provided a limited viewpoint of

healthcare due to the inability to interview participants from the same hospital setting. In qualitative healthcare research, case studies offer an in-depth examination of a specific individual or situation, allowing for a nuanced understanding of more complex issues (Sibbald et al., 2021). For example, conducting interview sessions with administrative leaders, clinical leaders, and technology leaders in a single-case hospital setting would have provided a more in-depth viewpoint of how specific roles and the associated hospital functions interact with the common goal of improving patient outcomes versus identifying practical solutions from interviewing leaders from various hospitals in the United States. Moreover, pragmatic inquiry focuses on real-world problems and their potential interventions, often incorporating multiple perspectives and flexibility in methodology to address the issue at hand while focusing on practical solutions and actionable insights (Sibbald et al., 2021). A case study tries to understand the intricacies of a single case, while a pragmatic inquiry seeks practical solutions within a broad context.

As indicated above, CMS officials projected that NHE will grow at an average annual rate of 5.6% over the period 2016–2028 and increase to 19.9% of GDP by 2028, with total healthcare spending rising to $6.2 trillion (CMS, 2021). Case studies will aid in identifying strategies that healthcare leaders in the United States can utilize to improve the quality of healthcare at a lower cost. However, students often face multiple barriers and challenges accessing participants within hospital settings. As a result, a recommendation for future research would be for universities to allow students to select the case study design. Also, universities should partner with students in addition to

internal offices of the university to create streamlined processes and procedures that will also include counsel to review and negotiate nondisclosure agreement (NDA) terms on behalf of the student, essentially guiding the student through the NDA process. The collaboration of counsel and official offices of the university approaching healthcare systems on behalf of individual students conducting research versus individual students approaching healthcare systems to conduct research will promote better alignment and engagement with hospitals.

Conclusion

This qualitative pragmatic inquiry design explored strategies used by some hospital leaders to improve the quality of healthcare at a lower cost. The study included six healthcare executives with cost reduction expertise. Neither a participant withdrew from the study nor failed to meet the inclusion criteria. In addition to nine questions, participants provided any clarifications they needed regarding strategies used to reduce costs while improving the quality of care. There were a variety of topics covered in the questions, including metrics to evaluate strategy effectiveness. Among the topics covered were successful strategies, quality control steps, barriers to implementation, and ways to improve healthcare quality while lowering costs.

This study found that hospital leaders used various strategies to improve healthcare quality while reducing costs. There were, however, a few obstacles they had to overcome. In addition to obstacles within their facility, hospital leaders encountered systemic barriers. Based on qualitative semistructured interviews and organizational reports, several themes emerged, including migrating from FFS to value-based models,

implementing data analytics and technology protocols to monitor and access patient outcomes while eliminating waste, offering physicians incentives, and implementing streamlined systemwide teaming, communication, and training for clinicians and business leaders. In this study, the significant themes demonstrated commonalities among participants and pointed to a complex system that underlies the conceptual framework, CAS, and LSS methodologies

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Appendix A: Interview Protocol

1. Participation is voluntary, and the participant may withdraw from the study at any time.
2. Any information that the participant provided was kept confidential. Any identifying information provided during the interviews was purposely amalgamated with other data and participant information to ensure the participants' identities were anonymous to any study reader. The researcher did not use participant data for any purposes outside of reporting the results of this research project.
3. The study is entirely voluntary; there was no reimbursement or payment for time.
4. Research data will be kept secure by password protection and data encryption. Data will be kept for at least 5 years, as the university requires.
5. Participants were provided an informed consent letter if they choose to participate in the study. To begin the study, the participant must click the survey link at the end of the consent letter.

Appendix B: Interview Questions

1. What specific strategies were used to improve the quality of care while reducing the cost of healthcare?
2. How is the quality of care monitored and assessed?
3. How does migrating to the specific strategies/ improved processes and procedures improve the quality of care while lowering the cost of healthcare?
4. What mitigation plans were established to ensure clinical team members were fully onboard and supportive of migration processes?
5. What metrics did healthcare leaders take to ensure the hospital budget was sufficient to accommodate the migration?
6. What role has the CAS principle played in improving the quality of care at a lower cost?
7. What role has the LSS principle played in improving the quality of care at a lower cost?