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Charlotte Johnston
Walden University

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Charlotte Johnston

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Walden University
2016

Abstract

Crafting a System of Profound Knowledge Management in Long-Term Care

by

Charlotte Johnson

MA, University of South Florida, 1999

BA, University of South Florida, 1989

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education

Walden University

December, 2016

Abstract

The paradigm shift to a knowledge economy, predicted by Drucker, is currently reflected in a knowing-to-doing gap in healthcare, potentially threatening the lives of long-term care (LTC) residents and sustainability of LTC organizations. The purpose of this grounded theory study was to seek a substantive conceptual theory to explain how LTC uses knowledge management (KM) to improve performance by probing the a priori views and lived experiences of 11 LTC knowledge creators, managers, and users. Data were collected via semi structured interviews that were transcribed and coded. The research questions guided by the conceptual concentrated on how KM is used in LTC, what KM processes enhance or inhibit performance in LTC, the nature of knowledge in LTC, and the potential impact of Deming's theory of profound knowledge on KM in LTC. Data analysis included coding, categorizing, constant comparison, conceptualizing, and theorizing to reveal a tentative unified theory of crafting a system of KM in LTC that theoretically extends Deming's organizational theory of profound knowledge to integrate the individual knower within Deming's organizational perspectives. Findings included participant use of sentinel data and bridging decisions in response to emergent knowledge needs, risk management versus quality management performance drivers, and participant perceptions of resource dependence in response to emergent knowledge needs. Findings also include social change implications for LTC facilities, residents, and staff driven by systematic KM to facilitate clinical best practices, lessons learned, and resourcing the use of knowledge to enhance LTC performance capabilities. Study conclusions include a call for future research related to study findings across the healthcare continuum.

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Dedication

This work is dedicated to my parents, Peregrine and Dolores Radcliffe. They raised seven daughters into independent women, without education or money, dedicating themselves to their children throughout their lives and unselfishly giving whatever they had to help us in any way they could; when we were 16, and when we were 60. They taught me about perseverance and dedication to whatever I wanted to achieve.

I want to also dedicate this work to my life partner Jeff Sully who was my rock through this effort, always offering me love and support to keep me going through each life complication that made it difficult. Jeff provided me with the intellectual partnership, respect, and encouragement that made me always reach a little higher to accomplish this.

I further wish to dedicate this work to Bernie Turner, who founded Walden University with Rita Turner. Bernie took some time with me at the Walden site in Naples, Florida in the 1970s. I did not even know what a degree was at that time, but knew I wanted to become an educator. I had never known anyone with an advanced education and Bernie's kindness and re-assurance during our brief meeting was inspirational and aspirational for me. He assured me I could follow the steps he laid out for me to obtain the necessary education, and added he looked forward to me someday coming back and getting my doctorate at Walden. This made me feel someone who really knew what to do saw potential in me. I was able to thank Bernie 35 years later at a Walden residency in Baltimore and told him "I'm back". It was one of the proudest moments of my life.

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Chapter 1: Introduction to the Study

Dalkir (2005) described Knowledge Management (KM) as a multidisciplinary field of study that integrates business strategy and cognitive science, as well as articulating a process and technology focus for capitalizing on organizational knowledge assets. Literature related to KM suggests the concept remains too diverse and emergent to provide a relevant, consensus theoretical model that can be used in long-term care (LTC). Initially, KM appeared in the scientific literature as a science of technology rather than a science of human interaction (Dalkir, 2005). KM is currently gaining recognition as a social science. Lamont (2013) suggested a “social and interactive view of knowledge management” is now seen as pivotal to addressing the “real-world issues” (p. 6) facing the industry.

In Chapter 1 of the current study, I examine how KM impacts real world issues facing the healthcare industry today and provide a deeper understanding of challenges facing the use of KM in LTC processes to improve performance capabilities. This chapter includes a discussion of the historical background of KM as a strategic and operational tool, and examines the current status of KM implementation in the healthcare industry. In this chapter, I define the research problem as well as the purpose of the study, research questions, conceptual framework, nature, definitions of relevant concepts investigated, assumptions, scope, delimitations, and limitations. I also identify the real world significance and social change implications of the study, as well as the scholarly and professional contributions to facilitate a deeper understanding of how KM practice may improve performance capabilities in the LTC segment of the U.S. healthcare industry.

Background

Drucker (1993) suggested that knowledge about technology had fueled the economic progress engine of the industrial revolution. Drucker also noted that in the postindustrial society knowledge would need to be seen as a product, rather than a merely a process, to successfully transition the world economy. Drucker (1995) further suggested that knowledge would ultimately represent “the primary resource for individuals and for the economy overall” (Drucker, 1995, p. 76). Drucker posited that organizations in the knowledge society would need to transition from outdated measures of performance capabilities and systematically develop a more sustainable productivity potential.

Drucker (1995) further suggested that all organizations within the future knowledge society needed to develop baseline “purpose and function” structures for “the integration of specialized knowledges into a common task” (Drucker, 1995, p. 76) to achieve competitive advantage and sustainability. Drucker predicted this transition within modern society needed to be achieved between 2010 and 2020 (Drucker, 1995, p.76). In the current study I examine the LTC industry’s current capacity to meet these strategic and operational goals for knowledge creation and knowledge sharing.

Davenport and Prusak (2000) suggested the pioneering theoretical work on KM was focused primarily on the emergence of technologies to move information, not on knowledge creation or the sharing of knowledge to achieve common goals and meet crucial organizational competencies. Dalkir (2005) further suggested knowledge provides organizations with a “decisive basis for intelligent, competent behavior at the individual, group, and organization level” (p. 45) to renew the organization’s capabilities. Dalkir also

cautioned to achieve these conditions, managing knowledge would require a functional organizing principle or framework.

KM has been widely implemented and researched in large private corporations (e.g., IBM, Northrup Grumman, Quest, and Microsoft), global service organizations such as United Nations (UN) and the World Health Organization (WHO), and governmental institutions including the U.S. Navy and the National Aeronautics and Space Administration (NASA). Many of these organizations have led or encouraged systematic implementation of KM interventions to improve organizational performance capabilities.

In 2005, the WHO met in Geneva, Switzerland to focus attention on the knowing-to-doing gap in healthcare, which they suggested costs many lives around the globe. The core message of the WHO meeting was to bring attention to the lack of KM strategies to guide healthcare best practice initiatives after nearly 30 years of research on the topic. The WHO (2005) posited closing the knowing-to-doing gap offered the best overall opportunity to strengthen global health systems and save lives. Regarding Ebola as an example, Sun, Dennis, and Bernstein (2014) also examined the chaotic national and global response to the Ebola outbreak in several African countries that highlights the stark reality and relevancy of a global knowing-to-doing gap.

Cochrane et al. (2007) also posited that a significant gap still exists in North America between what healthcare providers know, and what they do. The authors suggested a well-developed conceptualized KM framework would be required to address the more dynamic nature of today's healthcare organizations. Cochrane et al. also cautioned healthcare organizations continue to falsely assume a direct link exists between

knowledge of best-practice standards and the actual clinical care delivered. These assumptions continue to undermine the ability of healthcare practitioners to deliver the most informed clinical care possible, potentially leading to unnecessary complications and prolonged suffering.

Chen (2013) suggested rising aging populations and life expectancies place an ever-increasing demand on the U.S. healthcare industry. This demand leaves healthcare organizations handicapped and unable to capitalize on unstructured data and information related to provider, patient, and organizational knowledge. Chen also suggested these handicaps restrict the healthcare system's capacity to comply with initiatives proposed in 2004 by the Office of National Coordinator for Health Information Technology. Chen noted these proposals were aimed at reducing the impact of medical errors on patient safety and the cost of healthcare in the United States.

Chen (2012) further suggested a key concern for KM in healthcare is the lack of detailed analysis to incorporate lessons learned and share information and knowledge effectively. Chen noted removing barriers to KM may create enablers and facilitators and improve care decision support and delivery. Chen suggested that KM efforts need to include more than IT specialists to build these systems. Chen further noted knowledge workers should be included in the planning stage to ensure the system can adequately serve users with the needed enablers and practices. From Chen's perspective, the lack of these system enablers can lead to delays in best-practice interventions resulting in loss of revenue, prolonged pain and suffering, and potential loss of life.

Other studies, including D'Souza, and Sequeria (2011), Heath and Crowley (2004), Kothari, Hovanec, Hastie, and Sibbald (2011), Loke, Downe, Sambasivan, and Khalid (2012), Orzano, McInerney, Scharf, Tallia, and Crabtree (2008), Pentland et al. (2011), Rangachari (2008), Venturato and Drew (2010), and Weston (2009) have also indicated that more research is needed in the healthcare field to demonstrate how organizations can capture corporate memories, share lessons learned, drive best practice improvements, enable staff retention, integrate knowledge translation interventions, develop innovation, and integrate organizational improvement initiatives.

The National Strategy for Quality Improvement in Health Care Report provided to Congress in March of 2011 noted the Affordable Care Act established regulatory priorities to guide the healthcare industry. These priorities included reducing costs, providing measurably improved care, and reducing harm to patients. These practice challenges now require LTC facilities to operationally integrate best-practice knowledge and lessons learned into performance capabilities that measurably improve quality.

Hoo, Lansky, Roski, and Simpson (2012) also noted the provisions of the Patient Protection and Affordable Care Act provide a practical vision of how KM may serve the local, as well as global, knowing-to-doing gap. Provisions of the Affordable Care Act now link clinical outcomes in healthcare facilities to quality and value, rewarding organizations that use innovative methodologies. These methodologies are intended to guide quality performance practices such as effective care management, care coordination, disease management, and enhanced organizational compliance with clinical, regulatory and professional practice standards.

The Centers for Medicare and Medicaid (2015) concluded quality outcomes represent the key to transformation in patient care delivery and national healthcare provision goals. A follow up study will be conducted by CMS in 2018 to examine the progress made in LTC through the Nursing Home Quality Initiative to improve quality. The CMS study noted that a key aspect of the path forward was improving fragmented and poorly designed care delivery systems. The report included a recommendation to improve the skills and knowledge of the healthcare workforce to drive improvement in industry performance capabilities. The current study is needed to support the efforts of LTC organizations to meet these goals and close the knowing to doing gap in the industry through a deeper understanding related to the process of KM.

Problem Statement

In order to meet the industry standards and requirements scheduled by CMS for 2018, there are significant concerns in LTC that will require LTC providers to continuously acquire and disseminate knowledge. LTC facilities will need to demonstrate improved performance capabilities to meet clinical, quality, operational and regulatory Requirements to improve patient safety and maintain organizational stability. My preliminary review of literature related to how KM is used to improve performance capabilities in healthcare revealed a significant lack of empirical data on the topic. In addition, my review of seminal scholarship and current research related to KM in healthcare revealed a consistent call for additional research to probe a deeper understanding of this process and provide a more comprehensive and comprehensible

theoretical model of how knowledge management can be used to improve performance capabilities in LTC.

Purpose of the Study

A review of literature has revealed the healthcare industry is beginning to focus on the gap between knowing and doing. My review further revealed that the industry is currently lacking the sufficient KM organizing principles and frameworks to close the knowledge gaps now impeding the implementation of KM models to drive performance improvement capabilities in LTC. The purpose of this grounded theory study was to seek a substantive conceptual theory of how the process of KM is used to improve organizational performance capabilities in LTC. The overall goal of the study was to generate a substantive conceptual theory to facilitate closing the knowing-to-doing gap in LTC grounded in the empirical data obtained through the perspectives and lived experiences of my 11 study participants.

I further seek to expand the healthcare industry's recognition and understanding of the relationship between KM strategies and organizational performance improvement interventions. It was also my hope to contribute to positive social change by encouraging future empirical research related to the effective and relevant KM framework for healthcare that can facilitate the use of lessons learned and clinical best-practices in LTC to safeguard patient lives and organizational strategic assets.

In this grounded theory study, I empirically examine the process of how LTC facilities use KM strategies to improve performance capabilities to gain a deeper understanding of the process and identify potential barriers to effective implementation

through the a priori perspectives of knowledge workers. I also empirically explored, analyzed, and generated a substantive conceptual theory to explain how long-term care facilities use KM to take tentative steps towards closing the knowing-to-doing gap In healthcare through the a priori insights and perspectives of healthcare knowledge clients who design, manage, and use knowledge in LTC facilities.

Research Questions

Corbin and Strauss (2008) suggested the purpose of a grounded theory research question is to “lead the researcher into the data where the issues and problems important to the persons, organizations, groups, and communities under investigation can be explored” (p. 25) by the researcher. The topical concepts of interest in this study are knowledge management (KM) and performance improvement capabilities (PIC) in LTC. The initial research questions for the current study were related to the *what*, rather than the *why* and *how* of these conceptual topics:

Central Question: What conceptual theory explains how the process of knowledge management is used to improve organizational performance capabilities in long-term care?

In the current study, participant responses were the empirical data used for theorization and analysis, and the driver for the most crucial research questions that emerged through my study’s data collection and analysis. Consistent with these methodological considerations, the research questions and sub questions in this grounded theory study began with two open-ended questions designed to elicit this participant feedback.

Research Question 1: What individual and organizational processes explain the use of knowledge management to improve performance capabilities in long-term care?

Research Question 2: What factors within these processes enhance or inhibit the effectiveness of these initiatives?

Two additional crucial research questions emanating from my participant data were subsequently explored for additional data through a second review of this preliminary literature. These additional questions and data were triggered by theoretical emergence related to participant responses, developed in researcher memos, and ultimately integrated into the conceptual theory. These additional research questions earned their way into my conceptual analysis through data provided by my participants. These emergent questions also drove the generation of related codes, categories, and additional conceptual analysis. Findings related to research questions 3 and 4 are discussed in Chapter 4.

Research Question 3: What is the nature of knowledge as it relates to knowledge creation and knowledge management implementation in long-term care?

Research Question 4: What is the relationship of the emerging theory to Deming's (1993) theory of profound knowledge?

Conceptual Framework

KM is the core phenomenon that grounds the current study. In this study, I incorporated a conceptual framework, integrating a sensitizing review of the literature related to the key conceptual topical areas of KM and performance improvement. My preliminary review of literature revealed that, after 3 decades of research across a wide

variety of disciplines, there remained a lack of consensus related to the definition, process variables, and effective implementation of KM in healthcare. The seminal research that I reviewed in Chapter 2 focused on the key concepts, also suggested a repeated and consistent call for additional empirical data.

Maxwell (2013) noted, “The most productive conceptual frameworks are often those that bring in ideas from outside the traditionally defined field of your study” (p. 40). Maxwell also indicated that the researcher must remain open to the “theories held by the participants in [the] study” (Maxwell, 2013, p. 52), which, from Maxwell’s perspective, too often remain unexamined. Through the contextual lens for the current grounded theory study, I embraced the opportunity to examine the a priori views of my study participants that grounded the emergent conceptual theory that was generated.

The conceptual framework in Chapter 2 for the current study facilitated my investigation of how KM processes are implemented in LTC to improve organizational capabilities and performance. My grounded theory approach to the investigation provided the wide contextual lens and dynamic perspectives that could only emerge through the views of participants (who carry out the knowing-to-doing processes and face the knowing-to-doing barriers in their organizations). My participant data led to the integration of additional concepts and constructs contributing to the ultimate theory generation discussed in Chapter 4. These theoretical insights emerged through the rigorous application of grounded theory methodologies discussed in Chapter 3.

Nature of the Study: A Grounded Theory Approach to the Problem

The healthcare field is a complex and constantly evolving industry. The industry faces technological, social, and cultural challenges; as well as increasingly complex and expensive clinical practices. LTC facilities face these same challenges inherent in the provision of healthcare, coupled with the additional challenges of providing a home-like and highly regulated environment for individuals who are aging residents as well as patients. Understanding the underpinnings of any realm of healthcare operations requires the capacity to discover what lies beneath the observed actions and multilayered functions of a complex interactive, social, interdisciplinary, and often subjective operational matrix of healthcare interventions.

Charmaz (2006) suggested a grounded theory approach to research allows a researcher to collect the rich data necessary to “get beneath the surface of social and subjective” elements of study through the use of “an inquiring mind, persistence, and innovative data-gathering approaches” (p. 13) applied by the researcher. My findings, discussed in Chapter 4, reveal the importance of Charmaz’s insights. My findings were only possible due to my persistence to get *beneath* the social and subjective elements imposed by organizational and extant thinking about knowledge management and toward the deep personal and implicit perspectives of my participants.

The key phenomenon in the current study is knowledge management. Learning how processes transition LTC operations from knowing-to-doing required the deep and wide conceptual lens of grounded theory, and the sufficiently dynamic perspective that emerged through the views of the knowledge creators, knowledge managers, and

knowledge users in healthcare who represent the *doers* of the knowing-to-doing gap. In this study, I took the empirical research process directly to knowledge workers operating in the LTC environments studied that were facing these challenging times, social and economic conditions, and interactional situations. I collected and concurrently analyzed interview data from my participants through the grounded theory methodology of constant comparison and conceptual analysis discussed in Chapter 3. This empirical data perspective provided me with a deeper understanding of knowing-to-doing in LTC that is discussed in Chapter 4.

Definitions

The key topical terms, concepts, and phenomenon that I investigated in the current study, and adapted subsequent to the study findings, include:

Knowledge: Knowledge is a fluid mix of framed experience, values, contextual data and information, and expert insight that originates and is applied in the minds of knowers (Davenport & Prusak, 2000).

Sentinel data: data that represents meaningful insights and acts as a signal or sentinel trigger to elicit the tacit knowledge the knower already possesses and urgently needs to access. Sentinel data acts to retrieve and translate the implicit (knowledge) reserves to guide the use of appropriate theoretical interventions stored in healthcare workers' human knowing systems in order to potentiate real-time insights for action linked to the emergent knowledge needs.

Bridging decisions: Bridging decisions represent decision making processes elicited by the presentation of sentinel data that forces the knowledge user to choose

action based on their implicit knowledge; or delay action in favor of explicit knowledge seeking based on their confidence that their implicit knowing is sufficient and adequate for doing to respond to an emergent knowledge need.

Knowledge management: Knowledge management is the deliberate and systematic integration of organizational knowledge assets through the coordination of an organization's people, technology, processes, and organizational support structures and resources utilized to create, craft, translate, share, and apply tacit and explicit knowledge, lessons learned, and best practices to foster organizational learning and potential for continuous quality and performance improvement capabilities (Dalkir, 2011).

Knowledge clients: Individuals that develop, manage, use or benefit from organizational knowledge assets. For this study knowledge clients are defined as knowledge creators, knowledge managers, and knowledge users, as well as organizational clinical and operational customers.

Performance improvement capabilities: These are defined as those competencies and resources acknowledged by organizational leadership, stakeholders, and knowledge clients as crucial in meeting the organization's operational and strategic goals.

Performance improvement capabilities in healthcare: Incorporates those competencies and knowledge resources acknowledged by organizational leadership, stakeholders, and staff, including knowledge creators, knowledge managers, and knowledge users; as crucial in meeting the assessment and clinical needs for patient care as well as and strategic goals of the organization.

System of profound knowledge: This term was introduced by W. E. Deming in his text *The New Economics* in 1993. Deming suggested the system of profound knowledge represented a theory of transformation that integrated a network of interdependent parts to accomplish the aim of the system and required knowledge of the interrelationships between the components within the system and people who work in it.

System of profound knowledge management: Extends Deming's (1993) conception that a system related to knowledge must be deeply rooted into every aspect of the organization, managed proactively and systematically at every level, and seeks to find cooperation and collaboration between all parts of the system moving towards a common aim or goal. A system of profound KM further integrates, facilitates, and organizationally supports the creation, crafting, resourcing, sharing, transfer and use of tacit and explicit knowledge to improve organizational performance capabilities for the benefit of the organization's internal and external customers. Crafting a system of profound knowledge management requires incorporating sentinel data and contextual information as well as tacit and implicit knowledge to make clinical and strategic bridging decisions. Tacit and explicit knowledge reserves are accessed in the crafting process through integration of internal and external individual and organizational resources.

Assumptions

In this study, I made several assumptions associated with the research process and the grounded theory methodological approach based on Charmaz's (2006) insights and recommendations. Charmaz noted a grounded theorist looks deeply into processes and uses the meticulous tools of grounded theory to advance an "interpretive analysis" (p. 10)

of the data through the pragmatic application of classical grounded theory methodology and a constructionist grounded theory framework. Charmaz's interpretive, pragmatic, and constructivist assumptions represent the epistemological and ontological perspectives of grounded theory that guided my planning and execution for this study.

Another key assumption guiding the current study was that my participants would provide the theoretical concepts necessary to generate a substantive conceptual theory of *how* LTC facilities use KM strategies to improve performance capabilities by presenting their honest and forthright a priori views and experiences during the interview process. These assumptions were validated through the generous and candid insights provided by the study participants that led to the study findings and recommendations discussed in Chapter 4 and Chapter 5

These assumptions were necessary in the current study because a gap noted in the topical literature revealed that most research on the topical areas were conducted at the organization level. In my effort to address this gap I sought to take the research process directly to the knowledge workers in LTC and rely on their candor and insights to guide my conceptual path. I adopted Charmaz's (2006) grounded theory methodological approach because it demonstrated the diligence, sensitivity, and respect for the candor and rigor I wanted to honor in my own study.

Scope and Delimitations

Although the knowing-to-doing gap has been widely written about in healthcare professional literature across the continuum of care, the scope of the current study was limited to the examination of LTC populations. The scope of the current study did not

allow for the breadth and depth of investigating the continuum of KM, or the different professional populations within the entire healthcare industry (hospitals, home healthcare, physician practices, clinics, and research institutions). The population selected for the study included the creators, managers, and users of knowledge within LTC organizations. These participant categories represented the doers within the knowing-to-doing gap throughout the continuum of healthcare and may therefore represent a future avenue for transferability of the study findings.

In reviewing the literature related to KM, there were also numerous related sub processes of KM identified: knowledge creation, knowledge sharing, knowledge translation, and knowledge dissemination that are implemented across the healthcare continuum. My intent was to remain focused on the perspectives of my participants in this study. I attempted to explain the crucial process considerations between and among the key elements in the overall KM process for LTC through the insights of a purposeful participant sample in LTC that was theoretically identified for organizational knowledge dissemination found in the literature. These participants included knowledge creators, knowledge managers, and knowledge users in LTC.

External factors and forces on organizational KM processes in LTC such as regulatory, payor source, and medical research organizations were not included in the study population. Although these organizations may influence the overall content of the knowledge managed in healthcare, these forces were not theoretically relevant to the processes of interest in the current study. Purposeful and theoretical sampling processes and decisions used for the study are discussed in detail in Chapter 3.

Maxwell (2013) suggested that qualitative studies are often not suited to “linear” or “one directional” (p. 2) processes that trace the study design from the problem statement through the study’s ultimate conclusion. Consistent with Maxwell’s insights, I did not ultimately follow a linear structure.

My grounded theory study diverged somewhat from the core design features of other qualitative methodologies, therefore potentially limiting the transferability of the study. Consistent with a grounded theory approach, I explored the concept of KM in LTC from a process perspective, not bounded to a specific case, culture, or individual phenomenological experience. Since the core processes ultimately identified may not be bounded by the healthcare venue where it occurs, there may be aspects of the findings that are potentially transferable.

Study Limitations

Denzin and Lincoln (1994) suggested trustworthiness in a qualitative study “consists of four components: credibility, transferability, dependability and confirmability” which, from the authors’ perspective represent the constructionist equivalents of internal and external validity, reliability, and objectivity” (p.508). Denzin and Lincoln further noted the “enormous commitment” to the rigorous methodologies of grounded theory “increase a text’s credibility, transferability, dependability and confirmability” and suggested “grounded theory answers to a need to attach the qualitative research project to the ‘good science’ model” (p.508) for a qualitative study. I attempted to consistently incorporate these elements of trustworthiness in each step of my study methodology.

Transferability

Transferability is a qualitative concept similar to the external validity concept of a quantitative study. Miles, Huberman and Saldana (2014) suggested thick descriptions allow the reader to assess the transferability of study findings and conclusions to other settings. In the current study I provide rich, thick data, but these data descriptions were primarily directed at conveying a deeper understanding of the process rather than mere description.

Dependability

Dependability is a qualitative concept similar to reliability in a quantitative study that is often addressed through the use of triangulation. Triangulation uses multiple methods and theories to provide evidence from multiple sources of a single correct truth to establish the validity of the study findings. A grounded theory study, derived from symbolic interactionism, does not seek a single truth, but acknowledges there are many truths.

Miles et al. (2014) suggested dependability in qualitative data analysis can also be established through the demonstration of relevance for the research settings and participants to the research questions, meaningful parallels across data sources, and the convergence of multiple participant accounts across settings. I demonstrated the conceptual relevance of my research settings and participants to my research questions in my study. I also revealed the meaningful parallels in my findings across my data sources through the diligent documentation of conceptual emergence within the grounded theory methodologies of coding, categorization, constant comparison, and conceptual analysis.

Additional data sources that earned their way into my conceptualization were integrated into the current grounded theory because they demonstrated meaningful parallels and relevance. These data sources were treated as additional data for constant comparison and not as a tool for triangulation.

Miles et al. (2014) suggested confirmability of a qualitative study could be established through explicit description of the study's methods and procedures that allow an audit trail linking the study's conclusions to exhibits and displays of data. I provided explicit documentation of my methodological processes of data collection, data analysis, constant comparison, conceptualizing, and theorizing. My audit trail explicitly links the emergence and analysis of my data. Confirmability, as the qualitative version of objectivity, is also addressed within my study through the integration of my reflexivity.

Reflexivity

Patton (2002) suggested reflexivity reveals the researcher's recognition of self-awareness (p.65), a voice that leads the researcher to express their analysis through a first person voice to engage the reader "through thoughtful sequencing, appropriate use of quotes, and contextual clarity" (p. 65) in the discussion of one's findings, and biases recognizing my "responsibility to communicate authentically the perspectives of those we encounter during our inquiry" (p.65). I used my reflexivity and my authentic voice consistently throughout the data collection and conceptual analysis to explicitly describe the rigorous and sequential methodology stages of my study to demonstrate the confirmability of the study findings. My systematic rigor of the current study's grounded theory methodology and concurrent documentation of conceptual and theoretical

emergence within the current study has been utilized to overcome any methodological limitations related to credibility, transferability, dependability, and confirmability through my detailed conceptual audit trail and my explicit reflexivity.

Researcher Bias

I acknowledge a long interest and professional career in healthcare that could potentially bias or influence my study outcomes. I made rigorous efforts throughout the study methodology to explicitly address these potential biases. My researcher reflexivity was also used to address my potential for bias through the use of field journaling and memoing to record the emergence of codes and concepts; as well as my constant comparison methodology decisions and conceptualization insights.

Overcoming Study Limitations

To overcome my limitations of resources related to the number of sites and participants in the study, rigorous grounded theory methodologies were integrated in ways that made each process effort explicit and readily accessible to those who evaluated potential methodology weaknesses, transferability, and dependability of the findings. To address potential limitations I maintained a rigorous systematic grounded theory methodology throughout the study data collection, analysis, and conceptualization to mediate transferability concerns and demonstrate trustworthiness. Chapter 3 provides an in-depth discussion of the reasonable measures I employed through the rigorous grounded theory methodologies to address these limitations.

Significance of the Study

Drucker (1995) posited that organizations needed to transition from outdated measures of performance to systematically develop the quality and productivity potential of an emerging knowledge society. Drucker (1998) went even further and claimed, “To remain competitive—maybe even to survive—businesses will have to convert themselves into organizations of knowledgeable specialists” (Drucker, 1998, p. 11), and then compete with knowledge.

Although the recognition that knowledge deficits and learning opportunities should logically lead to knowledge creation and knowledge sharing in any industry, Davenport and Prusak (2000) suggested that the pioneering theoretical work on KM was instead focused primarily on the emergence of technologies, not KM strategies such as knowledge creation, knowledge translation, or knowledge sharing. Davenport and Prusak (2000) also suggested the need for informed decision making in organizations required the organization to transition from an organizations embracing the management of information to an organization recognizing the need for managing knowledge.

Knowledge, from the perspective of Davenport and Prusak (2000), represents a strategic ability for an organization to deal with complexity. The authors further suggested this strategic capability make the management of knowledge a key performance driver for organizations. The current study advances the knowledge of how the process of KM can be implemented to improve performance capabilities in LTC in order to deal with the complexities of knowledge requirements in the industry.

The healthcare industry is currently in a period of great change, one that requires healthcare providers to meet stringent demands for regulatory compliance, financial conservation, best-practice driven quality care outcomes, and the strategic utilization of human resources. This is particularly true in the LTC industry where the dynamic complexities of clinical care and the vulnerability of the aging patient population demands a constantly evolving level of competency, both clinically and operationally, to meet organizational objectives.

The World Health Organization's 58th Health Assembly in Geneva, Switzerland in 2005 encouraged interest in the scientific literature related to the potential impact of knowledge management in closing knowing-to-doing gaps within the global healthcare environment. Subsequent to the WHO's conference, Chunhara (2006) published the aspirations of the WHO to facilitate an interactive approach for organizational learning through operationalizing knowledge management strategies. The WHO's conference publication also addressed bridging the knowing to doing gap in healthcare through the potential for knowledge management to benefit healthcare providers and recipients. The WHO conference findings concluded that the complexities of a knowing-to-doing gap in healthcare cost too many lives around the globe. The WHO report further revealed it was not a deficit of funding, know-how, or knowledge causing this gap, it was a lack of an adequate KM process conceptualization.

Although the WHO's (2005) focus addressed the knowing to doing gap in healthcare on a global and country-wide scale, healthcare organizations within all sectors of the U.S. healthcare industry are also facing knowing-to-doing gap. Closing these gaps

may affect social change by improving the care of LTC patients and the sustainability of LTC organizations. LTC facilities that serve the ever-increasing aged resident population are particularly vulnerable to knowing to doing gaps because of their inherent limitations of accessible knowledge resources compared to hospitals; and the complexity and vulnerability of the advanced aged residents they serve.

Summary

The emergence of the knowledge society predicted by Drucker (1995) continues to influence a wide range of industries. Globally, healthcare industries are now facing tremendous pressure by informants and regulators to close the knowing-to-doing gap impacting the clinical, operational, and regulatory performance of healthcare organizations, including the LTC industry. As suggested by (2005) observations, the emerging science of KM may be able to shed light on how to close the knowing-to-doing gap that current exists in healthcare and endangers lives across the globe.

In Chapter 1 of this study, I discussed the research problem and introduced the purpose of the study. Chapter 1 also included the social change implications informed by the study's findings related to implications of closing the knowing-to-doing gap in healthcare. The preliminary review of literature discussed in Chapter 1 related to how KM is used to improve performance capabilities in healthcare revealed a significant lack of empirical data on the topic and a consistent call for research to probe a deeper understanding of this important process in healthcare.

In the Chapter 1, I also introduced and defined the topical areas I investigated within the conceptual framework of the study related to KM and performance

improvement capabilities in healthcare to respond to this call and discussed them within the context of the overall study design and considerations. Chapter 2 provides a discussion of literature I reviewed for theoretical sensitivity for my grounded theory study related to the key concepts investigated. The Chapter 2 discussion includes an overview of the most relevant topical areas revealed through my preliminary literature review and examines these topical areas to provide a deeper understanding of the salient themes and concepts related to my relevant study topics.

A primary goal of the current study was to promote positive social change by enhancing the scientific application of best-practices and lessons learned to enhance the dignity and quality of life for a rapidly aging healthcare population through knowledge management. Improving the capabilities of these organizations through the application of informed KM strategies could potentially save many lives, reduce healthcare costs through improved allocation of resources, facilitate regulatory compliance, and improve the satisfaction and work lives of LTC knowledge workers. Chapter 3 will examine the methodology considerations used to investigate these possibilities through the views of my participants. Chapter 5 of the current study addresses these positive social change implications in relation to the study findings examined in Chapter 4.

Chapter 2: Literature Review

My preliminary review of literature discussed in Chapter 1 related to how KM is used to improve performance capabilities in healthcare revealed a significant lack of empirical data on the topic. The purpose of this grounded theory study was to seek a substantive conceptual theory to explain how the process of KM is used to improve organizational performance capabilities in LTC. Chapter 2 includes an overview of how the current study addressed gaps identified in the literature. Chapter 2 also reviews my literature search strategy and discusses the topical sensitizing literature related to my conceptual framework discussed in Chapter 1.

In Chapter 2, I summarize the concepts and major themes noted in the key topical literature investigated for theoretical sensitivity prior to conducting my study. Charmaz (2006) suggested theoretical sensitivity facilitates the ability of the researcher to discern meanings, properties, and emergent patterns to construct analytic codes and abstract concepts during data analysis. Chapter 2 includes a discussion of the major themes and analytic insights gained during the review of topical literature prior to initiating the study.

Corbin and Strauss (2008) also noted a sensitizing review of literature can assist the researcher in the development of preliminary questions that demonstrate “the overall intent of the research” (p. 38) for the study. The literature review discussed in Chapter 2 is consistent with these tenets of grounded theory methodology and does not reflect an effort to identify extant theories, constructs, or hypothesis for testing within my study. Conceptual elements from the sensitizing review of literature that emergently earned their way into the grounded theory are discussed in Chapter 4 and 5.

Literature Search Strategy in Grounded Theory

Glaser and Strauss (1967) suggested that the ultimate conceptual framework for a grounded theory study must emanate from the data collected, not any preconceived theoretical lens gained from a previous review of literature. The conceptual framework of the current study was aligned with the later position of Corbin and Strauss (2008) supporting the preliminary review of literature in grounded theory to gain significant knowledge to reveal “salient problems” and “relevant concepts” (p. 35) that “enhance sensitivity to subtle nuances in data” (p. 37) the researcher obtains from participants.

I obtained the literature for the current study through an iterative search process of the Walden University library databases: including Thoreau Search, Science Direct, Health Sciences, Emerald Management, ProQuest and Sage journals related to methodology and key topical areas (*KM, performance improvement, quality management, KM in healthcare, and performance improvement in healthcare*), including an iterative search of journal articles and dissertations on related topics. To ensure germane scholarship related to conducting a grounded theory study, the University of California’s (San Francisco) library database was also used to obtain a broader understanding of grounded theory tenets and methodologies due to the university’s prolific application of grounded theory methodologies.

There is a significant lack of scholarship in the literature related to the use of KM in LTC; therefore, other resources investigated included key industry journals and resources related to KM (*Knowledge Management World*) and quality management (*American Productivity and Quality Center’s Best Practices Reports*). Key healthcare

industry publications related to KM and performance improvement were also investigated, including the WHO, CMS federal and state regulatory requirements for quality improvement in healthcare, and criteria for the Malcolm Baldrige Quality Award.

Conceptual Framework: Seminal Theorists and Key Topical Concepts

The conceptual framework for the study included the review of the seminal work of Chang-Albrites and Krugler (2005), Chen (2003), Choo (1996), Dalkir (2005), Davenport and Prusak (2000), Nonaka (1998), Nonaka and Konno (1998), Nonaka and Takeuchi (1995), Wiig (1995), and Wiig, de Hong and van de Spek (1997). I also drew upon recent scholarship related to *KM, KM and performance improvement, performance improvement capabilities, transitioning from quality assurance to performance improvement, KM studies, KM in healthcare, knowing to doing gap in healthcare, integrating knowledge sharing capabilities, culture and technology in knowledge sharing, KM roadmap, KM culture, KM and quality management, KM infrastructure, and KM and performance improvement capabilities in healthcare*. Orzano et al. (2008), Desai (2010), and Pentland et al. (2011) also conducted integrative reviews of the literature and concluded robust research in this area was limited, and further empirical evaluation of KM in healthcare would benefit the industry.

Chang-Albrites and Krugler (2005) noted that KM concepts were first introduced by the Massachusetts Institute of Technology and Carnegie Mellon research in 1970s. The introduction was part of a shift toward the development of automated machine processes and artificial intelligence. The technology goals of this period focused on information technology development with a special focus on data management. The first concept

elements of KM surfaced in the 1970s through the “technical integration of isolated data” and the “implementation of database management systems” (Chang-Albrites & Krugler, 2005, p. 3). By the 1980s data integration, data modeling, and data handling offered the second phase of an emerging KM concept, and by the 1980s, the recognition of a “need for enterprise-wide horizontal integration” (Chang-Albrites & Krugler, 2005, p. 4) set the stage for the third phase of the development of a KM conceptual framework. Chang-Albrites and Krugler noted these technology goals were the unifying concept in KM until the 1990s when concepts integrating human resources and human knowledge were first introduced as an important organizational approach for information and communication technology, KM systems, and customer relation management.

KM, as a functional organizing framework, is just beginning to be recognized as a relevant issue in the healthcare field. Important operational and strategic outcomes in healthcare, such as improving the quality of care and meeting regulatory standards have also been linked to the ability to use knowledge to inform best-practices and decision making. Cochrane et al. (2007) cautioned that healthcare organizations may falsely assume a direct link exists between the knowledge of best-practice standards and the actual clinical care delivered. Cochrane further suggested a significant gap exists between what healthcare providers know, and what they do. Cochrane also posited that a well-developed conceptualized KM framework is required to address the more dynamic nature of today's healthcare organizations.

My review of current literature revealed that the healthcare industry is beginning to focus on the knowing-to-doing gap. Important operational and strategic outcomes in

healthcare, such as improving the quality of care and meeting regulatory standards, has also been linked in the literature in recent years to the ability to use KM (Chen, 2012; D'Souza & Sequeria, 2011; Heath & Crowley, 2004; Kothari, Hovanec, Hastie & Sibbald, 2011; Loke et al., 2012; Orzano et al., 2008; Rangachari, 2008; Venturato & Drew, 2010; Weston, 2009). A consistent barrier to implementation noted in the literature was the lack of a consensus definition for knowledge management.

Dalkir: Defining KM

Dalkir (2005) posited that, although the concept of managing knowledge in the current economy was increasingly crucial, “Knowledge is abundant, but the ability to use it is scarce” (p. 2). Dalkir suggested that organizations need to develop systematic strategies to enable them to cultivate and share knowledge to enhance their competitive advantage. Dalkir conducted an informal survey to review definitions of KM in numerous publications, noting about 72 of them were “very good” and KM was clearly “multidisciplinary” (p.4). Key dimensions of KM in Dalkir’s review included:

- KM is tied to business strategies.
- Knowledge is a fundamental resource for intelligent functioning.
- KM turns actionable knowledge into a useable resource.
- KM systematically provides a flow of knowledge to the right people.
- KM requires the development of a new discipline and profession to enable knowledge assets (pp. 4-5).

From Dalkir's (2005) perspective, KM deliberately and systematically engages in capturing, structuring, managing, and disseminating knowledge through collaborative and integrated approaches to leverage the "collective wisdom" of organizations (p. 5). Dalkir suggested crucial stages for a "knowledge management cycle" (p. 46) included capturing, codifying, creating, sharing, acquiring and applying knowledge. Dalkir provided an in-depth review of seminal KM models and concluded for KM to impact the achievement of organizational goals, it must be built on "a robust theoretical foundation" (p. 47) with a clear conceptual framework. Dalkir (2005) suggested the Choo, Wiig, and Nonaka conceptual frameworks offered a comprehensive view of KM that potentially integrates "people, process, organization, and technology dimensions" (p. 50) representing key elements of a KM implementation cycle.

Choo's Sense Making KM Model

Choo (1996) suggested a "knowing organization" (p. 329) tenet is the use of decision-making systems that bestow the human characteristics of decision making and rational choice upon organizational systems. Choo suggested inherent limitations on human decision making provide organizations with the capacity to make grand decisions (not bounded by those limitations) and provides the capability (through the control of decision making premises) to move individuals to make decisions. These decisions, from Choo's perspective, are motivated by the recognition of problems driving the organization to search for a satisfying alternative.

Choo's (1996) analysis of contemporary management and organizational theory suggested organizational behavior is motivated by "the attainment of goals" and

“concerned with uncertainty and choice” (p. 332), to make sense of what is happening in the organizational environment. Choo further examined how information is often distinguished from knowledge in the search for satisfying alternatives for problem solving; and took tentative steps to link information to knowledge management.

Choo (1996) also took tentative steps toward moving the concept of managing information and knowledge away from technology and towards human cognitive awareness. Choo noted Nonaka and Takeuchi’s (1995) seminal perspectives on knowledge creation and sharing is dependent on the presence of “enabling conditions” for KM that begin with identifying the organization’s “aspiration” (p. 212) and then introduces motivational drivers to stimulate action.

Choo’s (1996) perspectives suggest that enabling conditions, such as relevant resources to support KM are equally important to the organization’s aspiration to do so. Choo (2003) further noted that sharing individual knowledge through the conversion of tacit knowledge to new explicit knowledge, within the Japanese culture, is linked to Nonaka and Takeuchi’s (1995) knowledge creation model. Choo suggested this process requires the conversion of tacit to explicit knowledge to move knowledge from the individual level, to the group level, to the organizational level and then finally towards the inter-organizational level.

Choo (2003) also suggested that Davenport and Prusak’s (2000) concept of knowledge sharing, in accordance with Nonaka and Takeuchi’s (1995) knowledge creation spiral, implicitly requires an environment for trust as an enabling condition. Choo also cautioned that the perspectives of Davenport and Prusak (2000) offered a

“pragmatic” and “operational” (p. 217) view of KM in organizations has potentially inhibited the west from better capitalizing on the tacit knowledge resources. Choo indicated although Davenport and Prusak’s (2000) structural elements (data, information, and knowledge) offer specific operational elements to drive utilization of knowledge resources, their concepts failed to offer an accessible and comprehensive process.

Several salient properties and dimensions related to KM emerged within Choo’s review related to the nature of knowledge and the search for satisfying alternatives to problem solving. The need for a distinction between eastern and western epistemology introduced by Choo also provides a unique perspective for analysis. In Chapters 4 and 5 I examine these conceptual elements in their relationship to the enablers and inhibitors of knowledge sharing through the perspectives of my study participants.

Wiig’s KM and Performance Improvement Matrix

Wiig et al. (1997) also suggested a relevant discussion of KM would need to move a step beyond pragmatic structure and process elements. Wiig et al. looked at KM through a model closely linked to a performance improvement conceptual module, one inherently focused on a wide scope of organizational objectives, activities, and outcomes. The authors noted in the years preceding their study, KM, as a field of scientific interest, gained recognition in theoretical discussions and case studies. Wiig et al. added within this discourse the “middle ground is not well covered” (p. 15) related to KM. Wiig et al. suggested the middle ground of KM was situated between regarding it as “too general” and therefore lacking operational value, or “too specific” and lacking flexibility for application across a wide enough diversity of situations (p. 15).

The purpose of Wiig et al.'s theoretical analysis was an attempt to “populate this middle ground” (p. 15) by evaluating a wide range of methods and techniques designed to address the gaps in KM research within the extant literature. The resulting conceptual framework from this extensive review consisted of four activities for managing knowledge. The Wiig et al. KM cycle included: review, conceptualize, reflect, and act.

Review. Wiig et al.'s (1997) concept consists of two subactivities: monitoring performance and evaluation of performance. Wiig et al. suggested a strengths, weaknesses, opportunities, and threats (SWOT) analysis to focus on the right things to review to capitalize on lessons learned from a SWOT. The authors further noted this evaluation is then tied to monitoring to seek causal relations between the actions being performed and the results achieved.

Conceptualize. Wiig et al. (1997) suggested this element provides a vision of the organization's knowledge household: (a) what uses of knowledge (business processes), (b) which knowledge is used (knowledge assets that contribute), (c) where the knowledge is used (location), (d) when the knowledge is used (time), and (e) which organizational role provides the knowledge (participation in business practices). Wiig et al. further suggested the conceptualize stage must be thoroughly completed before moving on, or a bottleneck effect may surface to prevent reflections from being effective. Wiig et al. identified several key areas for improvement plans during conceptualization: (a) effectiveness improvement programs, (b) knowledge building programs, (c) strategic action programs, and (d) project management programs.

Reflect and act. The reflect phase in Wiig et al.'s (1997) model is related to the development of improvement plans when weaknesses and opportunities for improvement were discovered. These improvement plans will be executed later in the act phase. If improvements are going to occur, actions must be taken. The act phase of the model is the operational phase which the authors suggested should be segregated from the other phases of the model as it relies on a discrete and separate set of methods, techniques, and tools to operationally implement the organization's knowledge creation action plan.

Wiig et al.'s (1997) thoughtful and comprehensive model, like that of Davenport and Prusak (2000), presents a very pragmatic and operational view of KM strategies. Wiig et al.'s model is also conceptually aligned with the performance improvement conceptual framework of Deming's (1986) plan, do, study, act cycle. From Wiig et al.'s perspective, effectiveness improvement programs ensure appropriate knowledge is available at the point of action, combining training and information technology. Knowledge building programs include efforts for broad KM applications directed at improving organizational capabilities such as lessons learned. Wiig et al.'s model is focused on what to do with the knowledge the organization had somehow acquired.

Wiig et al. (1997) suggested that the middle ground between too general or too specific still lacks the conceptual clarity necessary integrate knowledge creating and knowledge sharing actions and actors within the process. My evolution of thought related to the process and structure elements in knowledge management enabling conditions presented by Choo (1996) and process elements for knowledge sharing and strategic

decision making offered by Wiig, (1997) are discussed within the context of my participants insights and my conceptual analysis in Chapters 4 and 5.

Nonaka and Takeuchi Model of Knowledge Conversion

Nonaka (1994) attempted to bring conceptual clarity to knowledge creating and knowledge sharing. Nonaka noted the distinction between information and tacit and explicit knowledge “could be described as the epistemological dimension to organizational knowledge creation” (p. 15). Nonaka also referred to the social interaction and sharing required for creating knowledge as “the ‘ontological’ dimension of knowledge creation” (p. 15) within the conceptual framework. Nonaka provided “an analytical perspective on the constituent dimensions of knowledge creation” (p. 14) though the articulation of a knowledge spiral that was specific to the organization rather than the individual. Nonaka’s organizational knowledge spiral model is constructed through four modes: tacit to tacit knowledge, (socialization), explicit to explicit knowledge (combination), tacit to explicit knowledge (externalization), and explicit to tacit knowledge (internalization) to convert knowledge for organizational processes.

Nonaka and Takeuchi (1995) later suggested resistance to the knowledge spiral was grounded in the philosophical distinctions between Japanese and western organizations. The authors suggested in Japanese organizations knowledge creation is often focused on socialization and internalization within group settings. In contrast, Nonaka and Takeuchi suggested western organizations are stronger with externalization and combination skills that represent individual based efforts. The authors concluded,

“Westerners tend to emphasize explicit knowledge and the Japanese tend to stress tacit knowledge” (p. 243) in their efforts to create knowledge.

Nonaka and Konno: Ba

To potentiate the promise of creating knowledge Nonaka and Konno (1998) introduced the concept of ba to provide a better understanding of the essential process of tacit knowledge creation. The authors noted ba stems from an existential philosophy in the understanding of individual and collective knowledge that creates a “transcendental perspective” (p. 40) for the integrative process required for knowledge creation. Nonaka and Konno also suggested the term ba represents “a shared space that serves as a foundation for knowledge creation” (p. 40) between individuals representing “the ‘phenomenal’ place” (p.41) for knowledge creation. Nonaka and Konno further posited ba is a shared space where knowledge becomes embedded through one’s experiences, reflections, and interactions with others. Nonaka and Konno further suggested when knowledge leaves the ba space it becomes information to be communicated yet again.

Nonaka and Takeuchi (1995) indicated their analysis of knowledge creation was the product of their numerous global interactions with actors in the process of becoming knowledge creating companies. The authors referred to their text as a study designed to “show that the individual interacts with the organization through knowledge” (p. ix). Nonaka and Takeuchi called for efforts to synthesize the knowledge creating strengths of both east and west to build a more universal model of knowledge creation. Although Nonaka and Takeuchi agreed with Drucker’s vision of a knowledge driven society, the authors further noted most theories and literature related to economics, management, and

organizational development “scarcely mention knowledge itself” (Nonaka & Takeuchi, 1995, p. 49) until the 1990s.

Nonaka (1998) posited the information processing (western) perspective of organizational knowledge sharing inhibited an integrative perspective to guide knowledge creation and knowledge sharing. Nonaka suggested the western (pragmatic) view of knowledge as always formal, quantifiable, and systematic impeded the process of knowledge creation. In contrast, Nonaka suggested the Japanese (eastern) view of knowledge exists as something “tacit” and “highly subjective” found in the “insights, intuitions, and hunches of the individual employee” (p. 24) to enable knowledge creation and sharing. In Chapters 4 and 5, I examine the conceptual distinctions between the eastern concept of knowledge creating and western philosophies of knowledge management that potentially explain the persistent separation between the knower and the doer in LTC revealed by my study participants.

Davenport and Prusak: Data, Information, and Knowledge Creation

Many scholars have attempted to bring consensus and clarity to the question of what the nature of knowledge is in a knowledge management framework. Also confounding the problem of application of KM, there are too many definitions of KM that still define it solely in terms of information or data management. These definitions lack an actual conceptual space for knowledge creation and use despite the term KM. An ongoing debate in the literature also surrounds whether or not data, information, and knowledge are distinct process elements or represent a knowledge maturity continuum. Davenport and Prusak (2000) suggested it is crucial for organizations to be able to

differentiate between data, information, and knowledge. Davenport and Prusak defined knowledge as:

a fluid mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms. (p. 5)

Although Davenport and Prusak (2000) differentiated data, information, and knowledge, the authors also suggested they were linked. They defined data as “a set of discrete, objective facts about events” and noted knowledge, although not information, is meaningful and purposeful data “that makes a difference” (p. 2) from a sender to a receiver during the processes of: contextualization, categorization, calculation, correction, and condensation. Davenport and Prusak further noted just as information derives from data, knowledge derives from information, through the processes of comparison, consequences, connections, and conversation.

Davenport and Prusak (2000) also cautioned transformations from data to information and information to knowledge “take place between human beings” (p. 6), not technology. The authors further suggested it is the organizational knowledge assets developed through human efforts that develops a sustainable competitive advantage for the organization, because unlike material assets in the organization, knowledge assets will increase with use. This defining description offered by Davenport and Prusak (2000)

highlights the distinctions and linkages between east and west epistemology and ontology of knowledge management. The persistent lack of consensus regarding what constitutes knowledge and KM noted by these seminal scholars continues to contribute to the abundance of knowledge and the scarcity of effective applications for KM interventions that Dalkir (2005) suggested. Chapters 4 and 5 of the current study provide a discussion of tentative steps towards closing these theoretical gaps through insights shared by my study participants.

Ahenkorah-Marfo and Nkrumah Review

Ahenkorah-Marfo and Nkrumah (2012) suggested most KM scholars accept the idea there is a continuum or interrelationship between information and knowledge, where information is transformed into knowledge, and knowledge is then communicated as information. The authors further suggested the initial technical and information management perspectives on KM put too much emphasis on security and not enough on developing and mentoring people. This perspective is consistent with Choo (2003) and Chang-Albrites and Krugler (2005) related to the need for a marriage between the technical and human factors of KM.

Ahenkorah-Marfo and Nkrumah's (2012) review of literature provided a summary of perspectives from across the field that continues to reveal a lack of conceptual consensus on these perceptions:

- Terra and Angeloni (as cited in Ahenkorah-Marfo & Nkrumah, 2012) stated that knowledge cannot be managed; it is not about management of knowledge, but

about creating the right conditions for individuals to learn and apply their knowledge to benefit the enterprise.

- Kivumbi (as cited in Ahnenkorah-Marfo & Nkrumah, 2012) indicated that knowledge is belief that is true, justified, and relies on no false premises, and further suggested: (a) information is processed data and information makes knowledge available, (b) information is knowledge that has been communicated, (c) knowledge is in your head and information is everywhere, and (d) information becomes knowledge when it gets into your brain.
- Kivumbi (as cited in Ahenkorah-Marfo & Nkrumah, 2012) further suggested that wisdom is the next step in the knowing continuum, and from their perspective, to be wise includes applying love and insight in addition to reason and logic.
- Badii and Sharif (as cited in Ahenkorah-Marfo & Nkrumah, 2012) posited knowledge cannot be managed, knowledge management is problematic but information can be managed using logistical tools like computer and is therefore preferable for getting the right information available for the right purpose, at the right time and the right place.
- Von Krogh et al. (as cited in Ahenkorah-Marfo & Nkrumah, 2012) suggested one can only prepare and effect knowledge creation processes through managerial actions and decisions because KM, unlike IM, is about supporting a humanistic perspective of work.
- Nitecki (as cited in Ahenkorah-Marfo and Nkrumah (2012) suggested knowledge is about supporting an abstract idea, which is open-ended and constantly changing

in terms though a newly acquired understanding of what constitutes reality.

The review of studies by Ahenkorah-Marfo and Nkrumah (2012) provided a clear view of the ongoing challenges of operationally defining KM. The review further revealed the deeper significance of distinguishing the concept of information, from the concept of the nature of knowledge. This distinction is crucial to operationalizing a KM conceptualization in healthcare.

Chang-Albrites and Krugler: The Nature of Knowledge

Chang-Albrites and Krugler (2005) also suggested optimizing mechanisms for knowledge acquisition are inherently linked to a deeper understanding of the nature of knowledge itself. Chang-Albrites et al. further suggested the nature of knowledge can best be understood through examining the knowledge spiral concepts developed by Nonaka (1994). Chang-Albrites et al. noted they concur with Nonaka's hypothesis that it is tacit knowledge, not explicit knowledge that provides competitive advantage to organizations. The authors suggested it is the need to transfer tacit knowledge that is at the heart of the challenges of KM operations today.

Chang-Albrites and Krugler (2005) further suggested tacit knowledge transfer requires the organization to find the right balance between human-oriented KM and technology- oriented KM by developing a comprehensive organizational strategy to integrate personal knowledge into organizational knowledge. The authors also noted to transfer tacit knowledge it must be codified or transformed into an explicit format to reduce the gap between explicit and tacit organizational knowledge. Chang-Albrites and Krugler posited KM tools and processes are needed to facilitate this conversion.

Chang-Albrites and Krugler (2005) also cautioned the deployment of “knowledge contents have a finite life” in order to “ensure the relevance” and “handle the volume” (p. 7) of emerging knowledge. The authors posited to be relevant, new techniques should replace old ones, and lessons learned must supersede commonplace organizational knowledge. Chang-Albrites and Krugler noted embracing processes such as emergence and uniqueness requires a dynamic perspective and commitment within the organization. To provide a better understanding of the operational elements of knowledge management Chang-Albrites and Krugler provided a review of the KM tools and techniques found in a review of literature which was integrated into a KM system perspective:

Chang-Albrites and Krugler Review: KM System’s Perspective

Promote methodology. Proposed by Hinkelmann et al. (2002), this approach offers a phased introduction to KM that clearly identifies knowledge intensive tasks necessary for successful KM implementation including:

- Becoming aware of KM
- Discovering KM
- Becoming aware of enterprise knowledge
- Discovering knowledge processes
- Modeling knowledge processes
- Making knowledge processes and organizational modeling operational
- Evaluating enterprise knowledge

Business process oriented KM method. Proposed by Fraunhofer Institute for Production Systems and Design Technology (2003) the purpose of the process is to

integrate the actions of individuals with the support of information tools. The process included:

- The KM implementation model.
- KM audit.
- Oriented KM analysis of business processes and KM best practices organized in building blocks.

Ten-Step KM roadmap. Proposed by Amrit Tiwana (2000), presented a methodology map to develop a KM strategy in alignment with companion KM system support tools. The 10 steps of the process are integrated into four phases:

1. Infrastructure evaluation:

- Analysis of existing infrastructure to identify and correct critical gaps
- Align KM system platform to strategic plans

2. KM analysis, design, and development of system:

- Select KM architecture and component design
- Knowledge audit analysis (Strengths, Weaknesses, Opportunities, Threats)
- Team design for design, build, implement, and deploy
- Team design of blueprint for KM system
- Develop working KM system.

3. Deployment:

- Testing and deployment using results driven incremental technique
- Leadership implementation of reward structure to encourage employees to use system to manage change, culture, and reward systems

4. Metrics for evaluation of KM system:

- Selection of a set of metrics to evaluate and monitor KM processes and Return on Investment
- Chang-Albrites and Krugler Review: KM Culture

Chang-Albrites and Krugler (2005) also looked at the stages of development for an organizational KM culture utilizing the 1996 Quinn, Anderson, and Finkelstein model for the evolution of four phases of KM systems: organized into four phases: know what, know how, know why, and care why. Chang-Albrites and Krugler suggested organizations evolve through these phases as a balance emerges between the organizations technical capacity, personal expertise, and organizational culture.

- What the organization must know and what the organization actually knows
- What the organization knows versus what the organization does
- What the organization must do versus what the organization can do

Chang-Albrites and Krugler (2005) cautioned process gaps can develop in the absence of this alignment and concluded from their review of KM models a linkage must be forged between the organization's strategies and the organization's knowledge use. The authors posited KM must be conceptualized as a strategic business process to sustain the commitment and action needed to truly serve the organization. Current literature related to meeting organizational strategic objectives in a variety of industries continue to suggest KM systems may offer solutions, but also suggest it has remained difficult to implement these solutions due to an incomplete conceptualization of how knowledge is integrated into a systematic and operationalized practice model (Alavi, Kayworth, &

Leidner, 2006; Alipour, Idris, Ismail, Uli, & Karimi, 2011, Ferguson-Amores, Garcia-Rodriguez, & Ruiz-Narvarro, 2005; Steyn & Kahn, 2008). I explore implications of a systematic perspective for KM in Chapter 5 and discuss how my findings tentatively inform LTC organizations related to strategic tools and processes that may systematically enable strategic knowledge creation and sharing.

De Alvarengo Neto et al.: KM Conceptions and Practices

De Alvarenga Neto, Sousa, de Ramos Neves and Barbosa (2008) also suggested although many industries were attempting to integrate KM processes, the concept of KM had not yet stabilized or reached consensus in the literature. The terminology of KM has also continued to be interpreted differently across many domains of interest. The purpose of the study by de Alvarenga Neto et al. was to investigate and analyze KM processes implemented in a diverse array of world class organizations to discover these conceptions, motivations, practices, metrics, and results from many different industries.

De Alvarenga Neto et al. (2008) reviewed 20 case studies in the literature to develop a theoretical framework for their investigation. The resulting KM integrative conceptual mapping proposition framework drew from the work of Choo (1998), Davenport and Cronin (2000), Von Krogh, Ichijo, and Nonaka (2001), and de Alvarenga Neto (2005). Findings from the literature reviewed suggested the most prominent activities directed towards KM were knowledge creation, information management, competitive intelligence, intellectual capital management, and organizational learning.

The framework developed by de Alvarenga Neto et al. (2008) was tested in a longitudinal (2001-2007) qualitative multiple case study of three large organizations in

Brazil actively operating KM projects. De Alvarenga Neto et al. utilized semi structured interviews, documented research, and direct observation looking at three applications of KM strategies identified by Miles and Huberman (1984): data reduction, data displays, and conclusion drawing verification. Seventeen interviews produced 35 hours of tape recorded interviews and over 500 pages of transcripts noting several important aspects of KM implementation:

- Reasons and motives for KM initiatives
- Firm's definition of KM concepts
- Managerial approach and tolls for KM
- Results generated by KM activities

The results of the study by de Alvarenga Neto et al. suggested the reason and motives for embracing KM were:

- The firm's need to discover practices to minimize constant duplication of efforts
- Problems with data management
- Lack of strategic IM
- Recognize competitive advantage of information and KM
- Need to develop knowledge creation capabilities in the firm

Management approaches and tools noted to be significant included:

- Environmental scanning
- Competitive intelligence
- Market research
- Electronic document management

- Competencies and people management
- Organizational learning
- Intellectual capital management
- Communities of practice

Results of the KM initiatives noted discussed by the study participants included:

- Reduction of time for innovation cycle
- Faster time to market solutions
- Market share and portfolio increase
- Facilitation of expertise and people placement
- Increase in learning capacity
- Ability to anticipate competitor's actions and movements

De Alvarenga Neto et al. (2008) suggested the propositions and theoretical framework from their review of literature integrated strategic, tactical, and operational levels of organizations engaging in KM. The authors further suggested their findings supported Choo's (1998) strategic concept of sense making is operationalized by management tools and approaches. The authors further suggested to actually take strategy into action also requires recognition of Nonaka's (1998) ba to effectively "bridge the existing gap" (p. 250) to make the concept operational. The authors further suggested that for KM to be successful the organization must be committed to change and the need to address key human factors in the use of knowledge such as cultural and behavioral issues.

De Alvarenga Neto et al. (2008) suggested perhaps the concept of KM is "an oxymoron, or perhaps impossibility" (p. 255) to be reconciled in the literature. De

Alvarenga Neto et al. concluded their study with a call for more research concerning the implementation of a “knowledge-based organization model strategy” (p. 247) for KM implementation. Determining whether or not the term KM represents an oxymoron will require a deeper exploration of the concept. It is clear from the literature that like quality management, risk management, and education, the term KM refers to both a product and a process. One cannot determine the effectiveness of the product (the “what”) without analyzing the application and effectiveness of the processes (the “hows” and “whys”) from which it emanates. My current study attempts to clarify these elements by uncovering the hows and the whys of the process of KM in LTC. My examination of these elements discussed in Chapter 4 and 5 can potentially contribute to a better understanding about what KM potentially represents in LTC, and the hows and whys that restrain or facilitate a LTC knowledge-based organizational model for KM.

KM Enablers

Song, Woon, Yoon, and Jun Yoon (2011) took steps to identify core contextual factors that either facilitate or hinder knowledge creation in organizations. Due to the lack of conceptual clarity in the field the researchers chose to survey organizational leaders and human resource managers and utilized an inductive analysis to assign themes and codes. Song et al. suggested their interview techniques with key informants might better provide a methodology for clarification of the domain and dimensions of knowledge creation enablers and barriers.

Ahenkorah-Marfo and Nkrumah (2012) also attempted to clarify concepts related to knowledge and information, noting although literature on KM “abounds” (p. 1), there

is little consensus on the meaning of key constructs to support research and practice.

Ahenkorah-Marfo and Nkrumah suggested organizations must understand the need for strategies to protect valuable intellectual capital, prevent loss of key knowledge assets and recognize the urgency of finding a path forward through the field's lack of conceptual consensus to enable knowledge creation, sharing, and transfer.

A key contribution of the study by Ahenkorah-Marfo and Nkrumah (2012) was their recognition of a strategic focus for knowledge management through the retention of key knowledge sharing assets in organizations. A significant focus in my study was the identification of inhibitors and enablers for knowledge sharing capabilities through the perspectives of my participants. The organizational level of surveyed participants by Ahenkorah-Marfo and Nkrumah (exclusively represented knowledge managers in the organization and did not include front-line knowledge users) limited the study's applicability to the healthcare and LTC setting. I also utilized interviews to examine the process of knowledge management; however, my study methodology included all three levels of key informant diversity relevant to my study (knowledge creators, knowledge managers, and front-line knowledge users in LTC).

The preceding discussion of KM studies suggests one of the many areas of nuance in KM relates to the knowledge sharing culture and capacities of organizations.

Liebowitz and Chen (2004) suggested knowledge "is not always easy to share," and sometimes "it is inaccessible" (p. 410). The authors recommended to develop knowledge sharing capacities, organizations must develop and possess "knowledge sharing proficiencies" (Liebowitz, & Chen, 2004, p. 410). Liebowitz and Chen defined

knowledge sharing proficiency as “an attribute that allows the creation of knowledge to take place through an exchange of ideas, expressed verbally or in some codified way” (p. 410). The authors developed a questionnaire to assess the effectiveness of these knowledge sharing strategies and conducted a case study to examine the use of these strategies at two large federal agencies with very different results. Liebowitz and Chen concluded several attributes of effective knowledge sharing readiness (proficiency) are revealed in the interpersonal nature and needs of the process in specific organizations:

- Sharing will be rewarded
- Create an environment where people feel free to contribute
- Performance evaluations linked to knowledge generation, assessing, and transfer
- Relevant knowledge will be available to employees
- Facilitate collaboration
- Positive motivators for sharing knowledge with appropriate stakeholders
- Establish processes and tools to enable capture and sharing of knowledge (p. 411)

One of the organizations investigated by Liebowitz and Chen did not recognize KM as “a genuine process of improving and helping them complete tasks efficiently and effectively” prior to the study, while the other organization “fully recognized and supported the virtues of developing a knowledge management strategy and sharing culture for the organization” (Liebowitz & Chen, 2004, p. 422). The agency board of directors that was not previously utilizing knowledge sharing resources decided, after receiving the study results, to stick with prior “tangible” assessment processes and

continue to put “additional knowledge sharing interventions on hold” (Liebowitz & Chen, 2004, p. 423) rather than move towards implementation.

Culture and Technology in Knowledge Sharing

Although Liebowitz and Chen (2004) noted both organizations they studied were provided with a clear and compelling assessment of their organizational knowledge sharing culture, the authors lamented some governmental agencies insist on a status quo business environment, rather than attempt to facilitate a knowledge sharing culture that would potentially allow them to thrive. The seminal KM scholars, Davenport and Prusak (2000), also suggested successful KM processes such as knowledge sharing must be linked to organizational culture, organizational behaviors, and the physical business environment. From the perspective of Davenport and Prusak, KM strategies work best with an alignment focused on organizational learning approaches, including:

- Thinking about the organization as a system
- Building and facilitating communities of learning and practice
- Focusing on personal development and mastery
- Creating a more self-organizing, less hierarchical organization structures
- Utilizing scenarios to facilitate planning (p. 169)

Dalkir (2005) also suggested it is critical that knowledge sharing be enabled by “norms of trust, reciprocity, and cooperation” (p. 122) in organizations. From Dalkir’s perspective, KM technology represents an enabler of these conditions, not competition with them. Dalkir suggested technologies offer opportunities for interacting with knowledge sharing communities, but cautioned technology itself is “not a necessary

component of communities” (p. 122). Consistent with this perspective, Dalkir suggested the social and cultural context in which knowledge is shared differentiates the content management of KM from a simple document management process.

Dalkir (2005) suggested a social network analysis process adapted from Krebs (2000) could be helpful to assess organizational readiness to share knowledge by (a) mapping the flow of knowledge, (b) identifying individuals who seek and share information and knowledge, and (c) chart flow processes to visualize and identify relationships. Dalkir suggested social networks in organizations may actually increase productivity “by reducing the costs of doing business” by enabling the coordination and cooperation needed for “members to evaluate content, solve problems, and make decisions based on vetted, validated, and current knowledge” (p. 135) they may already have. Dalkir noted, “Knowledge workers typically spend a third of their time looking for information and helping their colleagues do the same” (p. 111) in organizations.

The KM Roadmap

Alstete (2012) suggested although there has been much published related to KM literature in the last two decades, the field continues to lack a consensus theoretical structure and an abundance of concepts in the literature has inadvertently created an overwhelming conceptual and operational obstacle for individuals, work teams, and organizations. Alstete conducted a case study to identify the strategic and operational trials faced by organizations seeking to implement a KM roadmap system. The Tiwana (2002) KM roadmap provided the theoretical framework for Alstete’s (2012) study. Alstete’s study examined multiple case studies related to developing and establishing KM

programs from a convenience sampling located in the New York metropolitan area ranked on the *Fortune* 500 list in 2012. One site was involved in the power business, and one was in construction products. Managers at both companies were asked to use the Tiwana 10-step roadmap to plan a KM system for their company.

Alstete (2012) recorded observations from direct and indirect communications from company employees related to their experiences and observations during the process. Both organizations began the roadmap process by analyzing past data patterns for making decisions, making investments in technology, and aligning these activities with their overall strategic planning. Challenges began to emerge in later stages when the need to align change, culture, and reward systems needed to be adopted.

In one of Alstete's (2012) cases the key KM leader related to the benefits of the process. To facilitate implementing change, culture, and reward systems the organization brought in a chief knowledge officer to move the process forward. The project was successful and benefits were recognized by the company overall. The second company involved in the study had the advantage of already engaging in innovation of products and techniques allowing them to gain competitive advantage through their efforts to develop a full KM roadmap. As challenges were identified they acted quickly to facilitate the necessary change and investment, including an initiative to enable knowledge sharing across departments and functions. Alstete noted that although the organizations investigated had a clear vision of what KM does and how it can benefit the industry, "Strategic and operational challenges to effective implementation of knowledge management practices" (p. 5) still existed

Alstete (2012) suggested these KM operational challenges were similar to those often noted in other management policies and procedures, such as total quality management. Alstete suggested “human elements need to be considered for a more balanced approach of effective knowledge creation, codification and dissemination within the organization,” noting “for KM implementation to be effective practical tools must be available” (p. 1) for those who need them. Alstete further suggested the balanced scorecard approach “should be considered for usage when strategically and operationally planning a full- scale knowledge management endeavors” (Alstete, 2012, p. 10) to address these operational challenges.

In Chapter 4 I examine the insights and concerns offered by my study participants related to the impact of human elements and the availability of enabling tools for KM in LTC. Considerations related to the influence of organizational culture on these KM processes and enablers are addressed in my Chapter 4 findings. Practice recommendations ground in my participant data are then discussed in Chapter 5.

KM Culture in Healthcare

Alavi et al. (2006) investigated the influence of organizational culture on KM practices in healthcare and examined potential cultural barriers to KM effectiveness in healthcare organizations. The authors noted although many studies raise concerns regarding the impact of culture on the effectiveness of KM, few investigate how the influence of culture manifests itself. The case study conducted by Alavi et al. attempted to build on prior research by exploring the relationship between organizational culture, KM technology, KM outcomes, and KM practices in healthcare.

Alavi et al. (2006) noted, “KM processes are heavily influenced by social settings in which they are embedded and are subject to various interpretations based upon organizational norms and social interactions among individuals” (p. 193). The authors further noted a key element in this social context is organizational culture. Alavi et al. conceptualized organizational culture through the construct of organizational values, noting values are actually manifestations of underlying assumptions that have been utilized as a conceptual construct for studying culture in many prior studies.

Alavi et al. (2006) concluded their findings suggested organizational culture has a complex relationship with KM processes and practices. The authors noted organizational culture, influences knowledge sharing behaviors, knowledge seeking behaviors, the selection and appropriate use of technology enablers, organizational evolution and maturity of KM, the migration of knowledge within the organization, the role of KM leaders, and the expected outcomes from KM use. Alavi et al.’s findings further suggested individual and organizational values shape local values within the organizations over time to mediate the effectiveness of KM.

KM in Healthcare

Dalkir (2005) suggested to truly serve the organization’s strategic objectives, organizational KM systems must be structured to allow the organization to acquire and process knowledge by facilitating “person to person knowledge transfers” (p. 26) so knowledge assets can become a part of the organization’s corporate knowledge arsenal. Many healthcare facilities are struggling today to meet these expectations.

Chen (2013) looked at these challenges for KM in healthcare and suggested there is not only the need for clinical information and knowledge in healthcare today, but a concurrent demand for healthcare practitioners to meet other needs. These include areas such as risk management where information and knowledge sharing in facilities, including LTC facilities, are impeded by a growing body of unstructured data and unshared knowledge. In order to meet growing demands in healthcare Chen suggested “it is predictable they must adopt knowledge management” (p. 634) in order to better leverage knowledge based solutions.

Chen (2013) outlined specific issues to be addressed in healthcare arenas including provider knowledge, patient knowledge, and organizational knowledge. Chen suggested in recent years efforts have been made in the industry to develop information systems, particularly in large hospital systems. Chen noted these systems represent large repositories for data such as lab results, clinical data, and health claims information, responding to the industry need to reduce healthcare costs. Chen concluded despite numerous efforts in healthcare a fully functioning KM implementation still faces many barriers to success for knowledge sharing.

Chen (2013) posited barriers to KM in healthcare may be related in part to the reluctance of practitioner with a long history of independently substantiating their individual clinical decision making to look to other sources. Chen also noted in spite of the information overload within these historical healthcare operations, many hurdles still exist to accepting IT based solutions for healthcare KM. My study findings in Chapter 4 examine the impact of information overload, technology and self- reliance.

In contrast to focus on technology reliance as a barrier to KM implementation, Nicolini, Powell, and Martinez-Solano (2008) suggested the healthcare industry's reservations for KM are related to the strategic implementation of KM, not technology barriers. Nicolini et al. suggested despite the wave of interest in KM in other industries and the "sizeable body of literature" (p. 245) that already exists related to KM, the healthcare industry has not focused on KM as an organizational strategy. Nicolini et al. also noted KM literature does not usually "fall within the interest of management scholars and specialist in this sector" (p. 245) and has therefore remained largely unnoticed.

Nicolini et al. (2008) further suggested the debate over KM in healthcare is related to the nature of knowledge in healthcare, the consequences for healthcare managers, and the benefits and consequences of implementing KM tools. Related to the nature of knowledge in healthcare, Nicolini et al. observed the abundance and proliferation of knowledge in healthcare can be overwhelming. The authors also suggested some of the hesitation to embrace KM in healthcare may be purposeful and potentially related to boundaries (social, cognitive, or epistemological) "between and within the professions," in healthcare that may "retard the spread of innovation" (Nicolini et al., 2008, p. 248) and inhibit the sharing of knowledge. The authors further suggested these process boundaries between disciplines may be responsible for the current focus in healthcare on knowledge translation to facilitate exchange and synthesis of knowledge across these limitations. Nicolini et al. (2008) further noted the concept of KM for graduating nurses seemingly represents "the set of practices is foreign" (p. 253), further

preventing the dissemination of knowledge in the industry. The study by Nicolini et al. also provided insights related to enablers and inhibitors of KM in healthcare identified from their review of literature. Nicolini et al. suggested important enablers related to leadership, culture, human resource management practices, and infrastructure include:

- Culture must be empowering
- Leadership must be fully on board
- KM must be integrated into business strategies
- Critical mass of knowledge with a well-structured ontology
- Well-developed content and processes
- Patient centered, problem oriented systems

Nicolini et al. suggested inhibitors and barriers to effective KM in healthcare include:

- Absence of KM strategy
- The lack of an appropriate culture
- Mistrust in computerized data and poor IT infrastructure
- Lack of time to share knowledge
- Boundaries of professional divisions
- Highly institutionalized professional relationships
- Clinical-managerial conflict
- Culture that is not forthcoming or reflective about reflection on errors

Nicolini et al. (2008) concluded although interest and theoretical discussion related to KM in healthcare may be on the rise, actual contributing results remain scarce.

The authors cautioned KM policies in healthcare need to be “tailored to the inherent

professional and local nature of knowing in the healthcare sector” and “reconciled with the specific nature of processes” (p. 260) within the context it is designed to address. The considerations offered by Nicolini et al. to examine the local nature of knowing in the search for results were theoretically and operationally examined in the research questions posed in my study. My study participants included a diverse selection of disciplines in LTC. My findings in Chapter 4 reveal my participant views and perspectives related the situational processes elements that enhance or inhibit multidisciplinary performance improvement capabilities through KM. strategies. Chapter 4 also examines the local nature of knowledge translation, exchange, and synthesis in my study through the interdisciplinary perspectives and experiences of my study participants.

Weston (2009) also cautioned future healthcare models need to integrate processes that are significant to the users of knowledge in healthcare, such as knowledge translation, innovation, and organizational improvement initiatives to meet their operational strategic objectives. Weston further noted more research is needed to demonstrate how healthcare organizations capture corporate memories and share lessons learned related to successful innovations, practice improvements, and staff retention support initiatives. Much of the seminal and current conceptual and theoretical investigation related to KM emanates from literature reviews or organizational level studies outside of the healthcare arena .(Liebowitz & Chen, 2004, Alavi et al. (2006), de Alvarenga Neto et al. (2008), Alstete (2012).

Knowing-to-Doing Gap in Healthcare

In the current study I explore the current state of knowledge translation and innovation in LTC through the perspectives and lived experiences of front-line knowledge workers in healthcare. In spite of the interest in the healthcare industry to capitalize on KM to meet their strategic objectives, Cochrane et al. (2007) suggested there is a significant gap between what healthcare practitioners know and what they do in everyday practice. Current scholarship discussed in this Chapter related to improving performance and meeting organizational strategic objectives in a variety of industries suggest KM systems may offer solution but there remains a lack of a consensus construct to guide implementation (Alavi et al., 2006; Alipour et al., 2011; Ferguson-Amores et al., 2005; Steyn & Kahn, 2008, Chen (2013), Nicolini et al. (2008), Weston (2009), Ahenkorah-Marfo and Nkrumah (2012).

Potential solutions for KM effectiveness investigated in this chapter review have proven consistently difficult to implement due to an incomplete conceptualization of how knowledge is integrated into a systematic and operationalized KM practice model in healthcare. My study attempts to tentatively fill this gap in the literature by revealing, through the perspectives of the study participants, how knowledge in LTC can be integrated into a systematic and operational KM practice model that is relevant to LTC. Chapter 4 discusses the emergence of a conceptual systematic process gleaned through participant insights and my data analysis.

KM and Quality Management

Key element noted in the review of topical literature in this chapter are related to organizational context, culture, and value systems for knowledge sharing. Culture and values have long been recognized as significant mediators of performance improvement capabilities in healthcare as well acting as a stimulator or inhibitor of clinical action and performance improvement initiatives. Wiig et al.'s (1997) KM model previously reviewed in this chapter provided a conceptual overview related to a strategic and operational perspective of KM. The *review, conceptualize, reflect, and act* phases of the Wiig et al.'s model are reminiscent of Deming's (1986) *plan-do-check-act* model for organizational quality management and performance improvement. This conceptual alignment potentially strengthens operational links between KM and performance improvement processes. I examine these potential links and alignments in Chapter 5 to better understand how KM and performance improvement strategies either exist as conceptual silos in healthcare or potentially complement and enhance each other to improve performance capabilities.

Performance Improvement Capabilities

The recent studies reviewed in the preceding review of literature addressed the thinking of several seminal and current KM scholars and discussed the potential impact of KM on organizational strategic objectives and identified potential organizational barriers to improving performance capabilities. The sensitizing review of literature in this Chapter brought to the forefront many of challenges in consensus building and

operationalizing KM programs in healthcare. A continuum of scholar-practitioners has also brought the concept of performance improvement capabilities to the forefront.

Best and Neuhauser (2006) suggested the birth of quality and performance management occurred in Hawthorne, Illinois, in 1918 when Walter Shewhart began working in a Western Electric plant concurrently with Joseph Juran and met W. Edwards Deming. Shewhart was attributed by Best and Neuhauser with influencing the development of quality control charts and the concepts underlying the plan-do-check-act cycle made famous by Deming. Shewhart looked at the causes of variation in the production of processes through a lens of causes that were assignable, and causes that were related to chance, in order to develop a statistical method to identify and address the underlying (or root causes) of variations to improve quality control.

Moen and Norman (2009) also examined the evolution of quality and performance management thinking from Shewhart, Juran, and Deming. The authors noted the foundation for Deming's (1986) well known plan-do-check-act (PDCA) cycle can actually be traced back to Shewhart's 1939 published work related to specification, production, and inspection. Deming then contributed the importance of a continuum of interaction involving design, production, sales, and research devoted to constant improvement of quality. The authors further noted Deming revised the PDCA cycle again in 1986, referring to it as the Shewhart plan-do-study-act (PDSA) cycle for learning and improvement and describing it as a flow diagram for learning. Deming also changed the "C" (check) to "S" (study) to better reflect the nature of the process.

Best and Neuhauser (2005) suggested Deming's (1986) philosophy of quality is best summarized in Deming's 4-point *system of profound knowledge*:

- Understanding variation
- A theory of knowledge
- Understanding psychology and human behavior
- Appreciation for a system

Best and Neuhauser (2005) further stated Deming (1993) cautioned organizations were being ruined by best efforts that were not well informed. Employees were attempting to work very hard, but in spite of their education and hard work, they were being discouraged and defeated by the broken systems in which they had to operate. From Deming's perspective, "Best efforts will not substitute for knowledge" (as cited in Best & Neuhauser, 2006, p. 311) to improve performance. Deming (1993) offered quality driven principles and practices to enable stronger system resources to support best efforts in a conceptual theory of a *system of profound knowledge*

Transition from Quality Control to Performance Improvement

Best and Neuhauser (2005) noted Juran, an electrical engineer who worked with Shewhart in 1924, also made a major contribution to quality management by suggesting there were three constants necessary within the attempts to improve quality in organizations. These constants—quality planning, quality control, and quality improvement—focused on proactively addressing the source of defects before they happen rather than reactively responding to emerging concerns.

Juran (1978) cautioned that U.S. businesses focused on a paper trail of procedure manuals and audits. In contrast, the Japanese instituted process validation procedures to quantify process capabilities and process controls, training to remediate defects, and an approach of teamwork, rather than adversarial relationships. A key element in the Japanese system was the massive training conducted throughout the Japanese system “which started at top management” (p. 43) and a philosophy of cooperation and consensus within the manufacturing organization.

Juran (1978), just as Deming had done, cautioned western industries to reflect on lessons learned and move towards a comprehensive, or total quality perspective on organizational performance improvement. Over the decades Juran, Deming, and their followers evolved the PDSA work of Shewhart into a conception of quality that has eventually transitioned western quality management initiatives from quality assurance and control, through a total quality control conception and towards a total quality management conception which integrates the significant role and responsibility of organizational leaders.

KM and Performance Improvement

Fugate, Stank and Mentzer (2009) empirically examined the impact of KM processes on organizational performance and operational improvement. The authors collected data from managerial respondents on logistics operations. Results of the study suggested a link between operational performance, KM processes, and firm financial measures. Respondents represented personnel working in both inbound and outbound linguistic operations. The authors suggested findings also revealed a relationship between

a shared interpretation of knowledge flows facilitated by boundary spanning activities of inbound and outbound logistical functions within the organization. Fugate et al. concluded a shared interpretation of knowledge is “vital to quickly responding to the business environment in a unified manner” (Fugate et al., 2009, p. 258) and offered several practice recommendations:

- Effective business decision necessitates a shared interpretation of information.
- Knowledge must not only be shared, but understood to be implemented.
- A simple transfer of information is not sufficient for an effective response.
- Diversity of opinion creates learning and increases a repertoire of responses.
- Facilitating information flow from all respondents aids decision making.
- Challenging the opinions of others can effectively create value for customers.
- To resolve divergent opinions effectively and efficiently plan to do so.
- Participation in knowledge processing behaviors such as capturing and scrutinizing information to generate useful knowledge.

Fugate et al. (2009) also concluded synchronized logistics operations support participation in knowledge processing behaviors and lead to positive benefits in operational and organizational performance. Fugate et al.’s review highlighted the interplay of genuine communication (sending, receiving, analysis, and feedback) on KM effectiveness through a shared interpretation of knowledge elements. The review demonstrated that a shared interpretation potentially mediates the relationship between knowledge dissemination and knowledge responsiveness. Fugate et al.’s integrates the

human and cultural factors in processing knowledge to improve performance capabilities by linking knowledge sharing to quality improvement.

Akdere (2009) also introduced a conceptual link between KM and organizational quality management practices and suggested the problem is “knowledge management and quality management are viewed as unrelated fields and their interaction has not been fully explored” (p. 349). Akdere explored the relationship between KM and quality management and evaluated the role of KM in “enhancing organizational capacity and capability” (p. 349) as well as “present an applied perspective of knowledge management within quality management practice” (p. 350). The study utilized a critical analysis through the perspective of the Malcolm Baldrige Award criteria for quality improvement to evaluate the appropriate integration of quality and KM.

Akdere (2009) posited “Without knowledge sharing . . . quality management cannot exist” (p. 350) in the organization. Akdere further suggested within a quality management framework, KM refers to the process of data collection, information sharing, and knowledge creation” (p. 350). Flynn, Schroeder, and Sakakibara, (as cited in Akdere, 2009) provided a definition of KM that integrates of quality management and KM as:

an integrated approach to achieving and sustaining high quality output, focusing on the maintenance and continuous improvement of processes and defect prevention at all levels and in all functions of the organization, in order to meet or exceed customer expectations. (p. 351)

Akdere (2009) operationally defined quality management as “a holistic process of conformance to standards at all business levels to eliminate errors and mistakes to meet

required expectation” (p. 351). Adkere suggested “optimizing scarce resources” (p. 352) through the integration of quality management and KM. Adkere noted the Malcolm Baldrige National Quality Awards, established in 1995, use a combination of quality management approaches to respond to the multidimensional processes and challenges involved. The criteria for the award “heavily depends “(p. 354) on KM processes.

KM and Lessons Learned

Liebowitz (2002) suggested that NASA consistently implements KM processes as core strategic and operational tools and use lessons learned to improve the organization’s performance capabilities. Liebowitz identified several priority areas of KM that are fundamental for meeting NASA’s strategic and operational performance capabilities:

- KM processes identify and capture the information and knowledge to support NASA’s missions across the agency.
- KM processes help to efficiently manage the agency's knowledge resources.

Like healthcare facilities, the knowledge needs addressed at NASA involve life-saving as well as operational considerations. To increase and facilitate critical knowledge creation and sharing NASA developed techniques and tools to enable collaboration and reduce barriers of time and space that limit team effectiveness. To facilitate these objectives for sharing knowledge and ensuring mission success, NASA developed a Lessons Learned Information System strategic process improvement tool encompassing the insights and lessons learned after four decades of aeronautics and space leadership.

KM Infrastructure and Performance Capabilities

Alsadham, Zairi and Keoy (2008) suggested although KM was emerging as an important concept in performance management, there is little research or field data to guide the successful development and implementation of KM systems due to an absence of unifying theories on what constituted critical success factors for influencing successful KM implementation. The purpose of the quantitative study by Alsadham et al. was to attempt to fill the gap in the literature by investigating critical success factors (CSFs) of KM implementation in organizations and propose a best practice model. Alsadham et al. suggested effective leverage of knowledge assets improves performance and the authors proposed several potential CSFs for KM. Alsadham et al. defined critical success factors for KM as “activities and practices that should be addressed in order to ensure its successful implementation” of KM strategies. (Alsadham et al., 2008, p. 809).

The study by Alsadham et al. (2008) was an exploratory analysis using from different worldwide sectors and types of organizations that have, or are planning to implement KM projects. Statistical analyses 333 questionnaires mailed to sample organizations across the world revealed several factors contributing to the success of KM efforts. The questionnaires were closed ended with factors generated from a wide review of relevant literature. Ninety-six organizations responded from across various countries and industry sectors. Four questionnaires were unusable. The authors noted this response rate was comparable with other KM studies. Only a small portion of respondents were healthcare organizations. One limitation of the study was the questionnaires reflected only an organizational level of inquiry (only one questionnaire was sent to each

organization). Another limitation was narrowing down the scope of investigation to primarily managers of knowledge (a majority of the respondents were managers of KM processes) rather than looking at the process from a broader perspective that included the creators and users of knowledge in the organization.

Alsadham et al. (2008) concluded CSFs were relevant to KM successful implementation. The researchers provided a taxonomy of CSFs in KM to guide future research efforts, including:

- Top management competence
- Championship and evangelization
- Culture
- Organizational infrastructure
- Human resource management
- Focus on continuous improvement
- KM processes
- Content and structure
- Technical infrastructure

Alsadham et al. (2008) further concluded leadership support and an organizational infrastructure to perform knowledge oriented performance tasks also reflect CSFs for KM. The authors also noted due to the interdisciplinary perspectives and purposes of KM there are too many definitions of KM to guide processes. Alsadham et al. suggested this is in part due to the wide range of disciplines and interests immersed in the study from the fields of “psychology, philosophy and epistemology, economics, management science

strategy and sociology” (p. 808). The authors posited the “intangible nature of knowledge” and the “subjective and eclectic nature of the management field, in which KM belongs, compounds the difficulty” (Alsadham et al., 2008, p. 808) for successful implementation.

Quality Management in Healthcare

Adler et al. (2003) looked at the impact of performance improvement strategies in a hospital setting. The authors noted although the industry spends billions of dollars on training programs and leadership seminars, many healthcare organizations still find it difficult to translate what is learned to capitalize on their new knowledge and actually improve performance. The authors suggested the failure of these initiatives to meet expectations, as well as the persistent problems of innovation, knowledge generation, knowledge diffusion, and KM implementation requires the healthcare industry to look towards the key characteristics of performance improvement to better understand how leveraging knowledge can provide solutions. The mixed methods case study included seven pediatric hospitals over a 1-year period of time. The researchers conducted interviews with senior medical and hospital staff. Doctoral students assisted the researchers by conducting ethnographic studies of various improvement projects. A survey was distributed to cross-sections of hospital managers and physicians. Survey elements were not provided; however, the implied hypothesis was performance improvement capabilities in hospitals depend upon successful KM interventions.

Adler et al. (2003) suggested their findings revealed superior performance improvement capabilities reduce knowledge diffusion barriers by providing pathways to

standardize care. The authors further identified five key components of performance improvement capabilities:

- Skills: technical, business and social
- Systems: performance measurement, communication, information, and Human Resource Development
- Structures: PI staff groups and PI project structures
- Strategies: priorities and processes
- Culture: norms, values, and identities

Adler et al. (2003) further noted core skill components of performance improvement capabilities were undermined by external pressures on hospital budgets, including control of the budgeting system by outside entities of a larger system. The authors suggested a longer range view of performance improvement capabilities lead some organizations to provide basic training in PI skills across a wider segment of the organizations, facilitating PI theory integration with medical education. Adler et al. (2003) suggested performance improvement requires strong organizational systems. Information systems infrastructure was noted to be a key element. All but one of the hospitals in the study were undermined operationally by an inadequate information systems capacity.

Adler et al. (2003) further suggested communication systems often failed to enable sufficient communication capacities both downward and laterally and few opportunities were scheduled for dialogue to proactively enable communications. Adler et al. also noted specialized performance improvement staff, standing committees, and

project teams can enhance the success of performance improvement capabilities, and encourage the development of the new skills, systems, and structures to move the organization's efforts forward. The authors identified several challenges in healthcare to be addressed in adopting these perspectives:

- Need to reduce costs to meet demands from payers
- Need to increase quality to meet demands from patients and regulators
- Need to optimize care (shorter stays, fewer tests, less expensive treatments).
- Need to maintain physician loyalty
- Need to offer up to date technologies and techniques
- Need to continue high rates of innovation in core clinical areas
- Need to address diffusion challenges

Adler et al.'s (2003) study sample was limited to managers and physicians. It was further limited by the absence of key healthcare knowledge users and did not include nurses, certified nursing assistants (CNAs), and other essential personnel in healthcare knowledge diffusion. My study results examine the importance of a priori input from front-line knowledge users in LTC. My findings also explore the relevance of concepts such as innovation, knowledge diffusion, and enabling technologies and investigate their relationship to performance improvement and KM architecture.

Rangachari (2008) further explored the relationship between organizational knowledge sharing and the hospital performance capability through the paradigm of coding for quality measurement. A comparative research design utilized survey data collected from three hospital subgroups and analyzed utilizing a block model analysis for

output related to social network analysis. Rangachari demonstrated effective coding performance was systematically linked to the organizations knowledge sharing capacity, noting a barrier to performance found in the study was the lack of formal authority allocated for quality analysts to implementing necessary change in practices to improve quality. Rangachari noted a challenge was that organizational coding systems were designed for billing and not quality. Billing capacity, while important to organization sustainability, does not provide a focus to improve patient safety or clinical capabilities.

Translating Knowing to Doing Best Practices in Healthcare

Bliss-Holtz (2009) also suggested healthcare knowledge translation models often suffer from a lack of clarity and focus to link knowledge use to clinical best-practice. Bliss-Holtz suggested healthcare best practice advocates do not “always clearly articulate the relationships among evidence-based practice, quality assurance, and performance improvement” (p. 117) which impedes evidence-based practices. The authors suggested a comprehensive and systematic model of knowledge transformation would be a great starting point to move knowing to doing through a focus on clinical best practice applications that are pivotal to translating knowing to doing in the real world.

Summary

The review of the preceding seminal perspectives and current literature on the evolution of thought in KM has contributed much to the goal of providing me with theoretical sensitivity regarding the evolution of KM and insights related to many of the salient problems and relevant concepts that challenge LTC knowledge clients in their attempts to close knowing to doing gaps in healthcare. In spite of Drucker’s (1995)

caution that knowledge is crucial to the strategic survival of organizations in the knowledge economy, it is clear from my review of literature in this Chapter that much knowledge in organizations continues to go unutilized.

Consistent with Drucker's (1995) concerns much knowledge in LTC may continue to lie at waste and may not be translated from knowing to doing due to the lack of a conceptually accessible and operational model for KM in healthcare. From the perspectives gleaned through my review of sensitizing literature this lack of use of knowledge to improve performance may be largely due to the lack of a consensus conceptualization, methodology, discipline, process model, or conceptual KM theory for LTC.

Corbin and Strauss (2008) suggested a preliminary review of literature in grounded theory would allow researchers to gain significant insights into "salient problems" and "relevant concepts" (p. 35) to "enhance sensitivity to subtle nuances in data" (p. 37) obtained from participants. The seminal and current scholarship reviewed in Chapter 2 has highlighted the lack of a consensus conceptual theory of KM and decision-making across a diverse field of industries, including healthcare. Although many KM scholars reviewed in this Chapter suggested organizations that leverage KM wisdom become more responsive and innovative, the review of literature demonstrated a lack of consensus for concepts and constructs that can support a theoretical KM framework.

Significant insights from many of the seminal and current scholars reviewed in Chapter 2 also suggested it was crucial for organizations to differentiate between data, information, and knowledge in their KM operations. Chapter 2 also review also revealed

too many definitions of knowledge creation and use for KM in the literature still define these concepts solely in terms of information or data management and fail to integrate these elements seamlessly with knowledge creation or a comprehensive practice model of KM. The Chapter 2 review further reveals this continued gap in the knowledge about knowledge and KM continues to lead to an abundance of knowledge; and the scarcity of effective applications for KM interventions; that Dalkir (2005) suggested.

Chapter 2 provided a discussion of the sensitizing topical literature reviewed in this grounded theory study that guided the development of my initial open ended initial research questions. The review of literature also introduced initial concepts relevant to the study noted in the review of literature: KM, KM strategies in LTC, performance improvement, and performance improvement capabilities in LTC. The Chapter 2 sensitizing review of literature also provided me with a clear understanding that scholarship on KM has not yet produced a conceptual clarity or consensus theory of how KM can be used to improve performance capabilities in LTC.

The Chapter 2 review revealed the focus of much of the scholarship and research in KM has been at the organizational rather than an individual level related to knowledge creation and use. A call for research was also noted in the literature. My study, focused empirically on first hand participant data, provided me with an opportunity to examine these issues from the individual, rather than the organizational perspective on KM.

A grounded theory topical review of literature, from the perspective of Ravitch and Riggan (2012) “concerns itself with concepts or constructs as they are thought to exist” (p. 17), rather than a theoretical framework constructed from extant literature that

informs the study's whys and hows, and does not provide a platform for theory testing. The sensitizing review of literature reviewed in Chapter 2 provided me with the theoretical sensitivity to identify many of the what concepts and constructs my study investigated. The hows and the whys for conceptualizing in the current study came from my participant responses to my initial research questions.

Sousa and Hendriks (2006) further noted the adoption of a grounded theory approach to study is "especially useful" (p. 315) when there is a lack of theoretical guidance, the need to utilize the experience and viewpoints of those within the endeavor to form the basis of relevant theory development, and the relative conceptual obscurity of concepts central to the phenomenon, such as "knowledge" and "management" (p. 315). In the current study grounded theory study participant responses, not extant literature were the empirical data used for theorizing. The final concepts and constructs for my study earned their way into my analysis through emergence.

My process of emergence is documented through my rigorous grounded theory discussed in Chapter 3, including the evolution of my final research questions for the study. My findings in responses to these research questions will be discussed in Chapter 4 through the analysis of my participant data. Chapter 5 then examines the implications of my findings for LTC emanating from my grounded theory, including the impact of Deming's system of profound knowledge on KM in LTC.

Chapter 3 includes an overview of the grounded theory research methodology I used to capture the complexity and ambiguity of the research questions inspired by the sensitizing literature. In Chapter 3, I also review the methodological considerations I

employed to address my researcher biases and assumptions, my rationale for the research design, and the strengths and limitations of a grounded theory approach to inquiry I addressed in the study design. Chapter 3 will also include a discussion of the ethical considerations I made to rigorously adhere to key tenets of grounded theory throughout the development of a substantive conceptual theory of how LTC facilities use KM to improve organizational performance capabilities explored through the individual a priori views of individual study participants.

Chapter 3: Research Methods

Chapter 3 includes an overview of the grounded theory research methodology I used to capture the complexity and ambiguity of the research questions posed by my sensitizing literature review. In Chapter 3, I outline the study's initial and emergent research questions, central concepts investigated, sampling procedures, methodology processes and procedures, and the theoretical rationale for the selection of a grounded theory approach to inquiry.

In Chapter 3, I also review the methodological considerations I employed to address my researcher biases and assumptions, my rationale for the research design, and the strengths and limitations of a grounded theory approach to inquiry I addressed in the study design. Chapter 3 also includes a discussion of the ethical considerations I made to rigorously adhere to key tenets of grounded theory throughout the development of a substantive conceptual theory of how LTC facilities use KM to improve organizational performance capabilities explored through the individual a priori views of individual study participants. Chapter 3 will also provide an overview of the ethical considerations in the study to meet the Institutional Review Board (IRB) requirements. In Chapter 3, I also provide an overview of the study provisions integrated to ensure quality, trustworthiness and rigor in the current grounded theory study.

The purpose of this grounded theory study was to seek a substantive, conceptual theory to explain how the process of KM is used to improve organizational performance capabilities in LTC. The overall goal of the study was to develop a theory to facilitate

closing the knowing-to-doing gap in LTC grounded in the empirical data obtained through the perspectives and lived experiences of the study participants.

Study Research Design and Rationale

The grounded theory approach that I used in my study included concurrent data collection and analysis, coding processes, conceptual category development, and theorizing of empirical data through constant comparison processes that explore and conceptually analyze data grounded in the a priori contributions of the study participants. My emergent analytical processes of constructivist grounded theory included the use of techniques for conceptualization through theoretical sampling, coding, sorting, memo writing, journaling, constant comparison and seeking saturation and theorizing.

Research Questions

In the current study, participant responses were the empirical data that I used for theorizing and the driver for the most crucial research questions that emerged through my study's data collection and analysis. Consistent with these methodological considerations, the research questions and sub questions in this grounded theory study began with open-ended questions designed to elicit this participant feedback. My central question asked:

What conceptual theory explains how the process of knowledge management is used to improve organizational performance capabilities in long-term care?

Research Question 1: What individual and organizational processes explain the utilization of knowledge management to improve performance capabilities in long-term care?

Research Question 2: What factors within these processes enhance or inhibit the effectiveness of these initiatives?

Two additional crucial questions emanating from my participant data were explored in the study as additional data. This process included a second review of literature triggered by theoretical emergence related to participant responses. During my analytical process I developed in researcher memos and ultimately integrated the concepts generated in my analysis into the conceptual theory. The additional research questions that trigger the integration emerged during my concurrent data collection and analysis through data provided by my participants. This data analysis drove the generation of related codes, categories, and conceptual analysis. Findings related to these questions are discussed in Chapter 4, revealing theoretical emergence of these insights.

Research Question 3: What is the nature of knowledge as it relates to knowledge creation and knowledge management utilization in long-term care?

Research Question 4: What is the relationship of the emerging theory to Deming's (1993) theory of profound knowledge?

Research Tradition and Rationale for Choice of Tradition

Alsadham et al. (2008) suggested a more nuanced form of inquiry is needed to investigate the intangible, subjective, and eclectic nature of many research problems to provide a deeper understanding of the views, meanings, and lived experiences of the individuals, a variety of individuals, or to test an extant theory. In the current study, I did not seek to test extant theory. I sought to uncover the nuanced and implicit knowledge, meanings, and experiential views of my study participants related to how their

organizations use KM. to improve organizational performance capabilities. I also hoped to learn through their perspectives what enhances or inhibits the use of KM in LTC.

Sousa and Hendriks (2006) suggested research about knowledge lends itself well to a grounded theory approach because the “socially constructed nature of knowledge work” (p. 316) significantly limits the relevance of statistical hypothesis testing quantitative study. Findings from the current study validated the use of grounded theory as an effective tool to uncover the socially constructed nature of knowledge for knowledge clients in LTC and led to new insights related to the nature of knowledge in healthcare.

Other qualitative approaches were also considered, including ethnography and case study. Although ethnography and grounded theory approaches both emphasize the importance of firsthand empirical data, the objectives of grounded theory differ from the objectives of ethnography. Ethnography seeks to describe and interpret themes and patterns of culture within the groups investigated. In contrast, grounded theory seeks to provide a deeper understanding of the process investigated through the generation of a substantive conceptual theory by exploring the relationship between key concepts and the emergence of ideas shared by participants

The overall objective of a case study is to provide an understanding of the case through a rich, thick description that reveals the lessons learned related to a construct through the in-depth analysis within the bounds of the system investigated. Grounded theory seeks an in-depth understanding of a process, not a bounded system, through the inductive and abductive processes of collecting data and analyzing data to generate a

hypothesis and ultimately constructing a substantive conceptual theory through an iterative conceptual analysis that included the integration and extension of additional theoretically sampled data and concepts within my analysis.

Role of the Researcher in the Study

In this constructivist, interpretive, grounded theory study, my role as a researcher was that of an observer-participant. Throughout the study, I functioned as sole instrument for the collection, analysis, and interpretation of data. I also served an additional role as the constructor of a substantive conceptual theory. In all of these roles, I consistently provided reflexivity and disclosure related to how my data were being coded, categorized, compared, interpreted, analyzed, and integrated to generate and test my emerging conceptions, my emerging theoretical hypothesis, and my emergent conceptual theory. The findings of the current study reviewed in Chapter 4 reflect my interpretive rendering of my data grounded in the studied world and lived experiences presented to me by my participants.

Researcher Relationship with Study Participants

Corbin and Strauss (2008) suggested that the process of interpretation is crucial to the analysis of qualitative data and implies a relationship between the researcher and the participants in determining the meaning of events and experiences. Interpretive research, such as grounded theory, does not predefine dependent and independent variables to initiate the inquiry. As an interpretive researcher, I assumed access to reality (ontology) is obtained through social constructions such as language, consciousness, and shared

meanings. My role and responsibility was one of observer-participant in order to illuminate and clarify the data in terms the research audience can appreciate.

Researcher Bias and Ethical Issues

To be diligent to grounded theory tenets, I was vigilant in letting conceptual categories emerge from the participant's data, rather than attempting to capture participant data to fit snugly into preconceived categories (whether those preconceptions emanated from the extant literature or my biases). I made emergence of concepts evident through the quality and trustworthiness processes of grounded theory throughout the research processes of this study. During interactions with participants, I consistently documented emergent data and my interpretations to reveal the participant's a priori role in emergence of the concepts through the use of research memos and journaling concurrently documenting my analytical impressions and conceptualizations.

To avoid my biases and assumptions weakening the study, I thoroughly documented my interviews and analysis to explicitly reveal the source of concepts I use to generate theory. I also acknowledged many conceptual biases related to the topical areas of the study and a long professional career in healthcare. The grounded theory methodology I used in the study provided me with the techniques necessary to acknowledge and address these biases as they emerged throughout the research process.

The rigorous and systematic methodological tools (journaling, memoing, and constant comparison) I implement during the study forced me to continually reflect upon, deal with, and consistently acknowledge and document my personal and professional biases throughout the process. My study participants and their views, perspectives, and

concerns were treated by me with respect and dignity throughout the research process. I considered the participant's views and perspectives as a priori to the emergence of the study's conceptual analysis.

Potential Conflicts of Interest

I made every effort to eliminate any compromise to my professional ethics within the current study methodologies. I acknowledged a long career in the healthcare industry (specifically, in the southern state where the research was conducted) as an educator, quality manager, risk manager, and healthcare management consultant. The study was not conducted at my place of work; however, I have provided consultancy and training in a variety of healthcare organizations in the state where the research took place over the last 2 decades. It is possible some of the facility participants may have known me in this role through these encounters. This potential confusion related to my role in the facility was addressed in the consent form and at the onset of each interview encounter. There were no offers of compensation made related to participation in the study.

The research sites that I selected for this study did not include anywhere I had a current or recent position of authority, supervision, instruction, or evaluation. Doing so might have impacted the power relationship of the researcher to the participant. I explicitly acknowledged any past or tenuous relationships that potentially imposed a conflict of interest or power differential. There were no incidents that involved a conflict or power relationship. I did not conduct data collection in my own work environment or in any environment where a conflict of interest or power differential might have existed.

Ethical Considerations in Study Procedures

I made consistent efforts to ensure confidentiality. Professional and social risk to participants were minimized by protecting the confidentiality of the data collected and the confidentiality of the participation throughout the study procedures. I provided for the ethical protection of all study participants, including the confidential nature of data reporting and dissemination.

Adequate ethical considerations were included in my research processes to protect the human subjects (participants) of the study. I ensured that the elements of autonomy, respect, beneficence, and justice were integrated in all study methodology considerations. The concept of autonomy suggests weight is given to the views, opinions, and choices of individuals in the study. I asked each volunteer study participant to self-identify their role(s) related to organization's KM process during their interview in order to get their individual perspective and understanding of the process, and their views and feelings related to their active role or roles within the process. Each participant provided informed consent prior to initiating interviews actively acknowledging their autonomy and my respect for their individual rights.

Respect for my participants was communicated through active acknowledgement of their views, insights, and opinions in my invitation to participate in the study. Within a grounded theory study, viewpoints of the participants are highly valued and considered a priori. No effort was made during encounters with participants to influence their views or actions, or coerce their point of view towards extant perspectives or my biases.

The principle of beneficence requires participants are treated with kindness and in an ethical manner in order to maximize the possible benefits of the study and minimize the possible harm. I made every effort to secure the well-being of my study participants. I helped participants feel psychologically comfortable by demonstrating kindness and explicitly stating and reminding them during the course of the study that they had the right to withdraw from the study or limit their participation at any time.

Methodology

Participant Population

The population for the current study included LTC employees in healthcare organizations in three mid-sized (45-110 bed capacity) LTC facilities in a southern state in the United States that agreed to participate in the study. Subsequent to Walden IRB approval (IRB approval # 2015.08.0717:05:22-05'00'), access to organizational data and potential participants was initiated through the administrators (community research partners) of the three LTC facilities that agreed to participate, at my request. Walden's IRB approval was obtained prior to collecting data at any facility. I also complied with the IRB requirement of obtaining informed consent from participants prior to collecting data and conducting interviews.

Participant Sampling Strategy

Maxwell (2013) suggested posing a how question, such as how participants may do something specific within a specific setting, as evocative of a qualitative study. In the current study, I asked how participants do something specific (create, manage, or use KM strategies) within a specific context (LTC). Sampling for the current study purposefully

reflected theoretically relevant roles related to how the participants function within the process of KM within the three LTC facilities. My sampling strategy included those who plan and develop (creators), those who implement and manage (managers) KM interventions, and those who benefit and use (users) KM functional resources within the facilities. Participant role selections provided a diverse theoretical scope of professional and paraprofessional perspectives representative of LTC knowledge clients contributing to the study's conceptual analysis of the substantive process investigated.

Morse (2010) further suggested purposeful sampling must be well developed prior to the initiation of theoretical sampling to ensure the researcher can identify and classify the types of relationships within the process and the nuances of interaction among and between the process parties. I applied purposeful sampling criteria at the onset of the current study to focus the initial data collection on the diversity, richness, and relevance required to select relevant representations of the primary actors of KM within the study environment and context.

Concepts derived from the participant data after initial purposeful sampling drove the next round of theoretical sampling data collection. My initial participant selection was purposefully sampled related to each participant's theoretically relevant role within the process of KM (creators, managers, and users) in LTC. The breadth and diversity of purposefully sampled key roles provided for adequate coverage of the phenomenon at the entry point of data collection.

My purposeful sampling gave way to theoretical sampling strategies as data analysis informed me there was a need to collect additional data through theoretical

sampling. Corbin and Strauss (2008) defined theoretical sampling in grounded theory as “a method of data collection based on concepts/themes derived from data” (p. 143) as a procedural technique “responsive to the data rather than established before the research begins” (p. 144) in the study. Corbin and Strauss suggested the purpose of the theoretical sampling process is to move the analysis of data towards conceptual saturation.

Corbin and Strauss (2008) also posited the researcher “knows when sufficient sampling has occurred when the major categories show depth and variation in terms of their development” (p. 149) to move the conceptual analysis forward. As my category of resource dependency began emerging in the data from the first two facilities, the opportunity to collect data in another facility where resources were not scarce to confirm or disconfirm this emerging category became available. This provided a theoretical sampling opportunity that allowed me to look at the significance of resources within a facility that was not lacking in resources. I was then able to investigate the nuances among and between my three facilities related to resource dependency. This added significantly to the evolution of my emerging conceptual analysis related to resource dependency and the relationship of resource dependency to potential risk drivers of knowledge seeking behavior in LTC.

I conducted the initial data collection incidents (interviews) in the current study and analyzed that data. I initiated theoretical sampling of additional data as emerging concepts directed me until the data reached saturation. I justified my rationale for additional data collection requirements in the study through theoretical memos during the analysis process. I provided specific details in my memos to honor the IRB requirements

and made the needed IRB requests for a change in a research site that allowed me to move beyond purposeful sampling to theoretical sampling. There were no focus group interviews or any unplanned interviews with additional participants.

Participant Selection Criterion

Consistent with the proposed study plan the final study provided a sample size for data collection that provided a sufficiently diverse scope of perspectives for analysis representing a relevant diversity of the key roles of the substantive process and adequate coverage of the phenomena being investigated. Study participants included a diverse purposeful sample of front line knowledge users in LTC would include nurse managers, staff nurses, CNAs, physical therapists, social workers, environmental workers, dietary services workers, and business office workers. In terms of relevant KM roles in LTC organizations, and consistent with my research plan, my study participants represented a sufficient diversity of knowledge creators, knowledge managers and knowledge users in LTC facilities.

My study sample included the depth and breadth of the primary clinical and regulatory process in LTC facilities, within all key representative areas of responsibility except dietary and financial services. Theoretically relevant candidate roles in each of my participant categories were identified by the facility administrators while discussing the study processes and recruitment procedures within the boundaries established within the letter of cooperation established between the researcher and the cooperating facility.

Participants who volunteered for the study were identified through their theoretically relevant roles as organizational knowledge clients (knowledge creator,

knowledge manager, and knowledge user) in the facilities. The initial research plan included interviewing 10-15 participants, or a goal of five participants in each facility, including one creator of knowledge, one manager of knowledge, and three users of knowledge at three LTC sites. The final study included 11 purposefully and theoretically sampled participants who represented a diverse professional and paraprofessional group of LTC knowledge clients representing three research sites.

Participant Recruitment

Subsequent to IRB approval for my study I discussed the purpose and plan for the research with potential community partners (leadership members of the proposed research sites' LTC facilities) to establish an understanding of the study and secure their willingness to engage in the process, assist with recruitment, and provide an appropriate space for interviews. I used a power point presentation to provide an overview of the study procedures and considerations to each community partner. Subsequent to an invitation to conduct research at their site from the community partners I obtained signed agreements from each community research partner. I then obtained Walden IRB approval for each site prior to distributing information and education about the study to potential participants at each site through my community partners.

Subsequent to Walden IRB approval for each site my facility community partner made initial overtures to their staff through the dissemination of participant education brochures and my letter of invitation to volunteer for the study. Prior to the interviews each potential volunteer received an educational brochure about the study through their workplace requesting volunteers to participate in the study from me. Invitation letters and

brochures included information regarding the voluntary nature of their participation, the nature and goals of the study, the researcher's data collection and interview plan, and ethical considerations of the study.

The participant brochure explained the purpose of the research, the potential important contribution of their participation to the research goals, potential benefits for participants and for others that can be expected from the research, the expected duration of the each participant's participation. The brochure also included a description of the procedures related to their participation, a description of reasonably foreseeable risks or potential discomforts, their rights as a participant and the extent to which the privacy and confidentiality of study records potentially identifying the subjects will be maintained.

To ensure the potential participants did not feel pressured to participate because of receiving preliminary information through their workplace I provided clear disclaimer statements in the documents that I was not affiliated with or employed by their facility and I was functioning purely in the role of a research and doctoral student for this study. Pre-interview education materials also stated that potential participants would not receive any pay or organizational benefits for participating, or in any way be penalized by their organization or the researcher for not participating or withdrawing from the study.

I was notified by potential volunteers who expressed interest in the study. I made contact with all potential participants who wished to receive more information about volunteering for the study and then made arrangements with each potential volunteer to meet privately with them to review the educational material about the study and determine whether or not they wanted to participate. I randomly selected participants

from those that volunteered from a purposeful sample of participants in the knowledge creator, manager role, and knowledge user roles. All participants who were selected then scheduled an appointment for their private interview with me. I notified volunteers who were not selected, informed them of my selection criteria and thanked for volunteering. The volunteers who were randomly selected all subsequently participated in the study. No selected volunteers withdrew and no special circumstances from the IRB perspective contributed to the interview and data collection processes.

Participant Orientation and Informed Consent

Prior to the onset of each interview I reviewed the study purpose and procedures of the study and their rights as a participant with each volunteer. I asked each study participant to self-identify their role (s) related to organization's KM process in order to get their individual perspective and understanding of their active role or roles within the process. My informed consent discussions with each volunteer included a review of the voluntary nature of their participation, the nature and goals of the study, and other details of study processes as outlined in participant educational materials approved by the IRB.

Each participant signed an informed consent document prior to participation. Each participant was encouraged to pose any questions related to participant rights or concerns related to potential participation injury. During the discussion and review of the informed consent document with each participant I reviewed the purpose of the study, the foreseeable risks and discomforts in participating in the study, the potential benefits to the participant and to others related to the study, and the confidentiality protections that were integrated into the study methodologies, processes, and procedures, including:

- Statement that the study involves research
- Statement of why subject was selected
- Disclosure of the identity and all relevant roles of researcher
- An understandable explanation of research purpose
- An understandable description of procedures
- Expected duration of subject's participation
- Statement that participation was voluntary
- Statement that refusing or discontinuing participation involves no penalty
- Description of reasonably foreseeable risks or discomforts
- Description of anticipated benefits to subjects or others
- Information on compensation for participation
- Description of how confidentiality would be maintained
- How to contact me with questions about the study
- Whom to contact with questions about their rights as participants (Walden University representative)
- Statement that subject may keep a copy of the informed consent form
- All potential conflicts of interest were disclosed
- Consent process and documentation were in language understandable to the participant
- There is no language that asked the subject to waive his/her legal rights

In addition to the informed consent document, I provided an educational brochure to all potential participants advising participation in the study was voluntary, that no

compensation would be provided for participation. The brochure also reviewed they had the right to refuse to participate or withdraw from the study at any time without penalty or loss of any benefits for which they might otherwise be entitled. No participants refused to participate or requested to withdrawal from the study. There were no adverse events throughout the course of the study.

Benefits and Risks of Participation in the Study

Participation in the study itself was seen as an incentive for some participants since it potentially leads to an enhanced understanding of the industry. Several participants also verbalized they were participating because they saw the study as an opportunity for them to help their industry by sharing their personal and professional concerns and considerations. Although there was minimal direct benefit to study participants who volunteered their time for the study, the risk to the human subjects involved in the study was also minimal and was further minimized in the research design. The risks related to the current study were also reasonable in relationship to the anticipated benefits of the study, including the knowledge gained through participants.

In terms of safety for participants, there were no anticipated physical risks for participants in the current study that extended beyond their normal life and performance of their professional workplace duties. In terms of physical risks for pain, injury, or impairment there were no anticipated risks and there were no treatments applied during the course of the study. The study population included only actively working adults these participants were interviewed within the facility where they were currently working and were made physically and psychologically comfortable during their participation and

encounters with me. I am a registered nurse and monitored the participants for any signs of stress or fatigue during the interview process and did verbal check-ins with the participants at intervals to ask them how they were feeling about the interview process. There were no incidents noted during encounters. I also provided debriefing sessions immediately after data collection and thanked all participants for their contributions.

Saturation and Sample Size

Patton (2002) suggested the size of in-depth purposeful samples of qualitative inquiry is usually related to maximizing the information to the point of redundancy. In grounded theory studies the goal is not to address redundancy, but to achieve theoretical saturation. Patton noted a minimum sample size can be sufficient if it allows for adequate coverage of the phenomenon and provides for additional (theoretical) sampling when needed based on emergent data. Participants sampled in the current study, consistent with the theoretical diversity of the research questions, were representatives of the creators, managers, and users of knowledge within LTC facilities.

The key roles identified to initiate data collection were selected through insights obtained through the topical review of literature on KM and performance improvement in Chapter 2; and my experiential knowledge as a healthcare professional for over three decades. To identify knowledge creators I also asked the community partner within each of the facilities what role in the facility creates or develops organizational knowledge products for dissemination within the organization. To identify knowledge managers, I also asked the administrator or director of nursing within each of the facilities what roles manage or control the flow or access to organizational knowledge products. In terms of

users of knowledge, all front-line facility workforce within each facility were all considered potential users of knowledge.

Data Collection Processes

Charmaz (2006) suggested the rich data gathered in grounded theory reveals the “views, feelings, intentions, and actions as well as the contexts and structures” (p. 14) of the participants lived experiences through the rigorous methodologies of grounded theory. All data collection for the study was done exclusively by me to capture and obtain a deeper understanding of these lived experiences. Data for the current study was primarily obtained from my interviews of my study participants.

Interviewing as Data Collection

Charmaz (2006) suggested what makes interview questions appropriate and sufficient in grounded theory is ensuring the questions explore the research topic to “fit the participant’s experience” (p. 29) and facilitate participant reflection related to their collective and individual practice, experience, and actions. Subsequent to obtaining IRB approval and informed consent from my participants, data collection began with my first participant interview. My one-on-one interviews with participants lasted approximately 1 hour in a private quiet room at the facility where the participant worked professionally. I audio taped my interviews with participants to ensure complete and accurate accounts of the participant data were analyzed and this allowed me to engage in follow-up questions without interruption of the flow of meaning during the participant encounters.

Instrumentation

Patton (2002) noted an interview guide can ensure the consistency of lines of inquiry are initiated for each participant in the study and provide the researcher with relevant subject areas to explore to “elucidate and illuminate” (p. 344) a particular topic of interest for the research. I utilized an interview guide (Appendix A) as a tool to focus on or transition exploratory probes into topics of interest to the study. The use and pace of the interview guide was fluid and flexible, allowing for serendipity in the interaction between myself and the participant to emerge. I encouraged each participant to take the interview to a greater depth and detail on topics relevant to the research questions through their “perspectives and experiences” (Patton, 2002, p. 344) within the topic framework.

In the interviews, I conducted with knowledge creators, knowledge managers and knowledge users for this grounded theory study I incorporated central questions, follow-up questions, and probes to lead me into the participant’s lived experiences and views. The preliminary interview guide instrument utilized in the initial data collection process for the current study was developed by me to serve the purpose of obtaining, and thoroughly capturing, the empirical data and nuances shared by the participants related to their reflections related to the topical areas of the study. The basis and scope of the questions of the study’s preliminary interview guide was informed by the methodological and sensitizing review of literature in Chapter 2.

In an effort to allow unanticipated data to emerge I remained open by posing questions that were exploratory and not interrogative. The interview guide used in my study served the purpose of introducing preliminary topics for discussion and was open

ended enough to allow my participants to guide me to an area of greater concern when their insights and reflection guided them there. All interviews included the preliminary questions posed in the study frame and the specific areas of concern and consideration that were elicited by them from my participants guided emergence of my conceptual theorizing. My interviews were audiotaped and transcribed to allow for in-depth analysis that is included in my interview notes and observations. Many of these notes evolved into researcher memos and researcher journaling contributions and integrated into the study's conceptual analysis.

Concurrent Data Collection and Analysis

Charmaz (2006) suggested the in-depth and intensive interviewing process of grounded theory “fosters eliciting each participant’s interpretation of his or her experience” by inviting the participant to share their “relevant experiences” (p. 25) related to the topic of interest. The initial interview questions for the current study were open ended, big-picture, and semi-structured. This open ended technique allowed my participants to share their experiences, perspectives, insights, and feelings related to topical elements of the study without a rigid framework to direct their responses. Charmaz also suggest preliminary data can represent a departure point for seeking more data as well as an entry point for elaborating or refining an existing theoretical lens.

After the preliminary interviews began, I asked follow-up questions and then probed with additional questions for more detail, or to obtain a deeper understanding of the process or the perspective of the participant. As data emerged from my participants my data collection strategies were refined and documented as a departure point

representing an opportunity for a deeper understanding of the phenomenon. I used analytical departure points in my data analysis to refine my research questions and better direct additional data collection, analysis, and potentially concurrent reviews of literature (as additional data) when it was relevant.

As I conducted interviews I also took notes and wrote memos to guide my data analysis through the documentation of observations and research insights during the interview process. Gathering additional data (including new data from reviewing literature) was indicated when the categories and properties that emerged through my interviews with participants suggested a literature review or access to other additional data was relevant to moving the conceptual analysis forward.

Throughout the constant comparison process my focus was to theoretically sample additional participants, or other data sources (such as additional literature) as the emerging data began to shed light on a concept or variation of interest that broadened my conceptual understanding of topics, or moved my conceptual analysis towards saturation. I used the data obtained in new data sources such as additional data and not as a source to confirm or to validate other data the way some other methodologies use extant data- for theory testing.

Grounded theory principles introduced by Glaser (1998) suggested all forms of data are relevant to grounded theory, including extant literature as additional data. Additional data for analysis was also drawn upon through theoretically sampled data sources in the extant literature as the conceptual analysis indicated and this process was also documented in the data analysis. When my theoretically sampled extant data

supported my emerging categories and hypothesis generation, I integrated this data into my emerging analysis as additional data. Potentially disconfirming data was analyzed through the constant comparison process and guided additional data collection. I moved my conceptual analysis forward to theorizing subsequent to constant comparison and saturation decisions. When theoretical concepts reached saturation they were integrated into the emerging conceptual theory and I no longer collected data on that category.

Follow-Up and Debriefing

A debriefing session was done with each participant at the close of each interview session and key points were clarified and validated by my participants. No follow-up interviews were required with participants. My initial recruitment plan was sufficient to meet the needs of my study. When I no longer needed additional interview data I contacted my research sites and participants again to confirm the data collection phase was completed and offered to review my findings as part of my dissemination plan.

Variations from Data Collection Plan

My original data collection plan included a data use agreement related to access to any nonpublic records, written policies and procedures, or work products related to the organization's KM interventions and PI. None of the three facilities where I conducted research had any formal policies or procedures related to KM, quality management, staff development, or performance improvement; therefore, there were no documents obtained from any of the three facilities for data analysis.

In addition to participant interviews, I also reviewed theoretically sampled seminal and peer reviewed literature (as additional data) during phases of my data

analysis when concepts emerging from my participant perspectives directed me to do so. Gathering additional data, including new data from reviewing literature for constant comparison, is indicated in grounded theory when categories and properties emerge through the interviews with participants that suggest a literature review or access to other addition data would be relevant to theorizing. I utilized additional extant data from the literature in my analysis when emergent concepts indicated they would contribute to my theorizing or conceptually address potential disconfirming data. During this process, I found support for implicit theoretical structures and processes my data was suggesting.

Data Analysis Plan

Charmaz (2008) described grounded theory as a method of “explication and emergence” following a “systematic inductive, comparative, and interactive approach to inquiry” (p.156) that uses deductive and abductive reasoning in data analysis. Abductive reasoning, from Charmaz’s perspective, involves the researcher’s attempts to understand emergent empirical findings and “allow for the intuitive interpretations of empirical observations” (p.157) during encounters with participants and data. These aspects of reasoning rang true for the current study. I used abduction reasoning during the analysis of integrative processes that merged addition data from the literature with the perspectives of my study participants. These data were not used for theory testing. They were used as additional data through the theoretical sampling process during my constant comparison processes of theorizing.

This grounded theory methodology represented a complex iterative process that was inductive, abductive, and deductive. Denzin and Lincoln (2008) suggested theorizing

in grounded theory leads to an end-point of a rigorous methodology revealing findings that are grounded in the empirical data emerging from the a priori views of participants. Concurrent data collection and analysis for the study began with the first participant interview. My study participants provided the study's final research questions and ultimate theoretical framework through their disclosures, thoughts, feelings, and insights as they were coded, categorized, compared and conceptualized throughout the grounded theory process.

The current study sought to achieve a deeper understanding of how LTC facilities utilize KM to improve organizational performance capabilities. Charmaz (2008) suggested that to maintain the conceptual power of grounded theory the researcher must ensure concepts earn their way into grounded theory analysis through the process of seeking emergence. To maintain this conceptual relevance. I utilized an active and systematic approach to the interrogation of data in which I continuously questioned what was happening within the data.

Secondly, I successively conducted an assessment and analysis of categories and continually asked myself during the analysis what conceptual category the data was related to in order to refine and construct abstract categories through data analysis. My methodology integrated techniques of analytical interrogation to ensure emergence of concepts drove the emerging conceptual analysis, supported by constant comparison, rather than the application or forcing of extant concepts into the analysis. I utilized data management software for the storage and retrieval of interview data but all data analysis,

constant comparison, conceptualization, and theorizing was conducted by me without the use of analytical software.

To ensure the adequacy of data collection and data analysis I proactively conducted a data search and analysis of disconfirming evidence and discrepant data related to the emerging conceptual analysis as the conceptual analytic framework was evolving. My study methodology proactively integrated and documented this search for discrepant data within my data collection and memoing processes, throughout the coding and constant comparison process, and within the theoretically sampled literature reviews related to the emerging concepts. Discrepant or disconfirming data was integrated into the analysis through the grounded theory constant comparison process.

My data analysis processes included: line by line gerund driven coding, initial (open) coding, focused coding, categorizing the codes, constant comparison, memoing and journaling, saturation decisions, conceptualizing, theorizing and grounding. Coding procedures during the study's data collection and analysis were designed to protect the confidentiality of the data. Identifiers were removed from the data so the data could be analyzed without the risk of accidental disclosure of private information. Data was de-identified to maintain confidentiality by removing any links that could demonstrate a particular site or participant.

Coding Procedures

In grounded theory data analysis and coding begins with the first data collected, represented by the first interview. In the current study, I incorporated several phases of coding: open or initial coding, selective or focused coding, and category development.

My initial phase of open or initial coding began with the first interview of the study.

Following the initial open coding process, I utilized selective or focused coding processes in order to reflect on the value or significance of the initial codes.

Initial (Open) Coding Line by Line

My data collection and analysis began concurrently with my initial open line-by-line coding procedures subsequent to interviews with participants. Charmaz (2006) suggested conducting line by line initial coding with a critical eye to gain insight into data allows the researcher to begin to see processes and develop categories. I utilized this line by line initial coding process and also integrated Charmaz's (2008) recommendation for the utilization gerunds in the creation of codes for my study. I found Charmaz's methodology of coding line-by-line and paragraph-by- paragraph coding utilizing gerunds (the noun form of a verb) useful in defining what was happening in the data. This coding technique helped me detect processes in my data to initiate my analysis through the perspective my participants rather than leaping forward to my implicit interpretations of what the participant was conveying.

Gerund Driven Coding

Charmaz (2008) suggested rather than coding for themes and topics as in most qualitative study, grounded theory researchers code for "actions and theoretical potential" through a process that looks closely at the data, "line by line and paragraph by paragraph" (p. 164) utilizing gerunds (the noun form of a verb) to help capture implicit processes and see connections. Gerund driven codes are directed at naming data by stating the action and sequence inherent in the data. This procedure allowed me to capture the implicit

action and processes described by my participants and see the potential theoretical connections in the data, rather than coding for extant themes and topics. Had I attempted to code each segment for a theme instead I may have lost much of the nuance my participants provided me with the individual insights and experiences they shared.

In the current study, each line and segment of the interview data was named (defined) throughout the course of transcribing each interview. This initial coding allowed me to define and select significant and relevant codes and later determine which ones seem to offer a relevant analytic and conceptual explanation related to the phenomenon I was investigating through inductively moving towards larger representations of the data. I had feared trusting in the unfamiliar line-by-line gerund approach at the beginning of the study. I quickly saw the relevance and contributions as my data analysis proceeded. Line-by-line coding allowed me to look closely at the data without imbuing it with predetermined conceptual framework or implicit values. Coding with gerunds helped me see past my own biases to recognize the small actions and implicit needs of my participants existing theoretical approaches have yet to resolve.

An example of my gerund driven codes was “expressing frustration related to the lack of organizational resources for learning.” My preconceived insight here was “they need the Fifth Discipline” referring to Senge’s (1990) seminal work on systems theory and organizational learning *The Fifth Discipline*. This theoretical leap reflected my biased implicit theory testing mentality. I respect, even aspire to, the idea of creating learning organizations, but after several decades it is clearly still not happening in many organizations. In healthcare that potentially means that many more people will potentially

die because healthcare facilities have not yet mastered how to use knowledge to improve performance capabilities.

Instead of coding for the extant theory, I looked more closely at my data to seek a deeper understanding through the perspectives and lived experiences of my participants. I found sticking with coding small frames of the data kept me focused on what my participants were saying, rather than what I might hope they would say. I allowed each data segment to present itself to me for examination. This approach to research allowed me to look more deeply and more broadly at the lived experiences of those who operate in LTC prior to attempting to define problems or solutions for them.

Focused Coding

My initial open coding process using gerund driven coding allowed me to move inductively from initial codes to focused codes and then categories as larger representations of the conceptual elements emerged from my participant's interviews and my analysis. This process began to offer me a unique view of the data that was distinct from my preconceptions and favorite extant theories. This recognition revealed itself to me during my data analysis and reflexivity.

Several references and insights offered by my participants during the my first few interviews had me perplexed because I was seeing links to many extant themes that did not seem to account for what the data was telling me. So I took my research questions to my open codes and began to move them forward inductively related to the research questions to develop my focused codes. When potentially discrepant data was disclosed I went directly back to the data reviewed my line-by-line coding, memoing and constant

comparison analysis. Within these procedures I was able to see that there was even more going on in the data than I initially recognized and moved my analysis forward.

During this analytical process I looked for the implicit concerns and struggles my participants were describing, their tacit assumptions, and their explicit statements of what was significant to them related to the process of using KM to improve their performance improvement capabilities. I listened for nuances and themes regarding what were their individual and collaborative professional goals were, what were their views on using knowledge in the workplace to solve organizational problems and what were their perspectives on how their organization could use KM more effectively, or at all.

My selective focused coding revealed the core properties, theoretical links, and implicit relationships between initial codes during data analysis. Categories and subcategories then emerged as a consistent theme or a nuance of a theoretical construct. My focused coding processes represented interacting with the most relevant and significant open codes defined in the beginning of my data analysis through a process of reflection, selection, integration, and synthesis. I began to reflect on the value or significance of each of the open codes and construct the framework for my emerging theory by using the grounded theory constant comparative method to raise the open codes that best accounted for my data and provided the data with the most analytic power to compare the codes with the original data. I began to memo these analytical processes after my first interview.

My conceptual analysis through memo development brought me to a much clearer understanding of what the data was suggesting and greatly informed the study's

conceptual theory development through focused coding and categorization. My selective focused coding began concurrently with conceptual integration and constant comparison during my data analysis. The process of initial coding with gerunds allowed me to select the most significant and relevant codes and determine which ones seemed to offer a relevant analytic fit and conceptual explanation or interpretation related to the phenomenon I investigated as focused codes. My focused codes allowed me to more deeply analyze the most consistent, significant and substantive concerns of my study participants.

All codes and other conceptual data I utilized in the study had to earn their way into the data analysis by demonstrating an ability to help me better understand the data, explicate what is happening in the data, or add to my ability to adequately interpret the data from participants in ways that transcended the use of a category or sub-category. In vivo codes were recognized in the study to represent a specific and discrete context specific term used explicitly by a participant to convey a condensed meaning structure during the interview and provide a source of coding in the initial phase of coding. The in vivo codes identified were reframed as a gerund code to better express the action within the perspective of the participant. For instance, the in vivo code of “crashing” used by several participants indicates a patient may be about to die. This in vivo code represented a participant perspective and was coded in my analysis to express the action and motivation for action utilized by the participant related to the use of knowledge in LTC.

In each incident when the potential for crashing was introduced by a study participant the clear message from the participant was a patient was about to die if they

did not institute their professional knowledge immediately to change the course of events. Their perspectives and tone indicated there could be severe clinical consequences for their patient; and significant risk management consequences for them and their organization, if they failed to adequately and emergently intervene. These participant insights contributed to categories of sentinel data, bridging decisions, and risk driven responses to emergent knowledge needs to be discussed in Chapter 4. Implications for research and practice also emerged from these disclosures and contributed to the recommendations offered for social change initiatives discussed in Chapter 5.

Categorizing Codes

Charmaz (2006) noted the process of defining a category from codes begins the process of “explicating its properties and characteristics” (p. 82) of the code. I followed-up by coding by integrating, categorizing, and utilization of the constant comparison methodology of grounded theory data analysis. All data integrated into the study were subjected to the same analytic processes as the other coding elements. After naming the focused codes related to their conceptual relevance, I began integrating each related focused code into relevant coding groups that best represented the focused codes.

After comparing the focused codes to my emerging categories and additional data from the literature, I organized the groups of focused codes and named these groups as a potential conceptual category. This allowed me to act on the data again by conducting another comparison to look at scenario to scenario comparisons, and compare this data with other data in order to reveal any distinct commonalities or dualities that might reveal analytical threads and directions with which to examine the overall complexity of data.

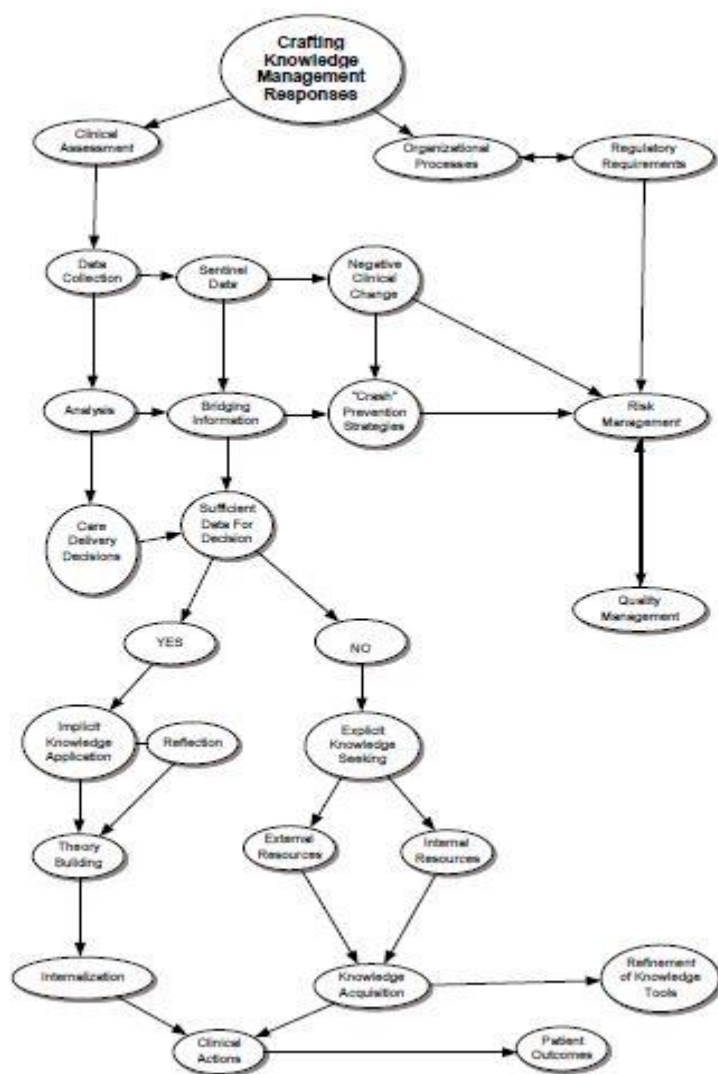
The focused code groups with the greatest analytical power became my tentative categories and provided me with the conceptual elements of a provisional skeleton for further analysis. These data analysis steps did not represent a linear process, but instead represented an in-depth and active reengagement with the data driven by constant comparison and conceptual analysis. My data analysis led to hypothesis generation. A conceptual framework began to emerge as the potential ontological relationships of my conceptual categories began to reveal a theoretical construction of meaning for my data.

I then developed categories representative of the emerging conceptual theory through the theoretical integration process of data analysis. Sorting and organizing data through a conceptual mapping process allowed me to see an emerging synthesis and shape had begun to reveal the implicit meaning of the data. I assigned categories as I interpreted what the participants revealed within the situational context, either expressed or observed. I utilized these coding, categorizing, and memoing processes to actively make these relationships explicit through integration and constant comparison; ensuring they earned their way into the conceptual analysis.

I used a mind mapping strategy (see Figure 1 below) to conceptually play with the emerging categories and attempt to find a shape or process flow that would describe the relationships I was seeing between and among the categories. Viewing codes and categories from this perspective revealed core properties, dimensions, theoretical links and conceptual possibilities within and between my focused codes and categories. As categories and relationships between categories emerged through coding the data collected from my participants, I conducted constant comparison between the new data

with emerging categories to compare and contrast the similarities, differences or discrepant perspectives noted in the data (including any supplement literature reviewed as part of data collection). The mind mapping process revealed the fit and relevance of my emergent categories and concepts to my participant data..

Figure 1: Conceptual Analysis: Mind Mapping Process



Constant Comparison in Grounded Theory

Later iterations of the process included a supplemental literature review as part of constant comparison related to the nature of knowledge as an overall conceptual influence in the process. This conceptual analysis also led an insight to the significance of Deming's (1993) organizational theory of profound knowledge on the emerging theory.

Glaser (2004) suggested the constant comparison methodology of grounded theory is used to weave or integrate new data (including other theories) into the new conceptualization through "category and property generation" (p. 4), not as elements of contrast for theory testing, but as additional data for constant comparison and potential data for modifying emerging theory. Kelle (2010) also suggested constant comparison is helpful to evaluate similarities, differences, and relationships between and among data collection incidents. The constant comparison process, including the integration of seminal and current literature, supported my participant data, better explained what was happening in the data, and led to the development of the emergent conceptual theory.

Memoing and Journaling

I utilized memos and journaling to document constant comparison and decisions to elevate focused codes into categories by defining the processes and describing the events and actions of participants that provided conceptual insights. Throughout the study I used methodological memos to analytically deal with conceptual processes, including at points when I searched literature for additional data (not for theory testing). I utilized memos and journaling to document my deliberations and decisions to elevate focused codes into categories, record my analytical connections between codes and categories,

and document the basis for their assignment. I wrote memos to reveal the process of the emergence and the relevant connectedness of data that provided the emerging conceptual categories and the deliberations that led to saturation decisions and theorizing.

Saturation

Grounded theory seeks conceptual saturation for theorizing guided by conceptual analysis. Saturation in grounded theory is not based on simple redundancy but instead suggests no new theoretical insights can be obtained when categories and memos are sorted and no new nuances are emerging within categories. When saturation of a category occurred in my study no new properties or further enlightenment about the relationship between the emerging categories and the core category were being discovered with new data. When a category became saturated it was integrated into the emerging substantive conceptual theory and I no longer coded for it. I used key processes of grounded theory methodology to determine when sufficient data had been collected and when conceptual saturation was reached.

The goal of my grounded theory study was to gather sufficient data for saturation to occur and was not prescriptive to the number of participants. Sample size in a grounded theory is fluid to allow potential theoretical categories to emerge from participant encounters and other data sources unknown at the onset of the study. The ultimate theoretical categories for my study were not known in advance and the exact sample size needed for saturation could not be precisely determined in advance.

I used researcher flexibility in determining theoretical sample size and documented the specific analytical details in memos to justify my provisions for data

collection related to theoretical sampling of participants or additional data from the extant literature. I proactively took steps to document (concurrent memos and journaling) each step of the current study's sampling procedures, including relevant transitions from purposeful to theoretical sampling. This included the use of additional data collection that was integrated to respond to emergent data analysis. I documented the rationale for my saturation decisions and the rationale for any additional data collection efforts. As my analysis progressed towards saturation in the current study, I sought evidence through constant comparison and moved to the next level of analysis.

Integration, Theorizing, and Grounding in Grounded Theory

Glaser (2004) suggested theorizing in grounded theory represents an emergent process generated by continuous cycling of the integrated processes of collecting, coding, categorizing, constant comparison, and integration into a conceptual analysis with the results written up constantly in theoretical memos. Glaser further noted the source of emergence for concepts, problems, theoretical codes, and adherence to these methodology concerns is paramount in maintaining the conceptual power of the grounded theory approach. During the data analysis process for the study I have explicitly noted the source of emergence of categories constant comparisons, concepts and theorizing.

As my analysis moved towards saturation I theoretically sampled literature and sought access to other additional data at some points in the data analysis process to follow a trend or nuance found in my data, or in an attempt to confirm or disconfirm emergent categories, by gathering additional data (including new data from reviewing literature). These sources of constant comparison were integrated into the conceptual theory only

when the categories and properties that emerged suggested the additional data were relevant to the emerging analysis and had therefore earned their way into my theorizing.

The grounding of a grounded theory involves the rigorous utilization of key processes in ways unique to grounded theory. The explicit logic of my data analysis reveals the congruence of the whole research process and documents my use of empirical data for grounding the substantive conceptual theory construction in my study. As my process moved analytically towards an integrated conceptual analysis and theorizing grounded in my participant data I consistently made efforts to ensure there was sufficient documentation of theoretical emergence. I also conducted journaling and memoing to further document the analytical journey of the study through data collection, theoretical sensitivity, theoretical sampling, analysis, and conceptualization.

Quality, Trustworthiness, and Credibility in Grounded Theory

Miles, Huberman, and Saldana (2014) suggested the quality of findings in qualitative research is related to the issues of merit, rigor, integrity, and ethics of an accountable researcher. Miles et al. posited reliability, as a marker of quality, was linked to theory testing methodologies. Reliability, therefore, was not a quality indicator in my grounded theory study. Miles et al. further noted quality and integrity in qualitative data are more commensurate with the clarity and congruency of the study's design.

Charmaz (2006) suggested despite the interpretive nature of grounded theory, the logical and systematic methodology of the grounded theory approach offers explicit strategies and methodologies for qualitative researchers to adhere to ethical boundaries and counter critiques related to rigor in the field. The current study has integrated these

elements in the research design to enhance clarity, congruency, quality, and rigor in the study as outlined by Miles, Huberman, and Saldana (2014) and Charmaz (2006, 2008):

- Methodological consistency
- Clarity of purpose
- Reveals self-awareness of the researcher through journaling and memos
- The researcher demonstrates competency in analysis.
- The researcher demonstrated: sensitivity, empathy, carefulness, respect and honesty.
- The researcher used flexibility and creativity with analytical strategies.
- The researcher anticipated criticism and carried out the study methodology in a manner that contributes to credibility.

Denzin and Lincoln (1994) suggested there are four components of trustworthiness: “credibility, transferability, dependability and confirmability,” which, from the authors’ perspective, represent the constructionist equivalents of internal and external validity, reliability, and objectivity. Denzin and Lincoln noted the “enormous commitment” to the rigorous methodologies of grounded theory “increase a text’s credibility, transferability, dependability and confirmability,” and suggested “grounded theory answers to a need to attach the qualitative research project to the ‘good science’ model” (p. 508). The methodology for evaluation in my study has provided a clear audit trail to establish credibility, potential transferability, dependability, and confirmability.

Credibility

The credibility of my findings through the consistent approaches to rigor, quality, and trustworthiness in grounded theory built into the research methodologies discussed in this chapter such as explicit documentation of saturation decisions and researcher reflexivity.

Transferability

Transferability for the current study was established through the use of rich, thick descriptions of participant experiences and insights; and the discipline variation in my participant selection. My research participants reflect a diverse array of practitioners in LTC including different clinical disciplines, operational roles, and professional levels of accountability in the organization. The study findings also demonstrate that the elements that drive KM processes in LTC may also occur consistently across the healthcare industry's continuum of care.

The nature of clinical assessment and the application of clinical assessment components such as the nature of knowledge and the use of sentinel data to drive bridging decisions may resonate with healthcare operations across the continuum. Although my participant responses were context specific in LTC, these concepts may not be context limited to LTC alone, but may instead represent a clinically consistent response to emergent knowledge needs across the continuum of care. The regulatory and financial constraints in healthcare today equally engage healthcare providers across the continuum of care to provide best practice applications, potentially without a KM framework or adequate resources. The findings of the study suggest more empirical

research needs to be done in other healthcare organizations across the continuum of care to determine transferability.

Dependability

Dependability, the qualitative version of reliability, is addressed in the current study through the diligent documentation of conceptual emergence through the study methodologies of coding, categorization, constant comparison, and conceptual theorizing.

Confirmability

Confirmability, as the qualitative version of objectivity, is addressed within the current study through the integration of reflexivity. Patton (2002) suggested reflexivity is the researcher's recognition of self-awareness, a voice that leads the researcher to express their analysis through a first person voice to engage the reader "through thoughtful sequencing, appropriate use of quotes, and contextual clarity" in the discussion of one's findings, biases, and recognizing "the responsibility to communicate authentically the perspectives of those we encounter during our inquiry" (p. 65) in the study.

I used reflexivity and my authentic voice to describe the rigorous and sequential methodology stages in my study to demonstrate the confirmability of the study findings. In terms of outlier data, negative evidence, and rival explanations, I utilized grounded theory mechanisms for additional theoretical sampling to capture more relevant data to examine these emerging concerns. My study findings document the audit trail for additional theoretical sampling and any outlier evidence noted in data analysis.

Reflexivity

Ravitch and Riggan (2012) posited reflexive engagement requires the researcher to create structures that allow for the examination of their “own assumptions and motivations” (p147), such as memos, journaling and conceptual mapping. I created these structures for my reflexive engagement during my data collection, analysis and conceptualizing. My reflexivity is apparent in my memoing and journaling and in discussions related to raising codes to categories where I expressed my analytical processes through a first person voice to actively engage the reader in the progressive discussion of my thoughts, findings, biases, disclosures of methodological consistency and proactive efforts to recognize the perspectives of my participants.

Grounded Theory Specific Quality and Rigor

My methodology, findings, and conclusions for the current study also address Charmaz’s (2006) quality and rigor criteria for grounded theory, including:

- **Fit:** My findings will resonate and fit with the experience of the professional audience. My findings “ring true” for my participants.
- **Applicability:** There are several new insights and implication for planning KM interventions for LTC that emerged from the a priori data from my participants, starting with a unique perspective of what is described and experienced in the industry as the “knowledge” of KM in LTC. In LTC data represents a sentinel micro concept that can be elicited by emergent knowledge needs responding to a broader action-seeking dimension of knowledge, which it is linked implicitly through the user’s domain specific

knowledge structure, locating additional information and searching for a broader spectrum of understanding and resources. Sentinel data appears from my data to activate the use of implicit knowledge for transient action planning in emergent scenarios in healthcare.

- **New Insights:** The findings of this research offer new explanations or insights” useful for the profession; and are capable of informing the development of policies, practice planning, as well as contributing to the LTC professional knowledge base.
- **Concepts:** The study findings related to the conceptual categories (common language and structure) of the theoretical constructs investigated revealed nuances in their properties and dimensions. The study revealed new properties and dimensions related to concepts that expand the theoretical dialogue and discussion of the nature and use of knowledge and KM.
- **Contextualization of concepts:** The documentation the study processes and elements reveal the specific context that influenced the findings.
- **Logic:** The narrative of the study reveals the logical flow of the study’s grounded theory methodological and analytical choices.
- **Depth:** The study findings demonstrate a rich, thick detail that supports the richness of concepts.
- **Variation:** The study analysis includes the exploration of findings that are not consistent with other findings and provides understanding and context for the distinctions.

- Sensitivity: I demonstrated sensitivity towards the participants, concerns, insights, and contributions.
- Memos: Documentation through memoing concurrently with data analysis recorded the researcher's concurrent insights, reflections, critical thinking, and addressed any concerns related to researcher bias.

Data Integrity and Confidentiality

My research plan for the current study made provisions for data and safety monitoring for the data collection process to ensure the privacy and safety of the participants and the confidentiality of the data during the dissemination of findings. Coding procedures in the data collection and analysis plan for the study were designed to protect the confidentiality of the data by removing identifiers from data so the data could be analyzed without the risk of accidental disclosure of private information. Data were de-identified by removing any links that could demonstrate a particular site or participant. I properly disposed of data sheets, paper records, and audio tape material in a timely and secure manner after the analysis had been conducted. During the analysis process, the material was kept in a locked storage container in my private home office with the researcher having the only key and access to the material. Digital and electronic records were kept in a secured computer database in a locked private office.

Interviews were audio taped on a digital recorder which remained in my sole possession and transcribed to my main computer after analysis for safe storage. Observations and field notes were documented on a password protected digital notebook at the end of each session and remained in the sole possession of the researcher. These

session notes were transcribed onto my computer after analysis. Between interview sessions, the digital audio recorder and notebook were kept in a locked cabinet accessible only to the researcher in a private and secure office and will be destroyed when study processes and procedures are formally completed.

Coding procedures in the study's data collection and analysis were conducted to protect the confidentiality of participant data by removing identifiers from data so it could be analyzed without risk of accidental disclosure of private information. Data was de-identified by removing links that could demonstrate a particular site or participant. Although the research sites were healthcare facilities, no patient identifiable data was involved in data analysis for the study. Research partners did not have access to study data but will be provided with a two to three-page summary of the study findings as part of the research dissemination plan.

In terms of exercising the principles of justice in the study, all participants were treated fairly and equitably in terms of bearing the burdens or receiving benefits of the research. Participants were provided information related to how the researcher determined the criteria for inclusion and exclusion for the study. This determination was based on the criteria of relevance to the research problem being studied and included individuals contributing to or benefiting from the process of KM in the LTC facility.

Dissemination Plan for Stakeholders

Community partners (administrators of the facilities) and study participants have been notified the data collection and analysis for the study have been completed and informed they will be provided a summary of the research findings they could also share

with their staff and management team. The community partners have also been invited to schedule a meeting with me to review the overall study findings in greater detail. I thanked for their collaboration and cooperation in a providing an opportunity to conduct the research at their facility. I also arranged to disseminate a summary of study findings to my study sites and participants ensuring their confidentiality is maintained.

Summary

The study methodology that I reviewed in Chapter 3 was designed to help me uncover the implicit knowledge, meanings, and experiential views of participants related to how their organizations use KM to improve organizational performance capabilities. I further sought to learn what, from their perspectives and experience, enhances, or inhibits the contribution of KM to the organization's performance capabilities. The a priori data from my participants has illuminated, differentiated, and integrated many of the concepts explored in the topical review in Chapter 2. The participant insights also and extended my knowledge and understanding of the relationship between KM and performance improvement capabilities in LTC.

In Chapter 3, I provide an overview of the rigorous methodology approach of grounded theory considerations consciously embedded into my research design to demonstrate the emergence of theoretical concepts and analytical links that led to the study's theory generation. Chapter 3 also includes a justification for the methodology and ethical considerations in the study design, including considerations for credibility, transferability, confirmability, and dependability.

In Chapter 4, I will describe the study results through the emergent methodology described in Chapter 3. In addition, Chapter 4 examines the relationship of these findings to the conceptual and theoretical analysis that answer my research questions. Chapter 5 provides implications for these theoretical insights for professional practice and social change at the individual, organizational and societal level. Chapter 5 also presents a call for future research to investigate the studying findings for transferability across the healthcare continuum.

Chapter 4: Results

Chapter 4 includes the research questions, research setting, participant demographics, data collection methodologies, and data analysis processes described in Chapter 3. In this chapter, I also document the conceptual processes used to uncover the implicit knowledge, meanings, and experiential views of my participants. Chapter 4 also includes a discussion of the evidence of the quality and trustworthiness elements inherent to grounded theory study methodology introduced in Chapter 3.

Chapter 4 will also include the findings related to the research questions for the study and present data to support the findings, a discussion of discrepant findings and nonconforming data and how they relate to the analysis. Chapter 4 will also take tentative steps toward a deeper understanding of the emergent theory through the documentation of the analytical emergence of codes, categories, and insights used in the generation of the substantive conceptual theory. Chapter 4 also examines the views and perspectives of my study participants that ground the conceptual theory of how LTC facilities use KM to improve performance capabilities.

Research Setting

In this study, I focused on LTC healthcare organizations. Data were collected in three LTC facilities in a southern state in the United States. The healthcare organizations that participated in the current study represented licensed rehabilitation and LTC facilities that serve elderly clients who are either recovering from an acute illness or surgical procedure (rehabilitation) whose needs can no longer be met in a less restrictive healthcare facility or assistive living environment.

Miller (2012) suggested the Affordable Care Act was created as a research and demonstration initiative to look at improving the chronic care coordination needs of nursing home residents, nursing home quality reforms, and mechanism to improve workforce recruitment and retention in LTC. Miller further noted the initiative was also planned to achieve benefit improvements and spending reductions under Medicare. As a result of these new value based payment mandates generated by Medicare, there are numerous new regulatory and operational requirements that challenge the LTC industry. All of the facilities where I conducted research were currently in transition strategic planning phases in an effort to meet the new requirements. One of them was sold to a larger company shortly after I conducted my initial interviews in order to link to a broader array of resources in this highly regulated and competitive marketplace.

These challenges to LTC operational and regulatory strategic planning were noted by each of the potential community partners I discussed the study with. These challenges also contributed to delays in my study procedures requiring two approved applications for sampling and procedure changes from the IRB. Two facilities that initially expressed interest in cooperating in the study withdrew due preparation conditions within their facility that took prominence over their capacity to participate in the study. Each of my three subsequent community partners worked with me to complete data collection during times of stress or transition. These community partners shared with me their hopes that this study and future studies in LTC might help the industry find solutions to the dilemmas they face as an industry. I am deeply grateful for their partnership and participation. Their generosity in these difficult times was even more significant for me.

Participant Demographics

The population for the current study consisted of LTC workers or employees from three LTC within a southern state in the United States. Potential participants for the current study were identified by me and my community partners in regard to their roles as organizational knowledge clients (knowledge creators, knowledge managers, and knowledge users) in the three LTC research sites. The initial research plan included interviewing 10 to 15 participants, including five purposively sampled participants in each facility (representing one creator of knowledge, one manager of knowledge, and three users of knowledge). Interview data was recorded with a digital audio recorder and then later transcribed by me for coding and analysis.

Due to organizational challenges and changes in the facilities during the study, I ultimately interviewed 11 purposefully and theoretically sampled participants of the intended 15. The final participant group included a wide enough representative diversity of organizational roles and responsibilities in LTC to provide a sufficient understanding of the conceptual process and enable saturation of the theoretical concepts analyzed.

I did not inquire into the ages of the participants or their educational level. All were either licensed or certified healthcare workers whose credentials were sufficient to meet the regulatory requirements for their positions. The average time working in healthcare was about 20 years. Nine of the 11 participants were female. This is a very common gender ratio within these roles in long-term care facilities. Of the two males, one was a clinical professional (physical therapist and rehabilitation manager), and the other was a nonclinical professional (life safety coordinator). The nine female participants

included seven clinical professionals representing three directors of nursing, one registered nurse (RN) unit manager, one licensed practical nurse (LPN) staff development nurse, one RN staff nurse, and one medical social worker. The other two females represented one clinical paraprofessional (CNA), and one non-clinical paraprofessional (medical records clerk). The paraprofessional CNA was also certified as a dementia specialist who provided training and support to other members of the clinical team in meeting the needs of the residents with dementia in the facility. See study participant demographic overview below. In Table 1

Table 1: Study Participant Demographics Overview

	Knowledge creators (3)	Knowledge managers (3)	Knowledge users (5); plus dual roles noted below
Facility A	RN/ Director of Nursing	Director of Rehabilitation/ Physical Therapist	Life Safety Coordinator Social Services Director LPN /Staff Nurse
Facility B	RN/ Director of Nursing	RN/ Unit Manager	*Dual roles. They also represented knowledge users.
Facility C	RN/ Director of Nursing	LPN/Staff Development Coordinator	CNA/ Certified Dementia Care Specialist Medical Records Coordinator

Introduction to Study Results

The results of the study are presented in response to the study's overarching central research question: What conceptual theory explains how the process of KM is

utilized to improve organizational performance capabilities in LTC? Results will be further discussed by the supporting research questions that guided the study's data collection and analysis. Two initial research questions drove the development of the study's interview guide and two additional research questions emerged during the data analysis phase of the study.

All four of these research questions will be discussed within the study findings. I will further address the results of the study through a discussion of the emergence of the codes and categories that take the reader through conceptualization of my grounded theory by disclosure and discussion of the grounded theory processes of concurrent data collection, analysis, categorizing, constant comparison, conceptualizing, and theorizing. Discussion of the emergence of conceptual categories is explored within the context of the specific research question they illuminated in the data analysis.

Research Questions

Central question: What conceptual theory explains how the process of knowledge management is utilized to improve organizational performance capabilities in long-term care?

Research Question 1: What processes explain the use of knowledge management to improve performance capabilities in long-term care?

Research Question 2: What factors within this process enhance or inhibit the effectiveness of these initiatives?

In the current study participant responses were the empirical data used for theorizing in the current study, and the driver for the most crucial research questions that

emerged through my study's data collection and analysis. Consistent with these methodological considerations, the research questions and sub questions in this grounded theory study began with open-ended questions designed to elicit this participant feedback. Two crucial questions emanating from my participant data were subsequently explored as additional data. This additional data occurred through a second review of this preliminary literature, trigger by theoretical emergence related to participant responses, developed in researcher memos, and was ultimately integrated into the conceptual theory. These additional research questions emerged earned their way into the conceptual analysis through data provided by my participants and drove the generation of related codes, categories, and conceptual analysis.

Research Question 3: What is the nature of knowledge as it relates to knowledge creation and knowledge management utilization in long-term care?

Research Question 4: What is the relationship of the emerging theory to Deming's (1993) theory of profound knowledge?

Results

The study results are presented in relationship to each of the three research questions.

Central Question: Crafting a Profound System of KM in LTC

The results of the study suggest the conceptual theory that best explains how the process of KM is used to improve organizational performance capabilities in LTC should be operationally defined as the systematic crafting, rather than creating, of knowledge driven interventions and responses. My study findings suggest a system of profound KM

is required to ensure everyone working in the organization can implicitly and explicitly understand and disseminate the resulting knowledge products and knowledge sharing tools effectively in order to actively and proactively transform, translate, and share knowledge concepts to improve performance capabilities.

The concept of a profound system of KM extends the seminal work of Deming (1993) related to the need to systematically integrate knowledge and quality management. The conceptual foundations for this theoretical decision will be discussed within the data analysis review of emergence and constant comparison. My results reveal, to be sustainable, crafting adequate and relevant KM response capabilities in LTC requires the right materials, the right tools, and a thorough understanding of how the various system elements function and fit together through the development of a profound system of KM for LTC. The emergent theoretical model will be discussed throughout this chapter through analysis of my study participant responses to the research questions.

Research Question 1

The first research question was: How do long term care facilities use knowledge management practices to create knowledge, manage knowledge, and use knowledge? A significant general observation in my study findings was the pervasive knowledge deficit related to KM in all of the facilities. As defined by Dalkir (2005) and described by the KM models reviewed in Chapter 2, KM represents a systematic operational methodology utilized by organizations to strategically benefit from knowledge products unique to their performance needs.

During my educational review about the purpose of the study each participant stated to me they had never heard of knowledge management. The only explanation I provided to my participants about what constituted KM was inclusive of what was articulated in my educational brochure in order. This allowed the participants to frame their understanding from their own experience and provide their own insights as it applied to LTC. One of the participants, a staff nurse interviewed at Facility A, had a sibling who was working on a master's degree in database management in another state. Data base management is the technology related field of knowledge management. When she discussed volunteering to be a participant in the study with her sister, her sister encouraged her to participate so she could learn more about it.

Although all of my study participants had knowledge deficits regarding the term knowledge management, they all expressed great conviction that they managed knowledge every day at work. My study participant responses also indicated KM topics in LTC facilities addressed a wide range of topics to meet the clinical, regulatory, legal (risk related), and financial requirements of the industry. Each participant articulated their consistent and active use of knowledge to meet patient needs and contribute to organizational strategic objectives.

The knowledge needs revealed by my participants were diverse and ranged across the continuum of disciplines. These disciplines included life-saving interventions such as CPR, life-improving interventions that heal wounds and rehabilitate functional capacities, protection of patient lives by keeping them safe from harm and infection. In a residential healthcare environment, such as a LTC facility, knowledge needs further require

providing emotional and social support through activities, ensuring gentle and compassionate personal care services for the elderly residents who reside there, and educating and mentoring the various clinical and nonclinical skilled disciplines. My participants demonstrated that long-term care facilities use these KM interventions through a patchwork of tacit knowledge resources of individual practitioners and existing structures. These are often unique to each facility based on the availability of internal and external resources at the disposal of individual knowledge creators, managers, and users to address emerging knowledge needs.

Research Question 2

The second research question was: What organizational processes, policies, and behaviors (through the views of the study participants) enhance or inhibit the use of knowledge management strategies to improve performance capabilities in LTC facilities? The second general observation during my encounters in each facility was that there were no formally developed KM structures, policies, procedures, or processes in place at any of the facilities. All three facilities had recently transitioned to electronic medical records and charting (documenting) patient care services, but there was no integration of knowledge resources aligned with this new capacity and no plan for integrating KM functions into their other organizational systems at the time my research was being conducted at the sites.

My study participants suggested there was a lack of organizational processes, policies, and behaviors that enhance or inhibit the use of KM strategies to improve performance capabilities in their LTC facilities. The participants also suggested most

knowledge creation to address their diverse knowledge needs happens outside of LTC facilities. Analysis of my participant data, as described in Chapter 3, further suggested knowledge in LTC is crafted rather than created, managed, shared, translated, transferred, and applied to the day-to-day and moment-to-moment clinical and operational decisions through the utilization of implicit and explicit KM crafting components and resources.

Most LTC facilities lack the necessary informants, technology, program development skills, and resources necessary to develop multiple best-practice models for their facilities. It seemed more prudent and more practical for LTC managers I interviewed to find certified and validated programs that can be adapted for their use through a planned and systematic integration with other more systematic KM processes in the facility. The ultimate answers to my two initial research questions were to ultimately be found within the analysis of participant data explored through an additional emergent research question that resulted from my memoing regarding participant responses.

Research Question 3

Research Question 3 was generated through emergence during my memoing related to data from my participants suggesting their implicit concept of knowledge was inherently different than what was revealed through the seminal scholars in my sensitizing review of literature. Through memoing and reflexivity I posed a new research question to guide my deliberations about what significance this had for my conceptualizing. This research question was: What is the nature of knowledge as it relates to knowledge creation and knowledge management utilization in long-term care?

Through constant comparison of this data several categories were developed that contributed to the emerging theory:

Category 1: The nature of knowledge in LTC. In spite of the general observations suggesting there were prolific knowledge deficits noted within all three of my research sites related to the concept of KM, my participant encounters led to several emergent conceptual categories. These categories tentatively explained many implicit fundamental elements important to the process of KM from the perspective of my participants in LTC. The integration of these categories subsequent to an in depth analysis of data generating categories that fit and rendered a relevant interpretation of the data also led to the ultimate conceptual theory developed through my additional research questions emanating from my participant data analysis.

Recognition of how knowledge was defined by LTC workers was fundamental to being able to benefit from knowledge assets within a systematic KM methodology. My reflexivity related to my participant data and search for a deeper understanding led me to this new research question and the path forward to my conceptual theorizing. The path for analyzing the nature of knowledge in LTC ultimately allowed me to answer my initial research questions and construct a conceptual theory. My participant interview data revealed their crafting components used for knowledge management in LTC required many implicit KM skills that incorporated a concept of knowledge which included data and information, as well as more fully developed knowledge concepts.

Because my participants had no prior knowledge of KM, they did not respond to my open-ended questions about using KM in LTC with a predetermined cognitive frame

related to KM. They instead described their experiences, challenges, and approaches to using knowledge in their facilities to improve performance as I asked them to do.

Because of the extant semantic gaps in terminology related to knowledge and KM, I was not surprised initially when the participants responded to questions about knowledge with answers framed as data or information.

Analysis of my participant data suggested after the first few interviews that I needed to better comprehend how my participants were actually conceptualizing the term *knowledge*. This insight came very early and consistently in my data analysis. One of my first participants, a nonclinical manager of life safety, responded to me regarding how he used knowledge by describing his process for fixing sinks and toilets linked to the potential impact of his action or lack of action on patient safety and infection control. This was a healthcare knowledge user with little clinical background who was focused and dedicated to using his concept of knowledge to improve the safety and well-being of his residents.

Analytically, I questioned myself about my implicit beliefs about what constitutes a higher purpose worthy of being classified as knowledge in healthcare. I questioned myself if should knowledge be about brain surgery principles, or the actual potential for the knowledge to be useable for any purpose that serves the patient or the organization. I read my interview transcripts again for answers from my participants. Andy, a knowledge user at Facility A remarked:

Sometimes I have to use my own knowledge to solve the problem. . . . It is all about keeping the residents safe. Like right now I am actually trying to figure out

how I will solve this problem to help a resident . . . it is just about a toilet paper roll holder has come out of the wall; I will have to fix up the wall and patch it, mix up the materials, put in a new screw. Some people would just stick it back up there, but I want to fix it the right way, so she does not fall trying to use it. The resident actually loves me. I actually have to fix her walker after we finish this interview.

As Andy spoke, he smiled and pointed to the walker leaning on the wall next to his desk.

Andy went on to say:

Like falls and wet floors especially. We have wet floor signs that we put out.

Although it is annoying to some people we put them in the middle of the floor so you see it. Because if the sign is off to the corner you would miss. When you walk through the door we want people to see the bright yellow sign right away. May be annoying to some people, but tough luck, it is there for a reason.

Betty, a knowledge manager at Facility B claimed:

The data the CNA collects helps us learn which program the patient goes into, either the restorative program or a maintenance program. In the restorative program we will use prompted voiding where we will schedule the patient to go into the bathroom at a specific time in the morning and have them sit on the toilet. We attempt to maintain their continence that way. If you do a scheduled program where we try and put the patient on a toilet every two hours that may not work. I do not know about you, but I do not go to the toilet every two hours!

Angel, a knowledge creator from Facility A, also discussed the importance of sharing knowledge across the multidisciplinary teams to safeguard the patients and benefit the facility related to a new personal hygiene procedure for patients who share their bathrooms she was putting in place for the residents:

They can put their personal toiletries on the top. They will keep them on their personal stand when they bring it back from the shower. This was if things are not labeled we still know it belongs to them. This is important for infection control reasons.

Arthur, a knowledge manager from Facility A, also focused on the importance of knowledge to make incremental clinical changes for patients that requires informational knowledge related to which rehab equipment and procedures make the patient safer:

What kind of standing device do we need to stand up, to start working on using a walker or cane? Can we start working in the parallel bars? Can they start walking outside? Can they walk on carpeting? We need to make decisions about care at each step of the way about what is the safest and best route.

My first participants were framing the knowledge used in LTC from a utilitarian and interdisciplinary approach that integrated clinical considerations. These knowledge content areas were not only related to enhancing the clinical competency of staff; they were linked to something more fundamental, but equally important matters in the lives of LTC residents. Much of what the participants were describing to me as knowledge-sharing scenarios were stated in terms of data or information rather than fully developed

knowledge concepts. As my interviews proceeded, this way of describing knowledge continued to emerge in each facility. Annette, a knowledge user from Facility A. noted,

Related to PT/INR level (coagulation properties of blood) you can have a mistake and end up with a patient who will have too thin a blood, or too thick a blood that can lead to serious circulatory problems, bleeding out (dying), or other kinds of detrimental effects from it.

Annette went on to state, “If the nurse does not check the data related to the patient’s allergies prior to providing care and the patient is allergic to the medication the patient can die and we would be sued.” Annette elaborated:

I need to know if a patient is losing weight. I may need to discuss a feeding tube with their doctor or issues about the end of life. Sometimes the doctors do not know everything that is going on because they are not in the building eight hours a day, so I am a knowledge user and also a knowledge sharer with the doctor and with the nurses.

Comparing these types of participant responses to my initial conceptual definition of knowledge I began to review and reflect upon the scholars who contributed to my understanding of the nature of knowledge, the significance of knowledge, and the application of knowledge to KM and performance improvement. I was looking for knowledge concepts, and my participants were responding with data and informational elements. The goal of the WHO is to use KM in healthcare to create performance improvement, improve lives, lengthen lives, and build a better organization through knowledge use. My participants had confessed they were not familiar with KM as a

concept or a process, yet they clearly responded to my questions about using and managing knowledge as if they knew implicitly what constituted the nature of knowledge and knew how to use it.

How can healthcare practitioners use KM to improve performance capabilities when scholars still cannot provide accessible and comprehensible definitions of knowledge and KM through a perspective that addresses LTC goals? My awareness after completing my first few interviews was that I had been working from an implicit idea about what I thought knowledge was, and I had potentially discriminated about what were real knowledge topics in LTC. I had implicitly elevated the idea of knowledge, and the use of knowledge, as something with a higher purpose than the data and information elements my participants were describing.

In my review of literature prior to conducting the study I reviewed the work of numerous scholars related to KM from a diverse scope of practice venues to realize there was little consensus on the terms knowledge or KM in the literature. I thought operationally defining my terms at the onset of my study would guide me past the issue, but conducting interviews drew me directly into the ongoing scholarly debate. Listening to my participants describe their knowing-to-doing scenarios, I became less sure I really knew what knowledge meant in LTC.

I kept coming up conceptually with the perspective that the data elements they were describing as knowledge—was knowledge—a unique type of knowledge concept that may be distinct to healthcare. As it became clear that from the perspective of my participants, knowledge was defined differently than in my review of the literature I

reflected and began memoing on this subject. I also reviewed extant literature for constant comparison and new insights. To conceptually confront my scholarly foundations for understanding the nature of knowledge in healthcare KM I examined the emergent research question for my study: What constitutes the nature of knowledge in LTC?

To answer this additional research question I looked again at Davenport and Prusak's (2000) seminal work on KM for constant comparisons and noted the first chapter in the text of Davenport and Prusak's posed the very same question that I now had clearly in my mind: What do we talk about when we talk about knowledge? In contrast to my participant data, from the perspective of Davenport and Prusak, knowledge is not an interchangeable concept represented by data, information, and knowledge. Davenport and Prusak suggested a clear concept of knowledge is crucial to KM and organizations; therefore, need to be able to differentiate between data, information, and knowledge. My participant data was suggesting this was not the case in LTC. Davenport and Prusak's posited information that is not transformed into knowledge from data and information has little value to the organization's business strategy, defining knowledge as:

A fluid mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded ... in organizational routines, processes, practices, and norms. (p. 5)

Davenport and Prusak (2000) differentiated data, information, and knowledge but also recognized they were linked. The authors suggested information derives from data and indicated organizational knowledge products derive from information, through the processes of comparison, consequences, connections, and conversation. Davenport and Prusak defined data as “a set of discrete, objective facts about events” and information as meaningful and purposeful data “that makes a difference” (p. 2) from a sender to a receiver during the processes of: contextualization, categorization, calculation, correction, and condensation.

Davenport and Prusak (2000) further suggested data represents “objective facts about events” not linked to any predictions about elements of “failing” or “thriving” because there is “no inherent meaning in data” and “provides no judgment or interpretation and no sustainable basis for action” (Davenport & Prusak, 2000, p. 3); therefore, data is not knowledge. In contrast, the responses from my participants suggested knowledge for knowing-to-doing in LTC represents a unique concept that can take many forms, including data. My findings suggested, in healthcare, the concepts of data, information, and knowledge emerge in different ways and different times, and possess different values and capabilities to make contributions to work of an organization related to the use of knowledge. My participant data revealed that in healthcare, data often provides an urgent interpretation for knowing-to-doing and compels a basis for action.

My study data was suggesting, in contrast to Davenport and Prusak (2000), that the sender and receiver of data or information in many emergent healthcare scenarios is

many times the same person. The participant data was also suggesting this data or information is often sought because of an “inherent meaning” of the presenting data or information is in fact linked to “predictions” about of “failing” or “thriving,” and further provides a trigger for an immediate judgment or interpretation accompanied by a “sustainable basis for action” (p. 3) implicitly stored in the cognitive database of the healthcare worker. Ask any emergency room nurse if this is true. But how is it true?

I had utilized Deming’s (1986) seminal work on quality as part of my sensitizing literature; I now turned to Deming’s (1993) writing related to the nature of knowledge for constant comparison. Deming (1993) suggested “Information is not knowledge,” and information, no matter how complete and speedy, is not knowledge because “Knowledge comes from theory” (p. 108). Deming used an analogy of information as something contained in a dictionary that was not analytical, but descriptive; it is not theory based and therefore not knowledge.

My participant data was suggesting data and information in healthcare are not just descriptive as Deming (1993) suggested. My data implied there is more going on that appears analytical rather than descriptive. I went back to my participant data for my constant comparison processes and found several codes that linked data and observations to clinical interventions when there was a sense of urgency or risk prevention involved:

- Code: Linking data and observation to enable immediate risk prevention strategies
- Code: Linking clinical actions to clinical data
- Code: Linking poor information management to not meeting regulatory requirements

Deming (1993) further posited all knowledge “is built on theory.” (p. 105), and theories based on knowledge, when actualized, are directly related to the predictions of probable outcomes. My participant data clearly suggested in healthcare predictions of probable outcomes often come with high stakes that include life or death scenarios for patients and/or survival strategies for the organization. My participant data suggested the actions of healthcare workers to respond to clinical high stakes are often based on a small segment of data or information that is implicitly and concurrently applied to an urgent analysis of this data and therefore decisions made on this urgent analysis are built on theory. I pondered and developed analytical memos regarding the theoretical basis for this conception of knowledge in healthcare.

My focused coding process through the constant comparison of my initial coding of participant data then led me to several conceptual insights, which I categorized, regarding the participants’ point of view related to the nature of knowledge in LTC and the implicit approach to KM my participants utilized to translate knowledge into actions to improve performance in LTC. Comparing my data to the perspective of Davenport and Prusak (2000) and Deming (1993) I reflected on what might be the missing piece of the conceptual puzzle to determine if data, as a knowledge concept in LTC, might be linked implicitly to theory.

I reexamined the writing of Davenport and Prusak (2000) through my constant comparison process to try and make sense of this. What I found was an insightful comment about how massive amounts of data stored in technology databases can sometimes overwhelm the database system to the point that users “can no longer make

sense of it,” so sometimes knowledge needs to “move down the value chain, returning to information and data” through a process of “de-knowldging” (p. 7). My analytical insight suggested my participants may also be compressing meaningful knowledge in their personal implicit database to a more concise knowledge concept messaging system that propels action when an important data element shows up, often to save lives. This data represents a theory driven knowledge element in LTC.

Category 2: Sentinel data. My conceptual analysis suggested big data becomes small data in the personal implicit database of a knowledge worker for the sake of expediency, and in consideration of the storage and retrieval capacity of the human mind. Insights from my participants suggest they utilized clinical hypothesis representations of small data, which is then translated (rather than transformed) implicitly with the very temporal speed that Deming (1993) also suggested was definitive of knowledge.

Like “51”—a life threatening blood sugar value, “10”—a life threatening PT/INR level, not drinking- a sentinel sign of impending dehydration and renal failure; or a broken toilet as a potential source of injury and infection for the elderly. From the perspective of healthcare workers represented in my study, this sentinel data is a knowledge concept is a representative expression of implicit knowledge within the proper context, one that conceptually meets the defining dimensions and properties of knowledge articulated by Davenport and Prusak (2000) and Deming (1993).

Insights from my participants suggest the assessment process that guides clinical interventions in LTC is an inherently systematic and theoretical process of data collection, analysis, and decisions about actions. The resulting decisions or theories that

emerge from this process reflect an implicit knowing-to-doing process where small sentinel data drive patient centered care during times of emergent knowledge needs.

This conceptual process rings true for the emergent healthcare scenarios described by my participants and also reveals this sentinel data is theoretical and predictive through the articulation and operationalization of an intermittent assessment processes conducted by the clinical staff and knowledge users in LTC. They are re-knowlegding from a data state to a fully functioning knowledge concept state in an incident or encounter where they are urgently and theoretically responding to the sentinel data.

My participants revealed that subsequent to encountering a knowledge need they implicitly retrieved what was once compressed in the mind of these knowers, which was then drawn out in an accordion-like process to the expansion level necessary to meet the presenting sentinel data challenge. Subsequent to responding to the knowledge need, this knowledge then appeared to be re-compressed (not de-knowlegded) for the future. The knowledge, therefore, still exists in a compressed format that can be accessed again the next time it may be needed. See example codes related to the need to access implicit knowledge to meet patient needs:

- Linking discrete data elements to implicit knowledge acquisition
- Providing an example for data used as knowledge
- Not knowing as a rationale for not doing
- Seeking safety related data sources
- Referring to implicit knowledge as common sense
- Using tacit knowledge to address patient clinical needs

- Using tacit knowledge to address patient safety needs
- Using tacit knowledge to solve problems
- Linking actions to emerging issues
- Utilization of self as primary knowledge source

The clinical assessment process in healthcare, like the grounded theory methodologies of the current study, follow a systematic process of data collection, analysis, and decisions through theory building processes. The data collection process inherent in a clinical assessment is conducted to establish a clinical and cognitive database regarding the patient's condition and concerns. Assessment processes reveal conditions that can be made accessible through actionable sentinel data to link an action plan to interventions that represent implicit, as well as explicit, sources of appropriate and effective response decisions directly related to that sentinel data.

Unlike most industries, the required response interval from data to action in healthcare may be seconds or minutes rather than hours or days. The healthcare worker is trained and conditioned through experience to actualize the analytical power of the clinical assessment (organizing, analyzing, and synthesizing data) that was collected for their patient. The next logical step is consistently comparing emerging findings to clinical standards to generate a rapid and actionable tentative hypotheses or theory of what would represent the most appropriate and effective actions in this emerging context.

This process was expressed very clearly by my study participants. Betty (knowledge manager in Facility B) stated, "Knowing what to do in a clinical emergency or when someone is down is also important." Likewise, Cathy (knowledge user in

Facility C) noted, “If the right code [resuscitation] status is not immediately available we could be sued for not doing CPR when the patient wanted us to, or doing CPR when the patient did not want us to.” Annette (knowledge user in Facility A) commented:

So the first weekend after she came back I noticed that her apical pulse level was high. But I know she also has very high level of anxiety and a history of that. I ended up giving her Xanax which she had ordered for anxiety. It ended up helping her pulse come down for a while, but then it went back up. So I notified the doctor and he put her back on the Lopressor. We depend on each other to understand the needs of the patient and have a fuller picture of the patient.

Annette continued:

In addition to meds the nurse needs to know bowel sounds, lung sounds, apical pulse rates, O2 saturation rates, signs and symptoms of a PE (pulmonary embolism) or someone going septic. . . . What would we look for? We send a patient out to the hospital at least two to three times a week.

The sentinel data collected and acted upon by the healthcare workers in my study represented knowledge that may be unpolished, unexplored, uninvestigated and hopefully leads to adequate decisions through the process of real time theoretical analysis. This analysis by the healthcare workers in my study was clearly aimed at the acquisition or improved interpretation of their implicit knowledge. My analytical process questioned if this data need more structuring to represent sufficient knowledge for action or does it simply to be seen and analyzed in context to be used effectively.

I looked again at my sensitizing literature for constant comparison. Davenport and Prusak (2000) suggested data by itself has little meaning, relevance, or purpose and organizations primarily describe data as “structured records of transactions” to be stored in “technology systems,” (p. 2) lending little insight to the actions surrounding the data. My findings suggest is in this space that data is different in healthcare. In contrast to Davenport and Prusak’s (2000) perspective that data alone is meaningless and purposeless in other industries; from my presenting participant perspectives, data is the seminal knowledge element of a clinical assessment process. Viewed through my participants, it represents a seminal knowledge concept that can be life-saving.

My study findings suggested some data in LTC provides a signal or sentinel trigger that elicits the tacit knowledge the knower already possesses and urgently needs to access. This sentinel data acts to retrieve and translate implicit (knowledge) reserves to guide the use of appropriate theoretical interventions stored in healthcare workers’ human knowing systems in order to potentiate real-time insights for action linked to the emergent and meaningful data. The current study findings, therefore, further suggest to the experienced healthcare practitioner data within context presents scenarios and concerns that lead those who believe they know, to do.

The process that moves knowing-to-doing interventions in healthcare relies, from the perspectives of my LTC study participants, very heavily upon the implicit knowledge immediately accessed and acted upon in response to presenting sentinel data elements such as blood sugar readings, blood pressure readings, blood levels, temperature, pain level, safety considerations, and do not resuscitate status. My data and observations

consistently indicated that decisions are being made through these implicit processes, but I went back to my data and the literature to examine what was potentially going on in the minds of the knowers in these knowing to doing scenarios.

Through my constant comparison process I also searched the literature to see if there was anything that could help me shed light on what I was seeing in my data and articulate it better. The conversation in the literature from 1995 through 2015 about the processes of knowledge and KM have been primarily linked to the use of technology, and more recently, the use of big data. My current reflections concerning the study would be more appropriately described as a concern with little data.

During my constant comparison process I found a journal article I believe further supports the significance of sentinel, small data in the development of clinical hypotheses for action. Watson and Rebar (2014) suggested “professional noticing” (p. 514) or “marking” (p. 515) is an essential part of clinical assessment in order to quickly identify a potential change in clinical condition when the practitioner is able to draw upon the “knowledge of patterns” (p. 515) developed through years of professional experience.

Tsuru et al. (2014) (2014) also suggested specific clinical data sets or foci are helpful in the identification of specific signs and symptoms of disease processes during clinical assessment. My participants provided examples of this process when they provided examples of using sentinel data to trigger action related to such data as vital signs, laboratory results, clinical status elements, and potential conflicts with explicit decisions for care.

Watson and Rebar's (2014) analysis noted even subtle elements such as voice tone and quality, and body odor are worth "noticing" (p. 515). My emergent conceptual category of sentinel data further suggested even subtle assessment data in the right context would represent sentinel data and consideration for taking action. Annette, a knowledge user from Facility A, acknowledged the importance of noticing and communicating sentinel data in her practice: "Communication with the next shift is important and letting them know—making sure they hear everything. Did the patient get insulin, did they eat? Sometime the patient has been fine and then they crash."

Betty, a knowledge manager from Facility B, also provided examples of an interdisciplinary need for noticing, and reporting what is noticed, in the service of helping residents stay safe and well:

We try to explain to the CNAs: suppose you saw Mary on Friday, and she was doing well with her ADLs (activities of daily living), and then when you come in on Monday she was not doing as well but you went ahead and simply copied what everyone else was writing on the ADL sheet when she was doing well. Because you just copied what was written before we are missing an opportunity to see and address a change in Mary's clinical condition. This could lead to a serious clinical consequence for Mary because the nurse was not notified of the patient's change in clinical status. The nurse goes home, and then the next CNA says, "Oh my God—Mary is really different," but the nurse has already left and the physician had not been notified. So I always tell them, "write what you see and report it if it is different." It could get very serious if Mary stopped eating or got a skin tear and

no one reported it. Not eating can lead to dehydration, skin problems—then back to sepsis. A whole cluster of problems that could lead to death.

Betty went on to say:

If wounds get worse the patient can develop sepsis and die. So if wounds are not progressing we communicate and confer with the physician and we have access to a specialty wound care nurse who is available to assess the patient and suggest changes in treatments.

The concept of “noticing,” as described by Watson and Rebar (2014), provided me with additional data for constant comparison that further supported the conceptual category of sentinel data identified in my study. In terms of seeking concept development support (or inconsistency) I looked further for journal articles that seemed to address my category of sentinel data.

Crow, Chase, and Lamond (1995) described the cognition processes of implicit knowledge access used by healthcare workers as “domain-specific knowledge structures” that elicit inherent strategies to organize or access core principles or concepts into categories “that can be used for recognizing problems” and responding to them (p. 208). The authors further noted this process integrates the clinician’s perceptual knowledge and recognition capabilities for accessing additional information from the clinician’s long-term memory. This data fits the picture of my emerging sentinel data category and helps me to see how the participants are accessing their implicit knowledge when presented with sentinel data to respond emergently to life-saving scenarios.

The concept of implicit knowledge structures also took me back to look at the concepts of tacit knowledge creation described in my sensitizing literature. Nonaka and Konno (1998) suggested to potentiate the promise of creating knowledge from information the concept of *ba* represented the foundation for understanding the essential process of tacit knowledge creation. The authors noted *ba* stems from an existential philosophy in the understanding of individual and collective knowledge that creates a “transcendental perspective” (p. 40) for the integrative process required for knowledge creation. Nonaka and Konno suggested *ba* represents “the ‘phenomenal’ place” for knowledge creation (p. 41) in organizations and individuals where knowledge becomes embedded through one’s experiences, reflections, and interactions with others.

My participant data seemed to be suggesting that sentinel data may very well be the product accessed from the “domain-specific knowledge structures” Crow, Chase, and Lamond (1995) described. Crow, Chase, and Lamond suggested healthcare workers use these domain specific structure as cognition processes of implicit knowledge access to elicit inherent strategies to organize or access core principles or concepts into categories “that can be used for recognizing problems” (p. 208). My participant data was suggested the problems they recognize may be represented by sentinel data presentations, and they may be responding to those sentinel data presentation through their phenomenal *ba* space.

Now I had a better sense of what the participants were describing as well as recognition of what I had been doing as a clinical practitioner for decades. As a nurse for over 35 years, this explanation of what I had also done in emergent circumstances rings very true. I also understand both experientially and through the insights of my

participants, that the dimension and properties of a user's knowledge is often implicit, potentially flawed, and usually linked to experiential sources of knowledge. This reflection led me to think more about the frustrations my participants had shared about the quality and quantity of resources and support when the answers that emerge from the knowledge user's individual domain-specific knowledge structures are flawed, inadequate, or insufficient to meet the presenting needs of our patients.

I looked back to my data and saw several examples of turning points in response to sentinel data and the clinician's responses to sentinel data. An example of a turning point is related to the nurses' responses to sentinel data element such as a PT/INR level. This is a blood test result that may reveal potential life threatening conditions and also guides the ongoing prescribing of an appropriate dose of Coumadin (medication to prevent blood clots) to save the patient's life when a physician is notified of these data. Several participants provided insights regarding these types of turning points as they described how they used knowledge and resources to improve performance. Betty (knowledge manager from Facility B) explained:

I establish my changes in conditions. Susi Smith (fictitious name) was OK every afternoon to get her blood pressure medication and then she bottomed out every morning. So I let the doctors know that she has two blood pressure meds, one has parameters (for holding and not administering the medication at that time) and the other does not. I notify them that based on these finding I held the medications because that is just common sense.

Betty continued:

Then there are bed sores from pressure leading to red bottoms that can become serious wounds. Common places for these pressure ulcers can be their bottoms or their heels. We can take opportunities when we are helping them transfer or going to the toilet to check these areas. Sometimes the CNA has helped them into the bathroom, and or maybe they are in here getting their showers and the CNAs will let us know they do not want you to see them while they are in the shower, or please come and look at this while they are in the shower.

Arthur (knowledge manager from Facility A) stated:

I just had a conversation about safety with a patient's family member today. The family wants the patient to be walking more and they do not understand that right now it is just now safe to give him a walker so he can go walk by himself. So they will ask a staff member to give the father a walker, and when that staff member says no, they go over and ask another staff member to try to get the answer they want. But the whole staff knows the safety status of the patient. So the staff let me know, and I was able to educate the family that it is a safety issue right now not to give the father a walker, and in our clinical judgment we do not think the patient is currently safe enough to walk. I explained it is our clinical judgment and decision making that it is not yet safe, but told them we can have them sign a waiver stating that the facility would give the patient the walker if they take all responsibility for any liability if he falls or is injured. They did not want to sign the waiver and finally accepted that the patient was not safe to walk independently with a walker. Instead, we offered to train the family in how to

walk with him and follow safety precautions when they were visiting. We explained the need for precautions and the rationale for the patient to rest with his legs elevated at least twice a day to get rid of his leg swelling even if he does not like to do it and gravity will make him less able to walk.

My participant data also revealed a turning point in their emergent clinical knowledge hypothesis is often noted when they have a compelling need for more information than their implicit knowledge base can provide to make an appropriate or effective decision. The need for explicit knowledge from another source was linked to several insights from the participants, including the need for internal and external resources to update and upgrade their existing knowledge for action.

Category 3: Bridging decisions (implicit knowledge application versus explicit knowledge seeking). The conceptual link between sentinel data and action revealed by my participants began to provide some shape to the how questions I had posed regarding the use of knowledge management in LTC to improve performance capabilities. In terms of when the participants accessed explicit or external sources of information to make decisions the concept of bridging decisions emerged analytically and was more thoroughly articulated through a conceptual mapping process. Through my analysis of participant data I saw there were times when the less urgent scenarios being described by my participants revealed I was missing a process step between sentinel data and action in these less emergent scenarios. On one hand, in situations when my participants suggested the sentinel data drove an appropriate and effective response from the participant's implicit knowledge base, they moved straight to care decisions and

actions. On the other hand, when they determined there was insufficient confidence in this implicit knowledge base to make an action decision the participants moved instead towards seeking and acquiring explicit input from other sources, whether that be an internal resources in the facility or an external consultant.

As my conceptual analysis proceeded I began to see there were times that participants were not satisfied or secure with their implicit knowledge arsenal in making decisions and they often took the time to seek additional knowledge prior to acting. During my concept mapping process the concept of bridging decisions came to me to account for this behavior when there is a turning point noted in the scenarios described by the participants and a prediction could not be made sufficiently to guide appropriate and effective action without excessive risk.

My conceptual analysis has shown sentinel data use is triggered during emergent situations through the elicitation of the tacit knowledge arsenal of the industry's knowledge users. LTC knowledge clients, creators, managers, and users then make bridging decisions to meet their need for appropriate and accessible internal and external resources through a crafting strategy often aligned with risk management urgency. My data suggested that tacit knowledge responses in LTC are triggered in emergent situations through the use of the sentinel data and facilitated through bridging decisions.

I went back to my participant data again to see if the concept of bridging decisions fit the practices my participants were describing, I felt confident it did. The participants reported many examples of utilizing these processes to identify an appropriate response to sentinel data, and in the absence of recognizing an appropriate

response to the presenting circumstances surrounding the sentinel data they would access, or attempt to access, an explicit knowledge base, and either another healthcare worker, available technologies, or external knowledge experts.

By comparing scenario to scenario data, I also saw that bridging decisions are made in emergent and non-emergent situations, but a recognized or significant risk factor was still involved in the scenarios. The level of urgency or risk clearly influenced bridging decisions in the scenarios described by my participants. In the opinion of the healthcare workers interviewed when a patient is “crashing” (on the verge of dying) one cannot take the opportunity to Google a relevant response. But when there is less urgency and risk their bridging decision may be to hold action and seek explicit knowledge from an internal or external source. Angel, a knowledge creator from Facility A stated:

I learned these things through experience, but I also went to the company that makes the lifts. I have worked with mechanical lifts during my whole career but my knowledge about them is a personal thing. I would hope that I have always used them right but you still want to be sure that you follow all the manufacture guidelines because as soon as something happens the first thing that will come up is what were the manufacturer guidelines. . . . So I contacted the manufacturer prior to doing the training. The manufacturer had a lot of information on the lifts that explained how to determine what lift pad to use. Is it by weight or is it by size? It is actually color coded but you have to know what the patient’s weight is. The average CNA does not usually know what the weight of a patient is. So we tell them they need to ask; the charge nurse can look it up for you but you have to

use the right size because if it is too small you can cause skin breakdowns, and if it is too big you do not want someone falling out of that lift pad because they were not secure in that lift pad.

Anita (knowledge user from Facility A) explained:

When I first started I did not understand some of the rules of Medicaid and the rules related to a Qualified Income Trust. Because of the not knowing the rules a patient was almost denied their benefits and we would have lost nearly \$7,000. It would have been easier to have sent me to a \$2000, or maybe even less than that, seminar so that I could learn something from that ahead of time. This could have an impact on several cases over time, so in many ways knowledge can impact the facility's finances big time. . . . So I need knowledge from the business office about the resident's payor source. Does somebody need Medicaid? What are their actual benefits? It will determine whether or not they (the residents) can have therapy.

Betty (knowledge manager in Facility B) commented:

You ask the patient what causes the pain and what kind of pain it is? What relieves the pain and does it affect their daily activity? This allows you to set up a pain plan for the patient. Maybe notify therapy that while they were in the hospital ice really worked for them. Can you set them up with some ice? While they were in the hospital they got some e-stim—can we set them up with e-stim? The pain program helps us to deliver individualized care for our patients based on their pain level and condition.

Next, I looked at the literature to see if there was anything related to this behavior described from LTC or other healthcare settings related to bridging decision processing. The work of Tsuru et al. (2014) suggested that data does in fact trigger an implicit process within a clinical assessment encounter that impacts the “thinking process in their professional judgment and action” (p. 188) towards adapting interventions for not only emergent situations, but also when the situation involves patient safety and the prevention of disease complications. The authors described the data elements observed by clinical professionals as part of an implicit and systematic process that is responsive to three important “foci” (p.189) for observations: signs and symptoms related to diseases, complications of medical procedures, and adverse effects related to pharmacotherapy.

There were pertinent examples of each of these foci described in the responses from my participants that led to the concepts of sentinel data and bridging data analysis. The study findings from Tsuru et al. (2014) support the category of sentinel data related to these observations as well as the category of bridging decisions that are triggered by the sentinel data to stimulate the thinking processes necessary for care decisions and move the participants towards direct clinical action or towards acquiring additional internal or external knowledge support.

Category 4: Risk management versus best practice applications in LTC. The emerging conceptualization for the study also suggested bridging decisions arise due to the imperfection or insufficiency of the practitioner’s implicit knowledge structures, as well as the lack of predictability needed to drive knowledge related action. Even the most caring and knowledgeable healthcare practitioner has had the experience of making a

medical error that could cost the life of a patient that they love and cherish. So in scenarios where the practitioner is even a little unsure, a bridging decision to access more support and resources may be crucial to support appropriate action. These insights to the barriers and enablers for the use of KM in LTC also began to shed light on my initial research questions. As the seminal scholars of grounded theory had suggested the process of emergence and theorizing is not always linear, but is instead guided by constant comparison, reflexivity and analysis.

This was true as well for my participants in their search for solutions. In spite of their motivation to seek resources, the inherent need for following up on sentinel data was often seen by my participants to be at cross purposes with the actual opportunity to follow up on sentinel data, leading to even greater risk management concerns. My initial coding process captured many unique codes that define these elements and led to my focused codes (and later categories) of sentinel data, bridging decisions, resource dependency, and risk management drivers of action. See below examples of codes and representative quotes from my initial coding.

Code: Expressing fear of failure in meeting clinical performance standards.

Betty from Facility B stated, “If we are not monitoring those patients and they unfortunately have a bad outcome there could be citations or fines, so it is a big deal.”

Code: Linking data and observation use to risk prevention strategies. Annette from Facility A noted:

I need to know if a patient is losing weight. I may need to discuss a feeding tube with their doctor or issues about the end of life. Sometimes the doctors do not

know everything that is going on because they are not in the building eight hours a day, so I am a knowledge user and also a knowledge sharer with the doctor and with the nurses.

Code: *Linking organizational knowledge gaps to patient survival.* Annette from Facility A stated, “Related to blood sugar reading—Did the patient get insulin, did they eat. Sometime the patient has been fine and then they crash (die).”

Code: *Linking knowledge gaps to endangerment of staff and patients.* Betty from Facility B noted:

The staff taking care of these patients require a lot of training in working with people who have dementia. In the later stages of dementia you get into a lot of behavioral issues. They will strike out at staff, resist care. In Alzheimer’s people regress backwards, instead of moving from being an infant, then a child, and then an adult, they tend to go from being an adult, to a teenager, to a child, to infantile kinds of behaviors. The staff needs to understand this. For instance when you were a child your mother told you not to let anyone take your clothes off. So when we go to a patient who has regressed like this and we try to undress and bathe them it is like some stranger coming to them and trying to take their clothes off. They do not know who you are so they are going to strike out at you. You can get hurt.

Code: *Linking KM to risk management.* Angel stated:

It can impact the center if down the road 10 years from now someone wants to do a law suit where they see it was all signed for and the lawyer is saying to me on

the phone: Gee, how come the nurse signed for this but I cannot find the assessment anywhere? No kidding!

Arthur from Facility A noted:

Right now the documentation allows the facility to get paid. Now that Medicare is denying more claims and we are seeing that more and with managed care coming in. Managed care does not want to pay for anything they do not have to. So we have to do documentation every week and we have to do a progress note every week for the managed care so that they know how the patient is doing, how far are they walking or something like bed mobility. They want to know this in terms of min assist, mod assist, etc. But sometimes the patient is still mod assist for a while, but they are getting better and getting stronger but still listed as a moderate assist. But if the therapist just puts down mod assist and do not document to show that they have made a little bit of improvement, managed care will cut them and send them home.

From the analysis of data so far, risk assessment seemed to play a significant role in the bridging decision to seek additional data or resources to act, or perhaps to act at all. Medical errors are the healthcare industry's Achilles heel representing a significant compliance challenge and leading to thousands of deaths each year. The potential for anyone in any industry to make a process error was also the basis for Deming's (1993) sincere concerns related to the fallibility of data and information to meet the high rigors of quality in practice as knowledge concepts. Deming would like thoroughly researched and vetted knowledge creation at the ready to drive processes. However, the current

practices in healthcare do not consistently allow for the time or explicit resources to do so, leading to a sense of frustration for my participants and concerns related to clinical risks to patients and the professional risks for the practitioners I interviewed. See example of related coding:

- Linking performance improvement deficits to risk management
- Linking the role of mentor to risk management
- Linking leadership process to risk management
- Linking KM failures to future litigation potential
- Linking KM failures to system failures
- Linking knowing to doing gaps to patient survival
- Linking knowledge deficits to patient injury and death
- Linking the importance of knowledge sharing to patient safety
- Linking failures of KM to negative patient outcomes
- Linking formal knowledge needs to LTC survey requirements
- Linking knowledge gaps to endangerment of staff
- Linking poor information management to regulatory sanctions

In reflecting on my risk related codes I also began to understand it did not matter if all of my initial codes that became focused codes related to risk management were not titled exactly the same way. What matters is they are all about risk management. The impact of risk management concerns in LTC was made evident throughout the interviews I conducted, regardless of the distinct disciplines interviewed or the facility where the

interview was conducted. The saturation of distinct responses involving the need to address risk within each facility supported my identification of this category as relevant.

Most risk concerns presented were related to clinical concerns, but many were also related to regulatory and reimbursement concerns that either threaten the existence of the facility from a regulatory standpoint, or their financial viability. Although there was clearly an emphasis on risk management driving KM interventions in the first two facilities where I conducted my interviews, there was a distinct difference between them. In Facility A the creator of knowledge had very little in the way of support to handle the multitasking of their various roles and there was significant frustration expressed with the physical and psychological burdens faced every day. It was primarily the 30 plus years of experience that allowed this knowledge creator to cope with these demands on a daily basis. This participant expressed very deep cognitive knowledge structures and made several remarks related to using all of it every day to respond to emerging concerns related to sentinel data and in meeting the operational and administrative needs of their important roles as the organization's clinical manager, clinical educator, mentor, and knowledge creator. Angel noted:

If the performance is not changed, basically it impedes resident care, and not positively, but negatively. Whether it is because no one had looked at their skin for more than a week because it was missed, they could have a skin breakdown that was not treated and things were not taken care of. . . . If during the survey process the surveyor finds something like this. How can you defend it? You cannot.

Angel also stated, “I reviewed the standards of practice and it is not appropriate to sign off on things until you do them. But then after everyone was educated I still need to check the entries and audit them literally every day.” He went on to say:

It is something that has to be followed the same way, every single time. No short cuts, it has to be done that way every time. If I find it was not done that way I am going to go back to the person and ask them why they did not have a second person sign off. Why were not two signatures? It has to be done or it will come back on them. There has to be two signatures.

Facility A did not have a formal KM program, or even a formal staff development program. Through an outside consultant they were just beginning to look into a formal risk management program that would be linked to their staff development efforts in the future and also integrate their new requirements for quality management recently imposed to meet emerging regulatory and reimbursement considerations. Right from the beginning of the interview with the facility’s knowledge creator, the aspect of having to wear multiple hats to serve the organization as a clinical manager, and essentially the head of any knowledge sharing or KM initiatives, surfaced and revealed the frustrations experienced in coping without additional resources. Angel (knowledge creator from Facility A) offered several insights to these concerns:

I do not have someone who is devoted to staff development or education, so it has to be myself that ensures that it happens. . . . I can either provide the information to someone else and have them do it, or I do it myself, but it has to be done.

The study participants also acknowledged many of these potential knowledge gaps may lead to potential risk management concerns that are serious enough to affect the facility licensure and potential legal and financial liability due to an increased risk for medical errors. This was most highly visible in the data obtained from participants in Facility A. For example, Annette stated:

Your brain can only absorb so much. You can only do one task at a time. Multitasking does not work when you are trying to pass our medications. You need to be able to think and when people interrupt you it does not work. I repeatedly hear people tell things to my unit manager and I hear her say to them, "Write it down." You cannot go up to someone who is a charge nurse and just verbally tell them things. Write it down for them. They have way too many things happening for them at the same time. Even nurses at the med cart. I see them write I down. Because if you think in 10 minutes they will remember that Mrs. So and So needed this when three other people also came to them in the same 10 minutes? Probably not. The way people are much sicker now has changed things much, much.

Angel stated:

I would hope that the first time you had gotten the education you realized, but it does not always work that way. So my knowledge manager hat comes off and my director of nursing hat goes on." (Making sad face). With dual roles you need to be able to switch those hats back and forth when you are the same person. Sometimes you are the manager, then the educator, and then the Director of

Nursing (DON). Sometimes it is hard, especially when the DON has to be the disciplinarian. So I would hope sometimes when the educator is educating them they (the staff) take it seriously enough that they take it to heart so they do not have to visit with the DON later on. Even when it is the same person.

Arthur also claimed that in his department, “We constantly have one more task that has to be taken care of .They constantly need to reprioritize. It is not just little things—it is everything.”

Along with the need to do wear multiple hats, Angel, the knowledge creator at facility A, also expressed frustration numerous times during the interview regarding the lack of resources to assist with these multiple and complex responsibilities:

If there is anything the nurses need to know about. Like a new medication procedure. Like something that might come from the pharmacy. The pharmacy does not come and provide the training. I have to do that and make sure the new information needs gets disseminated.

From the perspective of this clinical manager it was not just the multitasking required in the role, but the multiple demands placed on the whole staff that contributed to knowing to doing gaps in LTC facilities. During the interview Angel also shared some of the clinical and operational complexities required in LTC that contribute to these demands:

We are so heavily regulated we have to do five times more than the average person in any other type of health care facility might have to do. If we have some new kind of new product or process, anything related to the pharmacy the nurses

need to know about, either related to a medication or related to a new procedure we need to follow. For example we recently had a new procedure initiated related to signing out drugs through the EDK. (emergency drug kit)... this was something our nurses were not used to doing. The rule for years, actually the law, was never really enforced. Now it does need to be enforced, so we need to change and also enforce it with our doctors as well. This was also something new for them. One example of this is about using a Hoyer lift (a mechanical lift for residents who cannot be safely transferred by staff alone). I had to train everybody on what kind of Hoyer lift pad goes with each type of Hoyer lift, and what to look for if a pad is not functional anymore. For instance, while patients are in the therapy room they have to look at the pad and see if there are any frays etc. that may cause the pad to break during transfer. I had to teach the laundry staff had to wash the pads, explain to them they had to use bleach; it has to be line dried. All of that kind of stuff. Then I had to train the maintenance department because they are part of the safety team and they need to go and check the lifts every month. So they have to label them all in a certain way so they can account for all of them. We have replacement ones in central supply. By the time I went back for my final interview at Facility A it had been sold.

There was a new owner and a new consultant group was going to provide additional support services for managing the facility. The knowledge creator and director of nursing were promised an assistant director who would be responsible for quality management, risk management, and staff development. This news was very well received. I also

observed that despite the knowledge creator's onerous schedule, they had made the time for me to do my study in the facility. The knowledge creator stated that when they heard about the study they saw an opportunity to participate in an effort to educate the LTC industry about the needs of LTC. They also stated the interview process had actually helped them reflect on their overall needs and responsibilities in the negotiations

My initial coding process captured unique codes that revealed an inherent need for following up on sentinel data was often seen at cross purposes with the actual opportunity to follow up sentinel data due to a lack of resources for doing so, leading to even greater risk concerns for my participants and leading to the emergent category of resource dependency through my constant comparison process.

Category 5: Resource dependency and KM in LTC. When it came to the impact of resources that mattered to every one of my participants, some of them were happy with their resources and some were not because they had little to no resources; however, it made a difference to all of the facilities where I collected data. I also observed that one of the facilities most lacking in resources expressed the most frustration. The facility with the most resources expressed very little frustration and the impact of multitasking was far less significant to them.

The availability of resources also represented many of the conceptual elements that enable or inhibit the capacities of these facilities to use knowledge to improve performance. In Facility B, there was an existing corporate support structure that provides resources for KM driven by planned corporate responses to core industry regulations, as

well as planned organizational changes to prepare for the new quality and financial incentives of pay for performance in healthcare.

Facility B had a management structure with support systems and corporate resources to enable them to more quickly and efficiently deal with knowledge gaps of proactive versus reactive responses, and a level of confidence expressed by the staff in achieving a good outcome for the patient and for the facility if these processes were followed. For example, Barbara, the knowledge creator from Facility B stated:

My role is one of creator and manager, although most of what we have I think is predetermined by corporate. Mostly in terms of policies and procedures or just basic nursing. Our role here is to communicate this to the staff in a way that we think would benefit them, so we have to know our staff so we can know in which ways they can learn best. When something new is introduced by corporate, myself and my managers would sit down and digest it first and determine how we can get that communicated across three shifts of information for nurse who may work full time, part time, or even per-diem. So after we have determined, ok we are comfortable with the material and ready to translate that to the staff then we set up a schedule for the staff and post the schedule so we can let everyone know when that material is going to be available. So they can sign up at different times.

Usually we try to present new material in a larger group format because it was more information they we can convey in a small mini-meets or individual in-service. It will take at least a full hour program or even more. Usually my nurse educator would take ownership of this type of program. She is the one that would

be initially introducing the information, getting the information to everyone and then evaluating how it is working. The nurse educator and the two unit managers are the key people who spearhead the larger facility wide projects. Since our corporation has facilities across all time zones the same program can be seen in different time zones and provides several choices for times of the offering for the Webinar for our staff.

From Barbara's perspective, it was not so much resources that presented a knowing-to-doing barrier, it was time and the knowledge foundation that nurses entered their profession with in the current healthcare environment. Barbara stated:

Time is a major barrier. The nurses in LTC are losing the skills of assessment because they have become more task-oriented in an effort to just get through their day. So they forget about looking at the clinical signs and symptoms for each patient. Also in LTC we are dealing with a lot of LPNs versus RNs (with less assessment training), and so we often have to do a lot of reinforcement related to the simple assessment process. It is one thing to educate staff on specific topics and another thing to have to educate people how to be a nurse.

Betty (knowledge manager from Facility B) also noted that in spite of these barriers their program offered up to date clinical education for the nursing staff and Facility B staff was coping well and confident in their capacity to do what they needed to do to serve their patients. They had a part-time staff development nurse and a very experienced and engaged unit management on each unit who was proactive at identifying

and responding to learning needs and intervening to help the professional and para-professional staff grow professionally. Betty was very proud of these resources:

We have a corporate “university” that offers a lot of resources on a whole range of topics that is available on-line for our staff. Once we provide education on a topic, either in orientation with our nurse educator or on-line and the staff does not perform as expected, we will audit the process, and I will pull everyone in to be reeducated or address it with an individual who continues to not perform as required by counseling them.

Betty further noted:

Our skin program has preprogrammed protocols that include pictures of wounds and ulcers. We can select the picture and the description—a stage one, a stage two pressure ulcer etc., and a diabetic or venous ulcer, etc. Under each of the pictures is a protocol so that when you call the doctor you say to the doctor, “this is what I have, and what would you think about this treatment until you see the patient?”

The doctors are usually not as up to date with skin care treatments, and with a good description they are fine with listening to a recommendation for treatment from the nurse who deals with it all the time until they come in to see the patient.

Facility B utilized their internal and external knowledge resources efficiently and effectively. The facility participants still expressed a focus on risk management elements, but their approach to risk management was more proactive than reactive. They were investing time in, and planning for, near future changes in the industry and prioritizing

how to utilize their assets to develop a strategic plan. They recognized where the system gaps existed, and the staff was spending at least some of their time addressing the gaps.

I observed that the risk management focus for Facility B was secondary to a proactive plan of meeting regulatory needs through a planned quality management focus that integrates knowledge sharing as a core process, rather than a reactive process of responding to emergent risk management concerns. Initial coding related to risk management elements suggested:

Code: Describing comprehensiveness of organization's risk management strategies. Betty noted: "This company has the best risk management system I have ever seen in my life. It takes you down the garden path: what type of incident was it? Was the patient hurt? Is they were describe it? Did you notify the family? Did you notify the doctor? Who were the witnesses?"

Code: Linking leadership in LTC to risk management and KM. A knowledge manager from facility C noted: In the leadership meeting I get more data about what is going on, learn about new problems we need to address and then I bring that back to the unit and see work with the staff to see that it gets implemented by the staff or by me.

Code: Linking knowledge-sharing elements to regulatory requirements. One participant stated: "AHCA is the Agency for Healthcare Administration that oversees LTC. So they act as kind of the gate keepers of the building, so that everything we do-a lot that we do pertains to what AHCA wants us to do."

In all three of the facilities where I conducted my research the directors of nursing also served in the roles of knowledge creators or developers for the facility, as well as

quality managers and risk managers. However, although the responsibilities in their roles were very similar, the pressures on them and resources available to meet these challenges were vastly different in each facility. The expressions of these differences between and among them led to another conceptual insight in my analysis.

In terms of outlier data, negative evidence, and rival explanations grounded theory provides a mechanism for these events—additional theoretical sampling to capture more relevant data to examine these emerging concerns and follow the trend found in data. I had not been able to convince one of the other initial facilities I had spoken with early on to execute a community partner agreement. Since I had to find a replacement facility I was able to theoretically sample my third facility to look more closely at what happened to KM processes when lack of resources, as a substantial barrier expressed by my initial participants, was removed. No other change in procedures was made—just the site after my change in procedure was approved by the IRB. The questions and research processes remained exactly the same.

I theoretically sampled the most affluent and resourced facility in my region to be my Facility C to see if my emerging categories of risk management and resources would be supported. In analyzing data and coding my interviews for the first two facilities I had noted there was clearly a trend between and among the participant responses of these two facilities that seemed to correlate access to resources with the proactivity or reactivity in risk management and knowledge sharing interventions. My third research site facility shares the same regulatory and clinical requirements as the other two, yet their picture of what can be done to use knowledge to improve performance was radically different.

Facility C has consistently been a Five Star facility over many years—a rating awarded by the Centers for Medicare Services (CMS)—and recently had a deficiency free survey from AHCA. Facility C was also in the process of integrating several best practice programs within the facility to add to an already well developed and prolific staff development and healthcare provider education program. The facility offers a well-funded and generous professional development program with tuition reimbursement, in house scholarships for employee growth and development, and flexible work hours to facilitate their employee's capacity to take full advantage of these resources.

In terms of a formal KM program, staff at this facility, like the other two, had also never heard of KM. Their implicit application of KM practices, however, was driven by a proactive quality management perspective first, and a risk management program that was also designed to be very proactive rather than reactive.

There were formal and well-organized internal processes and procedures in place to drive the regulatory components of risk management into their quality management strategic plan. The quality management strategic plan for Facility C is the actual business plan for the organization. Since the core components of compliance are proactively integrated into the plan and actively addressed in the day-to-day processes and activities of the facility, the strategic plan is primarily focused on quality measures, patient satisfaction, and staff satisfaction.

There were no expressions of frustration communicated by the leadership or staff in the facility. Participants instead responded to questions related to incentives and barriers for performance improvement with expressed gratitude to the leadership of the

organization for the opportunities they had been provided that allowed several of them to be promoted over time from paraprofessional to professional roles in the organization. Each one expressed that it was the ability to continually learn and develop in the organization that excited them every day. None of them were receiving large salaries. It was the opportunity for additional knowledge and professional development that motivated them to be Five Star performers every day.

Facility C's knowledge creator Caroline was interviewed for the study, Caroline and talked about how the facility uses knowledge to improve performance. The participant stated:

I am the facility director of nursing, quality manager, and risk manager. In other large buildings where I have worked these roles are sometimes done by several people. Our building has 120 residents. I am able to handle these responsibilities in such a large building because I have a great support system here and a staff I have great confidence in. But I also make sure quality is taken care of first, and then I do not have so much to do in terms of risk management.

We have a continuous quality improvement plan that guides our day to day operations. This plan includes the regulatory requirements that we need to meet for survey and then further addresses any findings from our routine audits, particularly our resident satisfaction audits. I have a nurse educator that follows up with staff across all the disciplines to do training related to these requirements.

In response to defining any barriers to performance at the facility, the knowledge creator from Facility C suggested:

In terms of barriers to performance I cannot think of any. Of course everyone would like to have more time and more money to make things happen, but we do very well with the resources we have and our residents receive very good care and are very happy here.

In terms of resources for managing knowledge, Facility C's had a formal staff development program with an experienced educator who managed programs across the facility and across disciplines. Karen, the knowledge manager for Facility C described a broad range of actions and activities that were geared to meeting knowledge needs proactively:

I work with all of the departments in the facility to help them be ready for surveys. We just had the health department come in 2 weeks ago to do an inspection that included most of the departments in the facility including nursing, housekeeping, dietary, etc. The main focus was bio hazardous waste management. We did fine because we plan programs quarterly do reviews on everything related to infection control. In addition to the bio hazardous waste, I am currently doing a review with the nurses, CNAs, and even the medical staff about UTI's (urinary tract infections). It is not just about hand washing anymore, or doing peri-care well, we now have to worry about the superbugs. We do a review on how to prevent UTI's by providing care using good infection control practices. Then I work with the nurses and the doctors to make sure the patient's symptoms warrant being on antibiotics. We are actually working towards a formal antibiotic

stewardship program for next quarter to try and help with the superbug problem, and make sure all the patients who are prescribed antibiotics really need them.

In addition to being a key resource for knowledge sharing and dissemination in the facility, the educator Karen also stressed that the facility tries to tap into the implicit knowledge of other staff members and actively bring their personal expertise into plans for training and in-services, as well as utilize external resources to improve processes:

We have a lot of people who can help our staff learn here. I recently did an interactive training with another department manager who did role playing with me to teach proper skills for ADLs that also went into some detail about how we need to document these ADL skills since this also impacts reimbursement.

We also work on skills like helping the care staff recognize the need for touch and using a best friend's method for working with our memory care patients. We have a very low turn-over-rate here, so our patients have become like our family. When our patients are not doing well it really impacts our staff, so we work with them about how to deal emotionally with patient transitions as their disease process progresses. We also offer a special training program for Dementia and several staff members have become certified in working with our dementia patients and this really makes a difference in the confidence of our staff and our patients and their families are happy with the results. Right now we have a big project planned through our quality management program related to patient education. We will be developing a process much like they use in the hospitals where our nurses will be

able to enter into a database what the patient's education needs are and then be able to print out tools for them to review with our patients.

Facility C is currently moving into the realm of KM without an active awareness of the topic prior to the study. They are proactively planning within the facility regarding their facility specific knowledge needs, even the patient specific knowledge needs of their residents. Although much of their intervention planning is still geared to meeting existing regulatory and reimbursement requirements, they have moved past the stage of primarily responding to emergent events and concerns as Facility A is primarily doing, and also past the baseline corporate education planning to meet the prescriptive needs for LTC that Facility B is working with. Facility C is moving towards patient-centered best practice methodologies with a growing commitment to performance development for employees as well as the facility through a well-integrated quality management approach. These diverse response capabilities in LTC reflect a sustained need for a KM framework.

Theorizing: Crafting KM in LTC

The data from my participants clearly demonstrates LTC facilities use KM to create, manage, and use knowledge. The key findings of the study further suggest the theoretical perspective that best explains how LTC facilities utilize KM is by crafting, rather than creating, KM responses to address emerging knowledge needs.

Data from my study participants revealed most knowledge creation in LTC happens outside of LTC facilities, and these external resources are often very limited in specific facilities. The tentative efforts taken by individuals at two of my three research sites to build a knowledge user system was largely tied to introductory technology

resources poised to assume a larger role in future knowledge sharing efforts but not yet readily available to meet the comprehensive knowledge needs of staff members. One of the facilities was supported in part by a few online learning modules from their corporate leadership and a second contracted for baseline learning modules subsequent to my study.

Some LTC participants in my study engaged in semi structured efforts to formally share knowledge, but their efforts to do so require them to continually multitask to meet their other defined responsibilities in the organization. The study findings further suggest the systematic lack of formal KM strategies and resources in LTC often leads many knowledge managers and users to emergently adapt existing knowledge resources that are immediately available to them in an effort to sufficiently respond to presenting knowledge needs.

Crafting incentives suggested by the study participants are often instituted primarily to avoid penalties, both legal and financial, that potentially impact the viability of the organization. The motivation for improving performance capabilities in LTC are also grounded in the avoidance for risk, rather than the building of best-practices for quality improvement. A mediating factor in the allocation of time and resources to obtain and share knowledge for risk or quality is tied to the facility's resource availability to seek internal or external knowledge resources.

Today there is a wave of clinical best practice applications being prescribed for healthcare, including LTC, due to the ever growing regulatory and reimbursement requirements established by CMS to meet quality care standards. These regulatory and financial concerns are clearly in the minds of my participants, but for many of my

participants the capacity to provide best-practice interventions is often more dream than reality. The impact of risk management concerns and multitasking as barriers to performance encompassed a significant number of initial codes in all three of my research facilities and were often linked to feelings of frustration and helplessness. As my study results have also shown, the very facilities that face the most probable risks may also be those that experience the greatest limitation of resources for their staff to deal with emergent situations.

My study participants revealed the knowledge needs in LTC are extremely diverse and range across the continuum of disciplines from life-saving interventions such as CPR, life improving interventions that heal wounds, rehabilitate functional capacities, the protection of patient lives by keeping them safe from injury, harm, and infection. These knowledge requirements also include knowing mechanisms for improving the emotional and social support systems in LTC through activities ensuring gentle and compassionate personal care services for the elderly residents who reside there. Crafting efforts to address these knowledge needs include knowledge users in LTC educating and mentoring each other within and among the various clinical and nonclinical disciplines within the facility.

The tacit and context specific sources of knowledge accessed by my study participants in response to emergent knowledge needs was illuminated by the recognition that sentinel data elicited individual, context-specific, implicit knowledge utilization, or knowledge seeking. My study findings suggest these crafted KM responses are initially drawn from the tacitly internalized knowledge resources of individual practitioners

accessing implicit knowledge when triggered by sentinel data. Bridging decisions are then concurrently made, often explicitly expanding opportunities for collaborative sources of validation and/or confirmation to guide actions and interventions when knowledge workers question the adequacy or sufficiency of their sentinel data responses.

Knowledge in LTC is managed, shared, translated, transferred, and applied to the day-to-day and moment-to-moment clinical and operational decisions in LTC through a patchwork of existing structures unique to each facility and based on the availability of resources to address emerging knowledge needs. The lack of a coherent theoretical model for KM significantly impacted the utilization of available resources in all three of my research sites. During my reflections on the relationship between the interpersonal and intrapersonal nature of knowledge sharing in LTC expressed by my participants. I began to memo about the integration of my participant's individually grounded categories of sentinel data, bridging decisions, and the nature of knowledge in relationship to the more organizationally focused aspects of risk drivers and resource dependency.

Research Question 4

As I reached saturation of my categories through data analysis and constant comparison my theorizing kept bringing me back to the concept of knowledge versus knowledge management and how the lack of clarity and consensus facilitated the lack of application of KM as a performance improvement process to be integrated into the strategic planning for healthcare organizations data analysis. I went back to the data again and saw that the key distinction between the concepts of knowledge expressed by my participants and the key to better access to available resources was a lack of a perspective

or theory to build a systematic approach to using knowledge that could address individual and organizational knowledge needs.

This insight brought Deming's (1993) system of profound knowledge into mind. My fourth research question was: What is the relationship of the emerging conceptual theory to Deming's theory of profound knowledge? Deming's (1993) system of profound knowledge came into my mind during this conceptual theorizing. Deming referred to his system of profound knowledge as "a theory of transformation" (p. 50) that addressed the concept of knowledge discussed in Chapter 2, though the management of processes and people, and focused on the organizational cultural requirements of knowledge through the paradigm of leadership in organizations. Deming's theoretical writing related to profound knowledge was very conceptual and led to dissemination of many organizational principles for improve quality with knowledge.

Deming's conception of a system related to knowledge suggests knowledge must be deeply rooted into every aspect of the organization, be managed proactively and systematically at every level, and must seek to find cooperation and collaboration between all parts of the system moving towards a common aim or goal. Deming's writing about knowledge in his 1986 text *Out of Crisis* focused on the idea that although western organizations needed knowledge to improve quality, organizations feared the loss of pride an individual might face in acknowledging they lacked it, the loss of profit an organization might require to pay for new knowledge, and the decrease in productivity an organization might realize by implementing better quality.

The term *system of profound knowledge* was introduced by Deming (1993) in his text *The New Economics*. Deming (p. 50) suggested the system of profound knowledge represented a *theory of transformation* that integrated a network of interdependent parts to accomplish the aim of the system. The system also required knowledge of the interrelationships between the components and people who work in it. Deming's focus was driven by organizational concerns related to quality management and the exploration of how knowledge could intervene in organizational in achieving quality.

Emergent Conceptual Theory: Crafting a System of Profound KM in LTC

The inspiration and aspiration for organizational performance improvement through the use of system of profound knowledge management earned its way into my study's conceptual analysis through the perspectives and lived experiences of my study participants. The term also pays homage to Deming's (1993) foundational work in the fields of science and quality management. Deming's theoretical construct of a profound system of knowledge was more implicit than the more recognized scholars in KM, yet Deming's scholarship, commitment, and passion for excellence in organizations led the way theoretically towards using knowledge to improve quality.

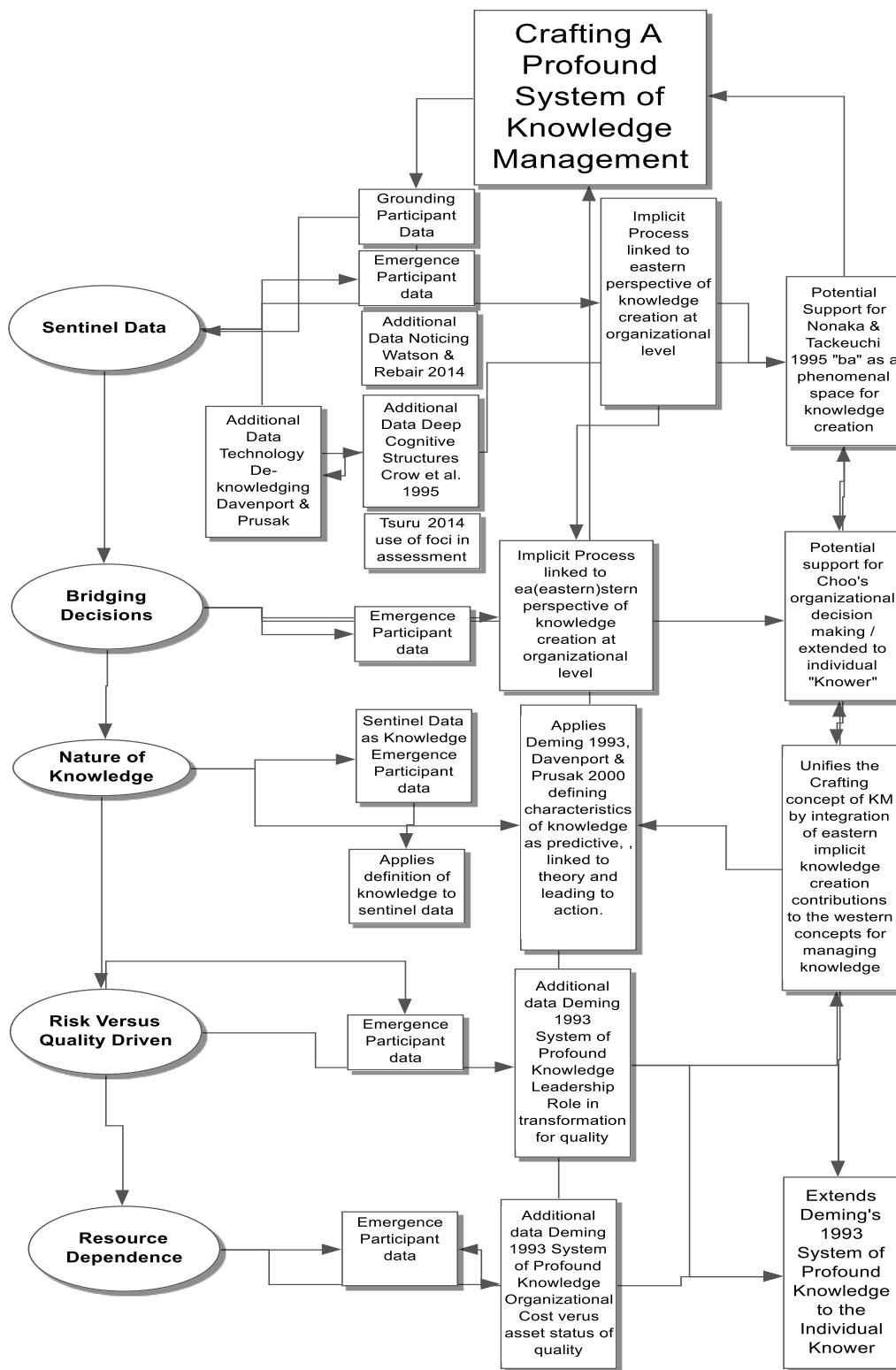
The concept of knowledge management evolved after Deming's (1993) work on the system of profound knowledge, yet the current study's findings support the theoretical bridge described by Deming between quality management and the management of knowledge. My participant data further reveals a theoretical conceptual link from Deming's organizational concept of profound knowledge towards the individual knowledge user revealed by my participants to transition knowing into doing.

The term profound knowledge resonates with the deep and wide scope of analysis for the current study. Data analysis has led through the deep cognitive structures of the human knower, the rich and thick lived experiences and perspectives of a diverse group of knowledge workers in LTC, and an in-depth exploration related to the age old problem of what constitutes the nature and use of knowledge. This theoretical journey included an analysis of the broader concerns and considerations of LTC facilities as well as the regulatory entities that license and motivate their use of knowledge. This theoretical perspective also integrates eastern and western scholarly views for managing knowledge.

The current study extends Deming's (1993) theoretical perspective from organizational knowledge needs to the individual knower's capacity to meet them. *A profound system of knowledge management* integrates, facilitates, and organizationally supports the creation, crafting, resourcing, sharing, transfer, translation and use of tacit and explicit knowledge to improve organizational performance capabilities. These capacities then potentially benefit the organization's internal and external customers, knowledge users, and strategic objectives by facilitating access and integration of the knower's sentinel data and contextual knowledge. The emergent conceptual categories that guided theory construction and the implications discussed in Chapter 5 include:

- Category 1: The Nature of knowledge in LTC
- Category 2: Sentinel data
- Category 3: Bridging decisions
- Category 4: Risk management versus best practice focus
- Category 5: Resource dependency

Figure 2: Conceptual Map: Crafting Profound System of KM in LTC



Summary

Glaser (2004) suggested the theory generated through grounded theory processes is used to explain, rather than describe or prove, the “preponderance of behavior” emerging as the “main concern of the primary participants” (p. 8) contributing to the study. The current study has empirically explored, analyzed, and generated a substantive conceptual theory to explain how long-term care facilities use KM to improve performance capabilities through the a priori insights and perspectives of healthcare knowledge clients who design, manage, and use knowledge in LTC facilities. The views and perspectives of my study participants (the doers within the knowing to doing gap) drove the emergent processes used to explain the preponderance of behavior throughout this grounded theory exploration.

In Chapter 4, I provided an in-depth discussion of the emergence of the conceptual theory constructed through the a priori perspectives and lived experiences of my study participants. I collected data, analyzed the data, and utilized a rigorous grounded theory methodology to evaluate the process elements inherent in using KM in LTC to improve performance capabilities. A diverse group of clinical and nonclinical participants representing three facilities has revealed some significant gaps in the fundamental processes and structural elements of KM in LTC and identified several incentives and barriers that impact knowing-to-doing in the industry.

Chapter 5 will provide a summary and discussion of how the study results potential contribute to extending knowledge for future research and professional practice. I will also discuss how these results may potentially impact social change at the

individual, organizational, and societal levels. In Chapter 5, I also provide insights to efforts to better understand KM in LTC through a conceptual integration of KM elements discussed in Chapter 2 and suggest avenues for future research guided by the emergent conceptual theory that resulted from this study.

Chapter 5: Discussion, Conclusions and Recommendations

Chapter 5 includes a discussion of the conclusions from the study results and their implications for research, professional practice, and social change. The findings in Chapter 4 suggested that KM interventions in LTC, through the perspectives and lived experiences of my participants, are crafted rather than created. The findings further suggest that the primary incentives for sharing knowledge in LTC identified in the study's data analysis are currently risk and regulatory related, rather than quality driven.

A Profound System of Knowledge Management Concept

The purpose of this grounded theory study was to seek a substantive conceptual theory to explain how the process of KM is used to improve organizational performance capabilities in LTC. The overall intent of the study was to develop a theory to facilitate closing the knowing-to-doing gap in LTC grounded in the empirical data obtained through the perspectives and lived experiences of the study participants. The resulting theory that emerged theoretically extends the seminal work of Deming (1993) to integrate the significant role of the knower within a theory of profound knowledge management.

Consistent with Deming's (1993) profound theory of knowledge, this study may also expand the healthcare industry's recognition of the relationship between KM interventions and organizational performance improvement and quality management interventions. These insights may then proactively drive KM strategic contributions in LTC through the generation and dissemination of best-practice models. The study's theoretical perspective also integrates decades of scholarly thinking related to eastern and

western KM scholars by conceptually linking the cognitive knowledge creating capacity of the knower to the pragmatic operational elements of KM.

Nature of the Study: A Grounded Theory Approach to the Problem

Charmaz (2006) noted the end point in grounded theory is the construction of an explanation (or theory) of processes, actions, and interactions that are studied empirically through the views of the study participants. In this study, I used an interpretive, grounded theory approach. I focused on the phenomenon of KM in LTC through the lived experiences and insights of the study participants. I sought to explain the nuances and complexities of knowing-to-doing in LTC through the dynamic a priori perspectives of those who operate in the industry as the knowledge creators, knowledge managers, and knowledge users who represent those who do within a knowing-to-doing scenario in LTC.

Summary of Key Findings

The study findings in Chapter 4 provide an overall of the explanation provided by my participants related to the emergent theory for the processes, actions and interaction of KM in LTC. The substantive conceptual theory of crafting a profound system of KM in long term care provides a deeper understanding of the perspectives and challenges of the knowledge users who operate in that system and illuminates a better understanding of their needs, aspirations and capabilities. My findings, discussed in depth in Chapter 4, reveal a theoretical framework for the crafting of KM strategies in LTC.

This framework for *crafting a profound system of knowledge management in LTC* extends industry knowledge related to the organizational processes, policies, and

behaviors (through the a priori views of the study participants) that enhance and inhibit the use of KM strategies to improve performance capabilities in LTC. The framework further extends Deming's theory of a profound system of knowledge from the organizational level to the contribution of individual knower. The concepts of the use of sentinel data and bridging decisions to direct KM actions further links the deep cognitive structures of the knower to pragmatic decision making to support the organization.

In my discussion of the emergent theoretical framework in Chapter 4, I provide a discussion of five primary conceptual categories drawn from my a priori participant data to better explain these conceptual links. The analysis of this data has also revealed how knowledge may be systematically applied in LTC to drive strategic performance improvement actions in the LTC facilities. The five conceptual categories contributing to the substantive conceptual theory constructed from the study data and analysis include:

- Category 1: The nature of knowledge in LTC
- Category 2: Accessing sentinel data
- Category 3: Bridging decisions (implicit knowledge application versus explicit knowledge seeking)
- Category 4: Risk management versus best practice focus
- Category 5: Resource dependency

The Nature of Knowledge

Nonaka (1998) posited that the seminal element for effective organizational KM is an understanding of the nature of knowledge itself. My study participants have revealed that the implicit nature of knowledge used to craft knowledge responses in LTC

incorporates a concept of knowledge that integrates the use of data. In addition, information as well as the more fully developed knowledge concepts generally acknowledged by KM scholars.

Accessing Sentinel Data in LTC

My study participants have also revealed that, in emergent situations, their search for a knowledge response is often initiated by accessing an implicit knowledge source that is triggered by the recognition of emergent (sentinel) data that can be subtle in nature but often potentially linked to profound and dire consequences if not identified. In addition to my participant data supporting the use of sentinel data to craft knowledge responses, I analyzed additional supporting data obtained through theoretical sampling of other studies that further supports the significant role and implications of sentinel data in driving knowledge seeking behaviors in healthcare (Crow et al., 1995; Tsuru et al., 2014; Watson & Rebar, 2014).

Bridging Decisions: Implicit Knowledge Application Versus Explicit Knowledge Sharing

Data presented by study participants also revealed significant conceptual elements of an organizational process model for how knowledge is used to guide decisions in LTC. My study findings suggested that, in times when participants determine their sentinel data provides necessary, but not sufficient data to drive appropriate actions and interventions, LTC knowledge users seek additional data or other supporting resources. They then make bridging decisions to determine what constitutes the most adequate or sufficient knowledge level needed to drive appropriate action.

Risk Management Versus Quality Management Motivators

Data from my participants has also suggested that knowledge topics in LTC facilities address a wide range of topics to meet the regulatory, legal, and financial (as well as clinical) requirements of their industry. Analysis of participant data revealed the primary drivers of knowledge acquisition in LTC, despite the overall industry goal of best clinical practices as a key drivers, remain focused primarily on addressing reactive regulatory and risk management considerations, rather than proactive quality management or performance improvement strategies, as motivation for knowledge seeking behaviors.

Significance of Resource Availability

Dalkir (2005) noted a “socially enabled” knowledge sharing culture transcends the organization’s cultural conviction from the concept “knowledge is power” (and therefore good to hoard), to a core cultural concept recognizing “sharing knowledge is more powerful” (p. 186) than knowledge hoarding. From Dalkir’s perspective this cultural construct is also strategically advantageous. My study findings suggest that knowledge in LTC is not hoarded, but held captive by the lack of policies, processes and people to unleash it for the benefit of the individual knowledge workers, their patients and the organization.

Chen (2012) indicated there is a lack of detailed analysis in the healthcare field related to the actual implementation of KM systems to use lessons learned and operate collaboratively to share information and knowledge effectively. Chen noted there are many barriers to KM solutions, and their removal may create enablers and facilitators in

the use of knowledge to improve care decision support and care delivery in healthcare organizations. Data from my study participants in all three facilities has also suggested the availability and quality of knowledge resources significantly impacts their capabilities to craft, translate, disseminate, and implement KM strategies to improve performance. The lack or limitation of these resources then acts as a barrier or mediator of successful interventions, and was further noted to significantly impact the satisfaction and confidence for the knowledge users in addressing their role and responsibilities.

Interpretation of Findings

Findings in Context of Sensitizing Literature

To provide a deeper understanding of the how the contributions of my participants have illuminated the relevant theoretical concepts explored in the study, and the interpretation of study, the impact of a theory of profound knowledge management in LTC will be discussed in terms of how the study findings and implications are situated within the literature reviewed in Chapter 2. The discussion will further explain how the theory of profound knowledge management tentatively extends the extant knowledge of these topics related to KM in LTC related to the KM individual and organizational process elements of:

- The nature of knowledge, knowledge creation, and KM
- LTC decision making through KM
- Enhancing and inhibiting KM resource

Integrating East & West: Knowledge, Knowledge Creation, and KM

Dalkir (2005) posited that, although the concept of managing knowledge in the knowledge economy is increasingly crucial, “Knowledge is abundant, but the ability to use it is scarce” (p. 2). Dalkir suggested that organizations needed to develop systematic strategies to enable them to cultivate and share knowledge to enhance their competitive advantage by leveraging the “collective wisdom” of organizations (p. 5). Dalkir further suggested crucial stages for a systematic “knowledge management cycle” (p. 46) to embody this process would include capturing, codifying, creating, sharing, acquiring and applying knowledge by integrating “people, process, organization, and technology dimensions” (p. 50) consistent with this cycle. Dalkir called for a clarification of organizational and individual knowledge creation concepts.

Nonaka and Takeuchi (1995) offered an accessible conception of knowledge creation (socialization, externalization, combination, internalization) for converting tacit knowledge to explicit knowledge through the use of mental models. The model provided a systematic view of knowledge creation yet failed to offer an organizational process model for decision making and action. My study implications tentatively address this gap in the scholarly KM literature between knowledge creation and organizational use of knowledge through a tentative integration of eastern and western philosophies related to knowledge creation and knowledge management.

Nonaka (1994) defined *knowledge creation* on an organizational level as “a process in which the organization creates and defines problems and then actively develops new knowledge to solve them” (p. 14) for the organization’s benefit. Nonaka

also suggested the knowledge spiral designed to articulate the process was more specific to organizational knowledge creation than individual knowledge creation. My findings tentatively reveal knowledge creation might be better understood by looking at it as a set of distinct potentials for individuals and organizations that, when unified through a systematic process conception, may potentially contribute to the organization's overall knowledge arsenal to improve performance capabilities.

My study findings reveal at the individual level KM may initiate through the deep cognitive structures of individual knowledge users. User responses to knowledge needs are often triggered emergently by sentinel data. This response potentially acts as an antecedent or catalyst to individual knowledge access or creation; and often leads to the need to craft a more developed organizational response through available resources.

To potentiate the promise of creating knowledge on the individual level, Nonaka and Konno (1998) introduced the eastern concept of *ba* to lay the foundation for understanding the essential process of tacit knowledge creation in the individual. Nonaka and Konno noted *ba* stems from an existential philosophy for understanding that individual and collective knowledge creates a "transcendental perspective" (p. 40) for the integrative process required for knowledge creation. Nonaka and Konno also suggested *ba* is grounded in an existential framework as "the 'phenomenal' place" for knowledge creation (p. 41) that is not limited to the individual knowledge creation experience.

My participant data indicates *ba* may represent the phenomenal place knowledge users access their tacit knowledge in response to sentinel data. In addition to the potential theoretical link to *ba*, I examined literature for confirming or disconfirming my data

related to the access and use of implicit knowledge Through this literature search I obtained additional data support for my conceptual categories of sentinel data and bridging decisions. Watson and Rebar (2014) suggested “professional noticing” (p. 514) or “marking” (p. 515) represents an important clinical process to guide the knowledge use and actions of healthcare workers in response to presenting knowledge needs. My study findings indicate the concept of sentinel data may be theoretically linked to Watson and Rebar’s conceptual noticing or marking dynamic and Tsuru et al.’s (2014) clinical assessment foci.

Crow, Chase, and Lamond (1995) also suggested cognitive, rather than being merely operational, processes of implicit knowledge access are also strategic. Crow et al. suggested healthcare workers access their “domain-specific knowledge structures” to elicit strategies for organizing or accessing core concepts “used for recognizing problems” and responding to them (p. 208). The authors further suggested this implicit cognitive process is activated when the individual is presented with a significant knowledge need.

Nonaka and Konno (1998) suggested, on the organizational level, the term *ba* also represents “a shared space that serves as a foundation for knowledge creation” (p. 40) between individuals. They further suggested in the individual’s *ba* space knowledge becomes embedded through one’s experiences, reflections, and interactions with others. The findings of the current study may offer tentative insights to the process of knowledge access from the *ba* space of healthcare workers. The conceptual analysis of my study findings support Nonaka and Konno’s concept of *ba* through the empirical evidence from

study participants related to the tentative existence of a phenomenal source of implicit knowledge called upon (through sentinel data triggers) in times of emergent knowledge needs of the individual practitioner and the organization.

My findings also reflect a potential integration of eastern knowledge creation principles and practices with the more western knowledge management epistemology and ontology elements found in crafting a profound system of knowledge management in LTC. The concept of crafting, rather than creating, individual or organizational knowledge management responses implies a conscious effort on the part of individual knowledge seekers to build a whole from available components, often within the context of a lack of clear and accessible resources. This insight provides a conceptual view of a knowledge crafting process that is evolving and generative; a potential first concept to bring a germane picture of an integrated individual to organizational process into focus to make it more accessible or comprehensive for knowledge users in LTC.

The crafting process conceptually moves from the implicit recognition of sentinel data to actively seeking explicit information and formalized knowledge for support and validation through bridging decisions to craft a relevant and fully articulated knowledge management concept to serve emerging knowledge needs. My conceptual analysis suggests ba may represent the phenomenal place where knowledge users in LTC implicitly go to cognitively and clinically respond to sentinel data. My study findings suggest a deep, phenomenal storage capacity of implicit knowledge exists in the minds of healthcare workers where lessons learned through past experience, reflection, and attempts to intervene in other presenting clinical encounters can inform the clinician in

times of emergent, and often urgent, knowledge needs. The study findings further indicate this implicit resource for knowledge is tapped through deep cognitive structures when the healthcare worker is presented with sentinel data.

Nonaka and Konno (1998) also suggested ba also provides a “platform for advancing individual and / or collective knowledge” (p. 40), a place that provides a stepping off point from which to examine the relationship between tacit and explicit knowledge creation in organizations. Nonaka and Konno further suggested their concept of ba provides a point to examine the context where knowledge workers determine a need to access external resources to support their implicit knowledge resources. My study findings indicate this stepping off point may occur when sentinel data knowledge needs trigger bridging decisions and identify a need to external resources to at sufficiently.

My findings have suggested knowledge users in LTC may represent the first piece of this conceptual puzzle—the sentinel data they collect or have communicated to them. They then theoretically reflect on the implicit value of this data to make individual bridging decisions to act, or not to act, on behalf of their patient or their organization. My participant data indicates these determinations are made clinically and operationally through bridging decisions to decide that there is adequate and sufficient knowledge to take action or seek additional explicit sources of knowledge.

Nonaka (1994) also suggested knowledge creation is dependent on the flow of information inherently linked to human action and “anchored on” through the “commitment and beliefs of the holder” (p. 15) in the process. Consistent with this perspective, my study participants appear to emergently access their ba space to respond

to sentinel data, and then reflect upon their commitment and beliefs in what they find. If the response is not sufficient to adequately address the presenting knowledge need, these participants make a bridging decision to access additional resources or information from currently available sources in order to craft an adequate response

Nonaka and Takeuchi (1995) suggested in addition to the individual and organizational views of knowledge creation, on an ontological level knowledge can only be created by human beings and then the organization must introduce opportunities to amplify this knowledge and formalize it as part of the organizational knowledge arsenal. Nonaka and Takeuchi noted this potential is achieved through a process of human interactions and the use of their knowledge spiral. My study findings also suggest in the absence of a proactive and systematic approach on the part of the organization to amplify, formalize, or resource knowledge creation and KM crafting in LTC, the organization and the healthcare practitioners remain vulnerable to ongoing risk. The lack of accessible knowledge resources allow LTC patients to remain more vulnerable to consequences of medical errors made by well-meaning LTC professionals.

Nonaka and Takeuchi (1995) also suggested for the knowledge spiral to be effective tacit personal and context-specific knowledge frames need to be codified and made explicit to be shared and utilized. Nonaka and Takeuchi further suggested this conversion process for organizational knowledge creation is actually a socialization process between human beings that leads to a process of externalization where tacit knowledge is articulated into explicit knowledge concepts to be made available for future and ongoing knowledge interventions by a wider variety of knowledge users. This

perspective, consistent with Deming's transformational indicators, requires proactive and systematic organizational resources for knowledge sharing at every level.

Alsadham et al. (2008) also noted the wide range of disciplines and interests immersed in the study of knowledge management from the fields of "psychology, philosophy and epistemology, economics, management science strategy and sociology" (p.808) contributed to the "intangible nature of knowledge" and the "subjective and eclectic nature of the management field, in which KM belongs, compounds the difficulty" (Alsadham et al., 2008, p. 808) for successful implementation. It is this juxtaposition of constructs and lack of conceptual clarity that has inhibited an integrative model of KM to evolve in organizations.

LTC Decision Making through KM

My review of sensitizing literature for the current study revealed the consistent the lack of consensus for operationally defining KM constructs at the individual and organizational level only confounds the problem of applying KM solutions. My study findings suggested these conceptual gaps inhibit LTC facilities to make adequate and effective decisions in healthcare. Choo (1996) conducted an analysis of how organizations might design a decisive "knowing organization" (p. 329). Choo's study took tentative steps to link distinct knowledge concepts and move the KM process away from the technology paradigm and towards a perspective embracing human cognitive awareness as integral.

Choo (2003) further suggested many of the extant strategic KM concepts are best operationalized as management tools and approaches; but to actually take KM strategies

into action also requires the recognition of Nonaka and Konno's (1998) ba as an enabling condition to close the conceptual gap. My findings tentatively narrow this conceptual gap between eastern and western knowledge use paradigms by revealing a theoretical cognitive process in response to sentinel data that may elicit access to implicit knowledge within the user's internal ba space for sense-making and decision making. Choo suggested sense making and decision making involves the knowledge user choosing "significant information" to be "attended to" (p. 4) through a process of reflecting on and interpreting past experience in order to make sense of it and use it to make decisions and drive actions. The findings of my study support Choo's perspective and suggest sentinel data is data that must be attended to in order to drive adequate knowledge responses through bridging decisions, sometimes in life and death scenarios.

It has been more than a decade since Choo's (2003) elegant and humanizing view of knowledge creation. It has been two decades since the introduction of Nonaka and Takeuchi's (1995) insightful knowledge creation spiral was introduced in the seminal literature on KM. The extant literature in these two decades has consistently suggested these conceptions, for the purpose of operationally utilizing knowledge creation principles to become knowing organizations, have remained conceptually inaccessible for many knowledge users in western organizations.

Nonaka (1998) later suggested a consistent barrier to adopting knowledge creation strategies was often the mindset of organizational leadership in the west that views knowledge as always formal, quantifiable, and systematic. In contrast, Nonaka suggested the Japanese (eastern) view of knowledge is not always something objective and ready to

process, but often exists as something “tacit” and “highly subjective” found in the “insights, intuitions, and hunches of the individual employee” (p. 24) that can be easily utilized by the organization. The subtle and nuanced principles exposed by these seminal KM scholars are clearly at work in the lives and decision making of the LTC healthcare workers who contributed their perspectives to this study.

The initial conceptual categories emerging from my participant interviews focused my attention on the perceptions of the nature of knowledge from my study participants. My preliminary review of literature had sensitized me to many properties and dimensions related to the nature of knowledge (epistemology). I was also sensitized to systematic ontological relationships between conceptual factors that may enhance or inhibit the capacity of knowers to use the knowledge to improve organizational performance capacities. This analytical focus proved very helpful in exploring the nature of knowledge through the perspectives of my study participants and using my reflexivity in addressing my inherent biases in favor of the seminal scholars.

Choo’s (2003) suggested Davenport and Prusak’s (2000) conceptualization of KM was insufficient to offer an accessible and comprehensive picture of the KM process. In contrast, my study findings suggest in Davenport and Prusak’s attempt to advocate for a KM theoretical concept grounded in a human, rather than a technical paradigm, the nature of the elements of data and information may have gotten swept away in the extant literature as seemingly second class components in the knowledge concept continuum, as mere delivery resources for human knowers.

Davenport and Prusak's (2000) conception of compressing knowledge overload to data for later access in the deep structures of technology may also represent the key foundational elements of knowledge access in the human mind as well as the technology lexicon. Structural knowledge elements (data, information, and knowledge), as utilized through the perspectives of my study participants, reveal each of these elements offer specific conceptual operational processes to drive knowledge crafting and utilization of knowledge in LTC. Data from my study suggests sentinel data triggers access to more fully formed knowledge concepts in the deep cognitive structures of human knowers. My study findings suggest data, information, and knowledge are key KM elements as seen through the cognitive operational process of human LTC knowers in much the same way Davenport and Prusak described access to the deep structure of technology.

Enhancing and Inhibiting KM Resources

Choo (1996) suggested a "knowing organization" (p. 1) utilizes decision making systems motivated by the recognition of problems and the search for a satisfying alternative. Choo noted the user may then seek more data or information and further communicate knowledge to another individual for their future use after determining the ongoing value of the data. Consistent with Choo's premise, my study participants sought more data and information to guide action when their bridging decisions determined a need to search for a more satisfying response to their sentinel data.

All of the organizations represented in the study used their tacit and explicit knowledge in the performance of their daily work and in the development of performance improvement capacities for their organization. The study results further revealed the three

facilities where my research was conducted had very limited learning resources or structures for capturing knowledge for the future use of their staff. They also had no formal policies or procedure manuals at the ready to comprehensively address even some of their predefined and significant learning needs.

Unfortunately, the inspirational and aspirational concepts the knowledge creating company as proposed by Nonaka and Takeuchi (1995), the knowing organization proposed by Choo (2003), and warnings from Deming (1993) regarding the need for systematic use knowledge in organizations have not provided a coherent or sufficient system's perspective to guide KM processes in LTC. These limitations are not only inhibited by a failure of the LTC industry to understand the nature of knowledge or KM, but by a lack of readily available resources to provide timely and adequate support and validation for their reflective and theoretical knowing to doing decisions.

On a clinical, operational, and strategic level the inherent capacity of LTC knowledge users in my study to craft sufficient knowledge responses to save lives and improve performance were inherently limited by the implicit and explicit knowledge resources at their disposal. My study findings suggest although LTC facilities are embedded with knowledge resources through their knowledge worker's untapped knowledge tacit knowledge content, their knowing needs and learning needs too often lack a strategic KM arsenal or systematic structures to facilitate learning opportunities.

None of the facilities where I conducted research had a proactive and formalized overall strategic vision for using KM to improve performance. In addition to the lack of strategic planning for KM and learning, in some circumstances there was also an absence

of operational baseline resources to address emergent knowledge needs. The lack of a preexisting knowledge repository and resources in LTC often meant for my study participants that knowledge crafting frequently relied solely upon emergent person to person knowledge seeking and information sharing encounters driven by sentinel data and limited by the bridging decisions resources readily at hand, rather than best-practices.

The data from my study further suggests the multitasking within LTC facilities required of many managers, and the productivity standards applied to knowledge users, may also inhibit the time needed for socialization and reflection needed to formalize and integrate lessons learned on an individual and organization level. This lack of time to bring the knowledge spiral to life often led to ongoing organizational learning disabilities and fewer opportunities for knowledge creation to support the organization's future knowledge needs and the improvement of performance capabilities.

Study Findings in Context of Conceptual Framework

Glaser and Strauss (1967) suggested the ultimate conceptual framework for a grounded theory study must emanate from the data collected, not any preconceived theoretical lens gained from a previous review of literature. The conceptual framework for this study was aligned with the later position of Corbin and Strauss (2008) that supported a preliminary review of literature in grounded theory to help a researcher gain knowledge of "salient problems" and "relevant concepts" (p. 35) to "enhance sensitivity to subtle nuances" (p. 37) found in the a priori data obtained from participants.

Sousa and Hendriks (2006) suggested a grounded theory approach is "useful" (p. 315) to reveal the experience and viewpoints of those within an endeavor as the basis of

relevant theory development, and therefore overcome the relative conceptual obscurity of seminal concepts central to the phenomenon, such as of “knowledge” and “management” (p. 315). The current grounded theory study and subsequent analysis has taken tentative steps to illuminate a deeper understanding of these central phenomena through the construction of a substantive conceptual theory of crafting KM responses in LTC.

Glaser (1998) suggested “All is Data” (p. 8) when relevant to the substantive area studied. Additional data collection sources were utilized during the study to ensure sufficiency of data collection to reach saturation and answered the research questions. The additional data sources included theoretical sampling of extant literature. I established the relevance and reputability of my data sources and justified their utilization through my researcher memos and within my conceptual analysis. My preliminary sensitizing review of literature assisted me in the development of my preliminary research questions and helped me determine the scope and nature of the current study. My data collection methodology also incorporated theoretically sampled literature on topics that emerged subsequent to the data revelations of my study participants.

Maxwell (2013) noted, “The most productive conceptual frameworks often bring in ideas from outside the traditionally defined field of your study” (p. 40), and the researcher must remain open to the “theories held by the participants in your study” (p. 52) which, from Maxwell’s perspective, too often remain unexamined. The contextual lens for the current grounded theory study embraced the opportunity to examine the a priori views of the study participants related to KM to ultimately ground this study.

The conceptual framework for the current study investigated how KM processes are utilized in LTC to improve organizational capabilities and performance could have only emerged through the views of my study participants who carry out the knowing-to-doing processes and face the knowing-to-doing barriers in their organizations. Their insights provided me the opportunity with a thick, rich, and deep exploration for this study.

Limitations of the Study

The current study was somewhat limited by the small sample size; however, the diversity of participants and facilities provided ample opportunities for obtaining sufficient data for analysis and reaching saturation of theoretical categories and analysis in this grounded theory study. The study was also limited to LTC, and the study findings are therefore limited in transferability to other healthcare settings. The systematic rigor of the grounded theory methodology and concurrent documentation within the current study assisted me to overcome these methodological limitations through the provision of an ongoing and detailed audit trail and the reflexivity of the researcher. Recommendations generated by the study findings suggest several opportunities for further research and practice in LTC that may be potentially transferable to other healthcare settings.

Implications for Social Change

Deming (1993) suggested theories offer “a window into the world,” all knowledge “is built on theory” (p. 105), and theories based on knowledge, when actualized, are directly related to the predictions of probable outcomes. The theory evolving through my participant data has looked through such a window at knowledge utilization in LTC. The study findings suggest in healthcare predictions of probable outcomes often come with

high stakes that may include life or death scenarios for patients, professional costs for healthcare knowledge workers, and/or survival strategies for the organization.

In order to facilitate social change in the LTC industry, my plan for dissemination of the findings is to publish articles in relevant professional journals and to submit applications to call for presentations to state and national conferences. Other potential stakeholders related to the result of the study include professional organizations that plan, direct, and oversee LTC organizations. The dissemination plan for the study includes reporting the results of the study to professional organizations that could benefit in a manner consistent with the requirements of the IRB and the letters of cooperation established with the community partners who participated in the study. I plan to submit my findings to several industry journals and organizations for the benefit of my industry.

Social Change Implications of the Study: Individual Level

Consistent with the call to arms from the WHO in 2005, the aspirations of those that work in the LTC system through the perspectives of my study participants, is to save lives and improve healthcare outcomes. The LTC staff members who participated in my study demonstrated they are always resilient, and often heroic in their attempts to compensate for the strategic planning gaps in their organizations. In times of stress and challenge they double down on their efforts to do their best for the sake of their residents and each other in spite of a frequent lack of available resources to address their KM and performance improvement needs.

Best practice knowledge is clearly needed to provide LTC facilities with accessible and proactive practice standards and protocols to guide best-practice care

delivery. Although these KM gaps impact healthcare organizations across the continuum, they are even more significant in LTC facilities, which often lack the economic and operational resources of hospitals. Performance improvement, although emerging as a topic of interest in the LTC industry, is frequently second to managing risk and keeping their heads above water for most of the study participants. They clearly want to do their best, but time and resources to accomplish what must be done consistently competes with what could be done.

The intent of the current study is to promote positive social change by facilitating the scientific application of best practices and lessons learned in LTC. The adoption of KM, as a performance enhancement strategy, offers LTC the potential to solve some of the knowledge related problems that impact their performance capabilities. These problems impact the dignity and quality of life for a rapidly aging healthcare population; and the lived experiences of those who serve them. Improving performance capabilities of these organizations through the application of KM strategies could potentially save lives, reduce healthcare costs through improved allocation of resources and facilitate regulatory compliance for the organizations who serve the elderly. These strategies also have implications for improving the work lives of LTC workers by narrowing the knowing-to-doing gaps that limit professional effectiveness and require knowledge users to work harder to meet their responsibilities.

Social Change Implications of the Study: Organizational Level

The organizational level of interest in the current study was related to enhancing performance capabilities in LTC through a deeper understanding of how KM strategies

can be used to support performance improvement. Chang-Albrites and Krugler (2005) suggested an evolved KM system was the key to the development of organizational methodologies in enhancing performance through a deeper understanding of lessons learned and root causes, selecting appropriate repair or improvement strategies, through prioritizing critical decision making, improving practice design, and updating current techniques for professional practices.

Alstete (2012) suggested more human elements should be considered to advance a balanced approach to effective knowledge use and management in organizations. The crafting of a system of profound KM can potentially facilitate this human approach through the use of KM processes and tools to respond to sentinel data and enhance bridging decisions in LTC from adequate and sufficient to best-practice interventions. This paradigm shift can also contribute to social change in LTC by operationalizing new ways to save the lives of some patients; and make the professional lives of knowledge creators, managers, and users more satisfying by providing healthcare organizations with strategic tools that transcend risk mediation and facilitate sustainability through crafting KM.

Best practice knowledge is clearly needed to provide LTC facilities with proactive practice standards and protocols that can guide best-practice care delivery. My study participants were clearly motivated to improve their individual and organizational performance. They were consistently diligent in their striving to achieve more and in many cases, consistently deterred by the need for multitasking and the limitation on resources to assist them. The literature related to performance improvement in healthcare,

consistent with my study findings, suggested reducing knowledge diffusion barriers by providing pathways to standardize knowledge sharing in the organization can better enable organizational performance capabilities.

The KM gaps across the healthcare continuum are even more significant in LTC facilities that often lack the economic and operational resources of hospitals. The findings of the current study suggest performance improvement, although emerging as a topic of interest in the LTC industry, was often second to managing risk and keeping their heads above water for most of the study participants. They clearly have goals to do their best, but time and resources to accomplish what must be done consistently competes with what could be done.

A deeper understanding about the nature of knowledge and the individual and organizational processes that provide KM can open a window of opportunity for LTC facilities to recognize and adapt a new methodology. My study data and analysis suggests when patients no longer have to rely solely on the internalization of individual clinical practitioners to save them with the crafting of sentinel data and bridging decisions, patients and organizations may reap the benefits of more systematic and readily available resources driven by socialization and dissemination of knowledge creating endeavors and the long-term objectives of a knowing organization.

Social Change Implications: Societal Level

Drucker (1998) suggested, “To remain competitive—maybe even to survive—businesses will have to convert themselves into organizations of knowledgeable specialists” (p. 11) and then compete with knowledge. Drucker (1993) further suggested a

systematic approach to using knowledge would encourage a methodology that “converts a craft into a methodology,” and “skill into something that can be taught and learned” for the benefit of the organization (p. 46). My study results are grounded in data from the center of Drucker’s (1992) predictions for a critical change in knowing-to-doing. My study therefore represents in-part a litmus test for Drucker’s unanswered call. Learning how to craft the system methodology and structures needed to integrate knowledge resources and facilitate performance capabilities can assist LTC to answer Drucker’s call.

Practice Recommendations

My study findings also suggest despite the WHO’s (2005) call to use knowledge to save lives around the globe, LTC organizations have not yet fully, deliberately, or systematically engaged in developing these quality focused knowledge strategies. Several strategic and operational recommendations for the LTC industry emerged from the conceptual insights gained from the study findings. These recommendations offer a new strategic vision for planning new processes, policies, and behaviors to enhance the use of KM strategies to improve performance capabilities in LTC facilities and contribute to positive social change in the healthcare industry.

The perspectives and lived experiences of my participants suggest the primary drivers for sharing knowledge in LTC are currently risk and regulatory related, rather than quality or best-practice driven interventions. The primary formal initiatives for knowledge sharing in many LTC facilities were too often instituted primarily to avoid penalties, both legal and financial, that could impact the viability of the organization, rather than serve the best practice clinical needs of patients and staff while meeting these

compliance responsibilities. Nicolini et al. (2008) also noted KM literature did not usually “fall within the interest of management scholars and specialist in this sector” (p. 245) in healthcare and had therefore remained largely unnoticed.

Nicolini et al. (2008) also concluded from their review that although interest and theoretical discussion related to KM in healthcare may have been on the rise, actual results remained scarce. The authors cautioned KM policies in healthcare needed to be “tailored to the inherent professional and local nature of knowing in the healthcare sector” and “reconciled with the specific nature of processes” (p. 260) within the context it is designed to address. My study findings further suggest the local nature of knowing in LTC currently lacks an explicit organizing framework to enable successful implementation in the industry. The current study findings suggest using knowledge management strategies that systematically enable and resource implicit and explicit knowledge sharing through a more proactive quality management perspective could potentially enhance performance capabilities in LTC.

In 2016, the CMS and the Department of Health and Human Services moved forward on a plan published in 2011 providing practitioners with an overview of operational changes in the Code of Federal Regulation to define quality improvement and outlining a strategy to protect the integrity of the Medicare Trust Fund by improving performance capabilities in healthcare. CMS suggested continual learning is critical to success of this project, and further noted CMS shares an inherent responsibility to support organizational learning across the healthcare system. In recognition of this responsibility,

CMS will be introducing new core competencies in healthcare improvement, as well as promoting continual learning and education as key aspects of CMS quality programs.

This regulatory recognition from CMS related to CMS's responsibility to contribute to the evolution of quality and knowledge creation in LTC may facilitate a paradigm shift in the industry. This perspective may help LTC transition from a reactive risk management focus to a proactive quality management focus. It is in this interactive space that strategic KM interventions can significantly impact the performance capabilities of LTC facilities and improve the lives of LTC residents and staff.

Recommendations for Future Research

The overall intent of the current study is to promote positive social change in healthcare by enhancing the scientific application of best-practices and lessons learned to solving the problems of enhancing the dignity and quality of life for a rapidly aging healthcare population. Improving the capabilities of LTC organizations through the application of KM strategies could potentially save many lives, reduce healthcare costs through improved allocation of resources, facilitate regulatory compliance for the organizations that serve the elderly, and improve the work lives of LTC workers by narrowing the knowing-to-doing gaps that exist in the industry and limit their professional effectiveness. Further research is needed to investigate if these same factors impact the care of patients in other areas of the healthcare continuum.

The study implications discussed above examine how the findings of the current study may tentatively expand the scholarly dialogue on some of the historical insights of the seminal knowledge management scholars through the insights of my study

participants in regards to the relationship of the nature of knowledge and the use of knowledge to improve knowledge management in LTC. It is also my hope that the findings may also tentatively impact some of the scholarly skepticism regarding the concept of knowledge management in the literature.

De Alvarenga Neto et al. (2008) suggested perhaps the overarching concept of KM represents “an oxymoron or perhaps impossibility” and asked, “Is there a pure model” for KM, or “is it a hybrid model” in which “elements are quintessential” (p. 255) for research? The current study has taken tentative steps to answer this call. Determining whether or not the term KM represents an oxymoron will require a much deeper empirical exploration of the concept. My study findings suggest KM in LTC is not an oxymoron although as an industry strategic concept in LTC, KM often remains a conceptual and operational mystery.

This mystery is in part due to a lack of consensus related to the nature of knowledge to be managed, and the nature of KM principles and practices to be integrated into the organizations overall strategic planning. The current study findings tentatively inform this conceptual gap through and integrated eastern and western concept of the nature of knowledge grounded in the lived experiences of my study participants. This unified conception suggests knowledge creation is in part implicit knowledge at work, therefore part of KM. LTC knowledge users create a knowledge response to address sentinel data. To be actionable sometimes the use or management of this knowledge requires proactive resources to complete or supplement what has been accessed. These

pragmatic supporting elements are therefore inherently linked to the creation and use of knowledge to improve performance capabilities in LTC.

Current literature related to improving performance and meeting organizational strategic objectives in a variety of industries suggest KM systems may offer solutions, but have proven difficult to implement due to an incomplete conceptualized of how knowledge is integrated into a systematic and operationalized practice model. More empirical data needs to be done at the individual level to achieve a deeper understanding across the continuum of healthcare of how a profound system of knowledge management might impact quality and improve performance in healthcare. Further empirical research is needed to examine the transferability of these process and structural elements to other industries within the healthcare continuum.

In terms of recommendations for future research, additional qualitative and quantitative studies are needed in the LTC facilities to test the substantive conceptual theory of knowledge crafting that emerged in the study. This would allow for a larger and more diverse participant sample to validate the findings and test the theoretical perspectives of this conceptual theory. More empirical research is also needed to examine the transferability of the study to other healthcare settings such as home health, assisted living, and hospital healthcare setting. Investigating these relationships across the continuum could be helpful to achieving the goals of the WHO to save lives. This is a significantly rich area for additional research across the healthcare continuum.

Conclusion: Crafting a System of Profound KM in LTC

KM was the core phenomenon that grounds the current study. The preliminary review of literature suggested after more than 20 years of research across a wide variety of disciplines there remains a lack of consensus related to the definition, process variables, and effective implementation of KM in healthcare. The conceptual framework for the current study investigated how KM processes are utilized in LTC to improve organizational capabilities and performance through the wide contextual lens and dynamic perspectives of study participants who carry out the knowing-to-doing processes in their organizations. My diverse group of clinical and nonclinical study participants representing LTC care facilities revealed some significant gaps in the fundamental processes and structural elements of KM still exist in LTC.

My study participants also identified several incentives and barriers that impact the knowing-to-doing process in the LTC industry. The study results further situated these lived experiences within the seminal KM literature and explored the importance of the nature of knowledge use in LTC to address performance capabilities. Study findings suggest a better understanding about the nature of knowing and the availability of proactive resources for planning quality with KM may enable knowledge users to incorporate best practice initiatives.

Crafting the System

Deming (1993) suggested a “system of profound knowledge” (p.49) could contribute greatly to such a transformation. Deming defined a *system of profound knowledge* as “a network of interdependent components that work together to try to

accomplish the aim of the system” (p. 95), but failed to provide a specific architecture for knowledge creation, or a specific operational framework for managing knowledge.

Deming further suggested two critical elements in the construction of such a system. The first critical element from Deming’s perspective was a proactive constancy of purpose within the organization. The second element is an understanding that the true role of leadership is not to direct activities, but to sponsor and energize the evolution of the process through the development of enabling conditions.

The proactive development of a knowledge arsenal within LTC facilities could represent part of the LTC organization’s constancy of purpose to build a profound system of KM. Through such a system LTC leadership could sponsor and energize resources to accomplish the aims of patient care and safety, staff development, and organizational learning. My study findings suggest a lack of this sponsorship in LTC to facilitate enabling conditions for KM. My findings suggest the leadership in LTC facilities remain focused on risk mediation and have not yet strategically planned for a KM system to support a proactive quality management perspective.

Deming (1993) cautioned to the scholarly world that although a system of profound knowledge is needed for transformation in organizations, western leadership’s propensity for putting immediate profit above sustainability and competitive advantage could be a barrier to implementation. Deming suggested western organizations needed to balance lagging measures with leading measures to be sustainable. The lack of resources in LTC to effectively implement KM noted in the current study findings makes these cautions ring true for crafting a system of profound knowledge management in LTC.

Resourcing the System

Kaplan and Johnson (1987) introduced their seminal work, *Relevance Lost: The Rise and Fall of Management Accounting*, to offer a more proactive strategic planning paradigm to organizations facing an increasing global and technologically challenged business environment. Kaplan and Johnson suggested organizations needed to balance organizational sustainability with a better methodology than cost accounting, one that integrated leading measures as well as lagging measures. Leading measures were intended to transform organizational strategies through the integration of intangible assets such as organizational learning were later introduced in *The Balanced Scorecard* (Kaplan & Norton, 1996), but were not specifically identified or operationally defined.

Kaplan (2009) further noted the balanced scorecard approach was an effort to bring attention to the need to integrate a continuous quality improvement perspective that supports and optimizes the present and future process performance of employees. Nearly a decade later this analysis rings very true for healthcare organizations. A key implication suggested by my study findings related to the risk management focus of KM in LTC is that, consistent with Deming's caution, knowledge acquisition and proactive quality management strategies are viewed as organizational costs rather than strategic assets.

The current regulatory and financial realities in healthcare related to the Affordable Care Act suggest using KM and quality as leading measures to build knowledge arsenals for quality improvement can no longer be seen as a cost that hurts the bottom line. This approach would be better described, in concurrence with Kaplan and Norton (2009), Deming (1993), and Drucker (1995) as an asset to ensure sustainability

and competitive advantage. My study findings suggest the proactive integration of KM could represent an important element to balance the LTC scorecard and improve performance capacities and staff satisfaction.

Dalkir (2005) defined KM as “the deliberate and systematic” utilization of people, technology, processes, and organizational assets in order to apply knowledge, lessons learned, and best practices for organizational strategic advantage. My study suggest this definition remains relevant, but insufficient, to guide KM in LTC. The results of the current study also offer several key findings and recommendations related to Cochrane et al. (2007)’s knowing to doing gap in healthcare.

Unifying the System: East and West in KM

My study has tentatively identified key interrelationships between the components of a potentially more sufficient, systematic, and operational KM practice model. The overall goal of the study insights, grounded in the perspectives of my study participants, is to help LTC achieve clinical, operational, and strategic objectives through the conceptual theory of crafting a profound system of knowledge management in LTC. The current study findings and recommendations attempt to shed light on how knowledge creation and KM can facilitate and inspire each other in LTC; and what organizational barriers impede their effectiveness.

Nonaka and Takeuchi (1995) suggested efforts to synthesize the knowledge creating strengths of both east and west may build a more universal model of knowledge creation. Nonaka’s (1994) vision and insights, combined with his scholarship, particularly added much to my investigation of KM concepts because they began to move

the dialogue related to KM beyond the wiring of computer technology and into the syntactical wiring of the human brain. A challenge addressed by my study was to assess, through the insights and lived experiences of my participants, how the process of KM moves from the synapses and deep cognitive structures of the human brain into the syntactical connections within organizational processes. Additional insights related to Nonaka and Konno's (1998) ba perspective emerged during my study that highlighted the significance of Nonaka's gestalt, and provided additional empirical data to support the importance of the syntactical connections within the mind of the human knower during knowledge seeking interventions.

From the eastern perspective, Nonaka and Takeuchi (1995) agreed with Drucker's (1995) vision of the strategic future of organizations through the management of knowledge, noting "the future belongs to people endowed with knowledge" and the future survival of global organizations will depend upon the "knowledge-creating capabilities" (Nonaka and Takeuchi, p.245) to succeed. Nonaka and Takeuchi suggested their study was designed to "show that the individual interacts with the organization through knowledge" (p. ix) to be effective. The authors also lamented most theories and literature related to economics, management, and organizational development "scarcely mention knowledge itself" (Nonaka and Takeuchi p. 49) until the 1990s.

From the western perspective, Dalkir (2005) suggested that Nonaka and Takeuchi's (1995) knowledge creation model offered a robust and accessible conception of knowledge creation (socialization, externalization, combination, internalization). The knowledge spiral works to convert tacit knowledge to explicit knowledge through the use

of mental models of knowledge facilitating “person to person knowledge transfers” (p. 26) to serve strategic objectives. Dalkir further noted that the Nonaka and Takeuchi (1995) model fails to provide an explanation for other key stages required for managing knowledge, or provide mechanisms for leveraging knowledge for decision making.

My study findings suggest these conceptual distinctions, and lack of integration between the eastern and western knowledge philosophies may reveal a persistent philosophical separation of knowledge creating and knowledge managing; represented by the ontological separation between the knower and the doer that motivated this study. Wiig et al. (1997) suggested the middle ground of KM was situated between an eastern concept of KM that was “too general” and lacking operational value; western concepts were “too specific” or prescriptive to be widely useful. Findings from the current study suggest these eastern versus western perspectives on KM may be represented by individual knowledge creation and access as baseline, and the knowledge management strategic goals of the organization as the upper ground.

The conceptual lower ground of individual knowledge creation or access is represented in the current study through the emergent concepts of sentinel data and bridging decisions. This ground level process involves access of implicit knowledge through the deep cognitive structures of individual knowledge users. The upper ground of knowledge management is represented in the study, first through the strategic choices of the organizations represented in the study to aim for risk management goals rather than quality management goals. Secondly by organizational decisions for allocating, or not allocating, resources for knowledge sharing, transfer, and dissemination.

The current study, through the analysis of the perspectives and lived experiences of the study participants, provides a tentative integrated model for crafting a profound system of knowledge management. This system begins in the deep cognitive structures of the knower to expand the use and dissemination of knowledge across a diverse field of knowledge needs for patient, staff and organization. The lower ground or baseline process element reflects the eastern focus on KM directed at knowledge creation and access. The upper ground focuses on KM and the facilitation of tacit and explicit knowledge sharing to achieve organization goals. The middle ground, not yet conceptualized in the current study, may be the specific knowledge management architecture designed to achieve those goals in each organization.

The facilities where my study participants work to meet the clinical needs of their patients and the operational needs of their organization were significantly impacted through the provision of, or lack of, supporting structures and resources for knowledge sharing. Proactively providing well planned systematic resources to enable knowledge users in LTC may populate the middle ground of KM in LTC. My study data and analysis tentatively suggests when patients in LTC no longer have to rely primarily on the internalized knowledge of individual clinical practitioners to save them through the emergent crafting of sentinel data and bridging decisions, and can rely instead on a unified system of profound knowledge management to enable best practices, patients, staff, and organizations may all reap the benefits.

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Appendix A: Interview Guide

Semi-structured Interview Questions to Initiate Data Collection

1. A. What role do you play in your organization's management of knowledge, and how does that role interact with other knowledge management roles in the organization?

(Examples of these roles may include creators of knowledge, users of knowledge, or managers of knowledge). You may add any other role you feel is relevant.

B. Follow -Up question. Give me an example of *how* you (create/ use / manage) knowledge in the organization?

C. Probe question (s) here. Example: How does your role as a knowledge (creator/manager/user) contribute to the overall goals of the organization?

How is your role related to the roles of other organizational knowledge clients?

What / who helps you (create, manage or use) knowledge in your organization?

2. A. What are the primary knowledge content topical requirements in your organization (operationally, strategically, clinically, and those imposed by regulators such as surveying agencies?)

B. Follow-Up Question: Give me some examples of topics?

C. Probe question (s) here: Example: How are these knowledge requirements communicated throughout the organization? When and how are these communication efforts most / least effective in communicating knowledge content?

3. A. *How does your organization utilize knowledge to improve organizational capabilities and performance?*

B. Follow-Up Question: Can you give me some examples of how this process works?

C. Probe question (s) here: Can you describe an important lesson learned by the organization or staff through knowledge management processes? How was this knowledge content communicated throughout the organization? Why, from your perspective, is this content important?

4. A. *What policies, procedures, and resources in the organization enhance or inhibit the use of knowledge to improve organizational capabilities and performance?*

B. Follow Up question: Can you give me an example of a specific performance goal that the organization is working towards?

C. Probe question (s) here: Examples: What types of incentives or barriers do you feel are significant to this process? How are these incentives and barriers important to organizational knowledge sharing? Is there anything else you think I need to understand a little better? Has this interview made you think of the importance of knowledge to your role, organization, or goals? If so, what changes should the organization make to capitalize on these new insights? Is there anything you would like to ask me about the interview process?