

**HEALTH CARE DECISION-MAKERS AND KNOWLEDGE
MANAGEMENT IN THE CONTEXT OF A
REGIONALIZED HEALTH CARE SYSTEM**

A Thesis Submitted to the College of
Graduate Studies and Research
in Partial Fulfilment of the Requirements
for the Degree of Doctor of Philosophy
in the Department of Sociology
University of Saskatchewan
Saskatoon

By

William Boateng

Copyright William Boateng, March 2007. All rights reserved.

PERMISSION TO USE

In presenting this thesis in partial fulfilment of the requirements for a Postgraduate degree from the University of Saskatchewan, I agree that the Libraries of this University may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purposes may be granted by the professor or professors who supervised my thesis work or, in their absence, by the Head of the Department or the Dean of the College in which my thesis work was done. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of Saskatchewan in any scholarly use which may be made of any material in my thesis.

Requests for permission to copy or to make other use of material in this thesis in whole or part should be addressed to:

Head of the Department of Sociology
University of Saskatchewan
Saskatoon, Saskatchewan (S7N 5A5)

ABSTRACT

Knowledge management is considered a necessary precursor to organizational success. This view is increasingly prevalent in the case of the health care sector. Two main knowledge management strategies are recognized: codification and personalization strategies. An organization's choice of knowledge management strategy depends on its objectives and the dominant form of knowledge informing its decision-making processes.

Health care decision-makers have access to a wealth of knowledge with which to inform their decisions. Little is known, however, about how the various types of knowledge are managed to optimize their use in decision-making. This study examines the knowledge management strategies of health care decision-makers working in the context of a regionalized health care system. The potential of communities of practice as a conceptual means for understanding health care knowledge management is also explored.

Members of Regional health authorities (RHAs) in the province of Saskatchewan constitute the unit of analysis for the study, which is guided by a qualitative research design. Interviews were used as the main data collection technique. For data analysis, "open and axial" coding methods based on the inductive and deductive approaches were adopted.

The study concludes that regional health authority (RHA) members utilize more fully explicit rather than tacit forms of knowledge. One of the main knowledge management practices adopted by the RHA members is the use of professional reports. This indicates that RHA members pursue a codification strategy more strongly than a personalization strategy. Moreover, it was found that the practices and strategies associated with managing knowledge were in place, despite the absence of a stated knowledge management policy. Finally, RHAs

cannot be regarded as communities of practice, even though they exhibit many of their features.

Recommendations include the following: (1) the need for RHAs to institutionalize a knowledge management policy to guide their knowledge management processes and strategies, and (2) the cultivation of online communities of practice to marshal the tacit knowledge of RHA members, and that of the public, as an intervention to complement the use of explicit knowledge.

ACKNOWLEDGEMENTS

TO GOD BE THE GLORY. I am grateful to Professor Harley Dickinson, who in addition to supporting me financially from his research grants, supervised and guided me throughout all the phases of the thesis. Thesis advice received from members of my advisory committee, including Professors Joseph Garcea, Zaheer Baber and Grant Isaac, are also commendable. My thanks also go to the faculty and support staff of the Department of Sociology, University of Saskatchewan. I am indebted to the Knowledge Utilization and Policy Implementation (KUPI) Project, especially its principal investigator, Dr. Carole Estabrooks for supporting me financially through out my programme. I would also like to extend my appreciation to Mr. Paul Graham of the KUPI Project at the University of Saskatchewan, for the valuable library resources he has made available to me. The academic support from the Centre for Knowledge Transfer is greatly appreciated. Professor Jean-Louis Denis of the Universite de Montreal deserves commendation for serving as the external examiner for my thesis, and passing very constructive comments that uplifted its quality.

I am grateful to Professor Sammy Abaidoo of Kennesaw State University, Atlanta, Georgia, USA, for introducing me to the University of Saskatchewan. To my mother, Mrs. Martha Gyima-Boateng, my siblings, Mr. Isaac Ohene, and my mentor Professor D.K. Agyeman, I will always be grateful to you for the confidence you have in me. Indeed this gesture is a constant inspiration in my life. A heartfelt thanks go to my wife, Dr. Christina Boateng, and my wonderful children, Paapa, Naa Okailey and Kofi Gyasi Gyima-Boateng, for your love, support, encouragement, and most importantly sacrifices made to see me through this program.

I am also thankful to all those who participated in the study, especially the board members of the Saskatoon and Heartland health regions. Thank you for your

time and credible information; I hope you find this study useful. I am indebted to my good friends, Kevin Danner, his wife Candice and daughter Alyssa, Kouame Ngoandi, James Dzisah, Augustine, Lisa, and Avery Owusu Asiedu Boateng, the Quianoo and Gana families for their love and support.

DEDICATION

I dedicate this thesis to my lovely children Paapa Kodwo Gyima-Boateng, Naa Okailey Gyima-Boateng and Nana Kofi Gyasi Gyima-Boateng, for all the sacrifices you made, while you went through the pain of my absence as I went through the program. May this example of mine and that of your lovely mom urge you to achieve more than we have done. May the good Lord bless us all.

This thesis is also dedicated to the memory of the greatest man ever in my life, my beloved father Nana Gyima-Boateng. You did sow the seed of seeking knowledge in me, but unfortunately did not wait to reap the benefits of your excellent work. I will always be proud of you.

“Paapa, Damirifa Dua, Dua Ne Amanehun!” Rest in Peace.

TABLE OF CONTENTS

PERMISSION TO USE.....	i
ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iv
DEDICATION.....	vi
TABLE OF CONTENTS.....	vii
LIST OF FIGURES & TABLES.....	x
 CHAPTER ONE-INTRODUCTION.....	 1
1.1 Statement of the Problem.....	6
1.2 Purpose of the Study.....	9
1.3 Research Questions.....	9
1.4 Significance of the Study.....	10
1.5 Organization of Study.....	12
 CHAPTER TWO - REGIONALIZATION: AN APPROACH TO HEALTH CARE DECISION-MAKING.....	 14
2.1 Levels of Health Care Decision-Making.....	14
2.2 Regionalization.....	17
2.3 The Role of Knowledge Management in Regionalization.....	20
2.4 Summary.....	26
 CHAPTER THREE - EVIDENCE BASED DECISION-MAKING AND KNOWLEDGE MANAGEMENT MODELS.....	 28
3.1 Evidence Based Decision-Making.....	28
3.2 Forms of Knowledge.....	34
3.3 Dimensions of the Knowledge Management Concept.....	40
3.3.1 Knowledge Creation and Acquisition.....	46
3.3.2 Knowledge Storage and Retrieval.....	47
3.3.3 Knowledge Transfer.....	48
3.3.4 Knowledge Utilization/Application.....	49
3.4 Knowledge Management Strategies.....	51
3.5 Summary.....	57

CHAPTER FOUR – COMMUNITIES OF PRACTICE: A CONCEPTUAL FRAMEWORK.....	59
4.1 The Communities of Practice Concept.....	59
4.2 Forms of Communities of Practice.....	61
4.3 Importance of Communities of Practice.....	67
4.4 Downside of Communities of Practice.....	68
4.5 Principles for Cultivating Communities of Practice.....	70
4.5.1 Design for Evolution.....	70
4.5.2 Open a Dialogue between Inside and Outside Perspectives.....	71
4.5.3 Invite Different Levels of Participation.....	71
4.5.4 Develop Both Public and Private Community Spaces.....	72
4.5.5 Focus on Value.....	73
4.5.6 Combine Familiarity and Excitement.....	74
4.5.7 Create a Rhythm for the Community.....	74
4.6 Summary.....	75
CHAPTER FIVE – METHODOLOGY.....	77
5.1 Study Area/Unit of Analysis.....	77
5.2 Research Design.....	79
5.2.1 Rationale for the Choice of Qualitative Research Design.....	81
5.3 Data Collection Techniques.....	83
5.4 Data Analysis.....	88
5.5 Validity of the Research.....	90
5.6 Limitation of the Study.....	91
5.7 Summary.....	92
CHAPTER SIX – FINDINGS AND DISCUSSION.....	93
6.1 Knowledge Forms in the Health Care Decision-Making Process.....	93
6.2 Knowledge Management Strategies in Health Care Decision-Making.....	105
6.3 Communities of Practice and Personalization Knowledge Management Strategy.....	120
CHAPTER SEVEN – SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	140
7.1 Restatement of the Problem.....	140
7.2 Purpose of the Study.....	142
7.3 Research Questions.....	143
7.4 Summary of Findings.....	143

7.5 Conclusions.....	147
7.6 Recommendations.....	150
REFERENCES.....	155
APPENDIX 1 – OPERATIONAL DEFINITIONS OF CONCEPTS.....	166
APPENDIX 2 – INTERVIEW SCHEDULE.....	168

LIST OF FIGURES & TABLES

Table 3.1	Distinction Between Explicit & Tacit Forms of Knowledge.....p. 36
Table 6.1	Knowledge Management Practices in Support of RHAs Codification Knowledge Management Strategies.....p. 115
Table 6.2	Summary of Selected Health Regions' Documentary Package...p.119
Table 6.3	Knowledge Management Practices in Support of RHAs Personalization Knowledge Management Strategies.....p. 132

CHAPTER ONE – INTRODUCTION

It is increasingly apparent that knowledge is an important organizational resource, and that its management is central to long-term organizational success (Leonard, 1999; Hansen et al., 1999; Smith, 2001). But while leaders in the business sector have recognized the value of managing knowledge for some decades now, other sectors have been slower to adopt the principles and practices associated with knowledge management. A call is therefore being made for the application of knowledge management to other areas of social life (Metaxiotis et al., 2005).

In the context of health care decision-making, there has been little attention paid to empirical studies that investigate the role of knowledge management in these processes. Since knowledge is an important input to successful decision making, it is necessary for decision makers (and decision-making bodies) to pay greater attention to its management. This thesis aims to better understand the role of knowledge management in health care decision-making. This is an important step towards improving health care delivery.

Knowledge management is defined as the process by which an organization creates, captures, acquires, validates and uses knowledge to support and improve its overall functioning (Kinney, 1998; Davenport et al., 1998; Bhatt, 2001).

An important analytical tool for understanding knowledge management is the knowledge system conceptual framework, a framework that provides a holistic approach to understanding knowledge-based institutions in society. The knowledge system refers to the institutionalization of knowledge processes in societies (Holzner and Marx, 1979). These processes include the creation, organization, distribution and application of knowledge. Together, they involve the activities or initiatives undertaken to provide the enabling conditions that facilitate the utilization of knowledge within organizations. These processes include general organizational infrastructure and the extent to which they act as enablers of, or impediments to, effective knowledge management strategies and practices.

The knowledge system concept, therefore, provides a sociological framework for analyzing organizational knowledge management structures and processes. A knowledge system approach offers organizations the opportunity to integrate approaches capable of dealing with all its knowledge resources in most efficient way. Knowledge management in this perspective captures the significance of sociology of knowledge expressed as the study of the socio-scientific construction of reality, which reflects all processes of knowledge in society (Berger and

Luckmann, 1966). This conceptualization of knowledge management is useful in studying and understanding knowledge in a systemic fashion in organizations.

Furthermore, Berger and Luckmann (1966) believe that the sociology of knowledge must concerns itself with whatever passes for 'knowledge' in a society, regardless of the ultimate validity or invalidity (by whatever criteria) of such knowledge. To put it in perspective, however, Polanyi (1967) expresses knowledge as having both a tacit and explicit component. Explicit knowledge relates to "knowing about or knowing what". Tacit knowledge relates to "knowing how", and includes insights, intuition, and hunches, which thrive on experience and constitute an "appreciative system" as reference actions in society (Vickers, 1968). These forms of knowledge are difficult to formalize and share (Connell et al., 2003; Ambrosini and Bowman, 2001; Spencer, 1995).

The conversion of tacit knowledge into explicit knowledge, the transfer of either form of knowledge between individuals or within (or between) organizations, and the application or utilization of such knowledge constitute the primary actions underlying knowledge management from knowledge system perspective. For these activities to be effective, organizations should put into place a knowledge management strategy.

Hansen et al. (1999) point to two differing strategies for knowledge management: codification and personalization. Codification strategies focus on

explicit knowledge, and involve carefully codifying and storing knowledge in databases, which can then become accessible to all in the organization. Such knowledge management strategies adopt a “people to document approach” by extracting knowledge from those who developed it, making it independent of them, and reusing it for various purposes. Personalization strategies, on the other hand, focus on dialogue between individuals, and involve knowledge that has not been codified, but instead has been transferred from individual to individual through interpersonal encounters such as conversations or brain storming sessions. For example, communities of practice, which are principally informal networks of individuals with a common interest in a body of knowledge, offer an important possibility for managing tacit knowledge in organizations.

Hansen et al. (1999) stress that the best knowledge management strategy is always a combination of codification and personalization, but with a stronger emphasis either on the former or the latter. Moreover, the preferred strategy should be designed in a manner that enhances the goals and objectives of the organization. This suggests that organizations should examine critically the knowledge forms underlying their decision-making and how that knowledge is used. This is important because knowledge management strategies not commensurate with organizational goals and objectives can derail the growth and development of the organization.

Health care decision-makers rely on the use of information and knowledge in making dynamic decisions. Yet the type or blend of information needed by decision-makers has not been critically examined. This is against the backdrop of the presence of various knowledge generating bodies such as research institutions, government organizations, the media, interest groups, and activists who may put forward their interpretations of social conditions, their definitions of health care problems, and their claims of knowledge. Health care decision-makers at the regional health authority (RHA) level, therefore, receive explicit and tacit forms of knowledge from various sources to inform their decisions. None of these contending claims, however, may be self-evidently superior to the other (Dery, 1984). How RHA members manage these types of knowledge remain unclear in the literature. Clarifying this is one of the main purposes of this study.

Despite a wealth of knowledge at the disposal of health care decision-makers, there are concerns that knowledge management is underdeveloped relative to health care decision-making. This is evident from the recent demand on health care decision-makers to make more “evidence-based” decisions. While many clinical empirical studies of knowledge management have been conducted, few have taken place at the policy-making level. Studies of knowledge management in regionalized health care decision-making, therefore, becomes critical in view of the fact that regional health authorities (RHAs) are expected to make decisions

that promote a more evidence-based social determinants approach to restructuring the health care delivery system (Tomblin, 2003).

1.1 Statement of the Problem

Effective decision-making in an information age implies the use of scientific knowledge. Decision-making itself, however, is a complex activity, and it is often difficult, if not impossible, to attribute any particular decision to the specific use of scientific knowledge. The relationship between scientific knowledge and decision-making is, therefore, often indirect and varied (Weiss, 1979). Typically, scientific knowledge must compete with other forms of knowledge—e.g. popular understandings, value based judgments, political imperatives—and the attraction of the status quo. This is no less true for health care decision making, and the extent to which scientific evidence combines with other forms of knowledge in this context needs to be examined.

Effective decision-making arguably should be based on the extent to which explicit and tacit forms of knowledge are marshalled and managed, with emphasis being placed on the dominant form of knowledge informing the decision-making processes. Understanding the knowledge that underlies health care decision-making, and how that knowledge is acquired, stored, validated, shared and applied, is an important first step in ensuring effective knowledge management.

Ensuring effective knowledge management in support of health care decision-making requires that organizations adopt a knowledge management strategy to guide the various knowledge processes. There are many approaches to the development of knowledge management strategies in organizations; there is “no one size fits all”. The key is for organizations to align their knowledge management strategies with overall organizational strategies and goals. A good and clear knowledge management strategy can help (1) increase the awareness and understanding of knowledge management in organizations, (2) articulate the organization’s case for managing knowledge and identify potential benefits, (3) gain senior management commitment, (4) attract resources for implementation, (5) communicate good knowledge management practices, (6) give the organization a clear, communicable plan about where it is now, where it wants to go, and how it plans to get there, and (7) provide organizations with a basis or templates against which to measure their progress (www.nehl.nhs.uk August 29, 2005). A clear knowledge management strategy is important for achieving organizational goals and objectives.

Effective knowledge management in health care decision-making requires the coordination of many elements: organizational structure and culture, the extent of individual interactions within organizations, and the use of information and communication technology (Lesser and Prusak, 1999; Donoghue et al., 1999). Important here is the observation that individuals neither work in isolation, nor are

they (usually) able to make wholly autonomous decisions. They work in organizations embedded with routines and established cultures which influence their actions regarding knowledge management in decision-making. The activities related to knowledge management, therefore, are shaped by the extent to which the individuals involved have been socialized into their groups, of which the communities of practice are exemplary.

Communities of practice are groups of people held together by a common interest in a body of knowledge and driven by a desire and need to share problems, experiences, insights, hunches, and best practices. Such informal networks have a tremendous impact on worker cognition and behaviour (Wenger, 1998; Brown and Duguid, 1991). Communities of practice, thus, manifest themselves in organizational cultures, and can serve as major motivations or impediments to a personalized knowledge management strategy (Alavi and Leidner, 2001).

In this study, RHAs are conceptualized as communities of practice. The extent to which the informal networks among RHA members influence personalized knowledge management processes is examined. The study focuses on selected RHAs within a regionalized health care system in the province of Saskatchewan.

An empirical investigation of how health care decision-makers manage knowledge at their disposal can help identify the facilitators of, and barriers to, knowledge management in health care organizations. Such empirical findings can

enable policy-makers to adopt appropriate strategies for institutionalizing factors that impact positively on health care knowledge management processes, while at the same time addressing barriers to knowledge management in health care decision-making.

1.2 Purpose of the Study

The general purpose of this study is to examine critically the knowledge management strategies and practices of health care decision-makers in selected RHAs in the province of Saskatchewan, Canada. The following specific objectives guide the study:

1. To identify the main types of knowledge used for health care decision-making.
2. To identify the primary knowledge management strategies of health care decision-makers.
3. To identify the knowledge management practices adopted by health care decision-makers to support their decision-making processes.
4. To examine whether the members of RHAs interact as communities of practice.

1.3 Research Questions

In keeping with those objectives, this study seeks to answer the following research questions:

1. What are the main types of knowledge used by RHA members?
2. What knowledge management strategies do the RHA members use?
3. What are the specific knowledge management practices used by RHA members in support of their knowledge management strategies?
4. Are RHA members appropriately understood as communities of practice and, if so, how does this influence their knowledge management processes?

1.4 Significance of the Study

The effective management of knowledge plays an important role in overall organizational success. This statement is supported by the success of knowledge management strategies and practices in the business sector. Other sectors of the economy and society, including health care, would arguably stand to benefit from a similar emphasis on and engaged in knowledge management strategies and practices. Since health care decision-makers use a variety of knowledge to inform their decisions, it is imperative that they effectively manage the knowledge they have at their disposal. In order to ensure effective decision making, a more thorough understanding of knowledge management is required. This approach should be relevant to the dominant forms of knowledge and the overall objectives of the RHAs.

This study is based on an understanding of the current knowledge management strategies and practices. Such strategies and practices represent valuable

facilitators of, or barriers to, knowledge management in health care decision-making. Also, the analysis of the study is modelled on the concept of the knowledge system, which provides a more holistic and generic picture of knowledge management from its creation to application in health care decision-making.

An assessment of how RHA members manage their tacit knowledge represents an important component of the study, given the complexities involved in managing tacit knowledge in organizations. As indicated earlier, tacit knowledge is mainly supported by personalization knowledge management strategies, which thrive on face-to-face or person-to-person encounters. Such interactions are best supported through the establishment of informal networks, which provide the platform for exchanging tacit knowledge in organizations. Since communities of practice facilitate informal communications around a common body of knowledge, they potentially hold a central role in supporting personalized knowledge management strategies and practices in organizations. The extent to which RHAs exhibit the features of communities of practice, and how these features affect personalized knowledge management strategies become a central theme of the study.

Communities of practice are thus held up as potential means for understanding tacit knowledge management in organizations. They evolve either spontaneously or purposefully within organizations. In view of this, the features that support the

formation and nurturing of communities of practice within the context of RHAs may be identified. Ultimately, this may provide the RHAs with recommendations on how best to cultivate, nurture and support communities of practice in further promoting the management of personalized knowledge to complement codified or explicit knowledge in informing health care decisions.

1.5 Organization of Study

The study is presented in seven main chapters. The first chapter offers a brief introduction to the study. It provides an overall perspective by specifying the problem, purpose, research questions, and the significance of the study. The second, third and fourth chapters provide a critical literature review on (1) regionalization as an approach to health care decision-making, (2) evidence-based decision-making and knowledge management models, and (3) the communities of practice conceptual framework, respectively. Studies reviewed on knowledge management in regionalized health care decision-making process identify existing areas of empirical research, while at the same time suggesting issues not yet addressed empirically. The literature review ultimately serves as the background for the study's empirical component by informing and guiding the questions and discussions raised with the respondents.

Chapter five outlines the research methodology used. Details include a description of the study unit, the research design which guided the field work,

techniques used in sampling the respondents, data collection, data analysis, a statement on the validity of the study, and its limitations.

An analysis and discussion of the results are presented in chapter six. This chapter includes sections on (1) the dominant types of knowledge used in health care decision-making, (2) the knowledge management strategies used in health care decision-making, (3) the development and use of communities of practice and the personalization knowledge management strategy. A summary of the findings, as well as conclusions and recommendations/implications, are presented in chapter seven.

CHAPTER TWO – REGIONALIZATION: AN APPROACH TO HEALTH CARE DECISION-MAKING

This chapter examines the literature on levels of health care decision-making, and regionalization as an approach to health care decision-making.

2.1 Levels of Health Care Decision-Making

Modern health care systems are confronted with the task of effectively managing the resources necessary for improving the health and wellbeing of those they are committed to serving. Fulfilling this task successfully implies sound and effective decision making at critical points throughout the entire system.

Contemporary health care systems can be divided into macro-, meso-, and micro-levels of decision-making. Each level has a distinct mandate, but all are linked to contribute to overall health care system performance (National Advisory Council on Aging, 2005; Wilson et al., 1995).

Macro-level decisions involve the overall planning, organizing, delivery and evaluation of health services within the health regions. As specified in the Saskatchewan Regional Health Services Act of 2002, decisions made at this level in the province are entrusted in the hands of RHA members. They generally

consist of not more than twelve members, who are appointed by the Lieutenant Governor in Council to oversee the functions and operations of a health region. RHAs are mandated to render the following responsibilities; 1) assess the health needs of the persons to whom the RHAs provide health services, 2) prepare and regularly update an operational plan for the provision of health services, 3) provide the health services that the sector minister determines the RHAs to provide, 4) co-ordinate the health services the RHAs provide with those provided by other providers of health services, 5) evaluate the health services that the RHAs provide, 6) ensure that the RHAs promote and encourage health and wellness, and 7) do any other things that the sector minister may direct.

Ultimate decisions made in rendering these responsibilities are endorsed by the RHA members at the macro-level. Clearly, RHA members make critical health care decisions on behalf of the sector minister. RHA members rely on technical expertise of a chief executive officer, who is appointed by the RHA members as the administrative chair as well as other senior managers of a health region in making their decisions.

Administrative decisions and priorities made by the chief executive officer and senior management working in collaboration with health care professionals and local stakeholder groups take place at the meso-level of the health care decision-making process. Decisions made at this level have to be endorsed at the macro-level by the RHA members. The fact that RHA members normally do not

initiate but rather endorse administrative decisions has given a dual connotation of their role. On one hand, they are perceived as advisors. On the other hand they come across as decision-makers. Officially, RHA members have the mandate to validate all decisions made within a health region, thus making them important players in the overall health care decision-making process.

The third level of health care decision-making takes place at the micro-level. Decisions at this level are made by individual medical practitioners, clinicians or teams. They are generally based on clinical information, and affect directly the treatment of patients. These are decisions made by frontline staff of the health regions.

Decisions made at each level can influence the other levels. Micro level decisions, for example, are influenced broadly by the macro level, though this is often restricted to budget-based resource allocation; there is no direct relationship between decision-makers at the macro and the micro levels. Meso-level health care decision-makers, however, exercise tremendous influence on decisions made at the micro level. Health targets to be attained by clinicians and resources to be used for that purpose are determined by the meso-level decision-makers upon approval from the macro-level decision-makers.

In Canada, RHAs in 10 of the 13 provinces and territories in the country are responsible for making decisions at all the three levels. As indicated earlier, in

Saskatchewan, under the Saskatchewan Regional Health Services Act of 2002, RHAs are governed by appointed members. The RHAs have replaced the Districts Health Boards (DHBs), which were in place between 1993 and August 2002. The RHA members are responsible for ultimate decision-making in their respective health regions. They are expected to be closely linked to the communities in the respective health regions by responding to their needs. RHA members, therefore, occupy an important place in health care delivery system. This study concentrates on the RHA members as macro-level decision-makers in the health care system.

2.2 Regionalization

Regionalization as an approach to the provision of health care services is defined variously in the literature. The Canadian Centre for Analysis of Regionalization and Health ({CCARH} 2004) defines regionalization as the processes involved in the creation of autonomous organizations responsible for the administration of health care services within a defined geographic region in a province or territory. Frankish et al. (2001) define health regions as bodies responsible for health care-related decisions and policies affecting the population of defined geographical areas through public participation. Dickinson (2002) develops a more comprehensive view, defining health regions as “system(s) of health governance designed to increase local citizen involvement in health care planning and service delivery, to facilitate greater integration and coordination of

the health care system, and to increase the efficiency and effectiveness of the health care system.”

The effectiveness of regionalization as a policy instrument depends largely on the effectiveness of the decisions made by the various RHA members. Such decisions are invariably based on RHA members’ ability to manage the knowledge they have at their disposal.

Although regionalization is referred to as a single policy innovation, there are variations in its structure and implementation, and regionalization structures within provinces have grown and changed over the years (CCARH, 2003). Still, some common features can be found. CCARH (2004) identified four main features of regionalization in Canada. These include (1) the definition of regions by geography; they occupy specific territory, (2) the existence and authority of the health regions are at the discretion of the provincial government, (3) the consolidation of authority at the regional level, as opposed to its previous distribution among many programs and communities, and (4) the responsibility of the regions cover considerable health services, spanning at minimum community, long-term, residential and acute care services, and often extending to mental health, addictions, public health, and health promotion services.

Regionalization, therefore, becomes an important policy initiative, and RHA members are now central to the making of critical health care decisions. RHA

members, thus, face pressures from governments, citizens, and health professionals to not only represent their health regions but also to ensure cost-effective and efficient health services delivery in a timely and transparent fashion (Frankish et al., 2002).

Measuring up to these expectations implies that individuals appointed to serve as RHA members meet some qualification criteria. In Saskatchewan, all RHA members of the health regions are appointed by the provincial government. The appointment of RHA members—most of whom are mainly lay people—has received mixed feelings from the public. Some believe that lay individuals cannot properly make the technical, medical or clinical decisions usually made by health professionals (Sullivan and Scattolon, 1995). Others counter that since RHA members are not required to make clinical or medical decisions, they certainly can be comprised of lay people or non-health professionals (Frankish et al., 2002).

This, however, does not relegate to the background the need for qualifications in the appointment of RHA members. Requisite qualifications for RHA members may include relevant experience (health care involvement, experience in education and/or social services, etc.) and specific knowledge, skills or abilities related to public relations, law, finance, strategic planning, evaluation, or health impact analysis. The range of such qualifications works to ensure a mix of expertise on a given RHA membership (Dolan, 1996; Walker, 1999).

2.3 The Role of Knowledge Management in Regionalization

In addition to the importance of qualifications, there should also be in place policies related to the management of the knowledge used to inform RHA members' decisions. Yet there is very little in the literature on regionalization and the role of knowledge management. This study aims at filling this void by critically examining the knowledge management strategies and practices that help to support and inform decisions made by the RHA members.

RHA members encounter many challenges in making health care decisions aimed at managing and improving the health care system. These include (1) the integration and coordination of the administration and delivery of services, (2) the consolidation of funding, (3) the development of an information infrastructure and measurement indicators that allow for outcome-based evaluation, (4) the creation of mechanisms that provide for citizen participation while at the same time limiting the tendency toward domination by purely local and/or professional interests, and (5) the provision of more long-term stability and authority commensurate with accountability to RHAs (Lewis et al., 2004).

A particular challenge of interest to this study is the development of an information infrastructure that can aid in RHA members' decision-making. Recall that knowledge management is central to organizational success (Hansen et al., 1999). Unfortunately, the current health care system often lacks the adequate

mechanisms for managing the type of information that can effectively inform health care decision-making (Lewis et al., 2004; Frankish et al., 2002; Abidi, 2001).

Modern health care systems generate massive amounts of knowledge and information (Abidi, 2001). This is one of its great strengths. At the same time, this resource is not yet fully leveraged for improving the management and delivery of health care services. Currently, health care administrators are expected to manage and disseminate information and data to mostly lay RHA members, in a timely, useable form that supports their decision-making. Regrettably, some health care administrators dismiss or reject this “knowledge providing” role as a demotion rather than as an important role in the overall making of decisions (Frankish et al., 2002). The reluctance on the part of health care administrators to make valuable knowledge, information, and data available to RHA members may be one of the factors responsible for RHAs general inability to take advantage of knowledge resources.

This situation raises a number of questions related to the management of knowledge by the RHA members. These questions include: (1) What are the dynamics in the knowledge-sharing relationship between RHA members and health care administrators? (2) Do RHA members find the information/knowledge provided by health care administrators useful in their decision-making processes? (3) Do RHA members receive information from health care administrators in a

timely manner? (4) What do RHA members expect to be done better by the health care administrators in making information available to them? This study seeks to find answers to these questions. Without a doubt, effective strategies for the management of knowledge available to health care decision-makers will have much to say about the quality of the decisions they make.

There is a need to step up knowledge/research utilization among health care decision makers, particularly in light of studies that show knowledge utilization among RHA members in Canada is somewhat lacking (Frankish et al., 2002). Characteristics identified by RHA members that facilitate knowledge utilization in decision making include (1) the provision and/or support for the RHAs, (2) the quality of data, (3) the relevance of data to geographical area, (4) the availability of information on regional comparisons, (5) the efficiency of the source, (6) the accessibility of data, (7) the ease of understanding of the research, and (8) the familiarity or relationship with research source. Researchers' understanding of decision makers' expectations of research is, therefore, crucial. A number of factors can improve research use in decision-making. These include improving communication, tailoring research content, improving readability, providing better education, improving relevance, and ensuring accessibility (Frankish et al., 2001).

The call for organizational structural changes at the RHA level, and the development of members propensity to use research have been cited as major contributors of improved research-based health care decision-making. It is

suggested that organizational changes should entail a formal plan for the use of research at the time of making policies and allocating resources. Clearly, there is a need to integrate the research and decision-making communities in order to maximize research use in decision making.

In a national survey of district health boards, Lomas et al. (1997) found that one-third of board members believe that their training in setting priorities, health care needs assessment, and health care legislature and guidelines were inadequate. The role of training is thus relevant if board members are to appreciate and use research evidence in decision-making. This would go a long way towards enhancing research use in decision-making because decision-makers in general have a positive attitude and a general belief that research is a useful tool in supporting their decisions (Frankish et al., 2001).

Research evidence should not be the only source of information informing RHA members' decisions. Lavis et al. (2002) found that most health policies draw on a variety of information other than citable research, including (1) what people outside the health department do, (2) what people outside the health department think or want, and (3) what people inside the health department think or want. Information from other sectors, including what people outside the health department say they do, was the most frequently used type of information in health care decision-making. Information from policy documents from previous or related policies was also frequently used in policy-making. These types of inputs

were typically obtained from peers and/or stakeholders. The study, however, did not examine the effects of peer interaction among health care decision-makers or health care decision-makers interactions with stakeholders. An examination of such informal interactions, and its role in knowledge management, becomes important in the health care decision-making process.

Lavis et al. (2002) further emphasized the importance of internal as well as external sources of information in health care decision-making. An important source of information used in health care decision-making is RHA members own experiential knowledge. According to HEALNet (1997), a majority of board members in Saskatchewan were more influenced by their own experience and knowledge than by statistical data when making decisions.

It is clear that various types of information and knowledge are used to inform decisions. It is also clear that both tacit and explicit forms of knowledge are at play in health care decision-making. These two knowledge forms, when marshalled and managed effectively, may serve as important resources in health care decision-making.

The challenges confronting RHAs, especially with regards to knowledge and information management manifest differently among the provinces. This is the case because provinces are at different points in their implementation of regionalization. Lomas et al. (1997) categorised the provinces into two groups on

the basis of the maturity of their implementation. Of the five provinces in which authorities are more established, Quebec, New Brunswick, Saskatchewan, and Prince Edward Island started implementation before 1994, and Alberta implemented its authorities so rapidly that tasks being performed by their boards reflect maturity. Of the four provinces with “immature” boards; Newfoundland, Nova Scotia and British Columbia have completed their initial implementation, while Manitoba has only started recently. The number of years of a board’s existence, therefore, can be equated with its maturity.

Despite the challenges confronting regional health care decision-makers, the case for regionalization is strong. Individuals and bodies working in the health regions attest to its value in facilitating integrative innovations. They argue that regionalization has reduced barriers and duplication, and has increased the local responsiveness of services, programs, and cross-sectoral planning.

In order to sustain these achievements, regionalization needs committed partners, outstanding leaders and a vision that will mobilize providers and the public (Lewis et al., 2004). These factors, though necessary for the success of regionalization, might not be sufficient. As mentioned earlier, an essential factor for the success of regionalization in this information age is the embrace of and engagement in a more rigorous evidence-based decision-making process. A critical understanding of the existing knowledge management strategies and

practices pursued by health care decision-makers, therefore, becomes a necessary precondition for overcoming some of the current challenges confronting RHAs.

2.4 Summary

This chapter has provided a review of the literature on levels of health care decision-making and regionalization as an approach to health care decision-making. Three main levels of health care decision-making have been identified: macro, meso and micro levels. This current study focuses on the macro level of health care decision-making, with an emphasis on RHA members' decision-making.

Regionalization as a policy instrument is designed to accomplish several objectives. These include the effective planning, organizing, managing, evaluating, and delivering of health services to citizens. It is clear in the literature that the attainment of these objectives largely depends on decisions made by the RHA members, decision which are themselves influenced by members' ability to manage the knowledge they have at their disposal.

Regionalization, in spite of its acceptance in almost all of Canada, faces some challenges. These include (1) the development of a more effective information infrastructure and (2) the development of measurement indicators that allow for outcome-based evaluation. For regionalization to overcome these challenges, RHAs should adopt more evidence-based decision-making processes. These

processes would benefit from application of knowledge management strategies and practices.

CHAPTER THREE – EVIDENCE BASED DECISION-MAKING AND KNOWLEDGE MANAGEMENT MODELS

Evidence-based practice has influenced decisions and actions throughout the health care industry for decades now. It has developed most fully at the level of clinical decision-making; however, its influence is slowly but surely being felt at other levels. Given that evidence-based practice is strongly rooted in explicit knowledge use, a review of the literature related to knowledge management in health care decision-making is required. This is the aim of the following chapter.

3.1 Evidence Based Decision-Making

Evidence-based decision-making refers to the rigorous use of science or research evidence as the basis for making decisions. Since the early 1990's, various fields of human endeavour, including medicine and health care policy-making, have taken up the challenge of evidence-based practice. Proponents of evidence-based practice believe that explicit knowledge should be one of the main pillars of decision-making.

The rationale for evidence-based decision-making in medicine derives strongly from the need for health care providers to be more accountable to their clients.

Now, more than ever, there is an increase in the availability of information about health and illness, by the media and on the Internet (Hardey, 1999; Karpf, 1988). Public awareness and interest in health matters is on the rise, as seen in the increased interest in health and wellness, the setting up of support groups activities, and the creation of health discussion groups. This is leading to a growing wealth of knowledge with which the public can use to question professional health care services. Medical decision-makers, therefore, are being pushed to develop evidence-based practices and treatments in order to substantiate and justify their decisions and actions. Evidence-based health care decision-making is a relatively systematic and scientific approach that has developed out of social accountability.

Sackett et al. (1996) define evidence-based medicine as the integration of research evidence, clinical expertise, and patient preferences and values. They argue that the best research evidence is based not only on rigorous scientific research but also on clinically relevant research. Clinical expertise is grounded in proficiency and judgement acquired by individual clinicians through practice. And patient values take into account the unique preferences, concerns, and expectations each patient brings to the clinical encounter, values that must be integrated into clinical decisions if they are to serve the patient. Optimal clinical outcomes integrate effectively these three elements.

The practice of evidence-based medicine follows four steps: (1) the formulation of a clear clinical question related to the patient's problem, (2) a search in the literature for relevant clinical articles (i.e. the best available evidence), (3) the evaluation of this evidence for its validity and usefulness, and (4) the implementation of the evidence in clinical practice (Rosenberg et al., 1995). Clearly, evidence-based medicine starts with and depends on scientific research which is based on the use of explicit (externally generating scientific) knowledge. The literature on evidence-based medicine is thus emphatic on externally generated scientific evidence. Although it does not ignore the important role of clinical expertise and patient values and preferences, those two factors are downplayed.

This observation clearly signifies that internally generated explicit knowledge, as well as the tacit knowledge clinicians derive from their daily encounters with patients, may be easily ignored. Without a doubt, clinicians may find it difficult or almost impossible to support their practices and actions with only tacit knowledge as evidence. Yet, ignoring or overlooking the significance of tacit knowledge in clinical practice may not serve the interest of the health care system. This is because clinicians gain a wealth of knowledge from their practice, which should be placed at the disposal of patients for improved health care delivery.

The organization and management of clinical experience as a form of tacit knowledge can complement scientific evidence in clinical practice. Clinicians and

patients are likely to optimize clinical outcomes and improve quality health care delivery when scientific research evidence accords with clinical expertise derived from clinical practice and patient values and preferences. This reinforces the view that external clinical evidence can inform but never replace individual clinical expertise. To be sure, it is the clinical expertise that determines whether the external evidence applies to the individual patient at all and, if so, how it should be integrated into a clinical decision (Sackett et al., 1996).

The assumptions and practices of evidence-based medicine have influenced many other areas/levels of health care decision-making. Health care decision-makers at all levels of the decision-making process are currently being challenged to engage in evidence-based decision-making. This is an important trend because it makes health care decision-makers more accountable by ensuring that decisions are based on solid research evidence integrated with individual experience and client expectations within the entire health care system.

Regionalized health care decision-makers, unlike clinical decision-makers, may not be in dire need of best evidence from scientific research to inform their decisions, given their role as “non medical or clinical experts” charged with the responsibility of planning and administering health matters in their health regions. At best, regionalized health care decision-makers may be looking for evidence from health administrators, which may be internally generated evidence rather than external scientific evidence to inform their decisions. These decisions are

mainly based on the values, health priorities, and health services delivery needs in the region (Frankish et al., 2002). What constitute best evidence, therefore, may differ from one level of health care decision-making to another, depending primarily on the mandate of the decision-makers. As a result, a singular understanding of “evidence” in the health care decision-making process may not work. Various levels of health care decision-makers should seek the best evidence that advances their primary interests and responsibilities.

Drawing on the definition of evidence-based medicine, evidence-based decision-making at the regionalized health care decision-making level may be defined as the conscientious, explicit, and judicious use of current relevant best evidence in making decisions about health care planning and delivery. Evidence-based regionalized health care decision-making, however, appreciates a wider interpretation of “evidence”, including (1) valid, important and applicable health consumer interests, (2) RHA member experience, and (3) relevant research-derived evidence.

The rationalization of evidence-based regionalized health care decision-making, like evidence-based medicine, has some implications for managing knowledge in the health care decision-making process. Sackett et al. (1996) believe that evidence-based medicine is not restricted to randomised trials and meta-analyses. It involves tracking down the best external evidence with which to answer clinical questions. How the best external evidence is tracked down, apart

from the randomised trials and meta-analyses, is not made explicit. This raises the question of how the best evidence can be tracked down in evidence-based regionalized health care decision-making. An answer to this question suggests that a strategy for managing knowledge be institutionalized. Such a strategy should ensure that both explicit and tacit knowledge inherent to regionalized health care decision-making process are harnessed to inform decisions. Understanding the current knowledge management practices of regionalized health care decision-makers is the first step towards the institutionalization of a knowledge management strategy.

This study seeks to examine the knowledge management practices of regionalized health care decision-makers, particularly at a time when the calls for evidence-based decision-making are reverberating throughout the health care industry. To this end a thorough review of the literature on the forms of knowledge informing regional health care decision-making will be conducted. This is critical because knowledge management strategies and practices in organizations should always aim at advancing the dominant form(s) of knowledge informing decisions in organizations (Hansen et al., 1999). Also to be reviewed is the literature on knowledge management from a knowledge system perspective and knowledge management strategies as a conceptual framework in examining regionalized health care decision-making.

3.2 Forms of Knowledge

Glasser et al. (1983) define knowledge broadly as:

1. facts, truths, or principles, often associated with, but not limited to, an applied subject or branch of learning or professional practice
2. information or understanding based on validated, broadly convergent experiences
3. reliably identified exemplary practice, including unusual know-how
4. an item of information that a person certifies as valid by applying one or more criteria or tests
5. the findings of validated research.

This definition implies that knowledge can be formal or informal.

The concepts “knowledge”, “data” and “information” are often used interchangeably. Although the meanings of data, information and knowledge overlap, they are distinct. The fundamental difference between these concepts is that while data are conceived of as unorganized facts and observations, information goes beyond by virtue of it being contextualized. Information, therefore, is data placed in context. Knowledge is also information, but such information can be judged to ascertain its truthfulness. Knowledge could be said to be formal when it is based on scientific evidence, whose validity and reliability can be tested over a reasonable period of time. Informal knowledge, differently, is

experiential in nature and is acquired after an exemplary practice has been put to use over a period of time. Informal knowledge, unlike formal knowledge, is difficult to replicate since the means for its acquisition are difficult to share (Connell et al., 2003).

Polanyi (1964) identifies explicit and tacit forms of knowledge as the two forms of knowledge used in organizations. These two forms of knowledge are currently recognized as the *de facto* knowledge categorization informing decision-making in almost all organizations. Polanyi believes that a large part of human knowledge is tacit. Knowledge of this type is action-oriented and has a personal quality that makes it difficult to communicate. Accessing tacit knowledge, therefore, presents a number of challenges, due to factors such as the absence of explicit scientifically repeatable process for eliciting such forms of knowledge. Explicit knowledge, however, can be communicated across time and space.

Polanyi's conceptualization of knowledge is similar to other definitions in the literature (Sveiby, 1997; Alavi and Leidner, 2001). Here, knowledge is defined as being a personal and intangible resource that brings about effectiveness. Given the personalized characteristics of such knowledge, for it to be useful there must be mechanisms in place to ensure the transfer of personal knowledge between individuals as well as the transfer of explicit knowledge between individuals (and organizations).

In a review of the literature on knowledge management, Jasimuddin et al. (2005) outline a number of distinctive features differentiating explicit and tacit knowledge forms. These various distinctions are presented in table 3.1.

Table 3.1- Distinction between Explicit & Tacit Knowledge Forms

Features	Tacit Knowledge	Explicit knowledge
• Content (Polanyi, 1967)	• Non-codified	• Codified
• Articulation (Spencer, 1995)	• Difficult	• Easy
• Location (Polanyi, 1967)	• Human brains	• Computers
• Communication (Ambrosini and Bowman, 2001)	• Difficult	• Easy
• Media (Connell et al., 2003)	• Mainly Face-to-Face Contact	• Information Technology
• Storage (Connell et al., 2003)	• Difficult	• Easy
• Ownership	• Organization & its Members	• Organization
• Knowledge Management Strategy (Hansen et al., 1999)	• Personalization	• Codification

Conceptually, there is a clear distinction between these two forms of knowledge. Nevertheless, they are not discrete or independent in the practical sense. These forms of knowledge are not dichotomous, but mutually dependent and reinforcing (Alavi and Leidner, 2001; Lam, 2002). Fostering a dynamic interaction between tacit and explicit knowledge, therefore, generates new forms of knowledge vital for organizations (Nonaka and Takeuchi, 1995; Lam 2002). Individuals in organizations learn by actively participating in the processes

involved in knowledge creation. Through these processes, knowledge is transformed within and between forms usable by people in organizations.

Nonaka and Takeuchi (1995) describe the knowledge creation process as a five-step process involving four modes of knowledge conversion. The process starts with the tacit knowledge of one or several individuals, who share it with others, thereby developing a common understanding. This common understanding is transferred into explicit knowledge in the form of a concept in the second step of the process. In the third step that concept is justified by comparing and linking it to other forms of explicit knowledge internal as well as external to the organization. In the fourth step the concept is manifested into a model operating procedure that can be further discussed and tested. In the final step the new knowledge is cross-levelled or spread throughout the organization.

Nonaka and Takeuchi (1995) believe that four modes of knowledge conversion are at work. These include socialization (transferring tacit knowledge to tacit knowledge); externalization (transferring tacit to explicit knowledge); combination (explicit to explicit knowledge); and internalization (transferring explicit to tacit knowledge). In this model, tacit knowledge is generally viewed as prerequisite for the use of explicit knowledge. It is through tacit knowledge that explicit knowledge is interpreted and manifested in action. Nonaka and Takeuchi's knowledge conversion, therefore, implies that tacit knowledge is the basis for knowledge transfer.

Though knowledge conversion has a conceptual value in understanding the complex processes involved in knowledge transfer, the proponents fail to elaborate explicitly how the knowledge conversion processes work empirically. The unilateral sequence for knowledge conversion posited by Nonaka and Takeuchi is subject to debate because knowledge conversion processes can vary depending on the context in which they occur. Furthermore, the use of the concept “knowledge conversion” in itself makes the understanding of knowledge management processes more mystifying. This observation is made in light of the already existing confusion surrounding the concepts (1) knowledge transfer, which seems to assume knowledge as a product; and (2) knowledge translation, which captures knowledge as a process. The introduction of the knowledge conversion concept is a source of confusion because the concept has not been clarified operationally by the proponents.

In spite of these observations, however, it is clear that many researchers in knowledge management are currently testing empirically the knowledge conversion paradigm. It is believed that the verification of the concept empirically over time will ultimately dissipate the current aura of confusion around knowledge management and its related conceptual paradigms.

The literature thus emphasizes two major and complementary forms of knowledge, tacit and explicit. An unresolved issue remains, however, it is not clear which form of knowledge is prerequisite for the other. Two lines of arguments

emerge here. Lam (2002), and Nonaka and Takeuchi (1995) argue that tacit knowledge serves as a prerequisite for explicit knowledge. A contrary view argues that explicit knowledge precedes tacit knowledge (Polanyi, 1967; Dreyfus and Dreyfus, 1988). Resolving this issue is important, but is itself not essential to enriching knowledge management in organizations. What is essential is an organization's ability to mobilize and integrate the tacit-explicit knowledge forms into a productive knowledge management strategy. Both knowledge forms play a decisive role in the development and management of knowledge in organizations.

Organizations draw on both tacit and explicit knowledge forms in making decisions. Identifying the main form of knowledge used in an organization has implication for understanding knowledge management strategies and practices in organizations. Edmondson et al. (2001) examined the challenges posed by new technical and social knowledge within an organizational context by studying the implementation of a new technology called Pseudonym Minimally Invasive Cardiac Surgery (MICS). This technology was adopted by many US hospitals in the late nineties. The study found that while overall organizational performance depended on explicit knowledge; improvements in performance, in terms of efficiency, relied on tacit knowledge. Many hospitals were able to adopt innovations transferred to them in an explicit manner, and which led to overall performance improvements. This, however, failed to account for performance improvements in efficiency, which was expected to be shared mainly in the form

of tacit knowledge. The study concluded that when new practices rely on explicit knowledge, transfer and accuracy are likely to be key determinants of successful performance improvement elsewhere. When a new technology relies on tacit knowledge, an improvisational “learning-by-doing” strategy is the best route to performance improvement. Evidently knowledge management strategies adopted by an organization for any intervention are a precursor to the successful implementation of the technology. Organizations must always align their knowledge management strategy with the knowledge at their disposal. Examining the characteristics of the main knowledge form used in an organization can go a long way to ensure that an appropriate strategy is adopted for its management.

3.3 Dimensions of the Knowledge Management Concept

Knowledge management in the context of health care decision-making remains under explored. The literature is relatively mute on the main knowledge form as well as various knowledge management strategies used in health care decision-making. This needs to be understood in order to identify the conditions that facilitate and/or impede the decision making processes. Again, an understanding of the knowledge management processes in health care decision-making will assist in creating the enabling organizational culture to sustain effective management of knowledge.

Knowledge management is defined as “the process by which an organization creates, captures, acquires and uses knowledge to support and improve the performance of the organization” (Kinney, 1998, p. 2). It can also be understood as the exploitation and development of the knowledge assets within an organization, aimed at furthering the goals and objectives of the organization (Metaxiotis et al., 2005). Knowledge management, therefore, can be said to involve a conscious effort to incorporate strategies and practices that ensure maximum use of knowledge in organizations with the aim of advancing the goals and objectives of the organization. It is presently recognized that successful organizations are those that create new knowledge, disseminate it widely throughout the organization, and represent it into new technologies and products (Metaxiotis et al., 2005; Hansen et al., 1999; Leonard, 1999). Perceiving knowledge management as a condition of organizational success makes it imperative for organizations to embrace and engage in it.

Since knowledge management involves a number of interconnected processes, the best way of understanding it is through the knowledge system perspective. The knowledge system concept refers to the institutionalization of knowledge processes in modern societies (Holzner and Marx, 1979). Knowledge processes include those activities related to the production, organization, distribution, application and mandating of knowledge. The knowledge system is, therefore, related to the entire learning capacity of society (Holzner and Marx, 1979). It is

conceptualized as a holistic approach in understanding knowledge-based processes in modern societies, and implies that knowledge processes should be perceived as interdependent processes. Such interdependency is enhanced when all of the knowledge processes are well managed. The knowledge system is thus strengthened through knowledge management.

The concept and practice of knowledge management is essential to understanding the knowledge system, particularly because the knowledge processes themselves are not necessarily linked in a rational fashion (Holzner and Harmon, 1998). According to Alavi and Leidner (2001), the processes of knowledge creation, storage/retrieval, and transfer do not necessarily lead to enhanced organizational performance. Effective knowledge application or utilization does.

Effective knowledge management for organizations should view the knowledge processes from a system perspective. Placing any aspect of the knowledge management above the others may diminish its value within organizations. The objective of knowledge management within organizations is not contentious. The attainment of this objective, however, involves all the knowledge processes, from creation to application, as well as an alignment of strategies to the overall objectives and aspirations of organizations.

Various knowledge management projects can be identified in the literature (Davenport et al., 1998; Hansen et al., 1999; Hurley et al., 2005). Several of the more prominent include:

1. The creation of knowledge repositories which store knowledge in documentary form. Hansen et al. (1999) refer to knowledge stored in this manner as codified knowledge. Such repositories can fall into three categories: (1) those which include external knowledge, such as competitive intelligence, (2) those involving structured internal knowledge, such as research reports, and (3) those that embrace informal, internal or tacit knowledge, such as formal and informal discussion databases that store “know how”.
2. The improvement of access to knowledge. Here the emphasis is placed on connectivity, and improving access and transfer through the use of technologies such as video conferencing systems.
3. The enhancement of knowledge management processes in such a manner that they are aligned with organizational environment. This involves matching organizational norms and values to organizational knowledge forms.
4. The management of knowledge as an asset, and the recognition of knowledge as a critical intervention or tool for organizational success.

The attainment of these objectives entails the coordination of managerial, resource and environmental factors (Holsapple and Joshi, 1997). Such factors have been broken down into more specific factors such as culture, leadership, technology, organizational adjustments, employee motivation, and external

factors, and represent critical prerequisites for the attainment of the knowledge management objectives (Holsapple and Joshi, 2000).

The multidimensional nature of these factors suggests complexities involved in translating knowledge into assets within organizations. Translating knowledge into assets implies changes in organizational activities and practices, as suggested by Metaxiotis et al. (2005). Since knowledge management is comprised of many different processes, organizations can best maximize knowledge use by ensuring proficiency in coordinating all the activities involved in the processes.

Deliberately managing knowledge in organizations, therefore, becomes one of the critical activities and practices, as organizations aim to maximize the use of knowledge at its disposal. This constitutes a central pivot in the current and the third generational tenets of knowledge management.

The periods between 1990-1995, 1995-2000, and 2000 to present time, have been regarded as the first, second and the third generational periods of knowledge management, respectively (Metaxiotis et al., 2005). The period between 1990-1995 constitutes the first generation of knowledge management. This period is characterized by foundational issues of knowledge management such as (1) attempts at and initiatives related to defining knowledge management, (2) investigations into the potential and benefit of knowledge management (for businesses in particular), and (3) the designing of specific knowledge management projects.

The second generation of knowledge management, from 1995 to 2000, also centers on knowledge management definitional issues, organizational philosophies, objectives, knowledge systems, frameworks, operational practice, and the use of advanced technologies in knowledge management. This period explored the enabling conditions for the introduction of knowledge management in organizations.

The present or third generation aims at integrating knowledge management into an organization's philosophy, strategies, goals, practices, systems, and procedures. This generation sees knowledge as inherently social and cultural, implying that organizational knowledge can only be realized through changes in organizational activities and practices.

The generational categorization, however, does not make the field of knowledge management new. It has existed in various guises for several decades (Habermas, 1972; Wenger, 2002). What is new, however, is that organizations are becoming more intentional and systematic about managing knowledge and making it an asset (Wenger, 2002). The historical/generational categorization of knowledge management by Metaxiotis et al. (2002) draws on research into the private sector, which has experienced knowledge management longer than any other sector. The issues that engaged the first generation, such as definitions, conceptual clarifications, and the general potential of knowledge management, together with other issues such as knowledge strategies and frameworks, are

currently receiving attention in the health industry and many other industries.

Knowledge management in the health care sector is best understood as being situated in its first generational period. The private sector, therefore, has much to offer by way of experience to the health industry.

It is clear that knowledge management is a complex and all-embracing concept, one that focuses on the functions of knowledge as related to organizational activities and performance. An understanding of knowledge management from a knowledge system perspective makes it a strong analytical tool for understanding the organizational use of knowledge. The ways in which knowledge is acquired, created, stored, retrieved, and applied, therefore, constitute the main parameters or dimensions of knowledge management. It is to these specific dimensions that we now turn.

3.3.1 Knowledge Creation and Acquisition

According to Mahesh et al. (2005), an organization's knowledge creation is generative in nature. This involves the active construction of knowledge from pre-existing information obtained from the organizational environment, and implies that organizations acquire and create knowledge to guide their actions through social and collaborative encounters. The way an organization acquires and creates knowledge depends mainly on the objectives and goals of the organization. Organization's efforts at knowledge acquisition and creation, therefore, should be

guided by its core strategy (Morse, 2000). Explicit organizational objectives regarding the general mission of the organization and knowledge management are important prerequisites in successful programs aimed at the maximization of knowledge in organizations.

Knowledge acquisition in organizations is also subject to a mixture of filters (e.g. norms, values and procedures) that influence greatly the kind of information organizations focus on and ultimately accept (Mahesh et al., 2005). An organization's culture in general affects individual members' predisposition toward externally generated knowledge. Externally generated knowledge is filtered to ensure that it is valuable in the organization. The acceptance or rejection of external knowledge is dependent on the prevailing organizational norms and values supporting its fundamental objectives. The characteristics of the organization and its enabling conditions regarding knowledge management can support or hinder knowledge flow into the organization. Attention, therefore, must be paid to organizational norms and values that support knowledge management. This can help organizations maximize the benefits associated with knowledge management.

3.3.2 Knowledge Storage and Retrieval

Functional and effective knowledge storage systems pave the way for the categorization of knowledge around organizational learning needs, work

objectives, user expertise, knowledge use, and storage location (Mahesh et al., 2005). It is important, therefore, that organizations first determine what type of knowledge is best retained and how best to retain it. This decision should be made strategically in order to ensure that knowledge is stored in accordance with the core objectives of the organization. Some of the key enabling technologies for storing knowledge include multimedia databases, text indexes, storage servers, advanced computer storage technology, and document management. Such technologies allow an organization's knowledge—which is often dispersed among varieties of retention facilities—to be effectively pooled, stored, and made accessible to individuals and departments within the organization (Alavi et al., 2001).

The choice of organizational knowledge storage systems again depends on the organization's objectives, and the availability of expertise and resources to support the system. Any system an organization pursues in storing knowledge at its disposal should be user friendly in order to facilitate easy and ready access to knowledge within the organization.

3.3.3 Knowledge Transfer

Knowledge transfer from an intra and/or inter firm perspective involves the mechanical, electronic, and interpersonal movement of knowledge both intentionally/formally and unintentionally/informally through an organization

(Mahesh et al., 2005). Knowledge transfer is facilitated by a host of factors. Alavi et al. (2001) identify key elements related to the knowledge transfer process.

These include the perceived value of the source unit's knowledge, the motivational disposition of the knowledge source (i.e. a willingness to share knowledge), the nature and richness of the transmission channels, and the motivational disposition of the receiving individual or organization regarding their ability to acquire knowledge. Characteristics of the knowledge source and the recipient individuals or organizations are central to facilitating the transfer process.

Though knowledge is generally useful when appropriate to an organization's interests, it can also be unhealthy for the growth of an organization if it is found to conflict with the core interests of the organization. Since the knowledge transfer process can either be intentional or unintentional, organizations are better off if they develop strategies that ensure the free flow of functional and valuable knowledge within the organization. Knowledge is bound to creep into organizations occasionally as employees interact with the outside world. One way of ensuring that such knowledge advances the objectives of an organization is to encourage informal interactions and discussions among employees. Communities of practice, for example, can be used as a knowledge transfer media, as they encourage individuals to form smaller groups to share and discuss knowledge related to a passion or interest.

3.3.4 Knowledge Utilization/Application

As previously stated, the processes of knowledge creation, storage/retrieval, and transfer do not necessarily lead to enhanced organizational performance. Effective knowledge application or utilization does. Organizational performance often depends more on the ability to turn knowledge into effective action and less on knowledge itself. This, however, does not imply that knowledge management processes other than knowledge application are insignificant and, therefore, must be ignored. All knowledge management processes must ultimately be seen at work in order to ensure effective action from knowledge.

A number of explanations of the knowledge utilization process have been given in the literature. Most of these explanations are understood as alternative models of knowledge utilization. These include the science push, the enlightenment, the demand-pull, the engineering, the strategic, the dissemination, and the interaction models (Weiss, 1979; Landry, 1990; Denis et al., 2004). Despite the fact that these models explicitly trace the transfer of research findings from researchers to decision-makers, they still have some implications for understanding knowledge management, especially in health care decision-making process. This is particularly important given the dearth of research utilization in health care decision-making (Frankish et al., 2001). Reversing this trend is necessary if we are to expect health care decision-makers to make use of relevant research to inform evidence-based decisions.

In the context of RHAs, senior managers represent the “researchers” and RHA members represent the “decision-makers”. However, the relationship between typical researches and decision-makers is different from the relationship between senior management and RHA members, who tend to work very closely together. RHA members stand to gain if they are encouraged to have authentic interaction with senior management. An understanding of how research gets transferred into RHA members’ decisions, therefore, becomes an important endeavour not to be left to chance.

3.4 Knowledge Management Strategies

A knowledge strategy is simply a plan that describes how an organization intends to better manage its knowledge for the benefit of that organization and its stakeholders. A good knowledge management strategy is closely aligned with the organization’s overall strategy and objectives. Selecting the right knowledge management strategy is, therefore, an important prerequisite for attaining organizational objectives. As indicated earlier, Hansen et al. (1999) point at two contrasting strategies for knowledge management: codification and personalization. They believe that the best knowledge management strategy is always a combination of the two, but with a stronger emphasis on one. While a codification strategy is appropriate for explicit knowledge to thrive, the personalization knowledge management strategy better supports the use of tacit knowledge in organizations (Jasimuddin et al., 2005). Since tacit and explicit

knowledge forms are complementary, an organization's efforts towards knowledge management should be focussed on instituting the most appropriate strategy.

These two knowledge management strategies have distinctive features. The codification knowledge management strategy ensures the re-use of explicit knowledge by capturing, codifying, classifying and making available knowledge to support routine problem solving. Uniformity in action is ensured since knowledge is recycled to guide decision-making. Questions regarding organizational problems and the usual response to them serve as the primary questions guiding codification strategies in organizations. For such questions to be resolved, libraries of procedures, policy documents, guidelines, data collection forms, typical cases and outcomes, and risk assessment tools derived from all parts of the organization must be developed and made available to all individuals in the organization. The codification knowledge management strategy also thrives on the availability of incentives to encourage staff to use the system. This implies that organizations adopting the codification knowledge management strategy should reward the use of, and contributions to, document databases as recognition of staff adherence to policies. The codification strategy, in general, involves intensive investment justified by multiple knowledge re-use.

At the same time, the codification strategy seems to overemphasise internally generated explicit knowledge re-use, without any reference to the use of external

explicit knowledge in the form of research evidence. This is a flaw that is not addressed in the strategies of knowledge management presented by Hansen et al. (1999). Since explicit knowledge comes from both internal and external sources, attempts at its management should be comprehensive enough to reflect this duality.

This notwithstanding, the codification knowledge management strategy based mainly on internal explicit knowledge can complement the evidence-based decision-making paradigm, which also seems to be tilted towards externally generated explicit knowledge to the neglect of explicit knowledge generated internally in an organization. Harmonizing the codification knowledge management strategy and the evidence-based decision-making paradigm has the potential to provide a more comprehensive perspective on explicit knowledge management in organizations.

The personalization knowledge management strategy, on the other hand, is suitable for a one-off, medium to long-term, high risk, strategic problem with no solution precedent. This strategy shares tacit knowledge by helping staff to identify experts and enhance conversations to create novel solutions. The forms that solutions to problems might take—and who in the organization might know about the solution—are the primary user questions guiding the personalization knowledge management strategy. Online resumes, list of skills and publications for staff and external experts, e-mail discussion lists, regular case meetings,

workshops, video-conferencing, co-located staff, the provision of a coffee area, and staff secondment assist in identifying individuals who might have solutions to problems on hand (Wyatt, 2001). Since communication is the bedrock of the personalization strategy, organizations adopting this strategy must reward direct communication with others, as well as recognizing experts and original solutions. This strategy of managing knowledge entails a modest investment, justified by improved frequency and quality of communications (Hansen et al., 1999; Wyatt, 2001).

Since codification and personalization knowledge management strategies exhibit contrasting features, they should be commensurate with the dominant knowledge form of any given organization. The features of the two knowledge management strategies indicate clearly that organizations embedded with routine and non-routine tasks lend themselves largely to codification and personalization knowledge management respectively.

Hazlett et al. (2005), following Hansen's knowledge management strategies, propose computational and organic paradigms as two main paradigms for managing knowledge in organizations. They view computational paradigms as system/techno-centric in nature and organic paradigms as people-centric, similar to the codification and the personalization strategies of Hansen and his colleagues. The computational paradigm, like the codification strategy, stresses the need for technology and its importance in identifying, classifying, categorizing, storing,

and retrieving knowledge. The organic paradigm, like the personalization strategy, takes a softer stance on knowledge and acknowledges that knowledge cannot always be formalized and used in an explicit fashion, but rather tacitly in an organization's decision-making processes. As the name implies, the computational paradigm (and the codification strategy) concentrates primarily on the use of information technologies to manage knowledge. The main purpose of computers in the organic paradigm/personalization strategy is to facilitate communication among knowledgeable individuals rather than to classify, codify or store knowledge.

The two knowledge management strategies have their unique advantages and disadvantages. The personalization strategy is recommended for its sustainable advantages because of its immobility and inimitability (Spencer, 1995; Ambrosini and Bowman, 2001), its contribution to innovation (Alversson, 2001), and its low investment in information technology (Johannessen et al., 2001). Disadvantages associated with the personalization strategy include an organization's inability to store knowledge beyond the minds of individuals without some process of articulation. In other words, personalized knowledge is difficult to be communicated to others (Connell et al., 2005). There is also a reluctance to share tacit knowledge when pursuing personalization strategy because of fear of losing power and status associated with an individual's possession of knowledge (Szulanski, 1996). The most serious difficulty associated with personalization

strategy is the risk of losing knowledge due to loss of employees (Jasimuddin et al., 2005), thus making organizations “internally vulnerable” (Hall and Andriani, 2003).

The codification strategy does protect the loss of knowledge associated with the exit of employees because such knowledge is taken from individuals and codified for general organizational use. The fact that knowledge is codified, however, makes organizations “externally vulnerable” because codified knowledge can easily be leaked out of the organization. It is also costly pursuing a codification strategy because it is based heavily on information and computer technologies.

The choice of knowledge management strategy should also be based on the organization’s knowledge and objectives. Business and profit-oriented organizations are more likely to embrace the personalization strategy to insulate themselves against knowledge leakage to “business rivals” (Jasimuddin et al., 2005). All other things being equal, health care decision-makers, like most decision-makers in non-profit oriented organizations, may not necessarily be afraid of knowledge leakage. In this case, they are likely to be better off if they codify knowledge and share it with others in the industry for quality service outcomes.

In spite of the benefits associated with the codification of health care knowledge, Wyatt (2001) called for the development of personalization strategy for knowledge management in health care decision-making. Since RHA members' decisions are based both on tacit and explicit knowledge, an understanding of how members manage both explicit and tacit knowledge in their decision-making is necessary. This concern is central to this study. Emphasis will be placed on the sources, transfer, sharing, retrieval, storage and application of these knowledge in informing RHA members' decision-making.

3.5 Summary

Evidence-based decision-making in health care demands the effective use of externally generated scientific or explicit knowledge in informing decisions. Tacit knowledge derived on the job is downplayed by the evidence-based practice paradigm. Meanwhile, two main forms of knowledge inform health care decision-making: explicit and tacit. These forms of knowledge are expected to complement each other in decision-making process. Emphasis, however, should be placed on one form of knowledge than the other to reflect the goals and objectives of the organization. The two main knowledge strategies, codification and personalization, are noted as supporting explicit and tacit knowledge forms, respectively. Knowledge management strategies supporting evidence-based regionalized decision-making, therefore, should be based on relevant knowledge informing RHA members' decisions.

The choice of knowledge strategy is a test for knowledge management, which is a channel for knowledge system manifestation. The knowledge system, defined as the institutionalization of knowledge processes in modern societies, is best championed through knowledge management, by capturing the entire knowledge processes from creation, through retrieval, storage, distribution, evaluation, absorption, application to the institutionalization of knowledge.

The inclusion of RHAs in health care administration demands that RHA members are equipped with the requisite knowledge and “info-structure” to make their decisions. The extent to which RHA members are resourced to manage knowledge in making their decisions still remains unclear in the literature. This study, therefore, aims at unravelling the knowledge management strategies and practices adopted by the RHA members in making health care decisions. It is expected that such understanding of knowledge management strategies and practices will ultimately facilitate the institutionalization of policies aim at improving the entire health knowledge management processes.

CHAPTER FOUR – COMMUNITIES OF PRACTICE: A CONCEPTUAL FRAMEWORK

4.1 The Communities of Practice Concept

Communities of practice are informal networks capable of nurturing and supporting the development of the personalization strategy of knowledge management in organizations. The literature clearly views communities of practice as powerful conceptual tools for pursuing personalization (person-to-person) knowledge management in organizations (Wenger, 2002). It is mute, however, on the appropriateness of communities of practice for pursuing a codification knowledge management strategy. Even though tacit and explicit knowledge forms are complementary theoretically, it is unclear how communities of practice can support explicit knowledge management in health board decision-making.

Knowledge management is well supported by the close ties of individuals in a community of practice (Hurley et al., 2005; Brown and Duguid, 1998). This is particularly evident in situations where the organization's dominant knowledge form is tacit. Communities of practice, therefore, become effective organizational strategies for assisting people to harness knowledge for improved organizational

performance. For knowledge management to flourish in organizations, individuals in organizations must understand that the viability of their groups depends on their contributions and commitments.

Communities of practice are powerful conceptual tool for understanding the social process related to the carrying out and perpetuation of a practice. Sawhney and Prandeli (2000) describe the concept as “a sustained, cohesive group of people with a common purpose, identity for members, and a common environment using shared knowledge, language, interactions, protocols, beliefs, and other factors not found in job descriptions, project documentations or business process”.

Communities of practice, therefore, are social media for learning and managing knowledge by individuals who are knit together by a common interest or agenda.

Wenger (1998) sees communities of practice as marked by three dimensions, which take shape through routines and repeated interactions as opposed to rule or design. The first is mutual agreement among participants. This involves negotiating diversity, doing things together, developing mutual relationships and maintaining the community. The second is joint enterprise, which involves participants’ engagement in a common passion or agenda. The third dimension is a shared repertoire that draws on stories, artifacts, discourses, concepts, historical events, and reflects a history of mutual engagement and dynamic co-ordination through the technologies of communication. These features potentially make

communities of practice important venues for supporting tacit knowledge and participation in organizations (Cook and Yanow, 1993).

Communities of practice function not only within an organization, but can extend to embrace individuals outside an organization who also share a common passion and interest in an issue or topic. This contradicts the generally held understanding of communities of practice, which limits it to individuals with common expertise within an organization. The knowledge-base of individuals is not an important prerequisite for belonging to, or being engaged actively in, communities of practice. An important prerequisite to engage in communities of practice, however, is the possession of basic knowledge about the issue of concern to the entire community. This should be backed by a passion to share, to deepen one's understanding, and ultimately, to contribute meaningfully to the communities' mission.

4.2 Forms of Communities of Practice

Communities of practice flourish on common concerns and passions, trust and mutual respect among the people belonging to the communities, and commitment on the part of the members to ensure the success of the communities. Since these are the basis for the formation and growth of communities of practice, it is not difficult to identify various forms of it. Wenger et al. (2002) identify several forms of communities of practice. They believe that communities of practice are as

diverse as the situations that bring them into existence and the people who populate them.

Communities of practice can be large or small in composition. There is no specificity regarding the number of people needed to form communities of practice. Obviously, since a person does not constitute a community, two people or more are required to form a community of practice. Some communities of practice are small in size and intimate in structure; others consist of hundreds of people. Still, composition is not critical in the functions of communities of practice. The larger a community of practice becomes the more the need for restructuring it into smaller units based on geographical or general interests of people to facilitate easy communication within the communities.

Communities of practice can also be long-lived or short-lived. The lifespan of a community of practice depends on the core issue underpinning it, the sustained interests and commitment of the people, and the support it derives from organizations that have direct or indirect relationships with it. Generally, it is almost impossible to predict the duration of communities of practice at the time of their formation. Since communities of practice are mainly voluntary and informal in nature, its duration largely rests on the operations of the communities. Communities of practice must be nurtured in order to span a longer period of time.

In addition, while some communities of practice are homogenous, being composed of people from the same discipline or function, others are heterogeneous in nature, with members coming from diverse disciplines and backgrounds. This testifies to the flexibility of communities of practice. In most cases, however, communities of practice develop along homogenous lines, but with time open up for other individuals with different backgrounds and expertise to become members (Wenger et al., 2002).

Depending on its composition, in terms of members' backgrounds, disciplines, and geographical areas, communities of practice can be co-located or distributed. Sharing a practice requires regular communication, which implies that communities of practice are well located to support the interactions that occur within the community. However, the advent of modern technologies and the need for globalization is fast making distributed communities of practice the standard rather than the exception. Communities of practice, therefore, operate within and across organizational boundaries.

Communities of practice can be spontaneous or intentional. The need to solve a problem in an organization can easily put in motion the formation of communities of practice. This normally happens when finding antidotes to problems goes beyond the individual or those tasked with that responsibility. In other words, relying on others to address problems can be a conduit for the formation of communities of practice. Even though communities of practice are generally

spontaneous, some are intentionally raised and supported to address a common concern. Some individuals may hatch the plan for the formation of communities of practice and extend invitations to others with common interests to join on voluntary basis. Organizations, therefore, have a role to play in extracting the best from communities of practice. It has been argued in the literature that while communities form naturally, organizations need to become more proactive and systematic about developing and integrating them in their strategy. This is necessary because communities of practice have been shown empirically as a valuable way of managing knowledge, especially tacit knowledge in organizations (Brown and Duguid, 2001; Wenger, 1998; Wenger et al., 2002).

Communities of practice can either be recognized (institutionalized) or unrecognized (non-institutionalized) in organizations. Communities of practice which are not recognized are not rendered non-functional. Some communities of practice can be internally consistent and functional, yet they might not be recognized by organizations for various reasons ranging from apathy on the part of management to communities being perceived as threat to management in organizations. Some communities, however, have been found to be so valuable that they have been institutionalized in their organization's official structure.

The institutionalization of communities of practice also depends on a number of factors. Among the factors likely to influence the institutionalization of communities of practice is the relationship of the organizations' objectives and

that of the communities. All other things being equal, communities of practice, whose activities overtly impact on the progress of the organizations, are more likely to be recognized than those not seen as boost to the growth and development of the organizations. Whereas some organizations will create the enabling environment for communities of practice, others may discourage such networks.

It is clear so far that communities of practice can take many forms, depending on the issue of interest to the communities, its composition, commitment, as well as the internal and external consistency of the communities. The multiplicity of forms which communities of practice can take makes them susceptible to be confused with other structures such as project or operational teams and informal networks like professional associations.

A line, however, could be drawn between communities of practice on one hand, and operational teams and professional associations on the other. It is believed that while members belonging to communities of practice are connected by interdependent knowledge, project or operational teams are connected by interdependent tasks that contribute to predefined, shared objectives. Communities of practice as they unfold, though may have tasks to be pursued by teams within the communities, these tasks are not predetermined for the communities. So while communities of practice are not defined and premised on set tasks, operational teams are always defined and strictly guided by its fundamental tasks or subtasks.

Belonging to a project team or committee, however, can deepen relationships among individuals, which may serve as the basis for communities of practice.

Communities of practice are also distinguished from other informal networks, like professional associations, in the sense that they are about a domain which gives it an identity, and not just set of relationships (Wenger et al., 2002). This explanation by Wenger and others seems ambiguous because professional associations also have domains, which explicate their existence. Even though, most professional associations are born out of communities of practice, their membership are always restricted, making them involuntary entities. This feature of professional associations differentiates them from communities of practice, which are mainly voluntary entities, provided individuals have the passion to share and contribute to the knowledge base of the community. Though, an attempt at drawing a line between communities of practice on one hand, and project teams and professional associations on the other, has been made, it must be acknowledged that such distinction is so blurred that it can easily lead to misconceptions between them. Wenger et al. (2002), however, advise that any attempt at classifying a group as communities of practice should be based on the group's functions and how it combines the three elements making up communities of practice, namely; domain, community and practice.

4.3 Importance of Communities of Practice

For a variety of reasons, communities of practice are useful organizational subset for examining the development of organizational knowledge, as well as identity. Brown and Duguid (2001) list some important aspects of communities of practice as venues for knowledge management. First, they are privileged sites for a tight, effective loop of insight, problem identification, learning, and knowledge production. Second, they are significant repositories for the development, maintenance, and the reproduction of knowledge. Third, community members provide for one another social support that scaffolds knowledge creation in practice. Fourth, to a significant degree, communities of practice determine organizational adaptability (Stark, 2000).

These benefits associated with communities of practice place them at a critical position in helping organizations attain their goals. The attainment of such goals is dependent on the extent to which knowledge is marshalled and managed in organizations. Since communities of practice provide a platform for individuals to create and share knowledge, it should be perceived as viable intervention in ensuring knowledge management in all organizations. A case has already been made regarding the role of communities of practice in the business arena. Its application and suitability in the non-business or government arena, like health care, however, remain under explored. One way of doing this is to create the

enabling conditions for communities of practice to thrive as an informal avenue for personalized knowledge management in the health care sector.

Despite the ample evidence supporting communities of practice as knowledge production and management sites, many organizations have not put in place structures which are needed for nurturing them. This may be due to the fact that many organizations have no explicit, consolidated knowledge strategy which at best, exists implicitly in organizations strategic plans, human resource reports, or system-improvement proposals.

Explicit knowledge management strategies with the capabilities required in attaining organizational objectives, therefore, become necessary. Knowledge management strategies commensurate with organisational objectives can facilitate the institutionalization of interventions such as communities of practice in organizations' efforts to maximise knowledge use. Although communities of practice may flourish on their own in some cases, they do not always do so. Communities of practice can become useful if they are supported where they already exist or they are consciously cultivated where they do not exist.

4.4 Downside of Communities of Practice

In spite of the widely acclaimed acceptance of communities of practice as a media for knowledge sharing in organizations; like all organizations, there are downsides to them. Wenger et al. (2002) identified a number of problems that

communities of practice can pose in organizations if not managed properly. They believe that communities of practice can serve as media for hoarding knowledge, limiting innovation, and hold others hostage to their expertise as did occur during the medieval guilds period. During that time, knowledge was being hoarded when some guilds started to make membership a right for some people and excluded many others from becoming members.

In that same vein, communities of practice if not well managed can be “hijacked” by a few members, thus making it impossible or difficult for others who share the passion of the communities to join. In order to forestall the occurrence of this situation, it is important not to give one community a monopoly or sole right; actual or *de facto* over any area of knowledge. Core members of communities should always be guided by the notion that knowledge does not reside only in some heads and encourage as many as possible members willing to share in the passion of the communities to do so. Organizations can also formally monitor the progress of communities of practice and ensure that they are not monopolized to serve factional and personal interest at the expense of the overall organizational interests and objectives.

Communities of practice can be chaotic when boundaries are not clear or precise. Domain-related problems can occur in communities of practice when a community or organization is unable to make a clear connection between the domain or the community and the needs of the organization, or when the needs of

the organization override to the point that the perspectives and interests of members are downplayed. Ensuring a balance between organizational and community's interest is paramount in avoiding a situation that may make communities of practice chaotic.

4.5 Principles for Cultivating Communities of Practice

Wenger et al. (2002) argue that communities of practice can be cultivated, and suggest seven principles or practices that might be adopted to help build and maintain communities of practice as knowledge sharing sites within organizations.

4.5.1 Design for Evolution

Since communities of practice reflect on, and redesign elements of themselves throughout their existence, it is important for core members of the communities to have in place strategies to nurture the communities as they evolve. The key to designing for evolution is to combine design elements in a manner that supports community development. Guiding communities as they evolve, demands a lot of tactfulness on the part of the core members of the communities. Core members of communities are also ordinary members, but most often they are the initiators of the communities. The ways communities are cultured depend largely on their evolving process. Members belonging to communities of practice may have their own agenda for the communities as they grow. It is even possible for the fundamental passion behind the formation of communities to change as they

evolve. Though communities define their own bearings, members collectively should guide the process of evolution to ensure that the passion for the formation is adhered to and enhanced.

4.5.2 Open a Dialogue between Inside and Outside Perspectives

A good community design requires an insider's as well as outsider's perspectives to lead the discovery of what the community is about. Nurturing communities of practice from "inside" implies that members engage in dialogue to direct the course of the communities. The cultivation of communities of practice, however, should not be confined to the communities. Communities can flourish if they are opened to outside perspectives, in other words, learn from other communities. Learning from other communities might be helpful, but at the same time can prove to be unhealthy for communities if they rely too much on outside perspectives. For communities to sustain their passion, they should be selective in embracing outsider perspectives. Outside perspectives should be adopted if they have the potential in advancing the communities interest.

4.5.3 Invite Different Levels of Participation

It is expected that good community architecture invites many different levels of participation. Three levels of participation have been identified in communities of practice— core, active and peripheral participation. The core group is generally made up of small number of members of the community. This group is the heart of

the community. Critical decisions regarding the direction of the community are mainly initiated by the core members. The active members also attend meetings on a regular basis and participate occasionally in the activities of the community, but without the intensity of the core group. The third type of participation involves peripheral members, who generally sit on the fringes and observe the interactions between the core and the active members. They are mainly passive members who look up to the core and the active members for directions.

The three levels of participation exist in communities because individuals belonging to communities enrol with different values. Although members enrol in communities with a common passion, they have different levels of intensity in the passion. The core members, it is clear, have an important task of steering the affairs of the entire community, of course, with full participation of the active and the peripheral members.

4.5.4 Develop Both Public and Private Community Spaces

Interactions among members of communities of practice are vital for the success and the deepening of relationships within the communities. Developing both public and private spaces for communities' interactions enables them to function as distinct units. Public spaces are normally recommended for communities' interactions. Such spaces are used for formal communities meetings, which are generally open to all the members of the communities. Wenger et al.

(2002) recommend that communities support the public spaces interactions among members with private community spaces interactions. The private spaces interactions refer to the one-on-one meetings between members. Members actually get to know themselves better if encouraged to engage in private space interactions.

Complementing public community space interactions with private space meetings, therefore, has the potential to enrich members' interactions. In spite of this potential benefit, care must be taken, especially by the core members to ensure that private space interactions do not degenerate into factions and smaller units within the community, which can disintegrate the entire community.

4.5.5 Focus on Value

Communities of practice are strengthened by delivering value to the organization and to the community members themselves. The value should be premised on the passion that led to the formation of the community. As communities function, the values behind its formation are strengthened, revised or changed. A drastic deviation from the core value of the community can pose a problem to the cohesiveness of the community. Members enrol in communities because of some specific values. Though these values may change with time, efforts should be made by the core members in particular in ensuring that the activities of the community are centred on the original values of the community.

The dynamism of the core members is expected to play a critical role in the process of ensuring that communities adhere to their values, while at the same time explore ways to move the communities forward.

4.5.6 Combine Familiarity and Excitement

Lively communities combine both familiar and exciting events, so community members can develop the relationships they need to be well connected as well as generate the excitement they need to be fully engaged (Wenger et al., 2002). In nurturing communities of practice, members should be made to engage in familiar routine events which lend support to the community's values. Communities of practice, like all other associations of individuals are not static. They venture into unfamiliar but exciting events to advance the interest of the organizations. Exciting events provide a sense of common adventure, which can advance or derail community's interest. The choice of events to be embarked upon by the communities should be carefully and strategically selected to deepen interactions between members.

4.5.7 Create a Rhythm for the Community

Communities of practice should have a rhythm or norm. Such rhythm should be derived from the passion and activity of the community itself. It is important for all communities of practice to have rhythms which guide their operations, in a manner consistent with the communities' values, members' interests and the

overall interest of organizations. A community finding the right and appropriate rhythm at each stage of its development is central to its success. The search for a community's rhythm, however, should be pursued by all members of the community, so that members fit their activities within the dictates of the rhythm.

4.6 Summary

Communities of practice constitute a tool for understanding the social process related to the carrying out and perpetuation of a practice. They are, therefore, important avenues for learning and managing mainly tacit knowledge by individuals brought together in pursuit of a common goal and interest. Communities of practice can take various forms depending on the situation leading to their formation. The interest of the community, its composition, commitment, and consistency with the objectives of organizations largely determines the form a community of practice takes.

Although communities of practice rise on their own in most cases; they can also be consciously cultivated as an intervention for tacit knowledge management in organizations. This understanding prepares the grounds for studying the features of health boards, feasible in sustaining as well as nurturing communities of practice in the domain of the health boards.

Even in instances where communities of practice rise voluntarily, they need to be carefully nurtured to suit organizational objectives. Nurturing of communities

of practice becomes extremely necessary given the downsides associated with them in the absence of explicit guidance. This does not indicate that communities of practice not nurtured are bound to fail. Supporting or nurturing of communities of practice, however, is vital if organizations and members of the communities expect the communities to have real impacts on the activities of the organization.

Organizations supporting or nurturing communities of practice should be careful in exercising control over the communities. Dictating the pace of communities of practice excessively can derail the course and the objectives underpinning them. The principles of cultivating or nurturing communities of practice in organization should be exercised in a manner that guarantees free participation of members in communities' activities. This is critical because individuals, all other things being equal, are likely to be more motivated in sharing knowledge with others in a purely voluntary manner in communities of practice.

CHAPTER FIVE – METHODOLOGY

This chapter outlines the methodology adopted for this study, and includes sections on the study area, units of analysis, research design, data collection techniques, data analysis, and the validity, as well as the limitations of the study.

5.1 Study Area/Unit of Analysis

Regional Health Authorities (RHAs) are health advisory organizations with the responsibility for health administration in the various provinces of Canada. RHAs are responsible for planning, organizing, managing, delivering and evaluating health services within the regions. The Saskatchewan Health Regions (SHRs) came into being on August 1, 2002 with the proclamation of the Regional Health Services Act. Saskatchewan has 12 RHAs, with each authority composed of 12 appointed members. These appointments are based on a public nomination process. The members of the RHAs in the province of Saskatchewan will serve as the unit of analysis for this study.

The Saskatchewan Health Regions replace the 32 Districts Health Boards (DHBs), which were in place between 1993 and August 2002. The District Health Boards came into being in Saskatchewan as a result of the Health Districts Act,

which was passed in 1993 by the Saskatchewan legislature. The rationale for the formation of the Health Districts Act was to ensure the integration of health services and increased community involvement through the creation of health districts and health district boards. The Northern Health Authority, however, remained unchanged.

The study investigates both urban-based and rural-based RHAs in Saskatchewan. Two RHAs were purposively selected to represent each of these region types, and thus serve as the ultimate sampling unit for the study. All the twenty-four RHA members of the two selected health regions were contacted to participate in the study through their respective regional health authority offices. Both RHAs agreed formally to participate in the study, and twenty-one individual members made time to participate, eleven from the urban health region and ten from the rural health region.

The RHA members who participated in the study have extensive experience in health care administration. On average these members each have over eighteen years of experience in health care administration, and have served on many boards of health care institutions in the province of Saskatchewan. Of the twenty-one members who were involved in the study, four have expertise in Nursing. Other areas of experience and expertise include accounting, banking, law, farming, and public administration. RHA members, thus, have a broad-range of experience and

expertise to discharge their duties as health care decision-makers in their respective health regions.

5.2 Research Design

A qualitative case study design is used to investigate thoroughly the knowledge management strategies and practices of selected RHA members in the province of Saskatchewan. Qualitative research can be defined as “any kind of research that produces findings not arrived at by means of statistical procedures or means of quantification” (Strauss and Corbin, 1990, p. 17). Merriam (1988) defines it as “an intensive, holistic description and analysis of a single entity, phenomenon or social unit.” Qualitative case studies are particularistic, descriptive, heuristic, and inductive in nature. They are particularistic because they refer to one event, process or situation as the focus of investigation. They are descriptive because they refer to the presentation of the case study in a manner that provides holistic, detailed quality of the description. They are heuristic and inductive respectively because they advance the understanding of the phenomenon, and because they entail the common inductive form of generalization emerging from the data in a contextual manner. It is clear from the above descriptions that qualitative case studies are detailed, contextual and very informative, and capable of paving the way for an understanding and generalization of a phenomenon.

Based on the potential benefits associated with the use of qualitative research design, several writers have identified what they consider to be the prominent characteristics of the design. Hoepfl (1997) offers the following list as a synthesis of various authors' descriptions of qualitative research:

1. Qualitative research uses natural settings as the source of data. The researcher is expected to observe, describe and interpret social settings as they are.
2. The researcher acts as the "human instrument" of data collection.
3. Qualitative researchers predominantly use inductive data analysis.
4. Qualitative research reports are descriptive, incorporating expressive language.
5. Qualitative research has interpretative character, aimed at discovering the meaning events have for the individuals experiencing them, and the interpretations of those meanings by the researcher.
6. Qualitative researchers pay attention to the idiosyncratic, as well as the pervasive, seeking the uniqueness of each case.
7. Qualitative research has an emergent (as opposed to predetermined) design, and researchers focus on this emerging process as well as the outcomes or product of the research.
8. Qualitative research is judged mainly on the trustworthiness of the research, which in this case is the "instrument" of the research approach.

Patton (1990), however, believes that there is no "absolute characteristics of qualitative inquiry." Instead, it entails "strategic ideals that provide a direction and framework for developing specific designs and concrete data collection tactics" (p.59). Characteristics of qualitative research are furthermore "interconnected"

(Patton, 1990, p. 40) and “mutually reinforcing” (Lincoln and Guba, 1985, p. 39). These characteristics, therefore, served as the tools that guide the qualitative process of the study.

5.2.1 Rationale for the Choice of Qualitative Research Design

It is evident in the literature that researchers have long debated the relative strength and value of qualitative and quantitative inquiry (Patton, 1990). In this study, the choice of a qualitative research approach was influenced by the naturalistic tendencies and features associated with this approach, which seek to understand phenomena in context-specific settings. This allows the researcher an opportunity to be very much involved in the study. Qualitative research designs stress the importance of looking at variables in their natural settings.

In qualitative research, the interviewer is an integral part of the investigation (Jacob, 1988). This offers investigators the opportunity to engage respondents in flexible, but rewarding interviews. Qualitative research designs are flexible because investigators can always amend the questions being asked to gain access to information that helps address the research concerns of the study.

Qualitative research design differs from quantitative research design, which attempts to gather data in an objective fashion. Research based on the quantitative design generally provides information about relations, comparisons, and predictions of variables, but then does so without the full involvement of the

investigator. It attempts to remove the investigator from the investigation (Smith, 1983). The researcher in qualitative research, however, is the “instrument” of the approach. In the main, therefore, while quantitative research approaches seek causal determination, prediction, and generalizability of findings, qualitative research seeks instead illumination, understanding, and extrapolation to similar social situations (Hoepfl, 1997).

Cronbach (1975, p. 124) has made a case for qualitative research by criticizing quantitative research on the grounds that statistical research is not able to take full account of the many interaction effects that occur in social settings. Cronbach states that “the time has come to exorcise the null hypothesis,” because it ignores effects that may be important, but that are not statistically significant leading to its rejection as an explainable variable. This problem is forestalled in qualitative research because its inquiries accept the complex, unpredictable and dynamic quality and nature of the social world.

Qualitative research design is important not only from the researcher’s perspective, but also from potential readers’ perspectives. Qualitative research offers readers the opportunity to have access to information in the form they usually experience in real life situation (Lincoln and Guba, 1985). Readers, all other things being equal, are more likely to be comfortable with research findings that are based on qualitative research than quantitative research data, which may easily be unappealing to readers unfamiliar with quantitative analysis.

A qualitative case study is appropriate to this study because it offers the researcher an opportunity to explore in detail the knowledge management context of regionalization at the selected health regions. Qualitative data were gathered through open-ended interviews, which were conducted by the researcher in a flexible fashion. Other direct behavioural observations were made during the interviews. Through this research design, some respondents were able to offer the interviewer certain relevant aspects of the study, which were not initially anticipated prior to the data collection phase.

Despite its numerous advantages, qualitative research has some disadvantages. The very subjectivity of an inquiry based on a qualitative design leads to difficulties in establishing the reliability and the validity of data. It is difficult to prevent researcher from inducing bias, given the intimate involvement of the researcher in the investigation process. Another difficulty associated with the qualitative design stems from the fact that questions asked during the interviews—i.e. broad, open-ended, and interconnected questions—may not always be specifiable as conventional hypotheses (Jacob, 1988). Still, in spite of the shortcomings associated with qualitative design, care was taken to ensure that the questions structured prior to the interviews were adhered to as much as possible during the interviews.

5.3 Data Collection Techniques

Personal interviews were the main data collection technique used in this study. These were, however, supported by the archival method of data collection. The interviewing technique was chosen over the other techniques because the face-to-face interview is said to be perhaps the most powerful and useful tool in research (Kerlinger, 1986). This technique has the advantages of ensuring a high response rate as well as offering respondents the opportunity to seek clarifications on the questions of the interview.

To ensure that the questions were not ambiguous, a pilot-test of the instrument was made. A number of health care decision-makers were interviewed at the pre-testing stage, and their views were sought. In addition, their responses to the interview questions were analysed to assess the quality of the instrument. This opportunity assisted greatly in structuring a good and clear instrument for the respondents.

Following the pre-test formal interviews were conducted using an interview guide (Neuman, 2000; Yin, 2003). An interview guide is a list of questions or general issues that the interviewer has decided to explore during each interview (Hoepfl, 1997). Interview guides aim to obtain consistent information from respondents without providing respondents with predetermined responses. Respondents are at liberty to react to the interview questions posed without any suggested clue or response from the interviewer. Qualitative realistic details are sought from respondents through the use of interview guide in interview process.

Respondents can, however, give too much information, which may not be useful. In cases where too much information is given, it becomes the responsibility of the interviewer to sort and use only that information that addresses the concerns of the study. Interview guides are also helpful in ensuring good use of limited interview time. They make interviewing multiple subjects more systematic and comprehensive, and help keep interview interactions focused (Hoepfl, 1997).

The themes and the issues raised in the interview schedule for this study were mainly derived from an in-depth review of the literature on knowledge management strategies and practices in organizations. These themes were also tailored to address the research questions guiding the study. Individuals from the selected health regions were contacted, and interviews scheduled to provide maximum convenience to the interviewees in order to minimise disruption and interruption to their working schedules. This motivated interviewees to participate fully during the interview, which was vital for soliciting quality information. A consent form (approved by the University of Saskatchewan Behavioural Sciences Research and Ethics Board) was sent to potential interviewees. This form explained to respondents the rationale of the interview and their rights as respondents. At this stage, potential interviewees were also exposed to the general and specific issues to be discussed during the interview. This provided them with an understanding of the interview process and gave them some insight into the issues to be discussed during the interview.

Interviews were conducted during the summer of 2005, and interview sessions tended to last about thirty minutes. Responses were audio taped, and some notes were taken during the interviews. The use of the recording device facilitated higher quality interviews and made it easier for the researcher to focus on the interviews rather than concentrating excessively on notes taking, which was done infrequently during the interviews. Each interview was transcribed on the same day of the interview or a day after the interview. This allowed the researcher to have a clear and fresh memory of the entire interview process and to ensure quality transcription of the interviews. Respondents were also given the opportunity to review the transcript of their interviews, and to add, alter, or delete information from the transcripts as they deemed fit. This process assisted in checking for transcription errors (Neuman, 2000) and improved the internal validity or consistency of the data collected (Yin, 2003).

The interview instrument covered the following areas: (1) types of knowledge used for health care decision-making, (2) knowledge management strategy in health care decision-making, (3) knowledge management practices in health care decision-making, and (4) communities of practice and knowledge management processes.

First, data regarding the forms of knowledge use in health care decision-making process were gathered. The rationale here was to identify the dominant form of knowledge that guided decision-making by RHA members in the study

regions. Two forms of knowledge, tacit and explicit, were in use. It was expected that one knowledge form was more dominant than the other. An identification of the main form of knowledge guiding health care decision-making and its characteristics were critical in determining the knowledge management strategy commensurate with it.

Second, data on the two main knowledge management strategies (i.e. codification or personalization) pursued by RHAs in decision-making were also collected from the interviewees. While codification supports the capture and storage of explicit knowledge, personalization focuses more on the management of tacit knowledge. Identifying the knowledge management strategy pursued by RHAs assisted in exploring their knowledge management practices.

Third, knowledge management practices adopted by the RHAs in support of their knowledge management strategies were also examined. Various knowledge management practices have been adopted to support knowledge management strategies in organizations. These strategies of managing knowledge become meaningful when the right knowledge management practices are in place.

Finally, the degree to which RHA members interact within communities of practice and how this influences the knowledge management processes of RHA decision-making also received attention. The literature on knowledge management strongly suggests that social capital among individuals within communities of

practice can act as a unique catalyst for knowledge management in organizations. RHA members were asked to freely express their views on the informal interaction among board members, and how this affected their knowledge management efforts and decision making processes.

The archival method of data collection was also adopted to supplement the data gathered from the interviews. Official documents for the year 2005 (the year the fieldwork was done) which informed RHA decision-making were assessed. These documents were obtained from the offices of the selected RHAs. The type, source, and the relevance of such documents in RHA decision-making were examined.

5.4 Data Analysis

Data analysis is one of the bigger challenges of qualitative research, given the various tasks involved in it. Bogdan and Biklen describe qualitative data analysis as “working with data, organizing it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others” (1982, p. 145). Qualitative researchers tend to use inductive analysis of data, which allows for critical themes for discussion to emerge out of the data (Patton, 1990). This process requires a degree of creativity, given the challenge of placing raw data into logical, meaningful categories, examining them in a holistic fashion, and finding ways to communicate such interpretations to others (Hoepfl, 1979). There are, however, a

number of effective tools and techniques available for the analysis of qualitative data (Miles and Huberman, 1994). The use of inductive and deductive approaches has been identified as effective tools for qualitative data analysis (Berg, 2001). For this study, therefore, a combination of inductive and deductive approaches was adopted to categorise the factors and variables entailed in the data. The analysis progressed in two stages.

Stage one of the analysis entailed thorough individual interview transcripts:

1. Transcripts were reviewed manually, line by line, in order to identify patterns or themes and produce key words and phrases (inductive process). This process is sometimes referred to as “open coding” (Strauss and Corbin, 1990).
2. Labels or categories were produced from the key words or phrases as a way to uncover common factors or variables.
3. Relationships among the factors or variables were established.
4. Identified factors or variables were matched with those from the literature.

Stage two of the analysis involved cross interview transcripts:

1. Similarities and differences in the factors or variables were identified in order to determine how they were linked. This process is referred to as “axial coding” (Strauss and Corbin, 1990).
2. Integrated links among the factors and the variables were established.
3. Similar factors and variables were identified and given common names, while retaining the unique variables.
4. Factors and variables involved in knowledge management processes entailed in health care decision-making were established.

5. The identified knowledge management factors or variables in the transcripts were used to answer the study's research questions.

“Qualitative research reports are characterized by the use of “voice” in the text; that is participants’ quotes that illustrate the themes being described” (Hoepfl, 1997). In line with the general trend of qualitative research reports, direct quotations of responses were included in the thesis. Names of respondents, however, were not attached in order to protect the confidentiality of respondents. The data from the two RHAs are discussed together in the next chapter because of the lack of significant difference in the data from them.

5.5 Validity of the Research

In order to ensure the validity of the research—and the cooperation of the respondents—the research departments of all the selected RHAs were consulted in order to (1) seek their approval and (2) solicit their help in reaching the RHA members, who were ultimately the respondents for the study. The involvement of the research and communications departments of the selected RHAs facilitated the process of reaching respondents and helping to motivate respondents to cooperate well. In this way, meaningful data could be solicited.

Documents from the RHAs were critically reviewed as a means of supporting the primary data received from the respondents. The rationale for the documentary review was to ensure consistency in the study's data. The researcher also directly

interviewed the respondents to facilitate in-depth discussions of the research issues. Issues discussed during the interviews were pilot-tested with other health professionals before they were modified as guide for the interviews. Respondents were also asked to approve the transcripts of their interview before they were incorporated in the analysis of the study. This offered them the opportunity to modify and elaborate further on issues raised during the interviews.

5.6 Limitation of the Study

The study focused on health care decision-making at the regional health authority level. Since RHA members are the main decision-makers at this level, they served as the unit of analysis for the study. In some ways, this approach limits the scope of the study because RHA members depend heavily on senior health care managers for knowledge/information/data they use to inform their decisions. Such managers should arguably be involved in a study on knowledge management by the RHAs. To overcome this limitation, a thorough assessment of the information packages received from senior management was conducted in order to identify the types, forms and packaging of such knowledge. Moreover, a complete study of the knowledge management strategies and practices of senior management of the health care system is being recommended.

5.7 Summary

RHA members in Saskatchewan served as the unit of analysis for this study. Two RHAs representing urban and rural respectively, were purposively selected for the study. A qualitative case study was used as the main research paradigm of the study, which aimed at investigating more thoroughly the knowledge management strategies and practices of health care decision-makers at the RHA level. Interviews were adopted as the main data collection technique for the study. Interviews were made at the convenience of respondents, which presumably motivated respondents to cooperate well with the interviewer.

A combination of inductive and deductive approaches was adopted as the main data analysis technique, and was conducted in two stages: single interview transcripts and cross interview transcripts, respectively (Miles and Huberman, 1994). In order to ensure the validity of the study, the issues discussed during the interviews were first pilot-tested with related health professionals. The results of the pilot-test were used as benchmarks in restructuring the interview guide for the real interviews. The pilot test, therefore, helped ensure that the final interview guide was very concise, which in turn assisted in the smooth running of the interviews. Documents informing RHA members' decisions were also critically reviewed to ensure consistency in the study data. Furthermore, in order to ensure the reliability of data gathered, respondents were made to approve their transcripts before they were analysed.

CHAPTER SIX – FINDINGS AND DISCUSSION

This chapter is based on the interviews of the RHA members and offers a discussion. The chapter is divided into three parts:

1. Knowledge forms in health care decision-making process,
2. Knowledge management strategies and health care decision-making, and
3. Communities of practice and the personalization knowledge management strategy.

6.1 Knowledge Forms in the Health care Decision-Making Process

Two main knowledge forms have been identified in the literature on knowledge management: explicit and tacit forms of knowledge. Nonaka and Kanno (1998) view tacit knowledge as knowledge possessed by individuals, and explicit knowledge as knowledge that can be expressed in tangible or codified form. These knowledge forms lie at the core of decision-making in organizations. In order to understand the relationship between explicit and tacit knowledge forms, two dominant knowledge perspectives have been identified: (1) the knowledge-as-a-category perspective, which suggests that explicit and tacit knowledge forms represent two separate types of knowledge with distinct features, and (2) the knowledge-as-a-continuum perspective, which recognises that all knowledge has both explicit and tacit components and thus must be regarded as overlapping forms of knowledge (Jusimuddin et al., 2005). Hislop (2002) refers to the two knowledge perspectives as embodying objectivist and practice-based

philosophies. Similarly, Empson (2001) identifies them as theory and practice respectively.

The knowledge-as-a-category perspective is modelled on objectivist philosophy. It implies that explicit and tacit knowledge forms exhibit different features, thus placing them theoretically into distinct categories. It is argued, however, by the proponents of the knowledge-as-a-continuum perspective, that these forms of knowledge are not dichotomous states of knowledge, but mutually dependent and reinforcing qualities of knowledge (Lam, 2002; Alavi and Leidner, 2001). Moreover, fostering a dynamic interaction between tacit and explicit knowledge generates new forms of knowledge vital for organizations (Nonaka and Takeuchi, 1995).

The main methods for the acquisition and the accumulation of the two knowledge forms differ. Explicit knowledge can be generated through logical deduction and formal study. Tacit knowledge, in contrast, can be acquired only through practical experience in the relevant context. This implies that the two knowledge forms should be managed differently. Since knowledge forms influence knowledge management strategies in organizations, an understanding of them in informing decision-making in organizations becomes relevant. This section assesses the knowledge forms informing RHA members' decision-making within the health regions.

The respondents unanimously indicated that professional reports from senior management of the health regions are the main source of knowledge informing RHA members' decisions. These include updates of research carried out by senior management, information extracted from academic and professional journals, and the details of health regions activities, including RHA members' deliberations. Personal or experiential knowledge makes up the other significant knowledge form underlying RHA members' decisions. More emphasis, however, is placed on explicit rather than tacit knowledge:

Professional reports from administration mainly inform our decisions, because they do about 95% of the research and pass on the results to us to inform our discussions. We also rely greatly on our personal experiences in making decisions (*A female urban-based RHA member*).

Research and professional reports, probably, I think these mainly inform our decisions. The two, it depends on the issue being discussed or being considered, one or the other might take precedence (*A female urban-based RHA member*).

In-depth reports from administration or professional reports first, and personal experiences dominate our discussions (*A male rural-based RHA member*).

Though research and professional reports dominate RHA members' discussions, they do not directly subscribe to academic or scientific journals. Senior management of the health regions subscribe to these journals, based on

their own criteria, which are unknown to the RHA members. Members believe, however, that the information which informs the professional reports developed by management comes from (1) academic journals, (2) primary research undertaken by management, and (3) RHA members' deliberations, which are captured by communications personnel who attend their meetings. These reports are passed on to members, who are expected to read them as part of their preparation for discussions on health issues. Though RHA members are not directly involved in the publications of the professional reports, yet they feel represented by them since they approve these reports before they become public documents.

Management does all the writing and the publications. The RHA does not do it directly. We have [a] communications department, who attend our meetings and they prepare and publish these documents on behalf of the RHA. Whatever they record and publish goes through an RHA chair for approval. Management gleans stuff from journals and passes them on to us. They have all kinds of online documents and [they] subscribe to a number of journals. Information they derive from these journals, together with stuff from us, informs their reports, which they share with us (*A male urban-based RHA member*).

They are done more with the participation of the RHA, but it is our senior leadership that often does the writing and the publications; but of course a lot comes through us. They are normally sanctioned by us (*A female rural-based RHA member*).

RHA members feel represented by the publications made by senior management because their input is at times sought by senior management and is incorporated in their publications. Such input may or may not be used by senior management. But the fact that senior management consults with them on such matters makes them feel involved in the activities of the health region.

Senior management at the health regions are mandated to take care of the research needs of RHA members by making evidence from research and all other activities of the health region available to them, in a timely manner, as a basis for decision making. Senior managers of the health regions, thus, undertake primary as well as secondary research on issues pertinent to RHA members' discussions. Such collaboration between senior management (who are mainly technocrats) and RHA members represents interdependency between health care decision- makers operating at both the macro and the meso levels of the health care decision-making process.

Regionalization, therefore, has many of the characteristics of the pragmatistic approach to understanding health care decision-making. The pragmatistic model, advocated by Dickinson (2004) calls for "discourse ethics" in health care, which embraces the broader participation of the public, professionals and policy-makers. Regionalization is seen in the light of the pragmatistic approach because RHA members, though appointed by the provincial government, they still see themselves as representing their communities' interests. Members indicated that

they liaise with their communities to ensure that decisions taken reflect the needs, concerns and interests of the people. Effective collaboration between RHA members and senior management of the health regions in efforts at knowledge production, therefore, has the potential to enrich knowledge use in decision-making.

RHA members expressed satisfaction in the professional reports received from senior management. They find them as valuable inputs that prepare them for their assignments at the RHA table.

Professional reports are very helpful because we cannot know everything about everything. We sometimes have lively discussions on them when they are brought to us (*A female rural-based RHA member*).

Very helpful. For example, we have a vice-president who has been working on a long-term care strategy and has been sharing the findings with us. Our decisions are mainly informed by such information. Again, we get quarterly presentations from our medical health team on topics such as the West Nile disease and the best strategies to deal with it. This helps us to build [a] communicative strategy for the residents in our communities (*A female urban-based RHA member*).

The professional reports and other documentations from management are helpful to me, and I believe to many other colleagues as well, because they are very informative and help set

my thoughts clearly; [they] deepen my understanding of many issues
(*A female rural-based RHA member*).

The fact that RHA members indicate that they inform their decisions with various professional and research reports from senior management is a positive revelation. After all, the use of research in health care decision-making among the defunct district health boards in Canada was found to be minimal (Frankish et al., 2001). Still, a confirmation of use of such research in RHA members' decision-making is needed. This point is made here because the delivery of a wealth of research evidence or professional reports from management does not necessarily lead to or imply any real use of such evidence in decision-making.

The field of knowledge management is noted with problems related to defining knowledge use, and an overemphasis on instrumental rather than conceptual and/or symbolic forms of use (Dunn et al., 1990). Rich (1997) attributes these problem to a rationalistic bias in utilization research, which leads to most knowledge utilization research employing an input-output approach. This makes it almost impossible to trace discrete outcomes from the use of specific pieces of information in decision-making. The instrumental use of knowledge, though difficult to be measured, has eclipsed the other forms of knowledge use in decision-making. A typical "victim", however, is the conceptual knowledge use, which in spite of its pragmatic posture has been overshadowed by the quest for instrumental use of knowledge in decision-making (Weiss, 1988). This is

regrettable because knowledge in itself is valuable not in an instrumental fashion, but rather in a conceptual manner, through the alteration of one's intellectual and cognitive world views. Knowledge used in a conceptual fashion shapes and reframes problems, and elaborates new forms of understanding (Champagne et al., 2004). Based on this notion, Champagne et al. (2004) called for the retention of the random relationship between science and practice, because the conceptual model of knowledge utilization holds that the benefits of knowledge are self-evident and need not be demonstrated empirically.

Clearly knowledge in itself alone cannot be held as a tool capable of resolving day-to-day problems confronting decision-makers. A more realistic approach to understanding knowledge use in decision-making, therefore, resides in adhering to the conceptual approach (Champagne et al., 2004; Weiss, 1988). Even though RHA members rely on senior management for insights into health concerns, such inputs received from senior management, according to members, are always evaluated and supported by their own experiential knowledge. This implies that RHA members largely use the inputs from senior management in a purely conceptual fashion (i.e. to enlighten their thoughts before attending RHA meetings rather than using them in an instrumental fashion).

Even though we rely on senior management for information to guide our discussions as an authority, we also rely greatly on our own personal views in making decisions. Individual members always

have their own agendas, which are at times reinforced or changed in the light of the package we receive from the authority (*An executive female urban-based RHA member*).

The reading packages from senior management [are] very helpful in exposing us to new areas or elaborating known concerns, which are indeed valuable in our discussions. I try hard to read the packages, which are always tailored to suit our discussions before I attend meetings. I make my own notes from it and form my opinion on issues to be discussed at meetings. My opinions, at times, change after others members have been listened to at the RHA table (*A female urban-based RHA member*).

Though respondents believe that their decisions are backed by both explicit and tacit forms of knowledge, the majority of them are convinced that explicit knowledge inform RHA members' decision-making more than tacit knowledge. This revelation contradicts the findings of HEALNet (1997), which suggests that the majority of health board members in the province of Saskatchewan were influenced mainly by their own experiential knowledge in informing their decisions. The case of one form of knowledge dominating the other in organizations is validated when the two knowledge forms are taken apart. Practically, however, this has generally not been the case because the two forms of knowledge have been conceived as mutually dependent, and reinforce each other in decision-making (Lam, 2001; Alavi and Leidner, 2001; Nonaka and Takeuchi, 1995). Since RHA members evaluate and use inputs from senior management in a

conceptual manner based on their own experiences, it becomes difficult to hold apart the two forms of knowledge in health care decision-making. Such relationship between explicit and tacit knowledge reflects an understanding of knowledge-as-a-continuum (Jusimuddin et al., 2005).

Respondents further indicated that RHAs do not have official libraries where copies of RHA packages and other related relevant resources are kept for members and public use. They mentioned RHA offices as the main place where professional reports and all other forms of members' readings are kept. Most of the members also keep their own collections of these materials.

Our office keeps all reports, minutes, etc., and makes them accessible to us anytime we want. Members, however, keep their own records of RHA packages, if you want to (*A male rural-based RHA member*).

We all get hard copies of materials from administration, always. I keep the ones I need and shred the others. These copies are also kept at the board office and can be accessed anytime. The RHA office also occasionally emails to us copies of materials we have not looked at for a long time, to refresh us (*A female urban-based RHA member*).

Although the RHA members indicated that they generally find the reports received from senior management useful, a majority of them thought they were over-burdened with such reports. This revelation is not surprising giving that RHA

members are volunteers, and are likely to be over-burdened by professional reports if they are not well managed. Respondents suggested various ways of addressing the problem of “over-loading”.

I think we have too much information coming in. At times it even becomes overwhelming. I don't know if I can suggest any improvement (*A female rural-based RHA member*).

We get too much information, incredible amount of information. We cannot get more. Normally reports are accompanied by verbal presentations, PowerPoint and others. Written reports at times do not capture the full flavour of the issues being discussed. Executive summaries should accompany reports to make them user friendly. Attendance at meetings, though good, should be improved since that is the major way information reaches members (*A male urban-based RHA member*).

Because we receive so much information, a lot is treated as mere information. Discussions following these packages will be helpful. Dialogue should be emphasized. Online communication facilities will also assist knowledge management greatly (*A female urban-based RHA member*).

The use of technical jargon or terms used in these publications at times makes the understanding of these materials extremely difficult. We have diverse professional backgrounds and many find it tough understanding complex concepts outside our professional domains. Simple language use in these reports, followed by presentations, will

help greatly. Some of us appreciate stuff better when given in a face-to-face fashion (*A female urban-based RHA member*).

RHA members believe that greater use of dialogue and face-to-face elaborations on professional reports could enhance knowledge use in decision-making. This suggests the importance of the use of personalized knowledge management strategies in health care decision-making processes. The fact that RHA members recommend dialogue and face-to-face media in supporting knowledge transfer indicates that they are likely to embrace an approach like the community of practice. Details of this discussion are made in the section on communities of practice and personalized knowledge management strategy. Again, it was expressed by RHA members that reports from senior management should be free from technical jargon and accompanied by executive summaries to make them more understandable and user friendly. The need for RHAs to plan ahead of time is also recommended by some members. Members who subscribe to this view believe that they are not able to plan ahead of time because of the absence of demographic and other statistical data at their disposal. This further justifies the need for knowledge management in health care decision-making.

These laudable suggestions by the RHA members are likely to be acted upon if they are incorporated in their knowledge management policies. Unfortunately, however, it was generally expressed by the respondents that though RHA members are guided by both explicit and tacit knowledge forms in decision-

making, they do not have an explicit policy for knowledge management. The absence of a knowledge management policy guiding RHA members' activities likely undermines efficient knowledge use in health care decision-making. Despite this gap, RHA members have adopted various implicit knowledge management strategies and practices to guide their activities. This issue is the focus of discussion in the next section of the chapter.

6.2 Knowledge Management Strategies in Health Care Decision-Making

It is evident that there has been a dramatic growth in knowledge management activities in organizations. This is because the proper management of organizational knowledge has been associated with enhanced performance (Schulz et al., 2001). Knowledge management, therefore, is an important prerequisite to organizational success. Research on knowledge management is still in the early to intermediate stages, but is expanding steadily.

Schulz et al. (2001) argue that important first step in attempting to develop knowledge management involves the identification of strategies which assist organizations to better manage their knowledge. Hansen et al. (1999) have identified the codification and the personalization knowledge management strategies as the two main strategies for managing knowledge in organizations. Codification knowledge management strategies involve carefully codifying and storing knowledge in databases, and making it accessible to all in the organization.

Such strategies adopt the “people to document approach” by extracting knowledge from the individual(s) who developed it, making it independent of the individual, and reusing it for various purposes. Personalization knowledge management strategies, on the other hand, focus on dialogue between individuals.

Personalization involves knowledge that has not been codified, but is instead transferred between and among individual through interactions such as brainstorming sessions and one-on-one conversations.

Hansen et al. (1999) further stress that the best knowledge management strategy is always a combination of codification and personalization, but with a strong emphasis on one of them. Moreover, the preferred strategy should be designed to enhance the goals and objectives of the organization, suggesting that organizations should examine critically the knowledge underlying their decision-making and how that knowledge is used. An organization’s choice of knowledge management strategy should not be left to chance.

These knowledge management strategies have sufficiently been implemented in business organizations. Hansen et al. (1999) believe, however, that the strategies are not unique to business and consulting firms, but other enterprises as well, including the health industry. Currently, the health care industry is an extended enterprise powered by sophisticated knowledge and information resources. Nonetheless, the health care enterprise can be regarded as “data rich” but at the same time “knowledge poor” because health care data are so rarely

transformed into strategic decision-support resources (Abidi, 2001). The health care enterprise can maximise the use of the data at its disposal by adopting knowledge management strategies commensurate with its objectives and the forms of knowledge informing decision-making.

Critically assessing knowledge management in the context of regionalized health care decision-making is vital to promoting evidence-based decision-making. This is because evidence-based decision-making is based primarily on the identification of evidence central in regionalized health care decision-making. How such evidence is managed becomes an important intervention towards the development of a knowledge management strategy. This section analyses the strategies adopted by RHA members in managing the knowledge at their disposal.

The absence of a stated knowledge management policy to guide health care decision-making by RHA members, though a great concern, it does not indicate that they do not engage in knowledge management strategies and practices. RHA members do adopt various “guises” of knowledge management strategies and practices in informing their decisions.

RHA members were unanimous in stating that their respective RHAs do not have office libraries or online documentary databases to assist their activities. Some members, however, do rely on public and university libraries to access information. Other members also visit the health regions websites to access

reading material from various other health organizations. Members who access this source indicated they are selective in their use because they normally can not assess the validity of this information. Some members, however, believe that they have enough information from management to inform their decisions. Therefore, they do not see the need to seek additional information from libraries or other sources. To them, the information from management is at times overwhelming, leaving them no time for thorough study before RHA members meetings.

No library, but on our website we can access resources from agencies such as the Health Quality Council. I have been relying on that, but do so, carefully and selectively (*A male urban-based RHA member*).

No, we have not set up anything like that, but of course we are free to access the libraries at the university and the health sciences (*A female urban-based RHA member*).

No library, but, well, we can access lots of documents through our website. Quite often you can print if you want for future reference. We also have a lot of papers coming in mainly from the senior leadership or administration, I must tell you that. At times they are even too much that you don't even have the time to read them all before meetings (*A male executive urban-based RHA member*).

I do not think we need a library because we receive a lot from management by way of reading materials. At times these materials are so much that one can hardly read them all before meetings (*A male executive rural-based RHA member*).

As described above, even though RHAs do not have an office or online library database, members are content with the information they receive from senior management to inform their decisions. Apparently, the reading materials members receive from senior management constitute the main source of information informing RHA members' decisions.

Another knowledge management practice that can lead to knowledge use is the use of academic or professional journals. RHA members indicated that they do not directly subscribe to academic or professional journals. Rather, they believe senior management subscribe these journals. Criteria guiding the choice of journals by senior management of the health regions are unknown to RHA members. Meanwhile, members believe that facts extracted from these journals relevant to their discussions are passed on to them by senior management as part of their routine reading packages. As mentioned in the previous section, senior management leads the production and publication of documents such as articles and research papers. The fact that these publications are sanctioned by the RHA members before they become public makes members feel involved in, and represented by, these publications. RHA members find these documents helpful in informing their discussions and decisions at meetings.

Respondents further pointed out that they record and publish details of meetings. Such minutes constitute a codification practice geared towards the future use of extracts from meetings.

Yes, we record all our meetings. We also publish summaries and circulate [them] by email or fax to all other related health agencies. We also do simple press releases, and they are published in our local papers (*A male rural-based RHA member*).

The RHA does not do it directly. We have a communications department who attend our meetings and they prepare and publish these documents on behalf of the RHA. Whatever they record and publish goes through our chair for approval (*A female urban-based RHA member*).

Yes, we record and publish our meetings. We are expected to forward such minutes to Saskatchewan Health. Again, such minutes are accessible to the public. Unfortunately, however, they are hardly asked for by the public (*A female rural-based RHA member*).

Yes, we document all our meetings. After they have passed [through] the RHA table they become public documents. The public hardly ask for them, but I know the opposition parties do ask for them at times. Occasionally, we also make press releases on important decisions we take as an authority (*A female urban-based RHA member*).

The issue of whether these minutes are helpful in RHA members' operations was investigated. Members generally agreed that they are very helpful in reminding them of past decisions and also guiding them in subsequent discussions and decision-making.

They assist greatly our activities as authority. We at times fall [back] on these documents, like minutes, to see past decisions made to inform our discussions (*A male urban-based RHA member*).

Again, they are very helpful because they always lead to discussions and are open to the public. If the public chooses to attend our meetings, they are free to discuss our minutes and others. It is not always during our meetings, but at the end, there is always the opportunity for the public to air their opinion or whatever, some good ones and some bad ones (*A female urban-based RHA member*).

It is clear from the description above that minutes of RHA members' meetings assist both members in their operations as well as the general public who have access to them. Unfortunately, however, not much interest has been shown by the public in accessing the minutes. It is likely the public is unaware of the existence of such documents. Even if they are aware, they might assume that they are not public documents, hence the poor patronage in the RHA members' minutes by the public. Public awareness, therefore, must be cultivated to encourage the public to participate in the activities of the RHAs. Since decisions taken by the RHA members ultimately affect the public, it is important to motivate them to become actively engaged in the RHA members' activities. Furthermore, the fact that RHAs are expected to submit their minutes to Saskatchewan Health and other health agencies is a great idea. Since the RHAs work in conjunction with other health agencies, it is only reasonable they sustain relationships with these organizations to improve health care delivery in the province.

Attendance at conferences, workshops, seminars and courses assist individuals greatly in acquiring the knowledge needed to guide their actions. RHA members specified that they are actively encouraged to avail themselves to such events to update their knowledge periodically. Senior management at times identify these events and actively encourage members to attend. Members are also free to look for relevant conferences, which they are supported to attend. A special budget is earmarked for the attendance of such events.

Yes they do. We are all expected to attend the Saskatchewan Health Organization (SAHO) convention once in a year. This convention is indeed an information seminar. SAHO also does a lot of educational programs that we attend. Under the new regional authority act, they are responsible for board members education. As a matter of fact, there has just been a new education committee formed through Sask. Health. Each RHA has a representative on this committee and they are involved in the planning of the educational sessions. I believe this part of their mandate is to confer with SAHO regarding their activities. We also have a \$2000 allowance per board member annually to attend conferences, seminars etc. We are a public board, so we are always conscious of expenditure, so I don't know whether we actively encourage it, but if members show interest in any conference they are supported to go (*A female urban-based RHA member*).

Right, the RHA does do some. Again, some of us do it on our own to stay current. But the RHA does allow for a certain number each year

and a percentage of money advanced towards that, so there is an encouragement (*A female rural-based RHA member*).

An important aspect of attending conferences and other related events is the knowledge acquired by individuals who attend these events. How this knowledge is shared is critical in understating knowledge management practices. RHA members indicated that they are expected to present reports to the entire members after attending conferences or a related event. Again, members are expected to come along and share with colleagues, hand-outs or reading materials, where applicable.

Our policy reads that the first meeting after members are back from conferences, they are expected to present a written report to the authority and share [it] among members (*A female urban-based RHA member*).

We are required to submit a brief written report on it, but then that can be followed by discussions and if some issues come up; we organize a mini seminar for everyone (*A male urban-based RHA member*).

People are expected to bring handouts, reports to RHA meetings. Sometimes they are written out; at times also they come in verbal form (*A male rural-based RHA member*).

It is discernible from the above responses that in spite of members being expected to submit reports on conferences there is no hard and fast rule regarding the form such reports must take. Members are at liberty to present written or

verbal reports to all the members. From the interviews it is clear that members present brief written reports of conferences to their colleagues more often than verbal reports.

So far, it is evident that the current knowledge management practices of RHA members (such as the publication of annual reports and research reports in conjunction with senior management, the publication of RHA members meetings for future reference, the submission of written reports following conference attendance, and the inclusion of extracts from academic and professional journals in RHA members reading packages) are all modelled on the codification knowledge management strategy. These knowledge management practices in use by the RHA members in support of codification knowledge management strategy, as well as the knowledge management practices identified in the literature are presented in table 6.1.

Table 6.1 - Knowledge Management Practices* in Support of RHAs Codification Knowledge Management Strategies

Knowledge Management Practices - (Identified in the Literature)	Knowledge Management Practices – RHAs
<ul style="list-style-type: none"> • Libraries of procedures • Policy documents • Guidelines • Data collection forms • Typical cases and outcomes • Risk assessment tools 	<ul style="list-style-type: none"> • No libraries of procedures • Professional and annual reports • No guidelines • No data collection forms • Minutes, and conference reports • No risk assessment tools

* Knowledge management practices entail the actions as well as the facilitators of codification strategies.

From the previous section on knowledge forms, it was concluded that RHA members use more explicit knowledge than tacit knowledge in decision-making. Thus, it comes as no surprise that RHA members are mainly pursuing codification knowledge management strategies in support of decision making. This finding is in line with Hansen and others recommendations that an organization's knowledge management strategy be premised on its dominant form of knowledge. In this case, RHA members' adoption of codification knowledge management strategies is in the right direction.

A codification knowledge management strategy thrives on the availability of staff incentives to encourage knowledge re-use. This suggests that organizations adopting the codification knowledge management strategy should reward the access of and contributions to document databases. The codification strategy generally involves intensive investment, justified by multiple knowledge re-use.

Any investment in codification knowledge management strategy should, therefore, be backed by official organizational policy that spells out in clear terms organizational objectives. The codification knowledge management strategy, unlike personalization strategy, needs to be carefully and tactically nurtured to maximize its impact.

The absence of an explicit knowledge management policy guiding RHA members' activities, therefore, does not augur well for enhancing an effective codification knowledge management strategy. The current knowledge management practices, though good, would be more beneficial if an official knowledge management policy is institutionalized.

The assertion that RHA members' knowledge management activities are based on the codification strategy draws from the definition and features of the codification strategy in the literature. This strategy for managing knowledge in organizations extracts explicit knowledge from people and makes them independent of these people by storing the knowledge in databases, and finally making them accessible to all in the organization (Hansen et al., 1999). This definition highlights internally generated explicit knowledge re-use without specific reference to externally generated knowledge. The one-sidedness of the codification strategy by overemphasizing internally generated knowledge constitutes a conceptual setback of the model. To be sure, explicit knowledge can be marshalled from both internal and external sources (Davenport et al., 1998). A

definition of codification strategy should, therefore, highlight both internal and external explicit knowledge sources. The codification strategy should, therefore, be categorized into internal and external components, each of which relates to how well organizations capture explicit knowledge.

RHA members use mainly internally generated explicit knowledge in decision-making and less research evidence from outside the health authorities. For their part, RHA members indicated that they believed that senior management did access externally generated research evidence and passed on to them as part of their reading packages. Such a belief, however, could not be proven. Indeed, RHA members do not know the sources and the criteria adopted by senior management in obtaining the externally generated knowledge. It is, therefore, important to ascertain the actual use of external research evidence by senior management through a critical assessment of the RHA members reading packages. Again, externally generated evidence is a central part of the on-going evidence-based decision-making campaign in the health care industry. It must, therefore, be assessed critically in health care decision-making at the RHA level.

To this end, the RHA members reading packages were assessed. A general overview of this assessment—in terms of material source, material type, objectives, and relevance to RHA members’ decision making processes—is captured in Table 6.2.

RHA members reading packages issued in the year 2005 were reviewed, with the exception of documents labeled “confidential”. Of all the packages, thirteen reports were identified as carrying information that can be marked as “research-oriented”. Research-oriented in this sense entails systematic compilation of facts and figures serving as basis in decision-making.

All but two reports were composed of internally-based information or inputs from senior management, and were based on objectives specifically directed at RHA members’ decision-making. The reading packages of the RHA members were, therefore, directly relevant to their functions. The reports based on externally-generated information contained health information of general relevance, but were not specifically geared towards RHA members’ agenda. This observation raises the concern as to what then constitutes evidence or knowledge in evidence-based decision-making process. The literature on evidence-based practice highlights external, scientific research as the most valid form of evidence. But to understand evidence-based decision-making in this fashion might suggest that other valuable evidence is ignored, all in the search for external, scientific evidence. In reality evidence is context-specific. This suggests that it is only through contextual knowledge of the issue at stake that evidence is determined (Charlton, 1997).

Table 6.2 - Summary of Selected RHAs Documentary Package

RHAs Material	Source	Type of Research	Objectives	Relevance
Report of Interim CEO	CEO	Internal Report	Progress Towards Achieving Goals	Directly Relevant
Best Practices in Tobacco Control: Vision for SK	SK Coalition for Tobacco Reduction	External Document	Facts on Best Practices in Tobacco Control	Indirectly Relevant
Report of the Vice Chairperson	Vice Chairperson	Internal	Boards' Activities Updates	Directly Relevant
Influenza Pandemic Plan Update	Consulting Medical Health Officer	Internal	Update on RHA plans on Influenza	Directly Relevant
Quarterly Update on Surgical Wait Lists	Team of RHA Senior Administrators	Internal	Facts and Figures on Surgical Wait Lists in the RHA	Directly Relevant
Bi-monthly Status Ohlhauser Report	Consulting Medical Health Officer and Team of Senior Administrators	Internal	Report on the Monitoring of Progress of the Implementation of Recommendations on Integration of Hospital Emergency Services	Directly Relevant
Surgery Services Quarterly Annual Report	Team of Senior Administrators	Internal	Report on Significant Progress Made in Surgery Services (2004-2005)	Directly Relevant
Health Status Report	Team of Senior Administrators	Internal	Information Purposes to Endorse Recommendations of the Report	Directly Relevant
Report on Best Practices in Long Term Care	Medical Consultant	External	For Boards' Information	Indirectly Relevant
Report on Mental Health Functional Program	Team of Senior Administrators	Internal	Information to Endorse the Draft Functional Program for a New Mental Health Facility in the RHA	Directly Relevant
Quarterly Report of the Chief Medical Health Officer	Chief Medical Officer	Internal	Information Update	Directly Relevant
Report on Ambulance Act Amendments	Team of Senior Administrators	Internal	Information to Assist Board in Supporting the RHA on the Act	Directly Relevant
Accreditation Survey Report	Team of Senior Administrators	Internal	Summary of Recommendations of the Report	Directly Relevant

To a large extent, internally codified explicit knowledge can be held as best-fit evidence for evidence-based regionalized health care decision-making. This point is being made because such form of evidence is directly relevant to health board decision-making agenda. Since RHA members' evidence originates from within or outside the organization, it is imperative that both internal and external knowledge sources are considered in the search for evidence or knowledge to inform their decisions. Additionally, since evidence-based decision-making also thrives implicitly on experience, a more comprehensive approach in understanding knowledge management in RHA members' operations should take into account tacit knowledge use in decision-making. The next section of the chapter investigates tacit knowledge management within the communities of practice framework as a complementary form of knowledge in evidence-based health care decision-making process.

6.3 Communities of Practice and Personalization Knowledge Management Strategy

In contrast to the codification strategy—which is appropriate for routine tasks—the personalization knowledge management strategy is suitable for a one-off, medium to long-term, high risk, strategic problems with no solution precedent (Hansen et al., 1999; Wyatt, 2001). This strategy strives to share tacit knowledge by helping staff to identify experts and enhance conversations to create novel solutions. The forms a solution to a problem might take and who in the

organization might know about the solution are the primary user questions guiding individuals pursuing a personalization knowledge management strategy. Online resumes, list of skills and publications for staff and external experts, e-mail discussion lists, regular case meetings, workshops, video-conferencing, co-located staff, coffee areas, and staff secondment all assist in identifying individuals who might have solutions to problems on hand. Since communication is the bedrock of the personalization strategy, organizations adopting this strategy must reward both efforts at communication, the recognition of experts, and the finding of original solutions. This strategy for managing knowledge entails a modest investment and is justified by the improved frequency and quality of communications (Hansen et al., 1999; Wyatt, 2001). To be sure, not everything individuals or a group of people know can be codified as documents or tools for “universal” use. The need to incorporate a personalization strategy in an organization’s quest for excellence in knowledge management is, therefore, certainly called for.

Tacit knowledge, from the business stand point, is the most valuable form of knowledge because it is extremely difficult to be replicated by competitors (Jasimuddin et al., 2005). This might not be the case, however, in the health care system, which is not keenly in competition with others. The health care system can, therefore, maximize its knowledge use by tapping all knowledge that emanates from individuals within the system. The community of practice conceptual framework, which is communicatively-driven, is used to explore the

extent of adoption of personalization strategy in regionalized health care decision-making process.

Communities of practice are a natural part of organizational life. They emanate and develop on their own and may flourish even without an organization's support. Their wellbeing depends largely on the voluntary engagement of their members and on the emergence of internal leadership (Wenger et al., 2002). They are examples of informal networks capable of nurturing and supporting the development of personalization knowledge management in organizations. Communities of practice are social media for learning and managing knowledge by individuals who are knit together by a common interest, passion and agenda.

Knowledge management is best served by close ties of individuals in a community of practice (Hurley et al., 2005; Brown and Duguid, 1998). This is particularly evident in situations where the organization's dominant knowledge form is tacit knowledge. Communities of practice have the potential to assist individuals in harnessing tacit knowledge for improved organizational performance. For knowledge management to flourish in organizations, individuals in the organization must understand that the viability of their group as individuals working together depends on their contributions and commitment.

Communities of practice, whether spontaneously generated or deliberately cultivated, are marked by three dimensions, which take shape through routines and

repeated interactions, not rule or design. The first is mutual agreement among the participants who negotiate diversity, do things together, develop mutual relationships, and maintain community. The second is joint enterprise, which involves the recognition of belongingness among individuals engaged in the practice of the communities. The third dimension is a shared repertoire that draws on stories, artifacts, discourses, concepts, historical events, and reflects a history of mutual engagement and dynamic co-ordination through the technologies of communication (Wenger, 1998). These defining features of communities of practice confirm that they draw mainly on tacit knowledge and participation (Cook and Yanow, 1993).

In this section, RHAs are assessed based on the community of practice conceptual framework. This will help determine if RHA members constitute communities of practice, and if so, how they are used to facilitate personalization knowledge management. Since communities of practice can be cultured (Wenger et al., 2002) attention will also be paid to the structures of the RHAs which nurture personalization knowledge management strategies.

Communities of practice thrive on positive member relationships. A positive relationship facilitates fluid communications critical to ensuring the success of the community. RHA members were asked to describe their inter-member relationships both during formal deliberations and outside meetings. Almost all individual members indicated having good relationships with other members.

We joke at times that colleague members are our group of friends because they are the ones you see most because of work. Informally we don't socialize outside the board's work. That aside, we indeed get along well and work as a team. Even at this moment, we have new members who joined in February, and have been integrated into the team. We indeed work as a team (*A female urban-based RHA member*).

Very good. We are an open board. We are formal when we have to be in meetings environments. Outside meetings, however, we are fairly informal and we are able to email and phone each other and I am personally comfortable with that and hope other members are also comfortable with that. I receive a lot of calls from other members (*A female urban-based RHA member*).

We are pretty [good] together. Different thoughts, but we have grown and work together as a team with [a] common purpose and agenda (*A male rural-based RHA member*).

I think we are [a] very cohesive board. We have a cross-section of people on the board, from nurses to accountants to bankers, aboriginals, etc., so it is a good cross-section of the society. It is indeed a cohesive board, but it does not mean we always agree on everything all the time, but in the end we go forward as a common front. We do not dissent or go to the media against each other and we often even attend outside health activities together. We get along very well socially (*A male urban-based RHA member*).

RHA members believe strongly in the positive relationship that exists among them. Such positive relationships are vital for the formation of a community of

practice of RHA members. Still, such relationships need to be transformed and nurtured into a functional community of practice. One member, however, had a dissenting view on his or her relationships with other members. Even though the RHA member agreed that they generally have good relationship among themselves, this person does not get along so well with another member.

Very good. Its only one person I find irritating, else we get along so well as a board. Generally, the relationship among us is very cordial, which to me is a necessary prerequisite for us to operate as a board
(*A female urban-based RHA member*).

The fact that RHA members have good relationships implies that they are likely to rely on each other for inputs in guiding their discussions. RHA members confirmed that they indeed function as teams and rely mainly on each other for inputs in guiding their discussions. Since RHA members have different professional backgrounds, relying on each other is essential in ensuring that members complement themselves by way of knowledge sharing to enrich their activities as a decision-making body with a unified mission.

The board is made up of members from diverse backgrounds. We complement each other to enrich our discussions (*A female rural-based RHA member*).

Sometimes yes of course, because it may be something you may have missed or never thought of. Again we complement ourselves

well given our diverse background (*A female urban-based RHA member*).

RHA members were quick to add, however, that the professional experiences they share among themselves take place mainly during formal discussions. In order to find out the extent to which they were encouraged to communicate as an informal network, RHA members were asked to indicate the extent to which informal networks existed, and if they were encouraged to engage in these smaller group activities. This issue was raised in order to find out the extent to which RHA members were encouraged to belong to informal networks to share knowledge. RHA members generally expressed the view that they were not encouraged by their respective authorities to form smaller groups, communities of practice, or informal networks.

Not really, but we have committees in place. These committees handle specific assignments and report back to the general board with recommendations (*A male urban-based RHA member*).

We have four committees and also set up task forces if something comes up at a meeting and we are not getting anywhere in our decision-making, then we go into smaller groups to discuss the ins and outs of it and make recommendations, which are brought to the attention of the entire board (*A female rural-based RHA member*).

Not really, but at the moment we have some committees or what we call strategic planning working groups in place. They are charged

with specific tasks and report findings to the entire board (*A female urban-based RHA member*).

Though RHA members are not specifically encourage to form smaller groups, communities of practice, or other informal networks, they do have working teams which are tasked with the execution of specific assignments or issues. To some extent, team activities can be compared to the activities of communities of practice. However, Wenger et al. (2002) distinguished between teams and communities of practice. To them, while teams are “task driven”, communities of practice are guided by the passion underlying their formations. Communities of practice in general differ from working teams because they have no specific time-bound work objective, but exist indefinitely for the promotion of the issue or passion around which the communities have been formed. Thus, the encouragement of RHA members to form teams tasked with specific assignments does not qualify them as communities of practice. The fact that RHA members sometimes function in teams could be seen as a good platform for communities of practice to be formed, given that individuals working in teams are very likely to know themselves better, which can facilitate stronger networking among them.

Since communities of practice can be intra-organizational or inter-organizational, RHA members were asked if they relied on other RHA members of other health regions and/or health organizations for inputs and knowledge to better inform their decisions. Their responses were unanimous:

We receive presentations at the board's table from community groups, Saskatchewan Health, media, staff, and unions. Most of our meetings, we have outsiders coming to share information with us. Our board is a tertiary one, so our services are provided to other regions in the province as well. So we need to know what exists because most problems they have affect our health region directly or indirectly (*A female urban-based RHA member*).

Yes, even recently in employing a new CEO, we had to seek some inputs from other organizations like the SAHO. We also rely on other health regions, especially that of Regina. Even currently they have done a study we are going to rely on them for information (*A female urban-based RHA member*).

We do certainly rely on other rural health regions and health organizations like SAHO (*A female rural-based RHA member*).

The realisation that RHA members rely on other health organizations for knowledge is a good signal for them to set up an informal networking with these other health organizations. Such informal interactions, if explored and nurtured, could facilitate knowledge sharing and management in health care decision-making processes.

For communities of practice to be functional means that members have places to meet, interact, and engage in the passion or mission of the community. This is important because communities of practice are feasible when means or channels of communications are clearly mapped out to facilitate the free flow of information

among members. Respondents were, therefore, asked to indicate whether their boards maintain physical spaces for board members informal discussions, collaborations and networking. It was clear from respondents that apart from the official RHA members' meeting place or hall, there is no specific place for such an informal interaction. Members further stressed that they could arrange for a place for such an informal interaction if they needed one, but that has not been done because there has not been the need for such an informal meetings and interactions apart from the formal meetings.

No, we meet at formal meetings and committee meetings. That is the only time we see each other (*A female rural-based RHA member*).

We don't have a place. The board's chair before the current one was against chit-chat. He did not like the idea of members forming any informal relationships apart from formal board sessions. The current chair, however, is relaxed and encourages members to get to know themselves (*A female urban-based RHA member*).

Well we have this room, which is officially supposed to be the office for the boards' chair. Of course we have our board room for meetings and can access some other rooms if we want, but we normally do not ask for that. Actually there is nothing like a coffee room (*A female urban-based RHA member*).

Physically, there is no specific place allotted for informal interactions. Though such informal meeting places could be arranged, members did not seem to look for or demand such places. As a result they hardly met outside the formal RHA

members' interactions. First, RHA members are less motivated to arrange for informal meetings places because they come from different geographical areas within their health regions. Most members come together only for meetings because of the differences in locations, and are, therefore, unlikely to utilize "coffee rooms" even if they were specifically arranged for. Second, the fact that RHA members could always arrange for informal meeting places, if needed is a good signal for the cultivation of communities of practice.

Another way to encourage informal networking among RHA members, apart from the use of physical spaces, is to encourage the use of virtual spaces, online communications, telephone, or email communications. These forms of communication can support personalization knowledge management because they connect and bring together people from different locations for informal interactions without any physical meetings.

No, conference calls at times. Emails are also sent at times. At times we also drop in information at our corporate offices to be distributed among the entire members (*A male urban-based RHA member*).

No, our board has never done that. We at times communicate through telephone calls (*A female rural-based RHA member*).

No. Information is mainly shared through the board's office. We at times have some conference calls, which are generally patronized by members. Members pass on information to other members mainly

through our office staff or through the use of emails and telephone calls (*A female urban-based RHA member*).

While RHA members do not have virtual spaces to support informal networking among themselves, members did indicate that they use telephone, email, and their board corporate offices as a means of sharing information among members.

Members were then asked to indicate the main form of knowledge that they share informally among themselves. It was unanimously agreed that members mainly share tacit, informal, or personal information or knowledge more than explicit or professional knowledge.

Personal experiences, honestly, general stuff of interest. Gossip; gossip (*A female urban-based RHA member*).

Personal information is what we mainly share. Personal life issues or general issues (*A female urban-based RHA member*).

Professional reports, media, personal experiences. We share stories, what you have heard from somewhere else, events attended, such as town meetings on community issues (*A female urban-based RHA member*).

Professional reports, research, media, and personal experiences.

Since members mainly share personal knowledge or tacit knowledge among themselves, it is very likely a lot of valuable personal experiences regarding health care issues could also be shared informally if RHA members were encouraged to

engage in such interactions. Clearly, the use of telephone and email are the main practices supporting the management of tacit knowledge by the RHA members. The personalized knowledge management practices in use by the RHA members and those identified in the literature are captured in Table 6.3.

Table 6.3 - Knowledge Management Practices* in Support of RHAs Personalization Knowledge Management Strategies

Knowledge Management Practices - (Identified in the Literature)	Knowledge Management Practices – RHAs
<ul style="list-style-type: none"> • Online Resumes • List of Skills. • Publications for Staff and External Experts • E-mail Discussion List • Telephone Discussions • Regular Case Meetings • Workshops • Video Conferencing • Co-located Staff • The Provision of a Coffee Area • Staff Secondmentt 	<ul style="list-style-type: none"> • No Online Resumes • No List of skills • No Publications for Staff and External Experts • Email Discussions • Telephone Discussions • No Regular Case Meetings • Workshops • No Video Conferencing • Members Dispersed in Health Region • No Coffee Area • No Staff Secondment

*Knowledge management practices entail the actions as well as the facilitators of personalization strategies.

Despite the fact that majority of RHA members use these personalized practices (telephone, e-mails and workshops), few have not fully taken advantage of them because they do not even have email addresses and regular access to computers to engage in some of these practices. Obviously, tacit knowledge is not sufficiently being utilized in supporting RHA members' decisions. Such a

revelation is not surprising giving the dominant use of explicit form of knowledge in supporting RHA members' decisions, which invariably implies that they engage more in codification rather than personalization strategies.

This, however, does not indicate that RHA members should not put more effort into tapping tacit knowledge at their disposal, especially with the interest shown by RHA members in face-to-face and other informal forms of dialogue in supporting tacit knowledge management in health care decision-making. Again the fact that RHA members find their packages in codified form overloading, justifies the need for intensifying personalization knowledge management practices to enhance tacit knowledge use in decision-making.

An important strategy for supporting tacit knowledge exchange among RHA members is to embrace the communities of practice approach. It is clear, however, that RHA members cannot be described as engaging in communities of practice. This is because of the absence or the under-developed nature of the arrangements essential to the formation of communities of practice. These arrangements include the lack of formal physical and virtual spaces to facilitate the free flow of information among members.

In spite of the fact that RHA members may not qualify completely as engaging in communities of practice, they do exhibit some features. Such features include the positive relationship that exists among RHA members, the engagement in team

activities, ability to engage in formal and informal knowledge sharing, and the inter-organizational search for knowledge. These are all critical prerequisites for the formation of communities of practice.

RHAs, thus, possess many of the fundamental features for the formation of communities of practice. The transformation of these groups into communities of practice demands that RHAs design or formulate policies that support such communities. Cultivating communities of practice among RHA members has the potential of enriching knowledge management in health care decision-making.

Benefits to be accrued by RHA members if they cultivate communities of practice include the following; first, RHA members are geographically dispersed in their health regions and meet primarily only when there are formal meetings, they can be brought together if they are encouraged to form communities of practice. The best form of communities of practice conducive for RHA members, however, will be the online communities of practice. Though online communities can be costly to begin with, they may serve the interest of RHA members better than physical communities of practice. Details of how RHA members can cultivate and nurture themselves into online communities of practice will be presented at a latter stage of the chapter.

Second, since health care issues and concerns interest a wide spectrum of people, an online community of practice holds the key in making it feasible for so

many people interested in health issues to belong to such online community.

Though online communities of practice should be premised on RHA members, the general public can be brought on board as the communities flourish.

Third, cultivating online communities of practice for RHA members has the potential in enhancing tacit knowledge management. This potential is being raised because RHA members believed that a wealth of knowledge can be mobilized if informal communications are improved.

Because we receive so much information, a lot are treated as mere information. Discussions following these packages will be helpful. Dialogue should be emphasized. Online communication facility will also assist knowledge management greatly (*A male urban-based RHA member*).

We should emphasis face-to-face sharing of knowledge more. Information shared this way is more meaningful to me than the documentations (*A male rural-based RHA member*).

Fourth, cultivating online communities of practice will assist RHA members to have access to wealth of information and inputs from diverse areas to guide them in making their decisions. Since RHA members are largely representatives of their communities, an online communities of practice will bring them closer to their communities. RHA members indicated that their meetings are mainly open to the public, yet the public patronage has not been encouraging. One way of gaining and

sustaining public interest and patronage in RHA members' activities is the nurturing of online communities of practice.

Fifth, online communities of practice have the possibility of bringing a number of health regions and health organizations together. This will facilitate inter-organizational networks to be formed among these organizations. Knowledge and experiences of the various health regions and health organizations can be shared to ensure improved health care decision-making. Duplication of efforts can be avoided when inter-organizational networking is well institutionalized. RHA members can always first explore what other health regions and organizations are doing and see what they can learn from each other before directing resources into programs, which they can easily learn from others. Collaborative research and programs can also be encouraged through inter-organizational networking.

Bearing in mind the potential benefits associated with communities of practice as an intervention for tacit knowledge management, RHA members embracing and adopting communities of practice approach seems a feasible strategy in ensuring improved knowledge management in decision-making. Even though communities of practice generally emanate voluntarily, they can be deliberately introduced and nurtured in organizations (Wenger et al., 2002).

Cultivating communities of practice in organizations implies that such organizations have the necessary structures in place to support the communities to

thrive. Such structures may include a positive relationship among the individuals to form the communities, the trust to freely engage in informal discussions with others, availability of physical and/or virtual spaces for members interaction and most importantly the willingness and the commitment on the part of the individuals to form the communities to enrol in, and push the communities' agenda forward.

RHA members, it is clear from the analysis, cannot be held to be functioning as communities of practice per se, though they have all the fundamental structures to facilitate and support communities of practice in their activities. A major prerequisite for the introduction of communities of practice approach, however, is for RHA members to have an explicit knowledge management policy to guide the entire knowledge management processes. Such policy will spell out in clear terms the overall objectives of the RHAs, the knowledge management strategies and practices to be adopted by the RHA members, and systematically designing ways of ensuring that RHAs knowledge management strategies and practices are commensurate with, and lend credence to the objectives of their organizations.

RHA members are likely to embrace the communities of practice approach in managing knowledge if they are equipped with the benefits associated with it. RHA members currently rely heavily on explicit knowledge received from senior management of the health regions in informing their decisions. They should have the opportunity to engage in more informal discussions on inputs from

management, and seek more inputs from other sources to supplement management package, which seem to be the blue print for RHA members' decisions.

Through the communities of practice approach, RHA members can engage in informal discussions to facilitate tacit knowledge sharing to enrich boards' decisions. The online rather than face-to-face communities of practice seem to be the best fit for the RHA members. Though online communities of practice can be costly because they are computer-based, they can support informal interaction among the RHA members, despite the dispersed geographical destination of the members. It was clear from the field interviews that some of the RHA members do not have access to computers. Some even do not have email addresses, which can seriously undermine online communities of practice to flourish. Online communities of practice for RHA members imply that members are resourced and educated on the use of the technology involved in online communities.

As indicated by Wenger et al. (2002), cultivation of communities of practice should revolve or start with some few individuals with the passion to share knowledge on health care system. Such members will be the core members to put in the foundation for the community. Since enrolment in communities of practice is purely voluntarily, members can only be encouraged or motivated to be part of it on their own accord. It is likely some RHA members will be ready to constitute the core membership, if they have the opportunity. This fact is being stressed because some members explicitly expressed interest in engaging in informal

discussions with other members on health issues if they have the opportunity to do so. The fact that most members are already sharing valuable information through telephone and emails is an indication that at least some members will volunteer as core members to facilitate the growth and interaction among RHA members.

Furthermore, since communities of practice can go beyond an organization, online communities for RHA members can be broadened to incorporate other individuals from related health organizations to share knowledge on health. Again the public will also have the opportunity to be part of RHA members' discussions by participating in such online communities fora. Such a move will indeed make regionalization a true democratic intervention in health care decision-making process in the country. Though the general public has the opportunity to attend RHA members' meetings, this opportunity it was unanimously agreed by the respondents has not been utilized by the public. The public apathy in regional health deliberations could be due to lack of information on such opportunity. Again time and the inconveniences for people to travel to attend such meetings can be discouraging factors to most people. Such apathy can largely be addressed through the institutionalization of communities of practice for RHA members to begin with and later joined by the public.

CHAPTER SEVEN – SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 Restatement of the Problem

The adoption of a knowledge management strategy helps pave the way to overall organizational success. Achieving effective and functional knowledge management in health care decision-making, as a step towards improved health care system, therefore, requires that relevant organizations adopt a knowledge management strategy. There are many approaches to the development of a knowledge management strategy for organizations; there is “no one size fits all.” Hansen et al. (1999) identify the codification and the personalization knowledge management strategies as the two main strategies for managing knowledge within organizations. Since the main purpose of knowledge management is to assist organizations in achieving their goals, the choice of knowledge management strategy should be specifically tailored to, and aligned with, overall organization strategy and goals.

The codification and the personalization knowledge management strategies support explicit and tacit knowledge forms respectively. Attempts at adopting knowledge management strategies should, therefore, be based on a thorough understanding of the primary type of knowledge informing decision-making in the

organization. It is clear from the literature that both forms of knowledge inform decisions made in organizations, with a greater emphasis on one than the other.

Effective decision-making, therefore, is based on the extent to which these two complementary forms of knowledge are both marshalled and managed, with emphasis on the dominant form of knowledge informing the health care decision-making process. Examining the knowledge underlying health care decision-making and how that knowledge is acquired, stored, validated, shared and applied, is essential in ensuring effective knowledge management.

Furthermore, achieving effective knowledge management in health care decision-making also involves a combination of many variables such as the organizational-based structure and culture, and the extent of individuals' interactions in organizations (Lesser and Prusak, 1999; Donoghue et al., 1999). Important here is the observation that individuals neither work in isolation, nor are they (usually) able to make wholly autonomous decisions. They work in organizations embedded with routines and established cultures, which influence their actions regarding knowledge use in decision-making. Individuals' examples of knowledge utilization, therefore, are greatly shaped by the extent to which they have been socialized into their "communities of practice" through membership in a subculture, and as part of its ongoing learning process. Such informal networks have tremendous impact on worker cognition and behaviour (Wenger, 1998; Brown and Duguid, 1991). Communities of practice manifest themselves in

organizational cultures, which serve as major motivation or impediment to knowledge sharing (Alavi and Leidner, 2001).

The study is contextualized in regionalized health care system in some selected regional health authorities in Saskatchewan province. An essential factor for the success of regionalization in this information age is the embrace of and engagement in a more rigorous evidence-based decision-making process. Unfortunately, however, a recognized problem within the current health care system is the lack of adequate mechanisms for the managing of information informing health care decision-making (Lewis et al., 2004; Frankish et al., 2002; Abidi, 2001). Addressing these problems demands effective management of knowledge. Such an intervention is critical in identifying the facilitators of, and barriers to, knowledge management in health care decision-making processes.

7.2 Purpose of the Study

The general purpose of the study is to examine critically the knowledge management strategies and practices of health care decision-makers in the context of regionalized health care system in selected regional health authorities in the province of Saskatchewan in Canada. In line with the study's purpose, the following specific objectives guided the study:

1. To identify the main types of knowledge used for health care decision-making.

2. To identify the primary knowledge management strategies of health care decision-makers.
3. To identify the knowledge management practices adopted by health care decision-makers to support their decision-making processes.
4. To examine whether the RHA members of regional health authorities interact as community of practice.

7.3 Research Questions

In order to meet the study's objectives, the following research questions were posed:

1. What are the main types of knowledge used by RHA members?
2. What knowledge management strategies do the RHA members use?
3. What are the specific knowledge management practices used by RHA members in support of their knowledge management strategies?
4. Are RHA members appropriately understood as communities of practice and, if so, how does this influence their knowledge management processes?

7.4 Summary of Findings

The respondents unanimously indicated professional reports from senior management of the health regions as the main source of knowledge informing their decisions. Such professional reports include updates of research carried out by senior management, information extracted from academic and professional journals, and details of activities by the health regions, which include RHA members' deliberations. Personal or experiential knowledge makes up the other

knowledge form underlying RHA members' decisions. Emphasis, however, is placed more on explicit rather than tacit knowledge.

An assessment of RHA members' professional package revealed the use of internally-based explicit knowledge as the main form of evidence underpinning board decisions. This form of evidence seems a best-fit for evidence-based regionalized health care decision-making because they are specifically targeted at RHA members' decision-making agenda, thus, making them relevant for their operations. Such evidence is also used largely in a conceptual fashion in preparing RHA members for their deliberations.

Though research and professional reports dominate RHA members' discussions, members directly do not subscribe to academic or scientific journals. Senior management of the health regions subscribe to these journals based on their own criteria, which are unknown to the RHA members. The RHA members, however, believe that information from journals together with primary research undertaken by management as well as RHA members' deliberations inform professional reports developed by management. Members, though directly uninvolved in the publications of the professional reports, they felt represented by these reports from senior management since they have to approve these reports before they become public documents. Members occasionally are given presentations on primary research by senior management. RHA members, however, found professional reports from management overloading.

Furthermore, RHA members were unanimous in stating that they do not have an office library or online documentary library database to assist their activities. Some members, however, believe that they have enough information from management to inform their decisions. They, therefore, do not see the need for seeking other information from library or other sources.

Respondents further pointed out that they record and publish details of meetings as a board. Members generally agreed that minutes are very helpful in reminding them of past decisions and also guiding them in subsequent discussions and decision-making. Copies of RHA members' minutes are sent to the Saskatchewan Health and other health agencies as expected by the Regional Health Services Act of 2002 in the province of Saskatchewan.

RHA members specified that they are actively encouraged to avail themselves for events, such as conferences, seminars and workshops to update their knowledge periodically. A special budget is earmarked for the attendance of such events. RHA members indicated further that they are expected to present reports to the entire members after attending conference or a related event. Most members presented such reports in brief written form.

Despite RHA members' reliance on mainly explicit knowledge, they do not have an explicit policy for knowledge management. The absence of knowledge

management policy guiding RHA members' activities undermines efficient knowledge use in health care decision-making.

With the exception of a member who claimed do not get along well with another member, it was generally agreed by the other members that they have good relationship with their colleagues. RHA members, however, are not encouraged by their respective authorities in forming smaller groups, communities of practice or informal networks. They have working teams, which are tasked with the execution of specific assignments or issues. They were, however, quick in adding that professional experiences they share among themselves mainly took place at the formal table when engaged in official discussions.

It was clear from respondents that apart from the official RHA members' meeting place or hall, there is no specific place for informal interactions. Members further stressed that they could arrange for a place for such an informal interaction if it becomes necessary. But that have not been done because there have not been the need for such an informal meetings and interactions apart from the formal meetings. Furthermore, while RHA members do not have virtual spaces to support informal networking among themselves, it was asserted by members that they use telephone, emails exchanges and the RHAs corporate offices as means of sharing information among members, apart from formal meetings. It was unanimously agreed that members mainly share tacit or personal information or knowledge among themselves informally more than explicit or professional knowledge.

In order to enhance knowledge management in RHA members' activities, members generally suggested more use of dialogue and face to face elaborations on professional reports. Also, it was expressed by members that reports from senior management should be free from technical jargon and be accompanied by executive summaries to make them more understandable and user friendly. The quest for RHAs to plan ahead of time is also recommended by some members.

7.5 Conclusions

The following conclusions are made based on the major findings of the study presented in the previous section.

RHA members use more explicit rather than tacit knowledge form to inform their decisions. This fact is being expressed against the backdrop that they rely mainly on professional reports received from management as part of the regular RHA members' package to guide their discussions at the board table. Such professional reports include management research, extracts from subscribed journals of management, RHA members' discussions at formal meetings, and detail of other activities of the health region. Although RHA members consider these reports as overload in many occasions; they felt represented by these reports since they have the privilege of approving them before coming out as public or official documents.

In addition to the use of professional reports, RHA members keep minutes of all their meetings to serve as guide for their discussions. Conferences and seminars attended by members are also accounted for through the submission of formal reports following the attendance of such events. Even though, RHA members do not have official libraries, they use more codified knowledge management practices. The current knowledge management practices in use by the RHA members such as the publication of annual reports and research reports in conjunction with senior management, the publication of RHA members' meetings for future reference, the submission of written reports following conference attendance, and the inclusion of extracts from academic and professional journals in RHA members reading packages are all types of the codification knowledge management strategy. The conclusion, therefore, is that RHA members use more of codification knowledge management strategies in informing their decisions than any other strategy of knowledge management.

The codified knowledge management strategies use by the RHA members are mainly internally-based research or evidence used by members in preparing for their deliberations. They are mainly inputs internally generated by senior management of the health regions specifically directed at RHA members' decision-making agenda. This form of evidence is directly relevant to RHA members' activities. The fact that evidence is contextually determined implies that

RHA members are implicitly engaged in evidence-based decision-making despite the scarcely use of external scientific evidence.

Furthermore, it is concluded from the findings of the study that RHA members do not have explicit knowledge management policy. This is in spite of the adoption of various knowledge management practices guiding RHA members' decision-making process. The absence of explicit knowledge management policy does not augur well for ensuring effective codification knowledge management strategy. The current knowledge management practices though good, they can be put to maximum use if an official knowledge management policy is institutionalized.

Though, RHA members may not qualify completely as communities of practice, they may well be said to exhibit some features similar to communities of practice. Such features include the positive relationship that exists among the members, the engagement in team activities, ability to engage in informal tacit knowledge sharing through the use of telephone and emails, and the inter-organizational search for knowledge. These features can be perceived as critical prerequisites for the formation of communities of practice. At best, RHA members may be described as possessing almost all the fundamental features for the formation of communities of practice. This opportunity, however, has not been exploited to support the management of tacit knowledge by the RHA members.

7.6 Recommendations

The following recommendations are worth considering in ensuring improved knowledge management in health care decision-making process. For these recommendations to work, they should be supported by the organization's culture particularly with regards to knowledge management.

There is the need for RHA members to have explicit or official policy on knowledge management. Though, RHA members have various forms of knowledge management practices in place, the absence of explicit policy guiding knowledge management negates the benefits associated with these practices. Knowledge management policy is critical in spelling out in clear terms the overall objectives of the RHAs, the knowledge management strategies and practices to be adopted by its members, and systematically designing ways of ensuring that knowledge management strategies and practices adopted by RHA members are commensurate with, and lend credence to the objectives of the organization.

Following the analysis of the knowledge management practices, it is evident that RHA members are adopting codification knowledge management strategies more than personalization knowledge management strategies. Since codification knowledge management strategies ensure re-use of explicit knowledge by capturing, codifying, classifying and making available knowledge to support routine problem solving, the availability of RHA members' incentives enshrined

in the official knowledge management policy of the organization becomes paramount. This is important because codification knowledge management strategies, unlike personalization strategies, need to be carefully and tactically nurtured to maximize its impact in organizations.

Efforts at enhancing the use of codified knowledge in regionalized health care decision-making should be directed at broadening the explicit knowledge base of RHA members to include externally-based relevant research. This will complement the internally-based inputs provided by senior management of the health regions. The internally-based evidence placed at the disposal of RHA members may not be enough evidence in making evidence-based decisions. RHAs stand to gain a lot from external evidence by learning from experiences of other health care researchers. Such an attempt will advance significantly RHA members' efforts in embracing evidence-based decision-making.

RHA members should also be very cautious and tactful in relying mainly on senior management of health regions for inputs to inform their decisions. This is important because over-reliance on senior management by RHA members will amount to erosion of their power as independent advisory body in the health care decision-making process, as enshrined in the act underlying regionalization. Again, senior management will be more empowered and unaccountable if given the opportunity to fully steer the directions of RHA members' activities. RHA members should be encouraged and motivated to informally have discussions on

management inputs, have them evaluated well in advance of formal RHA members' meetings, so they become fully represented in decisions made by the RHAs.

Furthermore, RHAs should have personnel specifically responsible for knowledge management at the board level. Another option for the health regions is to re-train and resource the administrative staff specifically working with the board members to play the role of knowledge managers in addition to their administrative duties.

Senior management inputs to RHA members should also be free from technical jargon, and must be accompanied with executive summaries to ensure easy comprehension. Inputs from senior management should be followed by oral presentations to facilitate discussions, which are likely to deepen members understanding of these inputs. Senior management will also learn from board members through such discussions. RHA members should also have official library where copies of all their packages, and other related relevant health materials will be kept to resource both RHA members and the general public.

Since RHA members also use tacit knowledge in informing their decisions, it is expected that they engage in some knowledge management practices that support personalization strategies. It is a fact that, not everything individuals or a group of people know can be codified as documents or tools for "universal" use.

Supporting personalization knowledge management strategies means that an intervention is put in place to facilitate the management of tacit knowledge. One such intervention is the community of practice approach. Even though communities of practice generally emanate voluntarily, they can be deliberately introduced and nurtured in organizations (Wenger et al., 2002). Cultivating communities of practice among health board members means that arrangements such as: formal physical, virtual spaces to facilitate free flow of information among members, and organizational motivation for members to belong to such communities are provided.

Through the communities of practice approach, RHA members can engage in informal discussions to facilitate tacit knowledge sharing to enrich members' decisions. The online rather than face-to-face communities of practice seem to be the best fit for the RHA members. Though online communities of practice can be costly because they are computer-based, they can support RHA members' interaction despite their dispersed geographical destinations. Furthermore, since communities of practice can go beyond an organization, online communities for RHA members can be broadened to incorporate other individuals from related health organizations to share knowledge on health care. Again the public will also have the opportunity to be part of RHA members' discussions by participating in such online communities fora. Such a move will indeed make regionalization a true democratic intervention in health care decision-making process in Canada.

It is also recommended that future studies on knowledge management in health care decision-making process examine the knowledge management strategies and practices adopted by senior management of the RHAs. Such studies are necessary because of the intermediary role played by senior management in the entire health care decision-making process. The intermediary role rendered by the senior management is indeed crucial because all the various levels of health care decision-makers (macro, meso and micro), to some degree rely on them for inputs in making decisions. Though there is a general notion that senior management use a wealth of scientific knowledge, an understanding of the knowledge management strategies and practices by senior management will greatly facilitate the evidence-based decision-making process within the health care industry.

REFERENCES

- Abidi, S. S. R. (2001). Knowledge management in health care: Towards “knowledge driven” decision support services, *International Journal of Medical Informatics*, 63, pp.5-18.
- Alavi, M., and Leidner, D. E. (2001). Review: knowledge management and knowledge systems: Conceptual foundations and research issues, *MIS Quarterly*, 25 (1), pp. 107-136.
- Alversson, M. (2001). Knowledge work: Ambiguity, image and identity. *Human Relations*, 54 (7), 863-886.
- Ambrosini, V., and Bowman, C. (2001). Tacit knowledge: Some suggestions for operationalization. *Journal of Management Studies*, Vol. 38, No. 6, 811-829.
- Berg, B. L. (2001). *Qualitative research methods for the social sciences*, Allyn and Bacon, Boston.
- Berger, P. L., and Luckmann, T. (1966). *The social construction of reality: a treatise in the sociology of knowledge*, Anchor, New York, USA.
- Bhatt (2001). Knowledge management in organizations: Examining the interaction between technologies, techniques and people, *Journal of Knowledge Management*, 5, 1, pp.68-75.
- Bogdan, R. C., and Biklen, S. K. (1982). *Qualitative research for education: An introduction to theory and methods*. Boston: Allyn and Bacon, Inc.

- Brown, J. S., and Duguid, P. (1991). Organizational learning and communities-of-practice: Toward a unified view of working, learning, and innovation. *Organization Science*, 2, pp. 40-57.
- Brown, J. S., and Duguid, P. (2001). Knowledge and organization: A social-practice perspective. *Organization Science*, 12 (2), 198-213.
- Canadian Centre for Analysis of Regionalization and Health. (2003). Regionalization: where has all the power gone to? Newsletter, January 2003.
- Canadian Centre for Analysis of Regionalization and Health. (2004). <http://www.regionalization.org/Regionalization/Regionalization.html>.
- Champagne, F., Lemieux-Charles, L., and McGuire, W. (2004). Introduction: Towards a broader understanding of the use of knowledge and evidence in health care. In Lemieux-Charles, L., and Champagne, F. (Eds.), *Using knowledge and evidence in health care: Multidisciplinary perspectives*. University of Toronto Press, 3-17.
- Charlton, B. G. (1997). Restoring the balance: Evidence-based medicine put in its place. *Journal of Evaluation in Clinical Practice*, 3, 2, 87-98.
- Connell, N. A. D., Klein, J. H., and Powell, P. L. (2003). Its tacit knowledge but not as we know it: Redirecting the search for knowledge, *Journal of the Operational Research Society*, 54, pp. 140-152.
- Cook, S. N., and Yanow, D. (1983). Culture and organizational learning. *Journal of Management Inquiries*, Vol.2, No. 4, 373-390.
- Cronbach, L. J. (1975). Beyond the two disciplines of scientific psychology. *American Psychologist*, 30 (2), 116-127.

- Davenport, T. H., De Long, D. W., and Beers, M. C. (1998). Successful knowledge management projects, *Sloan Management Review*, 43-57.
- Davenport, T., and Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business School Press, Boston, MA.
- Denis, J., Lehoux, P., and Champagne, F. (2004). A knowledge utilization perspective on fine-tuning dissemination and contextualizing knowledge. In Lemieux-Charles, L., and Champagne, F. (Eds.), *Using knowledge and evidence in health care: Multidisciplinary perspectives*. University of Toronto Press, 18-40.
- Dickinson, H. D. (2004). A sociological perspective on the transfer and utilization of social scientific knowledge for policy-making. In Lemieux-Charles, L., and Champagne, F. (Eds.), *Using knowledge and evidence in health care: Multidisciplinary perspectives*. University of Toronto Press, 41-69.
- Dickinson, H. D. (2002). Health care, health promotion, and health reforms. In Bolaria, B. S., and Dickinson, H. D. (Eds.), *Health, illness, and health care in Canada*. Third Edition, Nelson Thomson Learning, 351-371.
- Dolan, T. C. (1996). Observations on governance. *Health Care Executive*, 11 (5), 5.
- Donoghue, L. P., Harris, J. G., and Weitzman, B. A. (1999). Knowledge management strategies that create value, *Outlook*, 1, pp. 48-53.
- Dreyfus, H., and Dreyfus, S. (1988). 'Why computers may never think like people.' *Technology Review*, Vol. 89, No. 1, 42-62.

- Edmondson, A. C., Winslow, A. B., Bohmer, R. M. J., and Pisano, G. P. (2003). Learning how and learning what: Effects of tacit and codified knowledge on performance improvement following technology adoption, *Decision Sciences*, 34 (2), pp. 197-223.
- Empson, L. (2001). Introduction: Knowledge management in professional service firms. *Human Relations*, Vol. 54, No. 7, 811-817.
- Frankish, C. J., Paluck, E. C., Williamson, and D. L., Milligan, C. D. (2001). The use of population health and health promotion research by health regions in Canada. *Canadian Journal of Public Health*. 92 (1), 19-23.
- Glaser, E. M., Abelson, H. H., and Garrison, K. N. (1983). Putting knowledge to use. Jossey-Bass Publishers.
- Habermas, J. (1972). Knowledge and human interests. Heinemann, London.
- Hall, R., and Andriani, P. (2003). Managing knowledge associated with innovation, *Journal of Business Review*, Vol. 56, 145-152.
- Hansen, M. T., Nohria, N., and Tierney, T. (1999). What's your strategy for managing knowledge? *Harvard Business Review*, Vol. 77, No. 2, 106-116.
- Hansen, M. T. (1999). 'The Search-transfer problem: The role of weak ties in sharing knowledge across organizational subunits.' *Administrative Science Quarterly*, Vol. 44. No. 1, 82-111.
- Hardy, M. (1999). Doctor in the house: The Internet as a source of lay health knowledge and the challenge to expertise. *Sociology of Health and Illness*, 21 (6), 820-835.

- Hazlett, S., McAdam, R., and Gallagher, S. (2005). Theory building in knowledge management in search of paradigms. *Journal of Management Inquiry*, Vol. 14, No.1, 31-42.
- HEALNet. (2002). <http://healnet.mcmaster.ca/nce/>
- Hislop, D. (2002). Mission Impossible? Communicating and sharing knowledge via information technology, *Journal of Information Technology*, Vol. 17. 165-177.
- Hoepfl, M. C. (1997). Choosing qualitative research: A primer for technology education researchers. *Journal of Technology Education*. Vol. 9 (1), Fall.
- Holsapple, C. W., and Joshi, K. D. (2000). An investigation of factors that influence the management of knowledge in organizations. *Journal of Strategic Information Systems*, Vol. 9, 235-261.
- Holsapple, C. W., and Joshi, K. D. (1997). Knowledge management: A threefold framework. Kentucky Initiative for Knowledge Management, Paper No. 104.
- Holzner, B. and Harmon, M. (1998). Intellectual and organizational challenges for international education in the United States: A knowledge system perspective. In *International education in the new global era*.
- Holzner, B., and Marx, J. H. (1979). Knowledge application: The knowledge system in society. Boston, Mass. Allyn and Bacon.
- Huberman, M. (1994). Research utilization: The state of the art. *Knowledge and policy*. Vol. 7, No.4, 13-33.

- Hurley, T. A., Green, C. W. (2005). Knowledge management and the nonprofit industry: A within and between approach, *Journal of Knowledge Management Practice*, January, 2005.
- Jasimuddin, S. M., Klein, J. H., and Connell, C. (2005). The paradox of using tacit and explicit knowledge strategies to face dilemmas. *Management Decision*, Vol. 43, No. 1, 102-112.
- Jacob, E. (1988). Clarifying quantitative research: A focus on traditions. *Educational Researcher*, 17 (1), 16-24.
- Karpf, A. (1988). *Doctoring the media: The reporting of health and illness*. London: Routledge.
- Kerlinger, F. N. (1986). *Foundations of behavioural research* (3 rd Ed.). New York: Holt, Rinehart, and Winston, Inc.
- Kinney, T. (1998). Knowledge management, intellectual capital and adult learning, *Adult Learning*, 10 (2), pp. 2-5.
- Kuhn, T. (1970). *The structure of scientific revolutions*. 2nd edition, University of Chicago Press, Chicago, IL.
- Lam, A. (2002). Alternative societal models of learning and innovation in the knowledge economy. *International Social Science Journal*, Vo. 54, No. 1, 67-82.
- Landry, R. (1990). Barriers to efficient monitoring of science, technology and innovation through public policy. *Journal of Science and Public Policy*, 16(6), 345-352.

- Lavis, J. N., Ross, S. E., Hurley, J. E., Hohenadel, J. M., Stoddart, G. L., Woodward, C. A., and Abelson, J. (2002). Examining the role of health services research in public policymaking. *Milbank Quarterly*, 80 (1), 125-154.
- Leonard, D. (1999). *Wellsprings of knowledge – Building and sustaining the sources of innovation*, Harvard Business School Press, Boston, M. A.
- Lesser, E. and Prusak, L. (1999). *Communities of practice, social capital and organizational knowledge*. MA: IBM Institute for Knowledge Management, 1.
- Lewis, S., and kouri, D. (2004). Regionalization: making sense of the Canadian experience. *Healthcare Paper*, Vol. 5, No.1, 12-31.
- Lincoln, Y. S., and Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage Publications, Inc.
- Lofland, J., and Lofland, L. H. (1984). *Analyzing social settings*. Belmont, CA: Wadsworth Publishing Company, Inc.
- Lomas, J., Veenstra, G., and Woods, J. (1997). Devolving authority for health care in Canada's provinces: Background, resources and activities of board members. *Canadian Medical Association Journal*. 156: 513-20.
- Mahesh, S. R., and Meade, L. L. (2005). Strategic decisions in supply-chain intelligence using knowledge management: An analytic network process framework. *Supply Chain Management*, 10 (2), 114-121.
- Merriam. (1988). *Case study in education: A qualitative approach*. San Francisco: Jossey-Bass.

- Metaxiotis, K., Ergazakis, K., and Psarras, J. (2005). Exploring the world of knowledge management: Agreements and disagreements in the academic/practitioner community. *Journal of Knowledge Management*, Vol. 9, No. 2, 16-18.
- Miles, M. B., and Huberman, M. A. (1994). *An expanded sourcebook: Qualitative data analysis*, (2nd Ed.), Sage, Thousands Oaks, CA.
- Morse, R. (2000). *Knowledge management system: Using technology to enhance organizational learning*. International Resources and Management Association Conferences, Anchorage, AK.
- National Advisory Council on Aging (2005). *The NACA position on determining priorities in health care: The seniors' perspectives*. Number 17.
- Neuman, W. L. (2000). *Social research methods: Qualitative and quantitative approaches*, (4 th Ed.). Allyn & Bacon, Boston.
- Nonanka, I., and Kanno, N. (1998). The concept of “Ba”: Building a foundation for knowledge creation. *California Management Review*, 40, (3), 40-54.
- Nonanka, I., and Takeuchi, H. (1995). *The knowledge creating company*. New York: Oxford University Press.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd Ed.). Newbury Park, CA: Sage Publications, Inc.
- Polanyi, M. (1962). *Personal knowledge: Towards a post-critical philosophy*. New York: Harper Touch books.
- Polanyi, M. (1964). *The study of man*. Chicago: University of Chicago Press.
- Polanyi, M. (1967). *The tacit dimension*. London: Routledge and Kegan Paul.

- Rich, R. F., and Oh, C. H. (1993). The utilization of policy research. In S. Nagel (Ed.), *Encyclopaedia of social sciences*, (2nd Ed.). 93-115, New York: Marcel Dekkar Inc.
- Rosenberg, W., and Anna, D. (1995). Evidence-based medicine: An approach to clinical problem solving. *British Medical Journal*, 310 (6987), 1122-1126.
- Sackett, D. L., Rosenberg, W., Gray, J. A. M., Haynes, R. B., and Richardson, W. S. (1996). Evidence-based medicine: What it is and what it isn't. *British Medical Journal*, 312 (7023), 71-72.
- Sawhney, M., and Prandelli, E. (2000). Communities of creation: Managing distributed innovation in turbulent markets. *California Management Review*, Vol.42, No. 4.
- Schein, E. H. (1967). Attitude change during management education. *Administrative Science Quarterly*, 11:601-628.
- Schulz, M., and Jobe, L.A. (2001). Codification and tacitness as knowledge management strategies: An empirical exploration. *Journal of High Technology Management Research*, 12, 139-165.
- Smith, E. A. (2001). The role of tacit and explicit knowledge in the workplace, *Journal of Knowledge Management*, 5, 4, pp. 311-321.
- Spencer, J. C. (1995). Organizational knowledge, collective practice and penrose rents, *International Business Review*, Vol. 3 (4), 1-5.
- Stark, D. (2000). Ambiguous assets for uncertain environments: Hierarchy in post socialist firms. In P. DiMagio, W. Powell, D. Stark, E. Westney (Eds.), *The 21 st century firm: Changing economic organization in international perspective*. Princeton University Press, Princeton, NJ.

- Strauss, A., and Corbin, J. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, CA: Sage Publications, Inc.
- Sullivan, M. J. L., and Scattolon, Y. (1995). Health policy planning: A look at consumer involvement in Nova Scotia. *Canadian Journal of Public Health*, 86 (5), 317-320.
- Sveiby, K. E. (1997). The new organizational wealth: Managing and measuring knowledge-based assets, New York, Barret- Koehler.
- Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal*, 17, 27-43.
- Tomblin, S. (2003). Ability to manage change through regionalization: Theory versus practice. Australasian Political Studies Association Conference, University of Tasmania, Hobart.
- Vickers, G. (1968). Science and the appreciative system. *Human Relations*, 21, 99-119.
- Walker, L. W. (1999). Governing board, know thyself: Self-assessment is the basis for high performance. *Trustee*, 52 (8), 14-20.
- Weiss, C. H. (1979). The many meanings of research utilization. *Public Administration Review*, 29, 426-431
- Weiss, C. H. (1988). Evaluation for decisions: Is anybody there? Does anybody care? *Evaluation Practice*, 9 (3), 15-28.
- Wenger, E. (1998). Communities of practice: Learning, meaning, and identity. Cambridge University Press, Cambridge, U. K.

Wenger, E., McDermott, R., and Snyder, W. M. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Boston, MA: Harvard Business School Press.

Wilson, R., Rowan, M. S., and Henderson, J. (1995). Core and comprehensive health care services: Introduction to the Canadian Medical Association's decision-making framework. *Canadian Medical Association Journal*, Vol. 152 (7), 1063-1066.

Wyatt, J. C. (2001). Management of explicit and tacit knowledge. *Journal of the Royal Society of Medicine*, Vol. 94, 6-9.

www.nehl.nhs.uk (August 29, 2005).

Yin, R. K. (2003). *Case study research: Design and methods* (3 rd Ed.). Sage Publications, Newbury Park, CA.

APPENDIX 1 – OPERATIONAL DEFINITIONS OF CONCEPTS

In this study, the following definitions of concepts have been used:

Health Care Decision-Makers – This category of health care decision-makers are the board members of the regional health authorities. They are among the meso level decision-makers at the general health care decision-making process. They are appointed by the provincial government after they had been nominated by their communities.

Regionalization – It is a system of health governance and service delivery for health care administration within a defined geographic region in a province or territory. The objectives underlying regionalization include effective planning, organizing, managing, evaluating, and delivering of health care services to the citizens.

Knowledge – In this study, knowledge refers to both explicit and tacit forms of information that have the potential to serve as the basis for an action in organizations.

Explicit Knowledge – It is a form of knowledge expressed in words, symbols and numbers. This form of knowledge can be formalized and articulated in documents for easy transfer in the form of written reports, tables, formula, etc.

Tacit Knowledge – This form of knowledge is mainly personal and deeply rooted in individuals' actions, skills and experiences. It is also embodied in individuals' ideas, values and emotions and, therefore, difficult to formalize.

Knowledge Management – The activities or initiatives involved in the provision of conditions that facilitate the creation, storage, retrieval, transfer, validation and application of knowledge in decision-making. Knowledge management, therefore, encompasses all the processes involved in putting knowledge to work in an organization.

Knowledge Management Strategies – The plans or approaches adopted by organizations in engaging in, and maximizing the activities involved in knowledge management processes in organizations.

Communities of Practice – They are group of individuals who share common interest or passion in an area of competence and are ready to engage in the sharing of individual experiences regarding it.

APPENDIX 2 – INTERVIEW SCHEDULE

Introduction to Research Topic: Knowledge Management Strategies and Practices

Knowledge management has been defined as “the process by which an organization creates, captures, acquires, validates and uses knowledge to support and improve the performance of an organization” (Kinney, 1998). Two main knowledge management strategies have been identified. The first involves documenting knowledge from both internal and external sources and making it available to decision-makers in the form of written documents and/or computer-based information systems. This is sometimes referred to as the people-to-document approach or the codification strategy. The second knowledge management strategy involves people within the organization sharing knowledge through face-to-face exchanges. This has been referred to as the people-to-people approach or the personalization strategy. Most organizations are characterized by a combination of both knowledge management strategies.

Today, I would please like to discuss with you the knowledge management strategies and practices of (name of RHA). The interview will take about a maximum of an hour, but of course you are free to stop at any time.

1. Before we begin, do you have any questions or concerns?
2. As far as you know, does the (name of RHA) have an explicit knowledge management policy? (elaboration of knowledge management policy will be sought, if any).
3. Has your board an office library and/or online document library database?
 - a. If yes, are the library resources adequate for your board’s functions?
(Description of library will be sought).
4. Does your board subscribe to academic or professional journals to guide their discussions?

- a. If yes, what are the criteria used in the subscription of academic or professional journals?
5. Does your board produce and publish documents, such as articles, research papers, reports, and operational guidelines to guide their discussions?
 - a. If yes, how helpful are these documents in boards' discussions?
6. Does your board record and publish details of meetings, seminars, workshops, presentations and conferences deliberations?
 - a. If yes, how helpful are these publications in board discussions?
7. Does your board seek out events, such as conferences, workshops, seminars, courses, and actively encourage members to participate in these events?
 - a. If yes, how is the various knowledge acquired from these events shared among board members?
8. How would you describe your relationship with other members of your board? (During board deliberations and outside board rooms).
9. Does your board encourage board members to form groups, communities, networks?
10. Does your board maintain "virtual" spaces for board members discussions, collaborations, and networking? (Seek information on patronage of such spaces, if any).
11. Does your board maintain "physical" spaces for board member discussions, collaborations, networking? (Seek information on patronage on such spaces, if any).
12. What forms of knowledge/information do you mainly share informally with other board members?
 - a. Would you want to rank them in order of the most common form of knowledge? (Examples of forms of knowledge are published research, official or professional reports, media, tacit information such as personal experiences).

13. Do other board members influence your choice of knowledge/information to inform your board's discussions?
14. In general, which form of knowledge dominates your board's discussions?
(Personal/experiential, research, official or professional reports, etc.).
 - a. How is this form of knowledge managed by your board?
15. What in your opinion should be done to improve knowledge management by your board?
16. Are you pleased with the performance of your board regarding the recommendations they make on health care? (Seek clarification to answer).
17. How long have you been a member of the health board?