EVIDENCE BASED STRATEGIC DECISION MAKING IN ONTARIO PUBLIC HOSPITALS

by

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A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy
Institute of Health Policy, Management and Evaluation
University of Toronto

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Abstract

Context: A relatively recent focus on evidence based management has been influenced strongly by evidence based medicine. Healthcare administrators are encouraged to utilize similar principles to optimize their decision making. There are no known studies that address whether or not and how evidence is used by healthcare administrators in decision making practice and process.

Objectives: This study explores how evidence is conceptualized by public hospital executives and whether or not, and how, evidence is brought to bear on strategic decision making.

Design: The study undertook a qualitative design, using a grounded theory approach. The focus was to uncover how evidence is conceptualized by decision makers, whether or not and how evidence as defined is brought to bear, and under what conditions and why evidence is brought to bear. The study included four public hospitals in the Greater Toronto Area, two academic health sciences centres and two community teaching hospitals. Hospital CEOs were asked to identify three strategic decisions (one clinical expansion, one partnership, and one decision on prioritizing quality improvement). Interviews were conducted with 19
healthcare leaders and decision makers, and content analysis was undertaken for 64 supporting documents.

**Results:** Strategic decision makers in this study bring an amalgam of evidence to bear on strategic decisions. Evidence comes from sources internal and external to the organization, and includes a series of types of evidence ranging from published research to local business evidence. The reasons for bringing evidence to bear are highly intertwined. Evidence was sought, developed, and brought to bear on decisions in a formalized manner, and was used in concert with conditions internal and external to the organization, and informed by the decision maker characteristics.

**Conclusion:** Evidence plays a prominent role in strategic decision making. Strategic decisions were supported by processes requiring evidence to be brought to bear.
Acknowledgements

I would like to thank my thesis committee, Drs. Whitney Berta, David Davis and Ann Langley for their incredible support and encouragement throughout this journey. They have collectively helped me develop as a researcher to realize this goal. Whitney, as my supervisor, has been an inspiration through her unwavering commitment to the field and to her students. She kept me grounded and focused. She provided me with guidance and mentorship on both a professional and personal basis, and served as an example of what incredible women can do. Dave, for nurturing the best in me. Despite his incredible professional accomplishments, he always made me feel like there was something special about my work and that I had the potential to make a contribution. It is this confidence that will carry me through the next steps of my academic career. Ann, for guiding me, and making explicit everything I took for granted, so that I could appreciate all decisions and their implications. I am a much stronger and more critical thinker and researcher because of this.

I would like to thank Dr. Terry Amburgey who served on my thesis proposal defence, for his insights and encouragement. Thank you to Dr. Rhonda Cockerill who served on my proposal and final thesis defence for her thoughtful feedback on my work. Thank you to Dr. Ann Tourangeau, who served as internal reviewer for my thesis defence, for her thorough review that helped refine this piece, and are lessons that I will take forward in future research. I would like to thank Dr. Vishwanath Baba, who served as external examiner, for his thoughtful feedback, advice, and encouragement. I am honoured that he served in this role. Because of his vision and commitment, I believe that there is an exciting future for Evidence Based Management to continue to develop.
I would like to thank the study participants for making the time to share their experiences and their work. Their passion for healthcare was palpable, and I am honoured to have been afforded a window into their world to explore this important and exciting topic.

The doctoral journey is a long one. There are milestone achievements to celebrate along the way, in addition to times of doubt and sheer exhaustion. I am incredibly fortunate to have been through this experience with two amazing women, who I am proud to call my friends and colleagues. Karen Born and Carol Fancott. We have been through so much together - professionally, academically, and personally. We have shared some of life’s greatest joys (one wedding and three children over the course of the program) and some of the most difficult times as well. I could not have done this without you - even up to the end, when your sound and calming advice helped me prepare for a successful defence. I look forward to sharing more of life’s milestones with you.

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To my husband, Aaron. I could not have done this without you. You are my partner in life and have been there with me every step of this journey. You have been a source of strength and encouragement when I thought could not be consoled, and have supported me in every way. I will never be able to adequately thank you for all that you have done. I love you with all my heart.
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INTRODUCTION

This dissertation addresses the literature on evidence based management, and its inherent assumption that healthcare executive strategic decision makers are not as likely to bring evidence to bear on their decision making practices in the same fashion as clinicians. The dissertation addresses the following research questions: whether or not, how, and why, evidence as defined by strategic decision makers in acute hospitals is brought to bear on strategic decision making. Strategic decisions are the focus of the study given the size, scope and impact of those decisions on organizations. Notably, these decisions have significant resource implications, and the risks associated with decision failure are of higher impact on the organization compared to smaller scale decisions.

This dissertation, “Evidence Based Strategic Decision Making in Ontario Public Hospitals” is organized as follows:

Chapter 1 is the published literature review that formed the foundation for the study, which was primarily focused on evidence based decision making, and comparing evidence based management and evidence based medicine. In this chapter is the initiation of a discussion that addresses existing literature on evidence based management, from theoretical definition to practice, and it sets forth the foundation for the dissertation research in the context of existing literature. It also sets forth a set of propositions that are grounded in the literature which are addressed and are used to inform future research in the Discussion (Chapter 7).

Chapter 2 is structured to supplement Chapter 1 from a literature review perspective, with an emphasis on a review of the literature and theoretical foundations of decision making
theory, with a focus on strategic decision making, and further delves into evidence based
decision making theoretical framings and conceptual frameworks.

In totality, Chapters 1 and 2 are meant to provide a comprehensive review of a body of
literature to set the foundations for the study, and situate the study in the context of what is
known and what is unknown in the current literature. Fundamentally, the first two chapters set
the stage for the doctoral study, which is meant to begin to address the gaps in the literature both
theoretically and empirically, to illuminate claims about whether or not and how evidence is
brought to bear on strategic decisions in hospital settings. In order to do so, four research
questions form the basis of this study: **Research question 1**: How is evidence conceptualized by
strategic decision makers in public hospitals? **Research question 2**: How is evidence (as defined
by strategic decision makers) used by public hospital decision makers in strategic decision
making? **Research question 3**: When/under what conditions, and why, do decision makers use
evidence in strategic decision making in public hospitals? **Research question 4**: What are the
perceived barriers and facilitators to the use of evidence in strategic decision making from the
perspective of public hospital decision makers?

**Chapter 3** outlines the study approach and methods, and provides contextual details
regarding the Ontario public hospital system, leading into three results chapters.

**Chapter 4** focuses on research questions 1 and 4, and includes a review of how evidence
is conceptualized by the strategic decision makers in the study, grounded in what was brought to
bear on those strategic decisions, and in doing so, what was conceptualized as evidence. This is
accomplished through a case by case review of all of the decisions in the study. The individual
case review leads to the barriers and facilitators to the use of evidence in strategic decisions, as defined by the decision makers in the study.

**Chapter 5** is focused on the second research question on how evidence was used in strategic decision making, and structures the discussion around the individual decision cases. A trajectory of the decision making process for each decision is traced, in order to illustrate how evidence was used.

**Chapter 6** takes a broader view as guided by research question 3, by first identifying the decision conditions, and then addressing why evidence was brought to bear on the decisions.

**Chapter 7** is dedicated to synthesizing the results of the study in the context of existing literature, outlining the study limitations and revisiting the propositions from Chapter 1 in the context of this study’s focus and findings.

**Chapter 8** concludes the dissertation.
CHAPTER 1: LITERATURE REVIEW

Evidence-Based Decision Making in Health Care Settings: From Theory to Practice


Abstract

The relatively recent attention that evidence-based decision making has received in health care management has been at least in part due to the profound influence of evidence-based medicine. The result has been several comparisons in the literature between the use of evidence in health care management decisions and the use of evidence in medical decision making. Direct comparison, however, may be problematic, given the differences between medicine and management as they relate to (1) the nature of evidence that is brought to bear on decision making; (2) the maturity of empirical research in each field (in particular, studies that have substantiated whether or not and how evidence-based decision making is enacted); and (3) the context within which evidence-based decisions are made. By simultaneously reviewing evidence-based medicine and management, this chapter aims to inform future theorizing and empirical research on evidence-based decision making in health care settings.

Introduction

There has been a relatively recent call to action in health care, and in the management sciences generally, for “Evidence-Based Management.” This call is motivated by the desire to increase the use of “evidence” in organizational management decision making. Many proponents of evidence-based management have relied upon the perceived progress of the evidence-based medicine (EBM) movement to make their case for evidence-based management (Young, 2002; Walshe & Rundall, 2001; Williams, 2006).

According to Walshe and Rundall (2001) the rise of evidence-based clinical practice was prompted in part by the existence of unexplained wide variations in clinical practice patterns, by the poor uptake of therapies of known effectiveness, and by persistent use of technologies that were known to be ineffective. These problems are [claimed to be] found equally in managerial...
practice in health care organizations, and in the way that decisions about how to organize, structure, deliver or finance health services are made. (p. 430)

Academicians hold expectations that health care managers, who have been early advocates of EBM, given its promise of effectiveness, efficiency and accountability in medical care, would benefit from applying similar decision making principles to health care management or administrative decisions (Williams, 2006; Young, 2002). Despite this expectation, however, evidence-based management does not appear to have progressed to the same extent as EBM, in health care settings (Axelsson, 1998; Kovner, Elton, & Billings, 2000; Reay, Berta, & Kohn, 2009; Walshe & Rundall, 2001).

The motivation for comparing the literatures on evidence-based management decision making in health care settings to evidence-based clinical decision making is to demonstrate their differences and similarities, thereby informing the argument and admonition that health care managers utilize the principles of evidence-based decision making, popular in medical decision making, to inform health care management decision making (Kovner & Rundall, 2006; Kovner et al., 2000; Reay et al., 2009; Rousseau, 2006; Walshe & Rundall, 2001; Williams, 2006). This chapter will set forth a series of propositions aimed to inform future research on this topic.

Unlike assessments of medical evidence and associated interventions, there is a paucity of research on evidence-based decision making in health care management, and its related outcomes (Reay et al., 2009). More fundamentally, however, there is a general lack of clarity regarding the definition of what constitutes the “evidence” in evidence-based decision making in health care management. Definitional resolution alone would constitute a contribution to the discourse on evidence-based management; however, our aim is to also inform a future research
agenda on evidence-based management that would more fully explore whether or not and how evidence-based management may be enacted in practice, and what the impact of those decisions may be.

This chapter will review the concepts of evidence in evidence-based management and medicine, their processes, the maturity of research in each field, and conclude with influencing factors and suggestions for future research in evidence-based management.

What Constitutes “Evidence” in Management Decision Making?

There is variation among and within definitions of evidence in the literature related to evidence-based management. Evidence has been viewed as well-conducted/peer-reviewed management research (Kovner & Rundall, 2006; Pfeffer & Sutton, 2006; Rousseau & McCarthy, 2007), local organizational evidence (Kovner & Rundall, 2006; Kovner et al., 2000), and experiential knowledge (Kovner & Rundall, 2006; Kovner et al., 2000; Stewart, 1998; Walshe & Rundall, 2001). Table 1 illustrates the variation in definitions of evidence that exist, for example, the use of “research evidence,” “scientific evidence” in decision making, or the use of “managerial strategies to inform business process, operations and strategy,” for example, in quality improvement.

Specifically, in total quality management (TQM), where understanding one's local environment is critical to initiating focused change for improvement, through performance indicators and other process measures are necessary to introduce new initiatives. In this regard, some would view local data collection for total quality management to be “robust” evidence upon which to base decision making while others consider it “weaker” evidence when compared
to research evidence that is the product of research conducted in highly controlled environments (Kovner & Rundall, 2006; Pfeffer & Sutton, 2006; Rousseau & McCarthy, 2007).

Emerging from the variation in definitions of evidence is the notion of hierarchies. One such conceptualization is “Big E” evidence and “little e” evidence as identified by Rousseau (2006). “Big E” evidence refers to generalizable knowledge, and “little e” evidence is local or organization specific, as exemplified by total quality management or root cause analysis.

Table 1

Evidence-Based Management Definitions

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<td>“Evidence based management assumes that available research evidence is consistent with the problems and decision-making conditions faced by those who will utilize this evidence in practice.”</td>
<td>Alexander, Hearld, Jiang, and Fraser (2007)</td>
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<td>“Evidence based health services management applies the idea of evidence-based decision making to business process, operational, and strategic decisions in health services organizations…it is the systematic application of the best available evidence to the evaluation of managerial strategies for improving the performance of health service organizations.”</td>
<td>Kovner and Rundall (2006)</td>
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<td>“What distinguishes evidence based health services management from other approaches to decision making is the notion that whenever possible, health services managers should incorporate into their decision-making evidence from well conducted management research.”</td>
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<td>“Managers can be more effective if they are routinely guided by the best logic and evidence – if they relentlessly seek new knowledge and insight, from both inside and outside their companies, to keep updating their assumptions, knowledge and skills.” (p. 64)</td>
<td>Pfeffer and Sutton (2006)</td>
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<tr>
<td>“Evidence based management means managerial decisions and organizational practices are informed by the best available scientific evidence”</td>
<td>Rousseau and McCarthy (2007)</td>
</tr>
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<td>“Advances in evidence-based management identify the organizational strategies, structures and change management practices that enable physicians and other health care professionals to provide evidence-based care, i.e., the context of providing care.”</td>
<td>Shortell et al. (2007)</td>
</tr>
<tr>
<td>“Health care managers have been early advocates of EBM, given its promise of effectiveness, efficiency and accountability in medical care; despite assertions for managers to support the use of evidence in clinical decision making, it is claimed that evidence based management (the use of evidence in organizational decision making) has not progressed to the extent of EBM.”</td>
<td>Stewart (1998)</td>
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While the concepts of “Big E” and “little e” are arguably value-laden, the ability to conceptualize different types of evidence is relevant to this discussion. According to Walshe and Rundall (2001, p. 440), health care management research is part of “a weak social sciences paradigm, with more use of qualitative methods and less empiricism.” This introduces a level of complexity to the argument of evidence-based decision making in that there appears to be an implied hierarchy of evidence; for example, academic research to locally collected and analyzed data. A key distinguishing factor among the various forms of data as defined above is the generalizability versus specificity of evidence, and thus the contextualized element of evidence. While various forms of evidence exist, we do not believe that rigor is that which differentiates among forms of evidence as defined above.

**Process of Evidence-Based Management Decision Making**

While evidence required for a particular decision may or may not exist or be directly applicable to an organizational situation, it is expected that whatever evidence does exist would complement experiential knowledge and other forms of evidence or information available to the decision maker(s) (Kovner & Rundall, 2006; Rousseau, Manning, & Denyer, 2008). An evidence based approach to health system management is the conscientious, explicit, and judicious use of current best reason and experience in making decisions about strategic interventions. The relevant skills include identifying emerging opportunities, precisely defining management challenges or opportunities, data collection, proficiently searching and critically appraising
relevant information from published and non-published sources, and then deciding whether and how to use this information in practice (Kovner et al., 2000, p. 10).

It is also acknowledged that various forms of evidence may be used simultaneously. The definition of evidence-based management by Rousseau et al. (2008, p. 10) emphasizes this relationship as “the complementary use of scientific evidence and local business evidence.”

*Proposition 1a: Varying types and forms of evidence may be combined to effect a particular management decision.*

*Proposition 1b: Local business evidence may be brought to bear more frequently in management decision making than scientific evidence.*

**What Constitutes “Evidence” in Medical Decision Making?**

EBM is defined as: the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of EBM means integrating individual clinical expertise with the best available external clinical evidence from systematic research. By individual clinical expertise we mean the proficiency and judgment that individual clinicians acquire through clinical experience and clinical practice (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996, p. 71).

“Evidence” in the context of EBM has been studied and reviewed in very formal ways. For the most part, randomized control trials and systematic reviews have been generally held at the highest standards (Barnsley, Berta, Cockerill, MacPhail, &Vayda, 2005; D'Agostino& Kwan, 1995; Virgilio, Chiapa, &Palmarozzi, 2007). Since early theorizing in the late 1980s and early 1990s on EBM, significant attention has been dedicated to defining what evidence means in
medicine and developing the levels or classifications of clinical evidence, through hierarchies of
the most robust evidence (highly controlled research and systematic reviews) to the least
(experiential knowledge and opinion). Virgilio et al., (2007) and the Cochrane Collaboration to
only name a few, offer examples of a number of evidence classification schemes and hierarchies
developed over the past few decades.

Fundamentally, EBM is aimed at standardizing care where possible to maximize patient
outcomes, and thus generalizable knowledge (generated from highly controlled study) are
deemed to be the most reliable and valid evidence. Having said that, EBM leaders have not
proposed that research evidence be the only evidence brought to bear in decision making
(Sackett et al., 1996). Specifically, clinical judgment remains a critical component of the
evidence-based decision-making process, and it is meant to be used in conjunction with research
evidence (Sackett et al., 1996).

**Process of Evidence-Based Medical Decision Making as Compared to Evidence-Based
Management Decision Making**

Evidence-based clinical decision making connotes a relatively rational approach that
begins with generating a researchable question as informed by a clinical situation, embarking on
a process to find the best available evidence to answer that question, and deciding – as informed
by clinical judgment or previous experience – how and when to apply the evidence to resolve the
question or problem (Straus, 2006; Virgilio et al., 2007).

Decision making circumstances, in particular those in health care management decision
making, are less amenable to orderly guidelines that abound in EBM, given that several
contextual factors may impact decisions, including organizational and political forces, that do not
typically exist when making individual clinical care decisions. Evidence-based decision making in medicine appears far more routinized and protocolized than evidence-based management, as evidenced by the value placed on randomized control trials (RCTs) and the generation of generalizable knowledge to be put into practice thereby reducing care variation for individual patient care needs (Virgilio et al., 2007). Furthermore, in EBM, there is a much more direct link to patient care quality outcomes, and this link is arguably less directly linked in evidence-based management. In management, the process of decision making may be less amenable to the routine application of decision-making processes and like-type evidence that are embedded, for example, in practice guidelines applicable to facilitating evidence-based medical decisions. In addition, it may be that decisions made by health care managers are more complex, and the success of decision outcomes more susceptible to exogenous factors that are themselves dynamic; contributing to the complexity and uncertainty of the environments in which management decisions are made. In the case of EBM, decisions are relatively more objectively based on defined care protocols in concert with clinical judgment and the environment within which those decisions are made is not as sensitive to continued change (Walshe & Rundall, 2001).

Further, the decision-making processes differ in that they necessarily shift from (predominantly) individual decision-making models with singular impacts (EBM) to group decision-making models, engaging multiple decision makers at various levels in management, many of whom may be subject to public scrutiny and may be influenced by broader social and political forces. Individual clinical decisions are not as often subject to broad criticism, as compared to management decisions that are traditionally made in groups and can be made public and potentially become politicized. Evidence-based medical decision making remains a predominantly physician or clinician-centred approach. Decision making is individual (although
sometimes in multidisciplinary teams), and based on data from published evidence in concert with clinical judgment that is informed by a particular patient circumstance. Evidence-based management decision making differs, therefore, from EBM as a result of the influence of the context, surrounding management decisions; for example, multiple actors/decision makers and stakeholders, and organizational, political, and broader social forces, which may influence decisions.

**Proposition 2:** The nature of clinical and management decision making differs: decision-making processes, and the evidence brought to bear on decisions, are likely to be different as a result of the influence of contextual organizational, social and/or political forces that have particular impact on management decision making.

**The Context of Evidence-Based Management as Compared to EBM**

From the above discussion, we would argue that calls to action and opinions that present a direct parallel between EBM and evidence-based management (Kovner&Rundall, 2006; Rousseau, 2006; Kovner et al., 2000; Walshe&Rundall, 2001; Williams, 2006), and in particular the insistence that similar principles are applicable to medical and management decision making need to be nuanced given the differences in the evidence that is brought to bear during decision making, and differences in context.

While context is relevant to both medicine and management, it arguably plays different roles in the two different settings. While clinical judgment is a critical component to evidence-based medical decision making, it is coupled with evidence that is most valued when it is generated by a randomized control trial or in highly controlled environments where outcomes can be clearly isolated and identified. Clinicians seek generalizable knowledge that, together
with judgment, generate individual patient care decisions. In medicine, as demonstrated by the broadly viewed superiority of highly controlled research and the search for generalizable knowledge, extraneous forces in the environmental context (e.g., internal and external organizational politics, media influence, and other pressures that may be indirectly related to the decision at hand) are not highly influential on evidence-based medical decision making as opposed to management. Clinical decision making is typically enacted between the physician and the patient and is focused on the particular patient's circumstance and the clinician's knowledge of evidence and clinical judgment.

That said, it would be inappropriate to assume that context plays no role in medical decision making – a key contention that has motivated the work of Upshur (2000, 2002, 2003). Upshur's 2003 study demonstrates the influence of patient demands for particular therapies that in some cases caused clinicians to make suboptimal decisions; those that were inconsistent with the best available evidence. Feinstein & Horwitz (1997) also asserted that randomized control trials do not account for individual clinical situations, emphasizing that highly controlled environments are not necessarily the conditions, or the context, within which clinical decisions are made. While context is considered by some in EBM, they do not necessarily have the strongest voice, given that adherence to evidence generated by randomized control trials remain a mainstream gold standard of evidence. And, some scholars also believe that evidence generated by rigorously controlled design, should be held as more weighty than clinical judgment (Naylor, 1995).

Health care management decisions are also largely influenced by internal organizational conditions and external forces in the environment. This is substantiated by the value placed on local data/evidence. Understanding the context, both internal and external to the organization
within which decisions are made, is a key component to making effective health care management decisions.

While health care management decision making may be influenced by internal and external conditions, there may also be variation in the motivation for using evidence. Unlike medicine, where evidence is meant to be used purely for conceptual or for problem solving reasons, management decision making may involve or invoke evidence for other reasons; including instrumental (using research for problem solving-specific issues, which appears to be aligned with the assumptions in the literature), conceptual (utilizing research for general enlightenment), and symbolic (or the strategic use of evidence, for example, to legitimate decisions) (Amara et al., 2004; Beyer & Trice, 1982; Lavis, Ross, & Hurley, 2002). Weiss (1979) has identified seven models of research utilization on the part of decision makers that highlight these differences including knowledge-driven, problem-solving; interactive, political, tactical, enlightenment, and research as part of the intellectual enterprise of society. Denis, Lehoux, and Champagne (2004) outline five knowledge utilization models that stem from some of these utilization models. Table 2 outlines the main uses of research as defined in the literature.

**Proposition 3:** The rationale for utilizing evidence in decision making differs for medical and management decision making.

Table 2

<table>
<thead>
<tr>
<th>Type of Use</th>
<th>Definition</th>
<th>Referenced by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge driven</td>
<td>Basic science research has relevance to public policy. There is an assumption that basic research moves into application.</td>
<td>Weiss (1979); Denis et al. (2004)</td>
</tr>
<tr>
<td>Instrumental, problem solving</td>
<td>Involves acting on research in specific/direct ways</td>
<td>Weiss (1979); Beyer and Trice (1984); Lavis et al., 2002; Amara, Ouimet, &amp; Landry, 2004; Denis et al.</td>
</tr>
<tr>
<td>Type of Use</td>
<td>Definition</td>
<td>Referenced by</td>
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<tr>
<td>-------------------------</td>
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<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Conceptual, enlightenment</td>
<td>Involves using research results for general enlightenment; results influence actions but in an indirect way</td>
<td>Weiss (1979); Beyer and Trice (1984); Lavis et al., 2002; Amara et al., 2004; Denis et al. (2004)</td>
</tr>
<tr>
<td>Symbolic, tactical</td>
<td>Using research results in ways to legitimate and sustain predetermined positions</td>
<td>Beyer and Trice (1984); Weiss (1979); Langley, 1989; Lavis et al., 2002; Amara et al., 2004; Denis et al. (2004)</td>
</tr>
<tr>
<td>Interactive, deliberative</td>
<td>The utilization of evidence as part of a process that involves experience, political insight, social technologies, and judgment</td>
<td>Weiss (1979); Denis et al. (2004)</td>
</tr>
</tbody>
</table>

**Maturity of Empirical Research in Evidence-Based Management as Compared to EBM**

The direct comparison of evidence-based management and medicine is not as straightforward as suggested by some scholars (Stewart, 1998; Young, 2002); the direct comparison by Reay et al. (2009) revealed these discrepancies and demonstrated that while the concept of evidence-based management has had a presence in management literature since the 1930s, there has not been substantial progress toward empirical study into these processes in the management literature (Reay et al., 2009). In particular, the majority of the literature found in their systematic review (greater than half of the articles retrieved) was identified as level 6, or low-level evidence based upon expert opinion.

In 1990 fewer than 100 articles on EBM were retrieved on MEDLINE (Straus, 2006; Walshe&Rundall, 2001), and in 2006 there were several thousand peer-reviewed articles (Straus, 2006). Interestingly, the mid-1990s exhibited increased attention to evidence-based management in the literature (likely due to the popularity of EBM); however, as noted earlier, this work was categorized predominantly as opinion pieces (Reay et al., 2009). Empirical studies have thus under-addressed how evidence may or may not be brought to bear in health care management.
decision-making processes. All this is not to say that challenges and disagreement do not exist in EBM; however, it is apparent that EBM has far surpassed evidence-based management in its maturation as a field of study, particularly related to the conduct of empirical research.

Literature to date in evidence-based management has predominantly focused on opinion and calls to action with regard to evidence-based management (Reay et al., 2009). Many authors have referenced the EBM movement in that there is a shared purpose to apply proven evidence in practice to improve decision outcomes (Kovner&Rundall, 2006; Kovner et al., 2000; Stewart, 1998; Pfeffer& Sutton, 2006; Walshe&Rundall, 2001). In principle, the concept of applying what research has yielded as the best known approach to an identified issue appears to be reasonable. However, the shortage of empirical research into evidence-based management has resulted in superficial admonition toward health care managers who “ought” to put evidence into practice. Assumption is inherent in the claims that evidence-based management is not being practiced, as a result of the absence of sufficient empirical study to substantiate whether this is in fact the case, and subsequently, the impact on decision outcomes.

The underlying rationale for EBM has been to reduce variation in practice, or the Knowledge Translation gap (or KT gap), that exists between proven evidence and what is actually put into practice. Ultimately, it is expected that reducing variation in practice will improve patient outcomes, where proven evidence exists (Straus & McAlister, 2000). The concept of narrowing the KT gap between research and practice is echoed by management scholars (Rynes, Giluk, & Brown, 2007). While the motivation of evidence-based decision making is shared, the medical literature has focused on quantifying the application of evidence into practice and thus demonstrating that EBM can yield improved results for patients (Fakhry,
Trask, Waller, & Watts, 2004; Leape, Berwick, & Bates, 2002; Naylor & Guyatt, 1996; Sim et al., 2001 are just a few examples).

There has also been attention in the literature on how to evaluate the implementation of EBM. For example, tools have been developed and evaluated, including clinical practice guidelines (Deurenberg et al., 2007; O'Keefe, 1997; Pilling, 2008), feedback, reminders, and education programs to narrow the knowledge translation gap (Davis et al., 2003). While more effort and study is required, it is clear the EBM has become significantly well developed over time as opposed to evidence-based management which has not addressed interventions (Reay et al., 2009).

What is fundamentally different between the EBM and evidence-based management, is that EBM has developed far beyond calls to action, and has in fact isolated and identified variations in practice, and has progressed in terms of attempting to minimize KT gaps (Straus, Tetroe, & Graham, 2009). Proponents of evidence-based management, on the other hand, do not appear to have generated evidence that suggests where evidence utilization gaps exist. Further, it is not apparent that studies/interventions have been designed to narrow the hypothesized gaps. Current literature thus leads to the conclusion that evidence-based management has been stalled at the level of focusing on opinions and calls to action in the absence of an in-depth review of what constitutes the evidence that would be appropriately applied in the context of evidence-based management (Reay et al., 2009).

If the focus of evidence-based management is the uptake of research evidence in management practice, then the field knowledge translation in health care (KT) or implementation science could be of great service/utility in moving knowledge into action in health care
management settings. KT in health care and the evidence-based management movement was born predominantly out of concern for persistent variation in clinical practice. There are many lessons that management can draw upon from the field of KT in clinical practice; both with regard to quality of evidence that should be put into practice, and also the methods by which researchers and practitioners can be brought together to facilitate evidence-based management.

As a result, innovative and creative methods must be sought to bring evidence to practicing clinicians, managers or other decision makers in order to overcome barriers to change (Straus et al., 2009). The KT literature in health care has evaluated different methods of closing the evidence to practice gap in health care, including audit and feedback, decision support tools, continuing education, and others, as some strategies by which to bring new evidence to practitioners (Straus et al., 2009). In a similar fashion, these types of strategies could be applied to health care management. It is important to note that while the most effective methods to ensure KT in medicine have yet to be found; it would still behoove health care management researchers to learn from existing scholarship. The lessons of KT research in health care can be leveraged by management researchers interested in understanding the process of evidence-based management and determining how evidence may or may not be used, and whether or not the use of evidence-based management principles and processes in fact improve decision making.

According to Aram and Salipante (2003, p. 190), “the researcher-practitioner gap, consists of the apparent tension between rigor and relevance, between the particular and the general. The challenge of narrowing the gap consists of generating knowledge that mitigates the apparent tension between these criteria.” The tension between excellence and relevance is also echoed by Frenk (1992, pp. 1397–1398), “Excellence means the strict adherence to a series of research rules that give objective validity to the results … The second value, relevance to decision
making, is the ability of research to take on problems that require a solution. For research to be relevant in decision making, more than one possible solution must exist, each with a different degree of effectiveness; also, there must be some uncertainty as to the nature and effectiveness of the solutions. Thus research produces knowledge, which reduces uncertainty. The decision maker may then utilize such knowledge, together with other considerations to address the problem.”

The notion of balancing relevance and rigor is at the heart of the discussion of levels of evidence. Generalizable evidence, or Big E evidence, would be considered by some to be consistent with evidence-based medical assertions of randomized trials or other forms of highly controlled scientific studies applicable to an individual patient's required care plan. On the other hand, relevant evidence could be conceptualized as local organizational performance data that may more likely directly inform organizational management decisions, or a case study experience of a like organization undergoing a similar circumstance.

While the concept of relevance and rigor brought forward in the literature, we argue that the distinguishing features among types of evidence is not rigor, rather it is the notion of generalizability versus contextualized evidence. We assert that both generalizable and contextualized evidence are rigorous forms of evidence, and that the key differentiator among evidence is relevance to the decision at hand, be it in clinical or management decision making.

**From Theory to Practice: Factors that Influence Evidence-Based Decision Making**

The ways in which research is designed, and how results are presented, are critical to encouraging uptake. According to Beyer and Trice (1982, p. 608) “the most persistent observation … is that researchers and users belong to separate communities with very different
values and ideologies and that these differences impede utilization.” The concept of the two-communities echoes his statement as it encompasses the notion that decision makers/managers and academics have differing, and often opposing, perspectives, motivation, and language (Jacobson, Butterill and Goering, 2003). Researchers and practitioners conceptualize problems in different ways, and thus conduct their work differently. Thus the two communities metaphor illustrates an epistemological and practical divide between the academic and practice arenas. Arguably the polarity in views and approaches must be reconciled at some level in order to overcome some of the critical barriers to the uptake and implementation of evidence in practice in micro- (clinical) or meso-(organizational) levels, as demonstrated through EBM and evidence-based management.

There are numerous barriers and facilitators to the use of research evidence in decision making identified in the literatures on EBM and KT that may be applicable and relevant to the use of evidence in management decision making. According to Mitton, Adair, Mckenzie, Patten, and Perry (2007), barriers to the utilization of evidence in decision making include individual level barriers such as lack of experience and capacity for assessing evidence, mutual mistrust, and negative attitude toward change. According to SantessoandTugwell (2006) individual characteristics have been deemed to influence the use of evidence, including variation in incentives and motivations to change, lack of communication and contact with researchers, negative feelings about research and its use, lack of awareness about relevant research and a lack of skills to apply and use research. On the other hand, facilitators on an individual level include: ongoing collaboration, values research, networks, building trust, and clear roles and responsibilities, and organizational facilitators include: support and training, sufficient resources, authority to implement change and readiness, and collaborative research partnerships.
(Santesso & Tugwell, 2006). From an organizational perspective, barriers to evidence-based decision making include an unsupportive culture, competing interests, and frequent turnover.

Communication barriers are also deemed critical to restricting the use of evidence, including poor messenger choice, information overload, academic language, and non-actionable messages (Mitton et al., 2007). Conversely, communication facilitators include face to face communication, involving decision makers in planning and design, clear summaries of research findings, implications and relevance, tailored to audience, relevance, knowledge brokers, and a credible source opinion leader (Mitton et al., 2007). Timing barriers also exist including differences in decision maker and researcher timeframe, and limited time to make decisions, and the converse facilitators include sufficient time to make decision, and defining short term objectives to satisfy decision maker requirements (Mitton et al., 2007). Systems and structures may also be barriers to evidence-based decision making, including, insufficient resources and/or time to include research in decision making, lack of access to research, data and analysis, and a culture not conducive to evidence-based decision making. (Santesso & Tugwell, 2006). There are also cases where the evidence itself is at the root of the lack of uptake. For example, a lack of timely or relevant research, poor quality of that research, it is in inaccessible or non-useful format, or the fact that there is too much research for individuals to keep up with (Santesso & Tugwell, 2006).

Of what is known about the barriers to and facilitators of evidence-based clinical decision making, there are likely many lessons for evidence-based management. What has been learned through KT clinical research is that the existence of evidence is critical, but it is insufficient on its own to inspire action or change (Kitson, Harvey, & McCormack, 1998). It has been argued that changing practitioner behavior is difficult, despite the rigor of evidence that might suggest
otherwise (Kitson et al., 1998). This is also acknowledged in the management literature, according to Rynes et al., (2007, p. 987), “for evidence-based management to take root, it is necessary – though far from sufficient, that managers be exposed to, and embrace scientific evidence.” Table 3 compares evidence-based management and medicine.

Proposition 4: Despite their differences, and the particular complexities inherent in each, some of the concepts from EBM may apply evidence-based management.

Table 3

**Evidence-Based Medicine and Evidence-Based Management**

<table>
<thead>
<tr>
<th></th>
<th>Evidence-Based Medicine</th>
<th>Evidence-Based Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>“Evidence Based Medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of EBM means integrating individual clinical expertise with the best available external clinical evidence from systematic research” (Sackett et al., 1996)</td>
<td>“An evidence based approach to health system management is the conscientious, explicit, and judicious use of current best reason and experience in making decisions about strategic interventions. The relevant skills include identifying emerging opportunities, precisely defining management challenges or opportunities, data collection, proficiently searching and critically appraising relevant information from published and non-published sources, and then deciding whether and how to use this information in practice” (Kovner et al., 2000, p. 10).</td>
</tr>
</tbody>
</table>
| **Types of Evidence**   | - Literature (research) with an emphasis on the evidence hierarchy; RCT is viewed as gold standard but not assumed to be most appropriate in every situation  
                           - Clinical experience, judgment, experience, etc. (Sackett et al., 1996; Straus, 2006) are also brought to bear | - Management research (Rousseau, 2007)  
                           - Clinical evidence (Shortell et al., 2007)  
                           - Experience, local evidence, judgment (Kovner et al., 2000; Kovner&Rundall, 2006) |


<table>
<thead>
<tr>
<th><strong>Impetus for focus: why is evidence-based decision making deemed important?</strong></th>
<th>Evidence-Based Medicine</th>
<th>Evidence-Based Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>- To decrease variation in practice between proven evidence and what is implemented – to minimize the knowledge translation gap (Sackett et al., 1996; Davis et al., 2003; Straus, 2005)</td>
<td>- The use of evidence is believed to enhance accountability, organizational performance and to support the practice of EBM in health care institutions (Kovner et al., 2000; Walshe &amp; Rundall, 2001; Rundall et al., 2007; Shortell et al., 2007)</td>
<td></td>
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<table>
<thead>
<tr>
<th><strong>Limitations to implementation</strong></th>
<th>Evidence-Based Medicine</th>
<th>Evidence-Based Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Limits of the quality of the evidence itself</td>
<td>- The culture of management does not necessarily value the use of evidence nor foster the capacity for managers to be able to critically assess and implement evidence in decision making</td>
<td></td>
</tr>
<tr>
<td>- Evidence might not exist</td>
<td>- Decisions themselves are heterogeneous and thus do not lend themselves to more standardized approaches as dictated by the strict application of evidence (Walshe &amp; Rundall, 2001)</td>
<td></td>
</tr>
<tr>
<td>- It is difficult for clinicians to keep up with the volume of research generated on a daily basis</td>
<td></td>
<td></td>
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<tr>
<td>- Capacity gaps in clinicians' ability to effectively appraise the literature to know what evidence is sufficiently robust to implement (Sackett et al., 1996; Santesso et al 2006; Mitton et al., 2007; Virgilio et al., 2007)</td>
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<td></td>
</tr>
</tbody>
</table>

**Future Research Directions**

Given the current gap in evidence on evidence-based management, a research agenda fundamentally rooted in addressing evidence-based management in a more focused way is required. This could begin through exploration of the definition of evidence, and how it may or may not be brought to bear in management decision making. Understanding how this process occurs in practice will serve to strengthen existing literature and future research aimed at demonstrating how to address the application of evidence in decision making, and designing interventions to evaluate the effectiveness of those decisions. Without embarking on research to
explore these fundamental issues, evidence-based management will not progress to the same level as EBM.

Conclusion

Literature to date on evidence-based management in health care has focused a great deal on admonishing managers to utilize evidence in their decision-making processes, and to apply the same principles from the clinical/medical field in their approach to evidence-based decision making (Kovner et al., 2000; Shortell, Rundall, & Hsu, 2007; Walshe & Rundall, 2001). Several comparisons between EBM and evidence-based management in health care settings have appeared in the literature. Arguably however, these comparisons have oversimplified the case for the adoption of evidence-based management in health care settings by not sufficiently accounting for the differences in evidence brought to bear in decision making and the context within which these decisions are made. Furthermore, the literature calling for evidence-based management has been largely based on opinion (Reay et al., 2009). This is in contrast to EBM that, as a field, has moved forward in isolating evidence to practice gaps and further, has evaluated methods by which to narrow those gaps.

Fundamentally, for evidence-based management in health care settings to evolve, clarity is first required regarding what evidence is and how it is used (or not) in the context of organizational decision making. Subsequent research might then focus on the contingencies of evidence-based decision making and the conditions in which research evidence serves to contribute to optimizing decisions, and outcomes. Knowledge translation tools and techniques in health care may be leveraged to enable evidence-based management to be realized in health care management.
CHAPTER 2: THEORETICAL FOUNDATIONS OF DECISION MAKING

Introduction

Before delving into evidence based decision making, it is important to understand decision making processes and what is known about these processes in the literature. This review will explore whether or not, and how, evidence has played a role in these models. The literature reviewed in this chapter includes the voluminous management decision making literature spanning both individual and group level decision making, which are important to address as they inform the proposed exploratory study, but are not necessarily optimally linked. This review does not include the vast evidence related to medical/clinical decision making. Individual decision making literature is applicable to decision makers; however, in strategic decision making, individuals rarely make highly significant strategic decisions. Thus the group decision making literature is also relevant, if not more so, to this study of strategic decision making. The review will also include related literatures in evidence based management in general and in healthcare settings, and evidence based medicine, in order to set the stage for exploration into evidence based strategic decision making.

Decision making theory

There is a broad spectrum that could summarize a large component of the decision making literature; organizational decision making has tended to “accept a dichotomy between rather clear and focused sequential processes on one end and dark and tangled “anarchie” processes on the other” (Langley, et al., 1995). On one end there is the cerebral rationality of sequential theories; these types of theories may be deemed “intelligence-design-choice”

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1 This review will not provide a comprehensive review of the literature related to medical/clinical decision making given the vast amount of work already conducted in this area, and its tangential nature to the main focus of this dissertation which is on strategic decision making, the role of evidence (or not) in strategic decisions.
sequences wherein decision making may be decomposed into a series of simple programmed steps (Langley, et al., 1995; Cray, et al., 1991). This conception is deeply rooted in the classical decision making models of the “rational” or “economic” man (Simon, 1955). It presumes that decision makers make choices based on a review of multiple alternatives and that they formulate a conclusion that maximizes the intended outcome. This view has been criticized as naïve and idealistic, as it assumes that all decision makers have access to all of the information of relevance to the decision, and make a rational choice among alternatives. In response to these criticisms, the “administrative man” was introduced to represent decision makers who confronted “bounded rationality” when making decisions. Bounded rationality in decision making (Simon, 1947) supports the concept that the actual behaviours of managers in terms of searching for alternative solutions to organizational problems is limited by cognitive, informational and resource constraints.

Moving across to the opposite end of the spectrum, the notion of an anarchical approach to decision making has been conceptualized, and is commonly noted in the garbage can model of decision making theory (Langley, et al., 1995). In this case, decision making is deemed a highly chaotic process and the concept of anarchy is explanatory of a process that is random, highly opportunistic and serendipitous (Langley, et al., 1995). Moreover, this theory acknowledges personal interests and political gaming in terms of coalition building, bargaining, persuasion and other tactics that all play a part in the decision making process. Anarchical decision making thus emerges from a chaotic process where the convoluted nature of decision making is intricate and highly contextual (Cray, et al., 1991).

Emerging from the aforementioned longstanding conceptualization of decision making literature is a relatively newer theory of naturalistic decision making (Baker, Ginsburg and
Langley, 2004). This theory is focused on how individuals use their experience to make decisions in field settings; specifically, decision makers are thought to rely heavily on observation in the real world as a result of time pressures, uncertainty, ill-defined or shifting goals, and other complexities (Baker, Ginsburg & Langley, 2004). In addition, this approach conceptualizes the decision maker as proactive versus the more passive depictions as individuals who wait for an issue to arise that demands a decision - rather than pursuing new decision making approaches to issues (Baker, Ginsburg & Langley, 2004). Furthermore, the concept of naturalistic decision making recognizes the role of the leader and acknowledges the influence of his/her experience, where senior managers are seen to use expectations, formed through accrued experience, to check against errors (‘recognition primed decision making’). Naturalistic decision making further negates the classical, rational decision making framework by positing that competent decision makers in fact do not follow rules and reasoning procedures when making decisions and that “experts succeed by knowing when not to follow the rules…they ‘learn to perceive’” (Baker, Ginsburg & Langley, 2004).

There is a growing literature on the role of intuition in decision making (Dane & Pratt, 2007). According to Khatri and Ng (2000), intuition is deemed a subconscious process that can be seen as a form of intelligence. It is viewed as a complex and quick response that is not to be misconstrued for emotion or as being biased (Khatri & Ng, 2000). Accordingly, intuitive synthesis, which is a combination of judgment, past experience and “gut feeling” is hypothesized to be positively related to positive organizational performance, in particular in unstable environments, when decision making is critical for an organization, and is thus considered to be crucial for strategic decision making in particular (Khatri & Ng, 2000). It is interesting that intuition is viewed as a stabilizing force in dynamic and complex environments, whereas
proponents of the “rational man” would likely see this viewpoint as its antithesis. The following figure attempts to depict the varying perspectives on decision making based on the literature.

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**Figure 1. Decision making continuum.**

<table>
<thead>
<tr>
<th>Rational Man</th>
<th>Decision making continuum</th>
<th>Anarchy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical Decision making theory</td>
<td>Bounded Rationality</td>
<td>Naturalistic decision making</td>
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**Strategic decision making theory**

This study focusses on strategic decision making in acute public hospitals, and thus, the rationale must be clarified. Adding to knowledge regarding strategic decision making has long been considered important: almost 30 years ago, Mintzberg, Raisinghani and Theoret (1976), asserted that “it is at the top levels of organizations where better decision-making methods are most needed; excessive attention by management scientists to operating decisions may well cause organizations to pursue inappropriate courses of action more efficiently” (p. 246). Strategic decision making is important because of the profound and substantial effect it has on firm performance (Mueller, Mone & Barker, 2007), and strategic decisions are “high stakes” that stand to define or re-define both the work and the outcomes of the organization (Cray, et al., 1991; Elbanna & Child, 2007). According to Harrison (1996), “strategic decisions set the tone and tempo of managerial decision making for every individual and unit throughout the entire organization. If the decision making at the top of the organization is ineffective, then the choices made at lower levels of management will be the same. Similarly, if top management’s strategic
choices tend to be successful, it reflects favourably on choices made in other parts of the organization.” (p. 46). They are conceptualized as less routine and more chaotic than other decisions, given that strategic decisions respond to internal stimuli and external influences (Elbanna & Child, 2007). If the premise of evidence based management is to heighten decision making quality through a systematic approach that identifies and utilizes evidence, then it is of paramount importance to single out and focus on high impact, strategic decisions.

There are numerous points of view from which it is possible to explore strategic decision making. From a deterministic perspective, strategic decisions and processes express adaptation to opportunities, threats, and other environmental influences (Papadakis, Lioukas & Chambers, 1998). Alternatively, from a strategic choice perspective, the role of the decision maker him/herself is central to the strategic decision making process (Papadakis, Lioukas & Chambers, 1998). There has also been variation in the conceptualization of strategic decision making, with various aspects of these processes having been emphasized (Papadakis, Lioukas & Chambers, 1998). According to Papadakis, et al. (1998), two key areas have emerged: the first is focused on the strategic decision making process as a sequence of steps, phases or routines (e.g. Minzberg et al., 1976). The second is focused on process dimensions, for example comprehensiveness and rationality (e.g. Dean & Sharfman, 1996); centralization, formalization/standardization; political/problem solving; or other dynamic factors. In response to the varying models and approaches to strategic decision making, a series of integrative frameworks have been put forward. For example, Papadakis, et al. (1998) focus on the decision itself, the strategic or management choice and the environmental determinism perspective in terms of the factors influencing strategic decision making. The conceptual framework is seen in Figure 2.
This integrative framework recognizes important elements of decision making including decision maker(s) characteristics, the nature of the decision, the decision making process, and the influence of context (both internal and external forces). Further, it accounts for the roles of the individual and groups in strategic decision making. According to the literature, often groups of individuals within organizations are involved in strategic decision making, particularly when decisions are complex. For example, decision making has been studied extensively on the part of top management teams, (Milliken & Vollrath, 1991; Walters et al., 2001; Arendt et al., 2005; Olson, et al., 2007; Paroutis & Pettigrew, 2007), middle management (Wooldridge, et al., 2008), and members of the board of directors (Walters, et al., 2001; Miller-Millesen, 2003; Brown & Iverson, 2004). While it is recognized that there are many individuals involved, ultimately it is
the CEO (reporting to the Board of Directors) who is most responsible for these high stakes and highly resource intensive decisions, which have a profound influence on the organization (Walters, et al., 2001).

External influences are significant to strategic decision making. According to institutional theory (DiMaggio & Powell, 1983; Kaissi & Begun, 2008), organizations are susceptible to isomorphic pressures that can result in imitation and the adoption of strategies developed by other organizations like themselves. Mimicry is seen to be driven by coercive pressures, information based imitation, and rivalry which are hypothesized to lead to waste and loss of resources, as opposed to systematic analyses that would lead to efficiency and improved organizational performance (Kaissi & Begun 2008). On the other hand, imitation may also be undertaken when the benefits are clear from others, and thus the benefits are ready to be reaped without the risk of failure and additional cost.

The literature has supported evidence based management as a means to mitigate the widespread adoption of fads and fashions which are based on imitation rather than evidence and rational decision making procedure (Kaissi & Begun, 2008). That said, it is also plausible that the use of evidence in strategic decision making in and of itself could be a result of isomorphic pressures, stimulated by the drive for organization to enhance their legitimacy or for symbolic reasons to support previously made decision (Langley, 1989). Furthermore, the recent attention that evidence based decision making has garnered could be seen by some as a fad or fashion. These claims however are unsubstantiated, given the lack of research in evidence based management in hospital strategic decision making (Reay, et al., 2009).
Elbanna and Child (2007a) set forth an integrative model of strategic decision making process, and they include the notion of rationality within the process, as depicted in Figure 3. It is important to note that decision specific characteristics are included here, in addition to external environment and the firm characteristics. However, there is no overt discussion about the characteristics of the decision maker as is included in Figure 2 (above) from Papadakis et al., (1998), however the concept of rationality in the process is included.

![Rationality of Strategic Decision-Making](image)

*Figure 3. Integrative model of strategic decision making. (Elbanna & Child, 2007a)*

The concept of “rationality” as a central tenet of the strategic decision making process is further elaborated by Elbanna and Child (2007b) in that it is seen to complement intuition, and political behaviour. This could be seen as echoing the general decision making literature in that it incorporates rational decision making processes while simultaneously recognizing other influences. At this juncture, it is thus appropriate to acknowledge strategic decision making research related to intuition, and the context of intuition within an integrative model that recognizes the various factors that influence strategic decision making. As stated earlier, intuitive
synthesis is deemed a product of judgment, past experience and gut feeling, which is hypothesized to have a stabilizing influence on strategic decision making in the face of dynamic and chaotic environments (Khatri & Ng, 2000).

![Intuitive Synthesis in strategic decision making. (Khatri & Ng, 2000)](image)

*Figure 4.* Intuitive Synthesis in strategic decision making. (Khatri & Ng, 2000)

There are also approaches that blend an ordered and phased approach to decision making while accounting for external environmental influences. For example, the model by Mintzberg et al., (1976) of strategic decision making, as seen in Figure 5, includes three phases in seven central routines. This model of strategic decision making is highlighted in that it exhibits some of the key principles and processes of evidence based decision making, in terms of identified structure and a procedural movement through phases; but simultaneously does not adhere to the absolute rigidity of rational decision making theory. The first, identification phase, of strategic decision making includes: decision recognition (problems and opportunities that present themselves in ambiguous ways) and the diagnosis routine (when a decision process is initiated and resources are mobilized to attend to it). The second is the development phase, which
encompasses: the search routine (the search for alternatives), the design routine (which includes custom-made solutions and those with modified solutions). The selection phase is the third component which encompasses: the screen routine (which includes the removal of solutions that are not viable to reduce the number of alternatives), the evaluation-choice routine (which is comprised of judgment, bargaining and analysis), and the authorization routine (when a decision must move through the hierarchy for approval).

Figure 5. A general model of the strategic decision process (Mintzberg, et al., 1976)

Rational decision making theory proposes an ordered approach to decision making. Interestingly, it has been argued that the use of a rational process may not be incompatible with the volatile, political nature of strategic decision making processes in organizations; “one cannot dissociate formal analysis from social interactive and political aspects of decision making”
In fact, it is argued that formal analysis and socio-political processes are closely related, as a result of the requirement to “convince” others of a decision and the reliance on others to execute the decision (Langley, 1989). Langley (1989) highlights that formal analysis is undertaken for the following purposes: 1. information (to gain a better understanding of issues), 2. persuasion and communication (in a situation where individuals are convinced of the decision and focus their energy on persuading others), 3. direction and control (with the intended focus of ensuring that a particular problem is dealt with or that a particular decision is implemented), and 4. symbolism (in order to legitimize activities), thus illustrating the inextricable links between analysis and politics.

Mueller, Mone and Barker (2007), after testing Langley’s (1989) conceptualizations of formal analysis, contend that politics should not play a role in decision making; they found a negative association between political uses of rationality and firm performance in dynamic environments. That notwithstanding, Mueller et al. (2007) did find that analysis for symbolic purposes (beyond being purely for information), to garner organizational support for a decision, is beneficial, in addition to the use of analysis for control which also yielded positive results in turbulent environments. The contradiction between Langley (1989) and Mueller et al., (2007) in terms of recognizing the role of politics and decision making can be reconciled, however, if the levels of analysis are isolated. Specifically, Mueller et al., (2007) only focused on top management teams, whereas Langley (1989) focused on multiple levels of the organization (management, staff and line) and thus a series of interaction patterns demonstrating that the linkage between the use of formal analysis and political dynamics surrounding the analysis is dependent upon the roles of those involved and organizational structure.
Generally, studies have illustrated that procedural or process rationality (Dean & Sharfman, 1996) are positively related to effective decisions, with the caveat that environmental factors influence decisions. There have also been studies conducted which are focused on formal analysis, the evaluation of alternatives, and those involved in strategic decision making in various sectors and the outcomes of those decisions (Langley, 1989, 1991; Nutt, 1999, 2000, 2002), thus exhibiting an explicit and methodical process to decision making. While there has been attention paid to the processes of strategic decision making (Mintzberg, et al., 1976; Nutt, 2000; Dean & Sharfman, 1996), there has not necessarily been a specific emphasis on the role or placement of “evidence” in that process, in various hospitals in particular.

Harrison’s (1996) process perspective on strategic decision making proposes that a formal, rational choice approach should lead to more optimal strategic decisions. The process begins with an assessment of the strategic gap position of the organization, which can result in three possibilities. A positive position, meaning that the organization’s strengths outweigh its weaknesses and it is capable of exploiting environmental opportunities and protecting itself from threats; a negative position, the corollary of the positive position; and a zero strategic gap (which is viewed as a theoretical rather than a plausible scenario). Once the strategic gap assessment has been made, the decision making process begins with a series of functions including objective setting, searching for alternative solutions to address the gap, comparing and evaluating these alternatives, making the choice, implementing the decision and follow-up and control. According to Harrison (1996), a strategic decision making process is a composite of the strategic gap analysis and decision making processes. Figure 6 depicts the conceptual framework, which encompasses the two processes and also accounts for the dynamic nature of strategic decision making or “process flows”. The primary flow is deemed critical to the integrity of the decision
making process, the corollary flow may be bypassed, but not without some negative impact on
the total process and the information flow which is proposed to provide a specialized
contribution to the strategic decision making process.

Figure 6. The Strategic Decision Making Process. (Harrison, 1996)

The aforementioned conceptual models and theories of decision making and strategic
decision making may imply the use of evidence within their processes, but I argue that they have
not necessarily address the role of evidence in a manner that is sufficient for the development of
a conceptual model for evidence based decision making. Below, I outline the conceptual models
that are specifically aimed at addressing evidence based management.
Evidence Based Decision Making Theory

Evidence based management may be seen as aligned with a formal analysis approach to strategic decision making. Kovner and Rundall (2006) propose the following conceptual framework for the process of evidence based management decision making. Figure 7 depicts the eight stage decision making process of evidence based management.

**Figure 1. The Eight Step Decision-Making Process**

1. Identification of a problem
2. Identification of decision
3. Allocation of weights to criteria
4. Development of alternatives
5. Analysis of alternatives
6. Selection of an alternative
7. Implementation of the alternative
8. Evaluation of decision effectiveness

Adapted from Robbins and DeCenzo (2004, 106).

*Figure 7. The Eight Step Decision-Making Process. (Kovner & Rundall, 2006)*

The framework posed by Kovner and Rundall (2006) is very much aligned with the classical decision making concept of the “rational man”, and it assumes that the decision maker is rational and uses logic to assign values, order preferences, evaluate alternatives and make decisions that will maximize the achievement of organizational goals (Daft & Marcic, 2006). It sets forth a series of methodological steps that a decision maker would follow in an evidence based decision making process. The framework is a step wise process, however embedded within it is the recognition that decision making is in fact a process and not merely a choice.
between two or more options. The conceptual framework highlights steps 5 (analysis of alternatives) and 6 (selection of an alternative), thus it may be useful to reference when seeking to determine whether or not managers, when making strategic decisions, think about finding existing evidence that would inform the decision. This conceptualization is very consistent with the definition by Lindstrom (2003), that successful evidence based decision making in healthcare includes the thought process of considering evidence, determining its existence, and whether or not it will be used. It is noteworthy that steps 5 and 6 are seen as essential to informing a feedback loop, which is important for managers to consider when learning from experience and making future decisions, as this is viewed as an iterative and evaluative process.

As previously noted, evidence based decision making processes may be seen as presuming a rational approach to decision making. Baba and Hakem Zadeh (2012) in their work toward a theory of evidence based decision making suggest that there is a multi-level approach to decision making that accounts for the dynamic process through which evidence is obtained, interpreted and used in decision making. In contrast to some of the very rational models proposed for evidence based management decision making (e.g. Kovner & Rundall, 2006, depicted in Figure 7) Baba and Hakem Zadeh (2012) contend that rational models of decision making that propose an ordered approach, from defining a problem to making the optimal decision, is primarily a theoretical rather than practical construct. They reconcile these processes into a model of evidence based decision making, included in Figure 8.
**Study Purpose**

While Figures 7 and 8 proposed theories of evidence based strategic decision making, it is not apparent that research studies have been conducted to explore whether or not and how evidence based strategic decision making is enacted in practice. This study is focused on evidence based management decision making in healthcare, and in particular, on strategic decision making. Chapter 1 demonstrated that the concept of “evidence” in healthcare management is somewhat inconsistent in the literature, and there is a paucity of empirical research focused on defining what evidence means from the perspective of healthcare managers themselves. Second, it appears from the literature that managers are admonished to implement evidence based management, primarily as a result of the perception that evidence based management is not being enacted. However, there does not appear to be evidence to substantiate this claim.
Frishammar’s (2003) case study research on information use in strategic decision making is the closest piece of work to this study. The main premise was that information is used in decision making to reduce or remove uncertainty, and thus the information seeking behaviour of senior executive decision makers across four private sector organizations was conducted. Frishammar (2003) distinguished between the concepts of “soft” (“visions, ideas, cognitive structures”) and “hard” (“hard/numerical”) information, but did not provide any specific definitions or refer to any existing rubrics of evidence definition or classification, thus the concepts of “information” and how it relates to “evidence” in strategic decision making remain essentially and critically undefined.

This study is aimed at uncovering the definitions of and perspectives on evidence from the standpoint of those who are encouraged to use it, in order to situate the perceptions of management decision makers about evidence and evidence based management and what has been claimed in the literature. Exploratory research into the processes of how evidence based management in strategic decision making is enacted (or not) in organizations would make an important contribution. It would help inform both theorization and practice relevant issues related to evidence based management by studying whether or not and how it is enacted in strategic decision making in hospitals. The dissertation study is focused on this concept in the context of public hospitals in Ontario, Canada, in response to the literature focused on comparing evidence based management and evidence based medicine. Chapter three will address the study methods and design.
CHAPTER 3: STUDY METHODS

Introduction

An exploratory research approach, using a grounded theory approach was deemed most appropriate for this study, given the aim was to uncover how evidence based strategic decision making occurs in public hospitals in Ontario, Canada (Charmaz, 2006; Cresswell, 1998). While there has been some empirical research on why and under what conditions organizational decisions are made (strategic and other), further investigation, with an emphasis on the conditions within which evidence based strategic decision making in healthcare is implemented, is warranted. Further, the barriers and facilitators to evidence use have been proposed, however, clarity around what evidence means in healthcare organizations is still required, from the perspective decision makers, who are expected to follow evidence based management practices.

The study aimed to address the following research questions:

Research question 1: How is evidence conceptualized by strategic decision makers in public hospitals?

Research question 2: How is evidence (as defined by strategic decision makers) used by public hospital decision makers in strategic decision making?

Research question 3: When/under what conditions, and why, do decision makers use evidence in strategic decision making in public hospitals?

Research question 4: What are the perceived barriers and facilitators to the use of evidence in strategic decision making from the perspective of public hospital decision makers?
Methods

An exploratory qualitative research study was undertaken in order to gain a rich understanding and definition of what evidence means, and how it is used from the perspective of those who are meant to use it in strategic decision making. A grounded theory approach supported the study goal: to elucidate a theory relating to how, when/under what conditions, and why evidence (as defined) is used in strategic decision making, and what the barriers and facilitators are to the use of evidence.

According to Leonard and McAdam (2000), management research is predominantly based on deductive theory testing and positivistic research methodologies (p. 181; Alvesson & Willmott, 1996), and as a result, many studies fail to provide deep insights and rich data into organizational practice (Leonard & McAdam, 2000). According to Perry and Coote (1994), “in many areas of social sciences existing deductive, theory testing research methods do not adequately capture the complexity and dynamism of the context of organizational settings” (Leonard & McAdam, 2000, p. 181). In addition, it is suggested that there is a “paucity of systematic and rigorous evaluation” in many management studies and that there is a need for more theory grounded and contingency based research rather than being restricted to deductive approaches (Leonard & McAdam, 2000; Wilson & Durant 1995).

The use of a qualitative approach was utilized given the relative infancy of research to date on evidence based strategic decision making and the lack of clarity surrounding what evidence based management means and how it is enacted (or not) in healthcare organizations (Charmaz, 2006; Cresswell, 1998). The findings from this exploratory study are aimed at informing future inductive and deductive hypothesis driven research in evidence based
management by uncovering how evidence based management is (or is not) enacted in hospital settings during strategic decision making.

The grounded theory approach undertaken was consistent with Charmaz’s (2006) social constructivist approach; “a constructivist approach places priority on the phenomena of study and sees both data and analysis as created from shared experiences and relationships with participants and their sources of data” (p. 130). In congruence, constructivists emphasize questions around “how” and in some cases “why” participants construct meaning to particular situations. The purpose of such activity is for the researcher to attempt to get as close as possible to the “inside” of a situation, given the realization that it cannot be replicated. That said, a constructivist approach moves individuals in situations, through theorizing the interpretive work for participants but also acknowledges that the resulting theory is an interpretation.

According to Leonard and McAdam (2000), utilizing a social constructivist approach, the use of interpretivist application in place of a deductive method is more appropriate for the rich complex research required to establish a theory of organizational practice. Consequently, “in this approach it is important to listen to practitioners and to focus on meaning and reflection of the complex issues observed: ‘interpretivist researchers see language as the means of communication in which there may be differences and nuances of meaning’” (p. 182). This approach is consistent with the observations made in Chapter 1 which outline that the existing literature does not appear to identify what “evidence” and “evidence based decision making” mean to healthcare decision makers, and the reasons why they perceive evidence is applied or not in the practice of strategic decision making in healthcare organizations.
Study Context:

The study was conducted in hospitals in the Greater Toronto Area in Ontario Canada. The Canadian healthcare system is publicly funded, with federal government transfers of funding for each of the provinces. While healthcare is formally federally funded, provinces maintain significant authority and autonomy over the allocation of those funds and the structure of their individual provincial healthcare system. Some of the provinces, for example, British Columbia and Alberta have moved toward a highly centralized system, having merged a series of hospitals and created a single, integrated Board, to oversee the activities. Ontario has remained a relatively decentralized system as compared to its western counterparts, but has developed structures to help facilitate more care continuity and organizational collaboration so that the healthcare system can function more fluidly as a “system”. In particular, the Ontario Ministry of Health and Long Term Care (or “Ministry”) created a series of 14 Local Health Integration Networks (LHINs) divided by geographic boundaries in March 2006. These entities are meant to support cross collaboration among the organizations within their boundaries. These healthcare networks include the continuum of care, from acute care, long term care, rehabilitation and community care access centres. The LHINs are responsible for planning, integrating and funding local health services including, hospitals, community care access centres, community support services, long-term care, mental health and addictions services and community health centres. While the LHINs do not directly provide services, they oversee approximately $20.3 billion health care dollars. In terms of governance, the LHINs operate as not-for-profit organizations with provincially appointed boards of directors. Each of the 14 LHINs has its own board of directors.2

2http://www.lhins.on.ca/home.aspx
Study participants and organizations:

The initial phase of this study engaged five recognized thought and professional leaders in the Ontario healthcare system in one-on-one interviews to identify the four acute adult hospital sites in the study. The five key informants were identified through consultation with University of Toronto faculty leadership (including to the student’s supervisor) and were discussed by the student’s committee to arrive at final approval of the individuals to proceed with interviewing as key informants. The focus of the key informant interviews was to identify two academic health sciences centres and two community teaching hospitals for inclusion in the study. It is important to note that the key informants were individuals in the healthcare field, but do not work in hospitals, therefore there was no overlap between key informants and the study participants in the hospital sites. The range of both acute academic health sciences and acute community hospitals was selected to illustrate healthcare strategic decision making in the two predominant acute hospital models in Ontario. These organizations are sufficiently large (each hospital has more than 500 inpatient beds in addition to emergency and outpatient visits and have operating revenues that are approximately $250 million or higher) that strategic decisions are imperative for them and the broader healthcare system, making it likely to obtain informed responses to the research questions. By choosing two of each type of acute adult Ontario hospital, the goal was to obtain a representative idea of whether or not and how evidence is utilized when strategically deciding about clinical program expansion, partnerships and quality as a priority in the two types of adult acute hospitals in the Greater Toronto Area.

Once the sites were identified, the Chief Executive Officers (CEOs) were the initial point of contact to obtain consent for their organizations to be included in the study. All four of the selected sites agreed to participate. As the first step of participation, the CEOs agreed to be
interviewed. While it is recognized that there are many individuals involved in strategic decision making, ultimately it is the CEO who is most responsible for these high stakes and highly resource intensive decisions, which have a profound influence on the organization (Walters, et al, 2001), emphasizing why it would be most beneficial to begin with CEO. It is also important to note that many studies have begun by focusing or contacting the CEO when embarking on studies related to strategic decisions (Ashmos et al., 1999; Walters et al., 2001; Arendt et al., 2005; Olson et al., 2007). Through a snowball sampling technique (Patton, 2002), the CEOs identified othersenior executives within their organizations who were very heavily involved in the strategic decision making process. As a result, the sample was broadened with data from a larger participant base. This study was expressly focused on senior healthcare executives, and how they define evidence, and whether or not and how it is brought to bear in strategic decision making. It is acknowledged that other individuals at varying levels of the organization may be involved in informing strategic decisions, but this study was focused on how evidence is defined by senior/executive hospital strategic decision makers, and whether or not and how evidence is brought to bear on strategic decisions. Explicit interest lay in the role that evidence may play in how executive decision makers make high impact strategic decisions that potentially have a profound impact on their organizations and/or on the broader healthcare system.

Multiple interviews were conducted within each of the four organizations in the study, with a total of 18 interviews conducted as part of the study. Nineteen individuals were contacted, but one individual declared himself too busy to participate (the interview was re-scheduled eight times over the course of seven months before the individual formally withdrew). Table 4 outlines the interview participants in the study.
Table 4

*Interview participants*

<table>
<thead>
<tr>
<th>Hospital site</th>
<th>Number of interviewees identified (including the CEO)</th>
<th>Total interviews conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site 1 (Academic 1)</strong></td>
<td>6 (CEO, Exec VP Chief Nursing Executive, Exec VP Chief Medical Officer, Exec VP Chief Administrative Officer, VP Research; VP Development)</td>
<td>5 (1 declined)</td>
</tr>
<tr>
<td><strong>Site 2 (Academic 2)</strong></td>
<td>2 (CEO, Exec VP Chief Nursing Executive)</td>
<td>2</td>
</tr>
<tr>
<td><strong>Site 3 (Community Teaching 1)</strong></td>
<td>3 (CEO, Exec VP Chief Nursing Executive, Exec VP Chief Medical Officer)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Site 4 (Community Teaching 2)</strong></td>
<td>3 (CEO, Exec VP Chief Nursing Executive, Exec VP Chief Medical Officer)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total hospital site interviews</strong></td>
<td><strong>14</strong></td>
<td><strong>13</strong></td>
</tr>
<tr>
<td><strong>Key informant interviews</strong></td>
<td><strong>5</strong></td>
<td><strong>5</strong></td>
</tr>
<tr>
<td><strong>Total study interviews</strong></td>
<td><strong>19</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

All participants were interviewed to provide their perspectives on what evidence means, and the process of how evidence was brought to bear on strategic decision making in the context of a particular strategic decision. In order to capture the breadth and scope of strategic decisions and perhaps uncover whether or not the use of evidence a priori is reliant on the type of decision that is made, three specific decisionsituations were explored for each of the four organizations. The three decision situations were: 1. a strategic decision about expanding a particular clinical service/program; 2. a strategic decision about developing a partnership with another organization(s), 3. a strategic decision to prioritize “quality” as a component of the organization’s strategic plan. In terms of the breadth of strategic decisions as outlined: the clinical program expansion is about strategic core business/services decisions;the partnership decision is about strategic external opportunities in the market, and the quality decision is about strategically refocusing operating structures. These types of strategic decisions were deemed to represent that varying types of relevant strategic decisions that healthcare organizations face.
While they were all viewed as important, they are substantially different. By identifying a variety of types of strategic decisions, the study was aimed to enable the opportunity for the potential elucidation of whether or not different processes and factors brought to bear on different types of strategic decisions.

After the interviews were conducted and analysis was undertaken, the student sent requests to each organization for documents that traced the decision making process for triangulation of the interview themes. Each organization provided the student access to documents, either to be gathered in person at the organization, or they were scanned for the student. These documents included meeting minutes, business plans, research studies, strategic plans, internal presentations, and annual reports. The purpose was to triangulate the results after interview saturation to ensure that the emerging themes from the interviews were consistent with documented accounts of the decision making process. In total, 64 documents were analyzed by the student and supervisor independently and then through consensus meetings final themes were developed for all of the data collected.

The number of interviews conducted in the study is consistent with the generally accepted sample size of 20-30 (Cresswell, 1998), or until theoretical saturation is reached (Charmaz, 2006). According to Charmaz (2006), “theoretical saturation refers to the point at which gathering more data about a theoretical category reveals no new properties nor yields any further theoretical insights about the emerging grounded theory” (p. 189). Saturation of the data in this study was achieved when both the interviews and document analysis yielded the same themes with no new information. Document analysis was conducted for the decisions which served to triangulate the findings from the interviews, therefore supplementing the findings and enhancing the rich data set (Charmaz, 2006). Multiple individuals were interviewed regarding
the same decision, thus enabling triangulation of findings, in addition to document analysis to provide further triangulation (Cohen & Crabtree, 2008).

After each interview took place (which were all recorded as consented by the participants), they were transcribed verbatim. Once transcribed, all identifying data was anonymized. The sites and participants were numerically coded through a scheme that only the student was aware of. All hard copies of the anonymized data were kept in a locked file cabinet, and there was only one key, which was in the possession of the student. All electronic files were saved on an encrypted network. This protocol was reviewed with all participants. The consent form that outlined anonymization was provided in advance of the interviews and was reviewed with the participants and signed before the interview (and recording) began. The participants were also aware that they could stop the interview at any time. The study consent form is included in Appendix A.

The student and supervisor independently coded the transcripts and arrived at individual coding schemes. Qualitative analysis software (e.g. InVivo) was not used. The student devised a Word document coding scheme that were used to capture the themes as they emerged and went through several iterations as the sub-themes and codes developed. This process was used as a result of personal preference, in order for the researcher to be truly ensconced in the raw data and not feel that the software provided a distancing layer.

The student and supervisor met on several occasions throughout the data collection process to arrive at the final coding scheme through consensus. In all decision cases every individual who carried decision responsibility was interviewed. Saturation of the data based on the interviews was reached when no new themes emerged. Once all of the interviews were

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3 The one individual who withdrew from the study was not central to the decision making process and decision accountability.
conducted document analysis took place. Each site was requested to provide copies or access to documents related to the strategic decisions. The types of documents provided ranged from meeting minutes, strategic plans, business plans and published and non-published research. All of the documents provided were individually coded by the student and supervisor. A series of consensus meetings took place to arrive at the final coding scheme. Saturation was reached when no new themes arose from the interviews and document analysis.

**Interviews: Data collection and analysis process**

Data collection took the form of semi-structured interviews and was consistent with the grounded theory approach, including ongoing revisiting of codes, transcripts, memos and categories as they developed (Charmaz, 2006). The interview guide was also revised with modest changes (wordings and probes) as the study progressed, consistent with the methodological approach. The interview guide can be included in Appendix B.

The initial set of interviews was focused on asking CEOs to describe the strategic decision making process that his/her organization experienced with particular focus on the decisions identified. By focusing on a particular strategic decision, questions surrounding the use of evidence (as conceptualized) in that decision, influences on the decision, and the reasons why evidence was used will be probed and uncovered. Additionally, the responses informed whether or not and how evidence is brought to bear in strategic decision making and the perceived barriers and facilitators of doing so. CEOs were asked to identify those individuals from the organization who were involved in the decision making process relating to clinical program expansion, partnership, and quality. This enabled the sample to be broadened, through a snowballing technique (Patton, 2002) to identify key individuals based on the processes
embarked upon within each institution. The same interview guide was utilized for the CEO and the additional individuals identified.

Analysis was conducted by two individuals independently (the student and primary supervisor) and then themes and codes were discussed resulting in consensus findings. Focused coding was conducted site by site, decision by decision, to synthesize larger amounts of data and identify frequent references. Axial coding was then conducted to develop categories and sub-categories. Over the course of the analysis phase of the study the two additional members of the student’s committee were engaged in progress updating during the analysis and received data synthesis reports in addition to access to the complete data sets and coding schemes. Data collection and analysis were completed when saturation was reached and agreed to by the student and committee members.

**Documents: Data collection and analysis process**

Document analysis took place after the interviews were completed, as according to Charmaz (2006), documents are constructed within a particular purpose in a specific context. The analytical process was consistent with textual analysis in the grounded theory methodology (Charmaz, 2006). Documents were obtained from the study participants who were asked to provide any substantiating documents leading up to and that that were generated during the time of the decision making for the decisions in the study. In total, 64 documents were analyzed for the three decisions in each of the four sites. The documents included meeting minutes, strategic plans, data templates, journal articles, and business plans relating to the decisions.

Document analysis served to uncover the conceptualizations of evidence and evidence based strategic decision making, the uses of evidence, the processes of evidence in evidence
based strategic decision making, and the barriers and facilitators to the use of evidence in strategic decision making. By embarking on document analysis, it was possible to further triangulate the interview findings and to trace a codified process of evidence based strategic decision making in healthcare organizations. The document analysis process was consistent with the interview data analysis. Focused coding was conducted site by site, decision by decision, to synthesize larger amounts of data and identify frequent references. Axial coding was then conducted to develop categories and sub-categories. Themes and codes were developed by two individuals (student and primary supervisor) independently and then review meetings were held to discuss the themes and codes and arrive at consensus coding schemes. Data collection and analysis were completed when saturation was reached and agreed to by the student and committee members.

**Figure 9. Site Identification, Data Collection and Analysis Process**

Rigour was ensured by sampling a number of professionals and documents, in addition to consensus meetings conducted by the student and supervisor to review themes and individual
coding schemes (Barbour, 2011). Furthermore, exemplary quotes have been identified from various respondents, each associated with an anonymized code (Barbour, 2011). The student undertook ongoing memoing (Charmaz, 2006) throughout the entire process of data collection and analysis, in addition to attempting to bracket (Schwandt, 2007) preconceived ideas about the data and potential themes. These procedures were undertaken to attempt to ensure that the study conclusions were arrived at through the integrity of the collected data. Through memoing and bracketing, and the independent analysis and coding of the interview transcripts and documentation by the student and supervisor, a structure was in place to ensure that the data emerged and that the codes and themes were represented as consistent with the data. A new conceptual framework also emerged, which is included in Chapter 7 (Barbour, 2011).
PREAMBLE TO THE STUDY FINDINGS (CHAPTERS 4-6)

Chapters 4-6 are organized by this study’s four research questions and will include the findings from the interview and document data.

Chapter 4 focuses on findings relating to the conceptualization of evidence, and what evidence as defined by the decision makers was brought to bear on the strategic decisions examined. Barriers and facilitators to the use of evidence in strategic decision making (research question 4) were identified through these discussions, resulting in the presentation of the results in one chapter.

Chapter 5 focuses on the process of how evidence, as conceptualized by the decision makers in this study, was brought to bear on strategic decisions. The strategic decision making process will be traced through individual decision trajectories to demonstrate how evidence was brought to bear in the various phases of the decision making process.

Chapter 6 is the final findings chapter dedicated to identifying under what conditions and why evidence was brought to bear on the strategic decisions in this study. The rubric of the uses of evidence presented in Chapter 1 will be used to demonstrate why evidence was brought to bear on the strategic decisions in this study.
CHAPTER 4: HOW IS EVIDENCE CONCEPTUALIZED BY STRATEGIC DECISION MAKERS IN PUBLIC HOSPITALS AND WHAT ARE THE BARRIERS AND FACILITATORS TO THE USE OF EVIDENCE?

This chapter sets forth the findings for research questions 1 and 4: 1. How is evidence conceptualized by strategic decision makers in public hospitals? 4. What are the perceived barriers and facilitators to the use of evidence in strategic decision making from the perspective of public hospital decision makers? This chapter addresses question 1 and will then move to question 4.

The first research question of the study related to understanding how evidence was conceptualized by the strategic decision makers. Interviews began with the CEO to identify three types of strategic decisions that their organization undertook. The first type of decision was a clinical expansion, the second was a partnership, and the third related to strategically prioritizing quality. The findings from research question 1 are reviewed by decision type and at the end of each set of decision types there is synthesis of the common themes and divergences based on each site. Once all three decision types are reviewed, research question 4 is addressed on the barriers and facilitators to the use of evidence. Before delving into the cases individually, by type of decision and then noting their similarities and differences, the overall themes that emerged from the data will be outlined.

To elucidate how the decision makers in this study conceptualized evidence, the study participants were asked what was brought to bear on the particular strategic decisions. Decision makers were then asked to identify or distinguish the evidence from the entire array of factors brought to bear in making each of three strategic decisions (1. Clinical expansion, 2. Partnership, 3. Prioritization of quality). Study participants distinguished among various types of evidence. The subthemes that emerged from the data are included in Table 5 (these concepts were
consistent across all sites and all interviews). The analysis is organized by type of strategic decision, and within the columns, the list of what was brought forward is organized by internal and external sources. The differentiation of internal and external sources emerged from the data, and was thus used as an organizing framework for the emerging themes. An example of an external evidentiary source includes published research from an outside organization, and an internal evidentiary source includes business case development.

Table 5

Types of Strategic Decisions and Evidence Brought to Bear

<table>
<thead>
<tr>
<th>Type of Strategic Decision</th>
<th>Evidence for the decision</th>
</tr>
</thead>
</table>
| Decision 1: Clinical expansion | Internal:  
- Business case: targets, quality measures, capacity planning, demand/supply analysis, volumes, patient acuity, budget, marginal analysis, financial analysis, cost benefit/cost neutrality, research productivity  

External:  
- Literature/best practice in managing patients, best available clinical research evidence |
| Decision 2: Partnership | Internal:  
- Existing patient need (market share, volumes, etc.) to sustain the initiative  
- Business case development balancing best practice and cost, human resource planning, capacity for growth, cost efficiency/effectiveness  

External:  
- Best medical evidence  
- Clinical literature, best practice |
| Decision 3: Prioritizing quality | Internal:  
- Existing activity and focus on quality in the organization – analysis of results  

External:  
- Learnings from operations management literature – quality improvement, standardization  
- Studies of error and quality, safety in healthcare |

4 The items included in the table are not summarized in any particular order. They are purely reflective of the emerging themes in the data.
In addition to some commonality surrounding the evidence brought to bear on the strategic decisions in the study, it was noted that for any one decision more than one type of evidence was used, for example: medical research, best practice, business case analyses, and learnings from other organizations. The following interview quote is illustrative of the results:

“The Strategic Plan said we will grow the program with new funding, so we were very clear about that. So knowing that there was a critical problem, there was not going to be resources internally, but then we met with the Ministry and outlined the issues and what we needed to be viable. .. It is a very highly specialized area and because it is good for patients and it is good for the health care system because this intervention has better outcomes for the patient and it is much more cost effective. Our academic mandate would also be strengthened to become leading edge if we have this expertise.”

Given that several types of evidence were brought forward to influence any particular decision, interview probing focused on whether or not there were particularly influential or salient concepts that informed a strategic decision to be accepted. Consistently, it was noted that an amalgam of evidentiary sources influenced a particular decision and that not one piece of evidence was the sole factor involved in taking the decision. Moreover, the knitting together of several sources was most important in terms of deciding whether or not to pursue a decision.

“You know what I would say that at the end of the day we looked at it as a composite as opposed to any one. That from our perspective and we define our strategic priorities based on a series of criteria that all of them had to be met. It was not as if one could tip the balance between, or are all of them the same as far as their strengths, no, but all of the criteria need to be met... I guess it depends on what decision you’re making. I think the decision as to what we wanted to focus in on strategy in the first place, there wasn’t one piece of data that really stood out.

You know what I think it is a composite again, you have got to factor in... I mean for us to demonstrate that numbers have gone up in something and nobody being aware of it, you know you kindof think what is that all about. So I would not diminish the importance of external broad based consultation, I would not, but it is soft and the opinion you get may depend upon the mood the individual was in the day they were interviewed and so if you phone someone down at Hopkins, and you may get them on a bad day, so it is softer but you know when you are talking are comparative information and peer reviewed dollars and high impact publications which is very solid and is available internationally, there is actually more out there that allows you to compare to your peers within the country and outside, it is just work to get it.

The strategic decision makers in this study considered an amalgam of several forms of evidence in decision making, in addition to experiential knowledge, intuition and judgment.
While a series of forms of evidence were sought, experiential knowledge, intuition, and judgment were considered crucial in the absence of and/or to be used in concert with formal evidence and criteria when making strategic decisions. While the decision makers acknowledged the important role of judgment, experiential knowledge and intuition, they did not see these as forms of “evidence” in their definitions. These were factors that were relied upon in the absence of evidence or to be used in concert with evidence, but were not in and of themselves defined as evidence brought to bear in decisions. This is important to note, as the decision makers appeared to be primarily focused on obtaining evidence as they defined it, which is outlined in Table 1 and will be traced case by case in the forthcoming section. The following excerpts demonstrate this:

“No, absolutely, you certainly do need data and decisions are always based on fact and data per se. It’s the entire package that comes together. Your initial concepts start off with what your perceptions and impressions are and what your biases may be in your consultative processes. But at the end of the day when you want to make a final decision you have to incorporate the facts and the facts are very important in decision making. Many times fortunately or unfortunately strategies often is directed by finance as well. The strategic decisions that we’re making also have a real big financial implication to the organization. And often you’re forced to make strategic decisions based on issues with finance. So absolutely, costing, cost is one main area that you need data to make a decision, demographics, flow, absolutely. We’re very data driven as an organization and we use decision support here on an on-going basis in everything that we do based on … which in turn leads them to strategy and so on, so absolutely. I can’t recall the last time we made a significant strategic decision without the data to back it.”

Case review by decision type

Individual decision cases will be reviewed by type (clinical expansion, partnership and quality). Following the cases, a synthesis of the commonalities and differences on the evidence brought to bear on the strategic decisions in each organization will be provided.

Consistent with the levels of evidence rubric in Table 1, the evidence brought to bear to inform decision making is not homogeneous. There are variations in both the source of evidence, and how they are generated. To demonstrate this nuance and to differentiate the evidence and that informed the decisions in the study, a typology was developed and a generic version offered
in Table 6. The purpose of the typology is to assist in demonstrating the varying types of evidence that are used to inform strategic decisions as the analysis of each decision case is reviewed. It encapsulates that the source of what is used to inform decisions is both internal and external to the organization, which was an organizing framework that emerged during the data analysis as seen in Table 5 earlier in this chapter. Strategic decision makers in this study required that evidence be obtained or generated for strategic decisions to be made. While the generic typology is offered below, examples are brought forward in later sections from each of the three decision cases in the study to illustrate the types of evidence and criteria described as being used in the decision making process.

Table 6

Generic typology of what is brought to bear in strategic decision making

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
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</thead>
<tbody>
<tr>
<td>e.g. clinical RCT research</td>
<td></td>
<td>e.g. business case</td>
</tr>
</tbody>
</table>

The data demonstrate an amalgam of evidence that is brought to bear on making a strategic decision in the acute hospitals in this study, and there are similarities and differences among the decisions and decision makers. The following case by case review will demonstrate the evidence brought to bear on each type of strategic decision (clinical expansion, partnership and quality) from three different hospital sites in the study.
Clinical Expansion Decisions

Site 1: Clinical Expansion

In this case, there was an opportunity to grow a clinical area where there was already existing expertise in the organization. There was a system need for patients requiring this specific level of complex care, and the government wanted to ensure that this care could be provided. The hospital management team was faced with deciding whether or not to expand the program, and based on the data on hospital capabilities, patient complexity and volume, and data demonstrating international recognition in the area the hospital leadership decided to adopt the expansion of the clinical program. According to the CEO:

“I think the data drove it. The data evaluation of our research catalogue and our clinical acumen really and presentations by the program saying this is where we should focus. Now some of our other programs didn’t have something that was going on to that degree that stood out. While they’re still important to the organization, there’s always that balance between not wanting to make something sort of recognized as superior to the other, but we didn’t have other things in some of our other programs that were quite as acclaimed.”

“So we saw data on current activity in terms of tertiaryness, quaternaryness, we saw some data on complexity of patients, different CMGs, we certainly saw data high risk patients, and the percentages that could be managed [at different care complexity levels]. We certainly examined data on our [related clinical areas]. As a part of the strategic plan we looked at the medical manpower planning in terms of our current specialists, just a wide overview.”

Despite the fact that the hospital was already invested in this clinical area, a thorough review was conducted, including the development of a detailed business case by the clinical program to ensure that the decision to increase that investment would be appropriate for the hospital. The evidence brought to bear in this case, included an external scan of the research production in the area, the validation of external leadership and brand recognition in the field, in addition to the internal review of patient complexity and capabilities to develop a plan to meet

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5For the purposes of maintaining the confidentiality of the study organizations, the details regarding the specific clinical expansion are reported generically. This is in accordance with the study consent protocol
the patient demand. The following typology will outline the evidence brought to bear and
differentiate whether or not it was generated internally or external to the organization.

**Typology of the evidence brought to bear on the strategic decision to expand the clinical program:**

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcomes of care when practices were adopted in other jurisdictions</td>
<td></td>
<td>Business case development including volumes, patient acuity, cost</td>
</tr>
</tbody>
</table>

**Site 2: Clinical Expansion**

In this case of a clinical expansion, research evidence was conclusive about the positive outcomes for patients through a particular care model, but business case development to garner the evidence to assess the capacity, resources, and feasibility was crucial to the decision. This clinical expansion, while building on existing capacity, was seen by the study respondents as highly resource intensive. In addition to clinical research evidence, the development of internal evidence through creating a business case was crucial for the decision to be taken. As described by the executive vice president of clinical programs:

> “There will be discussion about, you know, strategically is this something we want to do. And in that case it is a little easier at least the first step in a sense easier, because if it is best practice for your own patients. You strategically are always going there. The only reason you would not go there as if you just absolutely could not do it for either people resource. You know, we just do not have the people to do it or we can’t afford it. So that would be a decision and they would when they bring that through, they would bring that through as a part of their business case, right, would be well, we have the people or here is how we get the people and here is how we are going to pay for it. You know, here’s the numbers because you kind of know historically and know the numbers that you will be talking about. So they would bring that forward as really as a business case and best practice.”

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6 For the purposes of maintaining the confidentiality of the study organizations, the details regarding the specific clinical expansion are reported generically. This is in accordance with the study consent protocol.
Typology of the evidence brought to bear on the strategic decision to expand a clinical program:

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCTs on the effectiveness of new treatment brought forward at clinical conferences</td>
<td>Business case development including volumes, patient acuity, cost</td>
<td></td>
</tr>
</tbody>
</table>

The data excerpt demonstrates that the clinical research results were a necessary imperative and impetus for the decision. However, this evidence was used in concert with the internal evidence generated to ensure that the decision could be approved by the CEO and executive team. It was necessary for the organization to develop evidence to demonstrate appropriateness, viability and strategic alignment before embarking on this significant organizational investment. The existence of external research evidence alone was insufficient for the executive team to make this decision.

Site 3: Clinical Expansion

In this case, the clinical program existed at the hospital, and there was a need to either invest or divest in the program. The government created a series of new requirements for this clinical program to ensure sufficient resources to maintain case volume and complexity. In order for the hospital leadership (CEO and vice presidents) to decide whether or not to expand the program, evidence was required. Therefore, this was generated by the clinical leadership, in particular the physician leader and clinical administrative director. Most notably, evidence was generated through business case development internally, to respond to the external demand for increase services. According to the CEO:

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7For the purposes of maintaining the confidentiality of the study organizations, the details regarding the specific clinical expansion are reported generically. This is in accordance with the study consent protocol.
“So [the program] came up with the business plan. There was an opportunity in that the government had developed a new model for [this clinical program] where they would only fund programs of a certain size so was either do it to the size or get out of the game. They developed the business case that looked at what it would cost, what would we need for health human resources, what would the quality metrics be, all of the stuff you would expect.”

“We would need to know how does it fit with government policy or LHIN policy or [Government] policy. We would need to know what is the service gap, we are trying to improve. We would need to know what are the quality implications like are we begin of because a lot of specialized surgery need scale and do we have the right scale, can be get the right scale. We would need to know what are implications in terms of human resources, in terms of financial resources like, etc. Because we are a teaching hospital, what we are the linkages with the university, how does it fit with the university plan and you know that sort of stuff.”

Typology of the evidence brought to bear on the strategic decision to expand a clinical program:

<table>
<thead>
<tr>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality metrics on outcomes related to this clinical treatment in order to develop internal quality metrics for service delivery standards</td>
<td>Business case development including volumes, patient acuity, cost</td>
</tr>
</tbody>
</table>

Site 4: Clinical Expansion

Similar to the previous clinical expansion examples, there was existing expertise related to a specialized clinical program housed at Site 4. The government identified a need for increased capacity in the area, which would require Site 4 to invest. During this time, the hospital CEO at Site 4 was in discussions with another hospital CEO to transfer the services out of Site 4 to the other hospital site. Due to the immediate need to expand the program, and the time it would take for the program to transfer and for capacity building, in addition to developing the teaching program, the government was not in favour of transferring the clinical program.

Internally, at Site 4, there was a division in terms of hospital leaders who supported the divestment of the program and those supportive of investment into the program. In order to

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8For the purposes of maintaining the confidentiality of the study organizations, the details regarding the specific clinical expansion are reported generically. This is in accordance with the study consent protocol.
reconcile the issue and reach a decision, the most relevant evidence brought to bear on the
decision were two business cases: one outlining the evidence for investment and the other
outlining the evidence for divestment. The business cases were evaluated based on an eight
criteria scale developed through a standardized decision making tool According to the executive
vice president and the CEO:

“Yeah it’s a very rigorous and thoughtful process. And the people that are involved in it don’t take the
involvement lightly. They’re very serious. That was our first time doing it...and they were taking it
extremely seriously. I think it was a combination because we knew from [the government], we had had a
meeting beforehand, that we were not meeting the bare minimum criteria. It was becoming clear that we
had to make a decision about it whether we were in or out and you can’t dabble in something for quality
reasons. I think it makes total sense. You need a critical mass to maintain your competencies and ensure
good outcomes. I think that preceded the full business case analysis. It helped bring it through that
process because the way that the process works is the programs themselves had to identify opportunities
one way or the other.”

“We were initially approached by [the government] that we needed another surgeon and to increase our
volumes in order to maintain our status as a specialty site. We also knew that we needed to hire another
surgeon in order to maintain our university teaching program. After some discussion and consideration,
and knowing that [another hospital] wanted to get into the business, I thought that it would be best for the
organization to transfer the surgeon to [that hospital] and to divest in the service. I took this to the senior
leadership table, and there were several opposed to this divestment. After much back and forth, we
decided in the end to keep the service and to hire another surgeon to expand the program.”

**Typology of the evidence brought to bear on the strategic decision to expand a clinical
program:**

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality metrics on outcomes related to this clinical treatment in order to develop internal quality metrics for service delivery standards</td>
<td>Business case development including volumes, patient acuity, cost to outline the cases for investment and divestment</td>
<td></td>
</tr>
</tbody>
</table>

**Conceptualization of evidence brought to bear on strategic decisions for clinical expansion cases**

For the clinical expansion in Site 1, the CEO and Executive Vice Presidents clearly
emphasized the role of internal evidence that was crucial to the decision. The business case
development and the impact on other services before the expansion would be supported at the
strategic level. This process was similarly described in Site 3, where the most influential evidence was the business case to demonstrate capacity and alignment. The CEO and Chief Medical Officer were clear that the clinical focus was one that was well entrenched in the organization (similar to Site 1), so that the evidence that was critical was the internal case to demonstrate the value and role of this new model of care.

This was a departure from the emphasis on the clinical effectiveness demonstrated by the role of this model of care for Site 2. The evidence brought to bear on the decision, particularly by the Executive Vice President responsible for programs was aimed at business case development for internal capacity planning but to demonstrate to the government that Site 2 was capable of implementing the expansion and providing broad service to provincial patients. While similar types of evidence were brought to bear in these examples, the emphasis of each type relative to the other were different.

Site 4 was an even greater departure from the previous 3 sites in terms of the conceptualization of evidence. In this case, evidence was also brought to bear on the decision in several forms, and as the CEO and Executive Vice President of Programs described, it was a highly complex and contested decision making setting. Several types of evidence were brought to bear and were evaluated based on evidence based criteria. In particular, the organization adopted a decision making model with weights along a series of ethical and value based criteria. The leadership team when faced with the two business cases aiming to inform the decision to either invest or divest in a program were rated along an eight criteria rating scale. Based on these results the final decision was made to invest in the program.
Partnership decisions

Site 1: Partnership decision

The study participants described that the research evidence demonstrated through randomized control trials and other clinical studies demonstrated the positive patient outcomes related to this particular therapy. The hospital had the internal capabilities to adopt this treatment, in particular, the highly skilled staff and physicians and the necessary equipment. Once the hospital demonstrated success with the program, discussions between the hospital executive vice presidents, CEO and medical and administrative directors began focused on partnering with other hospitals who did not have the expertise began. This would facilitate patients being transferred to Site 1 for treatment and then returned to their originating hospital. Despite the compelling research evidence, there was a need to develop internal evidence through a business case by the clinical program leadership in order for the decision to be assessed by the executive vice president and taken to the CEO and executive team for approval. The decision to pursue this partnership would not have come to fruition without the “burning platform” that existed, which was the strength of the research evidence into this therapy. According to the CEO and executive vice president of programs:

*It was driven by clinicians who were investigating new ways of doing business, discovered that this was a much, much better way of doing precisely this.*

*It is ultimately the clinicians. I must say I have a lot of respect for clinicians who can see that a new modality does offer new hope for patients, better outcomes. I can read the literature but I'm not practising in the front line anymore, so we really depend on our physicians.*

*So, [this clinical program] has a profound benefit on patients and that had already been proven, so that's probably the number one reason.*
Typology of the evidence brought to bear on the strategic decision to enter a strategic partnership:

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical research</td>
<td></td>
<td>Business case development including volumes, patient acuity, cost, and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>internal capacity</td>
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</tbody>
</table>

Site 2: Partnership decision

It is noteworthy that the partnership identified by this organization was the same example provided by Site 1. Interestingly, a very similar process was reported on the development of this partnership. At first, the clinicians brought forward this new method of care to the hospital and initiated the process with metrics developed to measure the success of the program. After the adoption and successful results, a business case was developed by the clinical leadership and executive vice president who brought it to the CEO and executive team. This clinical work was expanded to provide care to patients at different hospitals who met the criteria for requiring this treatment, who would be transferred to Site 2 for treatment and then repatriated back to their originating hospital.

The strategic partnership decision in this case was to develop a collaborative across a series of hospital sites in the Greater Toronto Area. The initial impetus for the decision was that clinical research evidence was demonstrating that the administration of a particular treatment to patients within a short time frame from the symptom onset could greatly improve the morbidity and mortality outcomes of patients. Increasingly, more attention was being drawn to the importance of the treatment and how much better the care was for patients based both on morbidity and mortality. Due to the strength of the clinical evidence, and the successes reported

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9 Specific clinical details regarding the partnership will not be included in order to ensure anonymity of the study participants
at other hospitals that implemented this treatment, the clinicians and administrators at Site 2 described that they decided to implement this treatment for their patients.

Despite the data demonstrating the benefits of the new treatment, the administration of this specialized treatment required clinical expertise and the appropriate equipment, which existed in only some hospital sites in the Greater Toronto Area. As a result, a collaborative was created to develop partnerships including site 2 (with the clinical capacity) and a series of other hospitals that did not have that capability (e.g. trained clinicians, resources and equipment). The partnership dictated that hospitals would automatically send their patients with the specific conditions to Site 2, which was equipped with the expertise and technology to administer the treatment, stabilize the patient. After stabilized, the patient would then be repatriated back to the hospital they came from, or to their local hospital, if they came to Site 2 directly from the ambulance. According to the CEO and executive vice president of programs:

“So, our clinicians who had been going to conferences and hearing about this and the positive outcomes for the patient and the effectiveness of the procedure led to efficiencies. The evidence was coming out very loudly that if they could get patients to receive this care you can save lives... So it was driven from evidence that there was a better way to do what we are doing. This goes back to strategy too; so new information will often change a strategy. Evidence in clinical trials, research, and demonstrated evidence by your colleagues that are having success doing it.”

“The literature said that the best care is urgent [treatment]. So, the first step was to do it here for all the patients who come to [our hospital], so we set that up which required the whole you know different model of care and whole different plan and that took quite a while to get that going because you need a whole team that is available on short notice to come kind of rushing into the hospital care for these patients”.

10 General ambulance transfer practice requires that patients requiring emergency care be taken to the nearest hospital emergency department. “The paramedics take the most life threatening cases to the closest hospital to get rapid treatment.” From: http://www.torontoems.ca/main-site/service/faq.html#Anchor-Why-6296 downloaded on Dec 27, 2012

In the case of a formalized partnership agreement was developed dictating that if a patient showed signs of the particular disease onset, they would be diverted to Site 2 for emergency specialized treatment. Then, after stabilized, the patient would be repatriated to their local hospital for care until discharge home.
Typology of the evidence brought to bear on the strategic decision to enter a strategic partnership:

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical research</td>
<td></td>
<td>Business case development including volumes, patient acuity, cost, and internal capacity</td>
</tr>
</tbody>
</table>

Site 3: Partnership decision

In this case\(^{11}\), there was existing expertise within the organization and an opportunity to differentiate Site 3 by expanding this specialty area, and merging it with another program, in order to develop a niche program. This partnership was focused on innovating new way of delivering patient care and approaching patients through a comprehensive approach. In particular, by bringing together two formerly separate but clinically linked programs into one, Site 3 was able to leverage resources and provide a more robust care delivery model. A business case was developed by the clinical program leadership, vice president and chief medical officer in order to demonstrate how this new partnership could provide better patient outcomes and also be sustainable from an internal perspective. According to the CEO:

*I think where I have seen an evolution is that increasingly the evidence we looked to is more robust. This is not a hospital where an articulate passionate clinician can stand in front of the meeting and get us to turn left in the absence of any evidence, and I think increasingly we are at a place where we are I mean we really we even are critical about the evidence to make sure it is right.*

Typology of the evidence brought to bear on the strategic decision to enter a strategic partnership:

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical research</td>
<td></td>
<td>Business case development including volumes, patient acuity, cost, and internal capacity</td>
</tr>
</tbody>
</table>

\(^{11}\)Specific clinical details regarding the partnership will not be included in order to ensure anonymity of the study participants
This example demonstrates the use of clinical research evidence being used in concert with business case and local evidence development in order to inform the decision on whether or not to proceed with the partnership. The data excerpts provide clarity that this was based on the evidence brought to the table and not only on the reliance of a physician attempting to persuade the executive team on making a decision.

**Site 4: Partnership decision**

The partnership at Site 4 as described by the participants was focused on the transfer of a rehabilitation unit out of Site 4 and into a specialized rehabilitation facility, with the development of a continued formalized relationship with associated resources for patient transfers. Given that Site 4 is an acute care hospital, there was discussion regarding whether or not this type of care was best provided at Site 4 versus at a specialized rehabilitation facility. The decision to transfer the unit was seen to be in the best interest of patients requiring the specialized care, but would also free up resources for Site 4 to be used for other types of care that are more acute in nature. The executive vice president took the lead on this work with the executive vice president at the rehabilitation facility. Once the business case was developed it was brought to the CEO for decision. According to the executive vice president at Site 4:

“I would say first and foremost it was the notion that patients would be better served by being treated within a rehab facility. Secondly, there was a financial attraction to it. We were able to negotiate with [the rehabilitation facility] an amount that still gave us a bit of a savings if you will, that was ongoing... To some extent space is a premium here... Anyway, I strongly believed it was the right thing to do.”

“We looked at our volumes, our finances and decided that this made sense for us. The LHIN was also very interested in new partnerships and we were one of the first to pursue this type of arrangement. We also believed that it was better for patient care to have them be cared for in a rehab facility rather than in an acute setting.”
Typology of the evidence brought to bear on the strategic decision to enter a strategic partnership:

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research studies suggesting that patient outcomes are heightened</td>
<td>Patient benefit, financial benefit</td>
<td></td>
</tr>
<tr>
<td>in specialized rehabilitation facilities rather than in acute settings</td>
<td></td>
<td></td>
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</tbody>
</table>

In this case there was an organizational opportunity for increased capacity in other clinical areas; however, if the evidence did not exist to demonstrate the patient care benefits the decision would not have been taken.

Conceptualization of evidence brought to bear on strategic decisions for a partnership

For site 1 and 2 the partnership examples were based on the same clinical expertise and expansion across the system, with a series of other organizations that did not have the same capability to provide the clinical service. For these two examples, the evidence brought to bear was first and foremost the clinical evidence suggesting the optimal care for patients based on morbidity and mortality. Business cases were crucial as described by the CEOs and Executive Vice Presidents at both hospital sites to ensure that this could proceed, but there was no doubt that once the evidence for patient care was made that the organizations were committed to doing what they had to do in order to proceed with these partnerships.

For Site 3, the partnership decision was more of an internal partnering between two existing programs aligning to create a unique model. The evidence brought to bear in this decision by the Chief Medical Officer and Program Chief was based on clinical research but also on a conceptual internal model based on the patients served by the hospital. Furthermore, the urgency of the model change was different than sites 1 and 2. For Site 3 this was a unique model that would differentiate Site 3, but patients would still receive the care that they required. For Sites 1 and 2, without the partnership, patients who had the criteria for care would still receive...
care, but it was arguably sub-optimal from the other hospital sites without the partnership in place. Site 4 was similar to Site 3 in terms of the urgency of the decision. While the Executive Vice President of Programs agreed that patients would be cared for in a more standardized and specialized environment, they would still receive good care at Site 4. The partnership served to support care and to simultaneously optimize the broader goals of the organization. The care impact was similar to Site 3, and certainly not as fundamentally different and impactful from a morbidity and mortality perspective as the partnership decisions at Sites 1 and 2.

**Quality decisions**

**Site 1: Quality as a strategic priority**

In this case, the hospital made a very large infrastructure investment to focus on quality patient care. There was an opportunity in the system for expansion of resource in quality; however, the decision to pursue this work was based on a thorough review of the evidence. This decision was quite resource intensive and was focused largely on the academic program focus for corporate quality prioritization. The decision required several meetings of the CEO and executive team to review the evidence brought forward on the case to create the infrastructure and strategically prioritize quality. The business case developed by the clinical leadership, in particular the Chief of Medicine, for why quality required investment and strategic prioritization was necessary for the decision to be taken. While the external research evidence was clear in demonstrating the importance of quality for the best patient care outcomes, an internal business case was crucial for the hospital to move forward with investing in developing quality infrastructure. According to the CEO:

*So when the opportunity came about to think about creating [this infrastructure], it absolutely in my mind we had to be [a lead]. Not to diminish all the roles of all the other hospitals....It only made sense that we*
be one of those leadership hospitals because it was right on our strategic goal, and it was right around leadership as opposed to implementing specific safety practices in your own hospital. It was leading a systems approach to things. So it fit very well within strategy.

Typology of evidence brought to bear on the decision to strategically prioritize quality

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
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<tbody>
<tr>
<td>Research demonstrating the role of quality improvement in improving patient care</td>
<td>Business case for opportunity, data, current state for opportunity readiness</td>
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</table>

Site 2: Quality as a strategic priority

According to the study participants, the organization placed a significant emphasis and strategic focus on quality after the CEO spent a significant amount of time learning about successes in other sectors (beyond healthcare) and reading the literature and lessons about inefficiency in healthcare. This decision was primarily CEO driven based on the personal passion for the importance of this work given all of the evidence demonstrating the importance of quality and the relative lag of the healthcare industry in prioritizing quality improvement and standardization across all activities in the organization. In this case the evidence upon which the decision was based was on external evidence demonstrating the important role of quality improvement and standardization, in addition to the internal organizational data demonstrating the need for improvement (current gaps that could be addressed with quality improvement and standardization). According to the CEO:

It was the sort of I guess as I reflected on it to realize that hospitals were way behind the rest of the world almost any other business you could be in was already way down the road on quality improvement and it was shocking actually that hospitals were not there and there are just so many opportunities that might come out of that so it just as I thought and I read. It became apparent to me that now is the time. That this was something that just had to happen in health care. You know, and at the same time you know there were fiscal pressures that you know we have with the economic downturn, things are even worse but
even before that we are already under fiscal pressure and I guess for me I was aware that hospitals were terribly inefficient and there really was opportunity for increased efficiency if we would only sit down and start designing what it was we were doing and I guess I’ve always been a fan of standardization and you know physicians have resisted standardization forever and therefore not done it, and there is no question that it is really expensive to not standardize. It is also unsafe and it is also bad for patient satisfaction and lots of other reasons why not standardizing is bad but it’s for sure expensive. So, you know, kind of everybody knows that and so that is for me that is all part of it. It is realizing that we could do a whole lot better and it really fits under the rubric of quality improvement.

**Typology of the evidence brought to bear on the strategic decision to prioritize quality improvement:**

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<thead>
<tr>
<th>Evidence</th>
<th>External</th>
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<tbody>
<tr>
<td>Research studies demonstrating the importance of quality and the impact on healthcare in terms of better patient care</td>
<td></td>
<td>Internal scan conducted, business case review</td>
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**Site 3: Quality as a strategic priority**

In this case, the organization arrived at prioritizing quality, and placing it prominently within their strategic plan. This was a result of the literature and external scanning activity in their corporate strategic planning process (led by the project director and CEO), which yielded the conclusion that quality was a critical focus for healthcare. There was strong research evidence that garnered broad attention at other healthcare institutions and the government, which suggested the relevance and importance of quality improvement in terms of patient benefit. Furthermore, internally, the organization appeared to have reviewed the concept of quality improvement, and it was viewed as relevant, important, and feasible from the internal analysis and business case that was developed. According to the CEO:

“The literature review and the environmental scan like the environmental scan and all of the feedback you see all are strategy planning documents looked at trends and the policy environment trends nationally and trends internationally and needs streams of quality and value kept coming up. I mean we wrote this in the middle of recession and value is pretty present and we had lots of conversation about really we want a public hospital in Canada to be talking about value, but in fact we have because we can only do what we can afford and we have to do it as well as we can. And so you know getting to this is was not you just a
particular board member saying I have got a vision - this came from that back and forth process of conversation with stakeholders and all the analysis that was done through the board.”

“We looked at government reports. We looked at LHIN reports, we looked at ministry of health quality reports, like all those organizations, and “it is quite a thick summary that in a paragraph we talk about trends.”

**Typology of the evidence brought to bear on the strategic decision to prioritize quality improvement:**

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<thead>
<tr>
<th>Evidence</th>
<th>External</th>
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<tbody>
<tr>
<td>External research studies suggesting that quality and value are important</td>
<td>Internal scan conducted, business case review</td>
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In this case, the study participants identified a series of pieces of evidence were brought to bear on the decision, including research studies from external sources, in addition to external documents generated by the government. Additionally, local business evidence that was generated by the organization was used to inform the decision.

**Site 4: Quality as a strategic priority**

In this case about quality, there was broad evidence described by the study participants that was brought forward through stakeholder feedback, internal and external data analysis and engagement in their strategic planning process which was led by the CEO, executive team and a consultant. Quality was viewed by the CEO and executive team as critical to the organization and this was demonstrated through external evidence, internal data looking at opportunities for quality within the organization. It was acknowledged that while the government had introduced legislation around quality improvement through the Excellent Care for All Act (ECFAA)\(^\text{12}\), but the organization had already prioritized quality prior to this work. The evidence was clear that

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\(^\text{12}\) The Excellent Care for All Act was new legislation for hospital accountability for quality improvement. It was introduced in Ontario in 2010.
quality improvement was critical for the hospital and that it needed to be a strategic priority given the highly influential internal and external evidence demonstrating the importance of quality. According to the executive vice president and chief medical officer:

“I would say that we were actually a bit ahead of the curve before the Government really came out with ECFAA. Even some of the public reporting we had been doing that, as many hospitals had, for quite a while on our website. We had a lot of things in order as far as our scorecards. Our quality strategic plan was in-place before ECFAA, probably a couple of years. And the way that we engaged the entire organization in developing that quality plan. This was two years ago before ECFAA. And so when ECFAA came about it was actually easier for us to comply because we had done so much work already.”

“I’ve been on Staff for 15 years or whatever. There’s no question it’s come to the forefront and I think people ... accountability is a big thing now in healthcare and accountability as it pertains to quality, outcomes, outcomes research and efficiencies, that whole thing. So I think there’s no question there’s a lot of emphasis that’s come to those areas. And some of it is driven from the Ministry. Some of it is driven from the accountability of Boards and Leadership Teams. But there’s no question it’s different now. We look at it much more critically and there’s a big push now in healthcare for evidence-based medicine in everything that you do. So benchmarking is another big area right now that we’re always compared as from where we’re benchmarked to the best functioning organizations and the best performing organizations in a whole bunch of areas including outcomes as it pertains to medical care and so on. I think it’s a very different time right now and as result of that it forces you to really focus and to make these as strategic priorities.”

**Typology of the evidence brought to bear on the strategic decision to prioritize quality improvement:**

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As described by study respondents, all of the case analyses that both internal and external evidence were sought and/or generated to inform all of the strategic decisions in the study. External evidence included all evidence generated external to the organization, including published research and data reports and internal evidence was typically found in business case
analyses where local business evidence was generated and analyzed to inform a decision. Examples include marginal analysis, volumes, projections, patient acuity and internal capacity.

**Conceptualization of evidence brought to bear on strategic decisions to prioritize quality corporately**

For Site 1, the evidence brought to bear on this decision was the compelling evidence for quality, but balanced with the business case evidence for viability. Quality improvement initiatives were already underway in the organization, and thus the CEO required the evidence from a business case to determine that the increased infrastructure investment should be put in place. This is contrary to the prioritization of quality at Site 2. While at Site 2 quality improvement initiatives were underway, through the CEOs review of the evidence on quality improvement s/he was personally committed to creating a strategic priority on quality across the hospital driven by the research evidence substantiating the role of quality. In this case, the research evidence was most compelling and drove the decision, with business case development supporting the implementation decision occurring subsequently. The decision for quality at Site 3 and Site 4 was informed through a hybrid approach of Sites 1 and 2. The evidence that the CEOs and their executive teams used to ultimately determine the prioritization of quality was a result of evidence brought forward through internal and external scanning, including research evidence, and internal and external data.

**Summary**

Numerous forms of evidence are brought to bear on strategic decisions in the hospitals examined here. Moreover, evidence can be generated within the organization and externally. These types of evidence are consistent with the various forms of evidence found in the levels of evidence rubric. Second, while the role of judgment, intuition and experiential
knowledge were acknowledged, the decision makers in this study did not view these factors as “evidence”, rather these factors were seen to be relied upon in the absence of evidence as they defined it, or in concert with evidence.

It is important to note that evidence (in its several forms) were not the only factors brought to bear on the decisions in this study. This issue will be reviewed more fully in Chapter 6 on the conditions of decision making, while this chapter has expressly focused on addressing research question 1 on how evidence is defined by the strategic decision makers in this study.

**Barriers and Facilitators to the use of evidence as conceptualized by the strategic decision makers in this study**

When decision makers identified the evidence brought to bear in the strategic decisions in the study, it naturally flowed into the discussion of barriers and facilitators to the use of evidence. This addressed research question 4: *What are the perceived barriers and facilitators to the use of evidence in strategic decision making from the perspective of public hospital decision makers?*

The perceived barriers and facilitators to the use of evidence emerged as general findings and were not necessarily linked to the case by case decision review of the process for each decision. During the data collection and analysis regarding what evidence was brought to bear to inform the strategic decisions in this study, barriers and facilitators to the use of evidence emerged. As seen in the previous results, all site decision makers described in-depth processes for the strategic decisions that took place, and ingrained in those processes was the search and/or development of evidence to inform the decisions at hand. During this process, it was acknowledged that there are times when evidence does not exist (which constituted a barrier to the use of evidence).
“We try to do it with data. Not always is there data to support every decision you make, and that comes into the issue of there is an art to management as well as a science to management. Some things feel right. And after having 20 or 30 years of experience in a business, you would think that some things aren’t … you have an intuitive sense because you understand the industry and the organization. But you do try to support things by data. Those discussions when they’re working right, they’re usually around setting some background context, explaining what the challenge is, giving a vision, and then allowing people to work with that vision and enhance upon it, reject it entirely, given the freedom to make it better or determine it actually wasn’t the right decision in the end. I think data needs to be there to help support a decision you make. The challenge you have is not every decision we make is going to have data to support it. Sometimes you have to go with gut instinct.”

“So we look for direct data and if that’s not there we look for sort of tangential data that would be supportive and you can make a link to it. Did we go out and do a literature search to prove that [our hospital] should be in the business of leading in safety best practice? Did we add up the number of articles that we published? Did we look at all that? We didn’t. But there was enough general data from the perspective of everybody in the organization that we consulted with said this is a core fabric of who we are. That in itself provided us with enough evidence and data that it was deeply rooted in the organization without having to sort of ultimately prove it.”

This observation about the barriers and facilitators to the use of evidence led to other emerging themes in the data regarding how strategic decisions were made in these hospitals. Evidence is viewed to be necessary to strategic decision making, and it is actively sought. This activity has been demonstrated throughout the case examples by illustrating how evidence was used in the strategic decisions in this study. The act of seeking out evidence appears to be codified and formalized in process and embedded in the day to day leadership of the organizations in the study. There is an expectation that evidence will be brought forward in decision making for decisions to even be considered.

Moreover, tools exist in each of the study organizations that require and enable evidence to be brought forward to inform decisions. All of the study organizations referred to their own organizational templates/ criteria that must be completed in order for strategic decisions to be brought forward. While each organization had slightly different templates, they could be considered as variations on the same theme. They each included similar items for analysis in
order to inform decisions. Additionally, two of the four hospital sites in the study adopted
decision criteria with weighting for strategic issues brought forward for discussion and decision.
It is important to note that these decision making templates were not just accepted as submitted.
These templates were reviewed, discussed, and often were returned back for further analysis or
refinement before the evidence was accepted. There were typically several iterations requiring
additional evidence and also more rigorous analysis.

“\textit{I think where I have seen an evolution is that increasingly the evidence we looked to is more robust.}
\textit{This is not a hospital where an articulate passionate clinician can stand in front of the meeting and get us}
to turn left in the absence of any evidence, and I think increasingly we are at a place where we are I mean}
we really we even are critical about the evidence to make sure it is right.}”

Additionally, decision making/committee structures were in place in all of the
organizations in the study to ensure that evidence was analyzed, discussed and well vetted before
decisions are made. These formal structures did not only exist during formal strategic planning
processes, rather these committee structures are part of the entrenched/established routine of
organizational oversight and leadership. Furthermore, by requiring evidence for decision making,
the decision makers in the study acknowledged that they had become increasingly well versed
and critical of evidence.

\textit{“I’ve been on Staff for 15 years or whatever. There’s no question it’s come to the forefront and I think people ... accountability is a big thing now in healthcare and accountability as it pertains to quality, outcomes, outcomes research and efficiencies, that whole thing. So I think there’s no question there’s a lot of emphasis that’s come to those areas. And some of it is driven from the Ministry. Some of it is driven from the accountability of Boards and Leadership Teams. But there’s no question it’s different now. We look at it much more critically and there’s a big push now in healthcare for evidence-based medicine in everything that you do. So benchmarking is another big area right now that we’re always compared as from where we’re benchmarked to the best functioning organizations and the best performing organizations in a whole bunch of areas including outcomes as it pertains to medical care and so on. I think it’s a very different time right now and as result of that it forces you to really focus and to make these as strategic priorities... Like I said sitting on Senior Leadership 10 years ago you did things in a particular way. We’re much more data driven right now. There’s no question about it. ”}
Summary

To synthesize these observations in the context of barriers and facilitators to the use of evidence in strategic decision making in the hospitals in the study, first and foremost, the existence of evidence is necessary. It is clear that through organizational processes evidence is being actively sought and is expected to be brought forward, but in the absence of evidence, as a corollary, when evidence is not found or does not exist, other factors are relied upon, including judgement, experiential knowledge, and intuition. Secondly, the notion that evidence is not just assumed, but rather is questioned to ensure relevance and reliability, is essential to the use of evidence in strategic decision making. The decision makers in the public hospitals in this study have articulated that they have come to not only expect evidence to be brought forward, but they have also become increasingly critical of that evidence. They do not just accept what is brought forward as credible, and thus evidence is only used when it is viewed to be accurate and reliable.
CHAPTER 5: HOW IS EVIDENCE (AS DEFINED BY STRATEGIC DECISION MAKERS) USED BY PUBLIC HOSPITAL EXECUTIVES IN STRATEGIC DECISION MAKING?

Introduction

This chapter focuses on addressing research question 2: *How is evidence (as defined by strategic decision makers) used by public hospital decision makers in strategic decision making?* Progressing from the previous research question on how evidence is defined by decision makers, it appears from the data that not only is evidence sought when making a decision, but evidence is used by strategic decision makers in a deliberate manner to make the decision. While in Chapter 4 a narrative overview of the decision cases was presented, this chapter outlines the decision trajectories through diagramming, to follow how evidence was used in each of the decisions. The decision trajectories for each of the three decision types are aimed at demonstrating how evidence, as defined by the study participants, was used by these public hospital decision makers. Data from the interviews and document analysis were relied on substantially in order to trace the evidence trajectories and to triangulate the findings and processes that took place for each decision. There is some variation in the amount of detail for each case. This is based on the level and amount of data that was provided for each decision in the documentation to trace the detailed process measures undertaken in each decision.
Case examples

Clinical expansion decisions

Site 1: Clinical expansion

In this case, evidence was generated by the clinical team (Medical and Administrative Directors and physicians) and used by the decision makers (CEO and Vice Presidents) in meetings to make the decision. A series of formal meetings were held wherein the CEO and vice presidents reviewed the evidence informing the opportunity to expand the clinical program. After which, a business case was developed by the medical and administrative directors and physicians. The business case was reviewed twice by the committee, consisting of the CEO and vice presidents in addition to the chiefs of medicine and surgery. The committee was provided with the opportunity to review the evidence and provide additional feedback and questions about the evidence brought to bear on the decision. The review of the quality of the evidence in the business plan was provided before the final plan was brought forward for final approval. In this case, the evidence was analyzed, reviewed and brought for formal discussion and deliberation before the decision was finally made.
Site 2: Clinical expansion

In this case, evidence was initially generated by the clinical program leadership (medical and administrative directors) and presented to the CEO and executive vice president for the organization to establish this clinical area as a key priority through the strategic planning process. When the opportunity arose to expand due to additional patient demand and government interest, a full business case was developed by the program administrative and medical directors, outlining the external and internal evidence, including patient care models, trends, volumes and internal capabilities and expertise. There was further opportunity to grow the program due to increasing patient demand and government appetite to address the needs of these patients. Eight drafts of the business case for expansion were developed and ultimately the business case was presented to the executive committee (consisting of the CEO, executive vice presidents and vice presidents) for the final decision. The complexity of the evidence and the resource intensity associated with this decision required very thorough review of the evidence in order to arrive at the final decision to proceed.
Site 3: Clinical expansion

In this clinical expansion decision, the clinical program leadership, in particular the department chief, saw an opportunity to expand the program, and as a result, outlined the clinical evidence for the care model and developed the internal business case for the clinical expansion. The evidence was brought forward to the executive committee, consisting of the CEO and vice presidents, for discussion and decision. In this case, there was not the level of back and forth and drafting of business plans as in other examples, given that in this instance, the business case was expansion in order for the program to continue to exist, and the organizational leadership had already committed that this program was a strategic priority. The government’s funding mechanism was aimed at only supporting a program of a particular size and scale, otherwise the organization would be forced to release the program. As a result, the program developed the evidence to support the expansion of the existing program in order to ensure that this priority program for the hospital could and should remain as a key program.
The clinical expansion decision for site 4 began with the government requiring that the hospital would add additional resource for the clinical program in order to ensure that they could continue to service patient need and maintain sufficient activity to sustain the academic/teaching program. In particular, an additional surgeon was required to increase volumes and maintain the hospital’s status as a specialty site. Detailed discussions began shortly thereafter between the CEO of hospital site 4 and another hospital (not included in this study) about transferring the clinical program away from site 4 to another site, as there was appetite at this other hospital site to take on the program, due to the clinical specialty and their interest in entering the academic market. The majority of the initial discussions occurred between the CEOs of the two organizations, and was then brought forward to the respective executive teams (consisting of executive vice presidents and vice presidents). When the concept of divesting the clinical program was discussed at Site 4, there were very strong views from the senior team (program...
vice presidents and chief medical officer) regarding whether or not it would be advantageous to divest the program.

The clinical program was highly specialized, and was a niche area for site 4. The clinical program included specialized physicians required to administer the program and as a result of its unique niche, it housed a one-of-a-kind university training program. When the discussion was brought to the executive team at Site 4, there were some individuals at the decision making committee (which consisted of the CEO, executive vice presidents, vice president, chief of staff, chief of surgery and chief of medicine) who agreed with the decision to divest and others who disagreed. The main reason for the disagreement internally at Site 4 was the importance of the training program and the ability to care for the volume of patients, which was viewed to be aligned with the hospital’s mission to be a community teaching hospital. From an external perspective, the government and university were both concerned that if the program were to be moved to another site, it would take too long to establish the appropriate care model to treat the current and growing volume of patients, and develop a training program that would be mature enough to enable patient care and training in a timely (immediate) manner.

To address the issue and arrive at a final decision, a full analysis was undertaken with two business cases brought forward to the decision making committee. As a result of the decision conflict, two analyses were conducted; one outlined the case for investment and the other outlined the case for divestment. The business cases included supply and demand analysis, costing, workforce analysis, and mission alignment. After the executive committee reviewed both business case results (for both investment and divestment), and engaged in lengthy discussions, the final decision was to invest in the program. The investment decision provided
the approval to begin recruiting for another surgeon, in order to maintain the status as a specialty site and to sustain the training program.

It is important to note that this organization adopted an evidence-based tool for decision making. In particular, there are eight criteria based on a series of decision making frameworks that are used for the decision making committee (in this case, the executive team) to arrive at the final decision. Each member of the committee reviewed the two business cases and weighted them against the eight criteria. Once all of the weighting was complete, the final decision was made, which was to invest in the program.

**Partnership decisions**

**Site 1: partnership decision**

In this case, the clinical evidence was convincingly conclusive that a new type of care model would be best for patient care. Given the internal existing capability of the organization, the clinical program leadership (medical and administrative director and program physicians) began developing a business case to demonstrate how this new method of patient care could and should be adopted in the organization and how a partnership could be facilitated to ensure that
the patients requiring this type of care could receive it in a timely manner. Given that not all hospitals would be capable of providing this care, a partnership was envisioned so that patients could be taken to Site 1 for the care and then be repatriated back to their home hospital site for recovery and eventual discharge. The business case was brought forward for in depth discussion and analysis of the evidence at the executive level (CEO, executive vice presidents, and vice presidents). The decision was reviewed on two formal occasions at the executive level with work being done on an ongoing basis to review the evidence so that it could come back to the executive team for decision. The CEO was intimately engaged in terms of carrying this work through and bringing it to the government for approval and funding. Evidence was generated by the clinical program leadership for the government to approve the work, and additionally, a series of data metrics were developed for ongoing monitoring of this work. Additionally, a governance model was established to monitor the program data and outcome results on a regular basis.

**Site 2: partnership decision**

As in the partnership for Site 1, the clinical evidence demonstrating the patient care impact of this new clinical treatment was the impetus for the partnership. A business case was
developed at site 2 by the program leadership (administrative and medical director and physicians), outlining the external research evidence, in addition to program outcomes, definition, patient care models, volumes, funding, etc., in order to garner executive support for the proposal to move forward. The executive leadership (CEO, executive vice presidents and vice presidents) met to review the evidence and approved moving forward to the next phase to gain support from the government to be able to move forward. A pre-proposal to the government was developed by the clinical program leadership and brought to the executive for review and discussion of the evidence. Additionally, two iterations of the data collection template were developed in order to ensure that once the partnership would be in place that evidence could be collected regularly to pilot the work before the partnership expanded to other hospital sites. A governance structure was established, with a primary responsibility to oversee the outcome data and there was a formal review of the first four months of data to ensure that the partnership was successfully providing improved patient care. After this pilot phase, the governance structure (comprised of program leadership from Site 2 and the partner hospitals) continued to closely monitor the activities of this partnership.

**Site 3: partnership decision**

- Evidence generated to develop a new care model to partner two existing programs, and business case developed
- Executive council meeting, with approval to proceed. It was minuted that this work “did not follow normal process” as it was not taken to other stakeholders first. It was further minuted that “the rationale of bringing this proposal to market quickly and with minimal exposure was articulated and the perspective of ensuring competitive advantage by getting out in front to other academic organizations.”
- Phase 1 and Phase 2 of the plan presented, with discussion about the plan and evidence brought forward for decision making
In this case, evidence was generated to partner two internal clinical programs into one in order to create a unique and niche program at the hospital. The evidence for the new model of care was developed by the existing program leadership, in particular the medical director, using external clinical research evidence and internal business case evidence. The plan was developed and brought forward to the executive committee (CEO and vice presidents) relatively quickly for approval, which was minuted as part of the approval meeting. This decision process and evidence trajectory was considered as relatively truncated as compared with other processes at the hospital. It was noted that this partnership was to remain confidential until approved in order to ensure that Site 3 would be first out of the gate with this program as a niche area before other hospitals moved in a similar direction.

Site 4: partnership decision

In this case, a program existed at Site 4, but research evidence demonstrated that patients who required rehabilitation would have better outcomes if they were cared for in a specialized rehabilitation facility as opposed to in an acute hospital. Discussions began between the executive vice presidents at Site 4 and at a specialized rehabilitation facility about the
opportunity to transfer the beds with funding out of Site 4. Analysis of the evidence demonstrating this partnership was conducted with the development of a briefing note developed by the executive vice presidents that included details on clinical evidence, current volumes, patient outcomes and other key hospital criteria. The business case was developed by the clinical program directors at each site. A full business case analysis was conducted by the executive vice president in collaboration with the program director and was brought forward to the leadership team (CEO, executive vice presidents and vice presidents) for review of the evidence and approval. Approval was granted to proceed based on the results of the business case analysis and the organization’s weighting criteria for these decisions (through the hospital’s decision making criteria), and a steering committee was formed to review this work and to bring it forward to the LHIN for funding.

**Prioritization of Quality Decisions**

**Site 1: quality decision**

The case for quality at Site 1 focused on the prioritization of quality improvement by investing in a broader infrastructure for quality which had an academic and research focus. The hospital’s strategic plan created an overt priority for patient safety for the organization and this
particular strategic decision was to further invest in this strategy to create infrastructure and allocate resource to support academic work (research and education) in the area. While the decision was aligned with the hospital’s strategic prioritization of quality improvement, the opportunity to invest was brought forward through the chief of medicine to the executive committee (CEO, executive vice presidents and vice presidents) for several discussions at the before it was approved, and a business case was developed by the chief of medicine and executive vice president to ensure that the decision could be taken. There were three formal iterations of the business case and concept paper to establish this infrastructure plan that were reviewed in detail by the executive leadership. In addition, there were a series of updates provided on the development of the leadership structure and model before approval was granted to move forward to recruit a leader for this work.

Site 2: quality decision

In this case, the CEO was ensconced in the evidence for quality improvement and its important role in healthcare. As a result of this, the CEO brought forward the notion of prioritizing quality improvement in the strategic plan of the hospital to the executive vice
presidents and vice presidents. As part of the strategic planning process, an administrative
director sought out, developed and consolidated evidence both internal and external to the
organization was brought forward to inform the plan. Evidence included external research on the
role of quality and the improvement in patient care and other organizations’ experiences in
developing quality in their organizations. On the internal side, evidence on patient outcomes and
current quality activities were reviewed in order to inform whether or not and how to move
forward with prioritizing quality as a central strategic platform for the organization. The
evidence for quality was reviewed through five formal drafts of the plan that were reviewed in
detail by the executive team at executive meetings (consisting of the CEO, executive vice
presidents and vice presidents), before the plan was signed off by the executive committee and
then recommended to the board for approval.

**Site 3: quality decision**

In this case, the notion of quality and value came through the evidence search during the
internal and external scanning exercise that was part of the strategic planning process. The
evidence was generated by an administrative director who conducted a literature search,
environmental scan, international trends, policy environment, and internally on how the organization was increasingly managing by measuring quality. The findings from the scanning activities were brought forward to several stakeholders including the executive team (CEO, vice presidents), board, staff, and the community in order to provide feedback and react to the evidence. This evidence was then used in a series of strategic plan iterations that were refined for executive review (CEO, vice presidents) and then back out to the broader stakeholder group for feedback. Once the decision on quality was vetted and validated by the consultations, this was brought to the Board in its final form for approval.

**Site 4: quality decision**

In this case, a formal strategic planning process was undertaken, which included an internal and external scanning process to gather and generate evidence. The evidence was sought, developed, and analyzed by an administrative director and a hired consultant to bring to the executive team (CEO, vice presidents) for review, feedback and ultimately for approval. A
key result of this work was a focus on quality improvement which translated into it becoming a key strategic focus for the organization. The evidence was generated in a formal way through internal and external scanning and analysis which was brought forward to the executive group and to key stakeholders including all staff through town hall meetings, community meetings, focus groups, and to the Board. Upon completing the data review, the strategic directions were developed to reflect the evidence brought to inform the strategic planning process and a plan was ultimately approved by the Board.

**Discussion**

Based on the case by case review, it appears that evidence was sought and used in the strategic decision making processes undertaken for the decisions in this study. Some of the decisions were part of a formal strategic planning exercise and others were outside of a formal strategic planning process. A key finding that emerged from this analysis is the nested nature of strategic decision making in these contexts. The strategic decisions in this study were often a micro part of a broader context of macro strategic imperatives. For example, the clinical expansion decisions were sub-components of larger strategic decisions that had already prioritized the clinical programs. So too were the partnership decisions that built upon existing strategic priorities. In these cases evidence was used to refine and refocus embedded organizational decisions.

The nature of the strategic decisions and the processes were different for the quality improvement decisions. In these cases, the decision to formally place quality improvement at the centre of the organization’s strategy, in particular for sites 1 and 2 was a macro level decision by the CEO, executive vice presidents and vice presidents. In these cases the evidence was brought
to bear on the decision making process with a more radical impact on the organization’s strategy than the previous types of strategic decisions. Regardless of the nature of these strategic decisions, it was clear that evidence was brought forward in a deliberate manner and was used to inform and guide the decisions at hand. There is also an expectation that unless ideas are brought forward with a thorough evidentiary review, they will not be brought to the decision making table.

“But we really do make like we use a very strong management process in order to make all decisions. So, this business case concept that I talk with the format for a business case here is identical to the format for a physician impact analysis. It is identical to the format for an equipment request, so it is a familiar format that also means we are looking at like information and it also means it allows us in the fullness of time to compare the request for an extra I do not know orthopedic surgeon with expanding something in engineering. So, the sort of standardization and analysis and all those business cases there is a sign off sheet at the back, so that you have to run it by all of the other parts of the organization to make sure they are happy with the cost, they understand the impacts, there is a partnership in place if we need the support of an our lab or support services, like it is that is how we do.”

There are also several opportunities for individuals in the organization to react, respond and provide feedback on the evidence that is brought forward.

“Yes. We got broad input, feedback, and asked for submissions from the hospital and we developed how we would do this. The quality plan was embedded in our strategic plan and we had significant engagement. We – the senior leadership team - considered feedback and made changes as necessary. Internal and external data analyses were conducted and the board and our community were engaged. We have since developed strategies and metrics for measurement to know how we were doing on the plan and have had the entire organization engaged in this work.”

In these cases evidence was questioned and reviewed at least twice to ensure accuracy, reliability and relevance for the decision at hand. The only occasion when this did not occur in its fullest form and rather in a truncated fashion was the partnership decision in Site 3. It was noteworthy that the minutes of the executive team meeting specifically included this, and highlighted the fact that this plan was brought forward in a “non-traditional” way(outside the typical process), due to confidentiality issues and the focus on the organization capitalizing on an
opportunity before other hospitals might do the same. That said, the delivery of evidence and analytical rigor at the decision making table were still required in order for the decision to be made, it was just not shared as broadly as it ordinarily would have been for feedback and discussion.

Overall, evidence appears to have a role in the dialogue among the decision makers in this study. For all of the strategic decisions, a formal process was undertaken to obtain sources of evidence, with the expectation that they would be reported back. Furthermore, the evidence brought forward does not appear to be just accepted; it is critically questioned and often goes through several iterations to ensure reliability and accuracy.

“So all those sorts of things we do look at data around where we were focused in and what really stood out in the organization. So those types of things would then get filtered through a number of questions that we went through a process to identify those key strategic areas that stood out for our hospital. And then those ultimately got up to the Board in terms of saying yes the data shows that we actually are recognized in this area, and so those were set as our strategic priorities....And anything that is about resource allocations or has the opportunity for people to feel that perhaps not all the data was properly evaluated, we try to use the ethical framework around that. But the ethical framework isn’t an open door policy that says you get to argue anything you want to argue for your own personal sake. It’s an evidence-based approach to making an ethical argument as to why it wasn’t even appropriate.”

The decision makers in the study acknowledged the important role of evidence in decision making and the formal processes that they followed to critically question what was brought forward, and to often ask for further analysis, which ultimately led to informing the final decisions. Some hospital sites in the study formalized the analytical process of the evidence brought forward for decision making. Notably, Site 4 adopted a formal set of decision criteria with associated weighting that they use to evaluate all strategic decisions.
Summary

To address the research question, “how is evidence used (as defined) by the strategic decision makers in this study”, what has emerged is that evidence is used deliberately, and is often part of a nested process that involves a larger strategic decision, with a series of embedded micro decisions. In addition, it appears that evidence is used as a platform for decision making, in that garnering appropriate, relevant, and reliable evidence is a criteria (in addition other types of criteria and conditions will be addressed in Chapter 6) to get an issue to the decision making table. Once evidence is generated and brought to the decision makers, it is questioned, discussed and analyzed often several times before formal plans/proposals are brought forward for final decision to move forward.

“I’ve been on Staff for 15 years or whatever. There’s no question it’s come to the forefront and I think people ... accountability is a big thing now in healthcare and accountability as it pertains to quality, outcomes, outcomes research and efficiencies, that whole thing. So I think there’s no question there’s a lot of emphasis that’s come to those areas...But there’s no question it’s different now. We look at it much more critically and there’s a big push now in healthcare for evidence-based medicine in everything that you do. So benchmarking is another big area right now that we’re always compared as from where we’re benchmarked to the best functioning organizations and the best performing organizations in a whole bunch of areas including outcomes as it pertains to medical care and so on. I think it’s a very different time right now and as result of that it forces you to really focus and to make these as strategic priorities.”

Without evidence being brought to bear, the decisions in this study would not have been brought to the decision making forum for discussion, nor received eventual approval to move forward.
CHAPTER 6: WHEN/UNDER WHAT CONDITIONS, AND WHY, DO EXECUTIVE DECISION MAKERS USE EVIDENCE IN STRATEGIC DECISION MAKING IN PUBLIC HOSPITALS?

Introduction

This chapter focuses on reporting findings from research question 3: *When/under what conditions, and why, do decision makers use evidence in strategic decision making in public hospitals?* The data analysis continues to build from what the study participants identified as being brought to bear on the particular strategic decisions. To review the findings and contextualize the conditions of the decisions, the evidence typology will be reintroduced and expanded such that evidence and decision conditions are juxtaposed. Similar to the results of the definition of evidence (which emerged as being both internal and external), so too did the conditions of the decision emerge as internal and external to the organizations.

In similar fashion to the previous results chapters, a review the individual decision cases is undertaken. First the typology of what was brought to bear is used to address one part of the research question – “*When/under what conditions do decision makers use evidence in strategic decision making in public hospitals?*” After doing so, “*why, do decision makers use evidence in strategic decision making in public hospitals,* is reviewed. Recall that Chapter 1, (Table 2, p. 19) set forth a rubric of the uses of evidence.
Table 7 is the same as Table 2 in Chapter 1, but is re-captured here for ease of reference

### Uses of Evidence

<table>
<thead>
<tr>
<th>Type of Use</th>
<th>Definition</th>
<th>Referenced by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge driven</td>
<td>Basic science research has relevance to public policy. There is an assumption that basic research moves into application.</td>
<td>Weiss (1979); Denis et al. (2004)</td>
</tr>
<tr>
<td>Instrumental, problem solving</td>
<td>Involves acting on research in specific/direct ways</td>
<td>Weiss (1979); Beyer and Trice (1984); Lavis et al., 2002; Amara, Ouimet, &amp; Landry, 2004; Denis et al. (2004)</td>
</tr>
<tr>
<td>Conceptual, enlightenment</td>
<td>Involves using research results for general enlightenment; results influence actions but in an indirect way</td>
<td>Weiss (1979); Beyer and Trice (1984); Lavis et al., 2002; Amara et al., 2004; Denis et al. (2004)</td>
</tr>
<tr>
<td>Symbolic, tactical</td>
<td>Using research results in ways to legitimate and sustain predetermined positions</td>
<td>Beyer and Trice (1984); Weiss (1979); Langley, 1989; Lavis et al., 2002; Amara et al., 2004; Denis et al. (2004)</td>
</tr>
<tr>
<td>Interactive, deliberative</td>
<td>The utilization of evidence as part of a process that involves experience, political insight, social technologies, and judgment</td>
<td>Weiss (1979); Denis et al. (2004)</td>
</tr>
</tbody>
</table>

The uses of evidence outlined in Table 6 will be traced to address why the evidence was used in the strategic decisions in this study.

As previously established, several types of evidence emerged as being brought forward to inform the strategic decisions in the study. The different types of evidence, ranging from business case analysis to research evidence were brought to bear. There are however, other items which emerged that are outside the realm of evidence. These items were considered by the decision makers as critical contextual elements related to the decision, and were used in concert with the pieces of evidence brought forward. These contextual items that propel decision making...
that serve as enablers of decision making will henceforth be labeled as “conditions” of the
decision. These decision conditions include alignment with the organization’s strategic plan,
government interest, and economic context. Table 8 outlines (in no particular order) the data
themes that emerged from the data analysis. The first two columns are the same as Table 5 in
Chapter 4, and the third column expands to identify the decision conditions.

Table 8

<table>
<thead>
<tr>
<th>Type of Strategic Decision</th>
<th>Evidence for decision making</th>
<th>Conditions for decision making</th>
</tr>
</thead>
</table>
| Decision 1: Clinical expansion | Internal:  
- Business case: targets, quality measures, capacity planning, demand/supply analysis, volumes, patient acuity, budget, marginal analysis, financial analysis, cost benefit/cost neutrality, research productivity  
External:  
- Literature/best practice in managing patients, best available clinical research evidence | Internal:  
- Existing platform/expertise in the organization – specialized expertise/differentiation  
- Alignment with strategic plan  
External:  
- Recognized leader clinically (brand recognition)  
- System need/external imperative (government, media attention); Priority for the government  
- External opportunity - another hospital losing some resource, provincial body requiring support |
| Decision 2: Partnership | Internal:  
- Existing patient need (market share, volumes, etc.) to sustain the initiative  
- Business case development balancing best practice and cost, human resource planning, capacity for growth, cost efficiency/effectiveness  
External:  
- Best medical evidence  
- Clinical literature, best practice | Internal:  
- Alignment with strategic plan  
- Other program alignment  
- Academic alignment  
External:  
- Interest of the government  
- Patient need  
- Other hospital priorities |
| Decision 3: Prioritizing quality | Internal:  
- Existing activity and focus on quality in the organization – analysis of results  
External:  
- Learnings from operations management literature – quality improvement, standardization  
- Studies of error and quality, safety in healthcare | Internal:  
- Strategic alignment (cross hospital themes); mission alignment (patients should receive the best possible care)  
- Stakeholder engagement and support  
External:  
- Existing focus, public reporting of quality data – policy environment |

The items included in the table are not summarized in any particular order. They are purely reflective of the emerging themes in the data.
To demonstrate the evidence brought to bear and the conditions of the decisions in this study, the decision cases will be reviewed and will utilize and expand the typology introduced in Chapter 4. The generic typology was meant to capture the evidence brought to bear on the strategic decisions in this study that were generated within/internal to the study organizations and in their external environments. The following will expand the typology to include the conditions of the decisions, both internal and external to the organization.

Table 9

**Generic typology of what is brought to bear in strategic decision making**

<table>
<thead>
<tr>
<th>Evidence</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>External</td>
<td>Internal</td>
</tr>
<tr>
<td>e.g. clinical RCT research</td>
<td>e.g. business case</td>
</tr>
<tr>
<td>e.g. government focus</td>
<td>e.g. mission alignment</td>
</tr>
</tbody>
</table>

**Case review: Clinical Expansion Cases**

**Site 1: Clinical Expansion**

In this case, in addition to the internal and external evidence brought to bear on the decision, a series of internal and external conditions were described by respondents as considerations as to whether or not the decision was taken. From an external stance, there was appetite from the government for the clinical expansion in addition to international brand recognition of the clinical focus at Site 1. From an internal perspective, there was existing
organizational capacity and expertise that would enable this clinical expansion to take place.

According to the CEO:

“We defined what we meant by strategic priorities and they had to be international in recognition. They had to be, from a research point of view, that it wasn't just a developing research program, they had to have a research program. There had to be a need out there. So when we debated it at a strategic planning council, to be honest, this is one of those ones to me was a no-brainer. It built on expertise that was already here.”

“Number one, it is something that we bring to bear that I don’t want to say it’s unique; it’s semi unique. So it is a discriminator, number one. Number two, it is backed up by enormous depth and breadth in research in this arena by faculty we already had.”

While the conditions for the decision were enablers, the evidence was described as important in determining whether or not the decision would move forward. The internal and external environments were ripe for the clinical expansion to occur, however, evidence was viewed by the study participants as necessary to demonstrate patient care benefits in addition to organizational capacity and decision viability.

**Typology of the evidence and conditions of the strategic decision to expand the clinical program:**

<table>
<thead>
<tr>
<th>Evidence</th>
<th>Conditions</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcomes of care when practices were adopted in other countries</td>
<td>Government appetite to expand the clinical work, international recognition</td>
<td>Business case including volumes, patient acuity, cost</td>
<td>Internal capacity and capability to expand</td>
</tr>
</tbody>
</table>

**Site 2: Clinical Expansion**

In this case, research evidence was assessed by the study participants as demonstrating positive outcomes for patients resulting from a particular type of care. The demand exceeded the supply of services that Site 2 could provide, and as a result, the hospital developed an evidence-based case which was utilized to expand the program. Despite the fact that the clinical evidence demonstrated the patient benefit of the treatment, a business case analysis was crucial to the
decision. Capacity, volumes and continued supply and demand analysis were necessary to move forward with approving any clinical expansion in the area. Additionally, strategic and mission alignment, and existing resource and capacity, were critical conditions of the decision process.

According to the executive vice president:

“The Strategic Plan said we will grow [the clinical program] with new funding, so we were very clear about that. There was not at that time an appetite to flow something else as a resource for [this clinical program]... So knowing that there was a critical problem, there was not going to be resources internally, we met with the Government and outlined the clinical issue with the problems and what we needed to be viable.”

This case of clinical expansion was extremely resource intensive and highly specialized. It was an existing area of speciality at Site 2, and was one of the niche programs at the organization. If this clinical expansion were not aligned with the organization’s mission and vision, according to the respondents, it was likely that this decision would not have been approved given the intense resources including skills, funding, equipment and other fundamental requirements that were necessary to enable the expansion. According to the CEO:

“It is a very highly specialized area and because it is good for patients and it is good for the health care system because this intervention has better outcomes for the patient and it is much more cost effective. It is a costly output at the beginning of the procedure but the patients are going home within 48 hours versus days-weeks in an ICU. Again, our academic mandate is to be leading edge if we have this expertise.”

In addition, there was a described aligned opportunity in the external environment. Given the significant expense required to provide care for the patients in this program, and the fact that demand exceeded supply, it had become increasingly costly for the government to manage these patients. As a result, the government was willing to provide additional funding to Site 2 to manage these patients in the most clinically and cost effective manner. According to the CEO:

“So, that is a situation where there was an issue in the province with patients travelling, having to go out of country to get acute care, so the government was obviously unhappy, it is not good care and is expensive because we were sending them to the United States. So, there was a group of people got together and I guess government and some of the care providers started to begin to talk about well how
could we accommodate these patients here in Canada and treat them closer to home and avoid the American cost structure being much much higher than our cost structure here. So, if we could accommodate them here it would be better care, closer to home, probably faster access and cheaper.”

**Typology of the evidence and conditions of the strategic decision to expand a clinical program:**

<table>
<thead>
<tr>
<th>Evidence</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCTs on the effectiveness of new treatment brought forward at clinical conferences</td>
<td>Business case including volumes, patient acuity, cost</td>
</tr>
<tr>
<td>Government appetite to provide better and more cost effective care, other organizations successfully implementing the strategy</td>
<td>Clinical experts reside in the organization, equipment and facilities required exist, the expansion is aligned with the hospital’s mission and strategy</td>
</tr>
</tbody>
</table>

**Site 3: Clinical Expansion**

In this case, clinical expansion was viewed as important as a result of the evidence for a better model of patient care and the business case evidence supporting the expansion. The impetus of the urgency of the opportunity for this expansion was initiated primarily as a result of the external conditions that the government required expanded service in order to maintain the hospital’s position as a centre of excellence in the area. According to the CEO:

“So the [program] came up with the business plan. There was an opportunity in that [the government] had developed a new model for [these clinical] programs where they would only fund programs of a certain size so was either do it to the size or get out of the game. They developed the business case that looked at what it would cost, what would we need for health human resources, what would the quality metrics be, all of the stuff you would expect.”

**Typology of the evidence and conditions of the strategic decision to expand a clinical program:**

<table>
<thead>
<tr>
<th>Evidence</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality metrics on outcomes related to this clinical treatment in order to develop internal quality metrics for service delivery standards</td>
<td>Business case including volumes, patient acuity, cost</td>
</tr>
<tr>
<td>Government standards requiring expansion or divestment, university requirements</td>
<td>Mission alignment with clinical focus, strategic focus of niche area</td>
</tr>
</tbody>
</table>
Site 4: Clinical Expansion

In this case, there were external conditions that were described by the study participants that existed from the government and the university that required Site 4 to expand this area in order to remain in the business. A thorough review of the clinical program was conducted, with internal and external evidence brought to bear on the decision. According to the CEO:

“It was a very difficult time. I had committed to divesting the service, and [the other hospital] was ready and to take it on. I had been very engaged with [the government] and [the other hospital]. However, our clinicians and chief played a major role in advocating that we keep the program. Then it turned out that [the government] in fact wanted us to keep the service because we were well established, and [the other hospital] would take much too long to get up to speed. We also did a full marginal analysis on the service and it turned out that it looked like it would be profitable to stay in the business and expand. What was really important was also the impact from a university perspective. Our vision is to be Canada’s best community teaching hospital – so keeping our university specialty program was critical to this. And, there was also pressure from the university, because [the other hospital] could not have sustained the training program that we have. I had to weigh the relative risks of investing or divesting, and it became clear that despite how far along we were down the road of negotiation, I had to change the decision from divestment to investment in [the clinical program].”

Typology of the evidence and conditions of the strategic decision to expand a clinical program:

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality metrics on outcomes related to this clinical treatment in order to develop internal quality metrics for service delivery standards</td>
<td>Business case including volumes, patient acuity, cost to outline the cases for investment and divestment</td>
<td></td>
</tr>
<tr>
<td>Government request to expand, university teaching program</td>
<td>Existing expertise, alignment with niche program</td>
<td></td>
</tr>
</tbody>
</table>

Why evidence was used in the clinical expansion decisions

Since these decision expanded on a previously decided upon strategic imperative to be in a particular clinical business, the nature of these strategic decisions can be considered as being nested within a larger strategic imperative. Whenevidence was brought to bear initially on the decision due to opportunity to expand given current focus it was described as being brought to bear as part of an interactive/deliberative process. However, once the evidence was brought to
bear in the decision making process, it was used instrumentally to inform the decision (it was analyzed critically and set forth against the conditions of the decision, for example, external opportunity, strategic alignment, etc.). This was consistent for the clinical expansion decisions across sites. Based on the descriptions of the study participants, and the traced decision process yielded by the document analysis, there was more than one motivation for evidence to be brought to bear on the strategic decisions. Evidence appeared to be used instrumentally in the process; however, the reasons for searching and integrating evidence up front emerged as being part of an interactive/deliberative process.

For site 3, the evidence was described by participants as being used for symbolic and interactive reasons, because the decision was based on sustaining the initial strategic imperative. For sites 1 and 2, if the clinical expansion would not be pursued the organization would still remain in the business, just not in an extended form. For site 3, if the expansion would not be taken, the organization would have to divest in the program. For site 4, the decision was similar to site 3 in that without expansion the program would have to be divested. Based on the interview participants and document analysis, once the evidence was brought to bear on the decision making process at site 4, it was used in a very instrumental manner. It was critically analyzed and discussed before the final decision was made. Additionally, the evidence was weighted through criteria by the decision making committee with the two opposing business cases being evaluated side by side.

For sites 1 and 2, the evidence was initially brought to bear interactively/deliberatively, but was used instrumentally during the decision making process (as it was critically and thoroughly analyzed to guide the final decision). For site 3, the evidence was predominantly used for interactive/deliberative purposes to ensure that the program would continue. For site 4,
evidence was used predominantly instrumentally in order to critically review both options (for investment and divestment) to arrive at the final decision. The decision criteria were weighted through the formalized analytical process in the organization to ultimately determine the fate of the program. Despite the final use of evidence in an instrumental manner, the initial discussions surrounding the potential program transfer were part of a larger interactive/deliberative process wherein the use of evidence was part of a process involving judgment, experience and political insight given that the decision in site 4 was particularly controversial. Interestingly, the initial discussions to release the program were derailed once evidence was generated, analyzed and weighted through the formal strategic decision making process and weighting criteria to arrive at the final decision.

**Partnership Decisions**

**Site 1: Partnership**

In this case, the participants described that research evidence suggested that a more optimal model for patient care existed, and the outcomes data were consistently demonstrating the benefits. The conditions of the decision, including the government appetite, academic program in the organization and mission alignment were seemingly necessary for the decision to ultimately be made. The decision makers described that investments are made when they are “on strategy” and when they are aligned with the organization’s mission of being a leading academic health sciences centre.

“So, it was a desire to grow a clinical activity in a focused way with a sublevel of, you know, cases and resources and allocation you know within. And it was something that fit within our strategic priority and heart and stroke which is all about minimally invasive image guided care, and this was not about growing, you know, coronary artery bypass surgery. This was about growing something that was on strategy but the decision of how to do that, to what level, and which partnerships to use to grow it, was very much a strategic decision.”
“If you don’t have [this type of] Program and you’re in an academic centre, you’re behind. And in an academic centre they had antibodies to ... they have a reaction to something that isn’t Best Practice. It’s kind of an antithesis of what they want to be. The academics are here. They’re going to want to write papers. They’re going to say, hey, look at our great program. So that’s the driver.”

**Typology of the evidence and conditions of the strategic decision to enter a strategic partnership:**

<table>
<thead>
<tr>
<th>Evidence</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical research</td>
<td>Business case including volumes, patient acuity, cost, and internal capacity</td>
</tr>
<tr>
<td>Patient need, government appetite</td>
<td>Alignment with strategic focus and academic program</td>
</tr>
</tbody>
</table>

**Site 2: Partnership**

Similar to the previous example, Site 2 was the leading organization for the development of a broader partnership to enable the most effective patient care models to be implemented across the Greater Toronto Area. The clinical evidence was described as being very robust in demonstrating the benefits of this type of treatment. That said, the conditions of the decision were critical. In particular, that this was an area of expertise already established in the organization, and that it was aligned with the academic mission. Furthermore, there was government appetite for this work, which would ensure funding and other enablers for the decision to be taken and implemented.

“This goes back to strategy too; so new information will often change a strategy. Evidence in clinical trials, research, and demonstrated evidence by your colleagues that are having success doing it and then once you get your core stakeholder group together very quickly identifying who else is not at the table that ought to be at this table and bringing them to the table and working collaboratively. That, I think, has been very very successful as far as a collaborative.”
Typology of the evidence and conditions of the strategic decision to enter a strategic partnership:

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical research</td>
<td>Business case including volumes, patient acuity, cost, and internal capacity</td>
<td></td>
</tr>
<tr>
<td>Patient need, government appetite</td>
<td>Alignment with strategic clinical focus and academic program</td>
<td></td>
</tr>
</tbody>
</table>

Site 3: Partnership

As described by the study participants, a new clinical model was developed which would capitalize on existing organizational strength and provide improved patient care. The partnership model was developed based on the evidence for heightened patient care outcomes, but the way in which the decision was brought forward was influenced by the decision conditions. Given that the organization wanted to be first out of the gate with this partnership, the evidence was brought forward to the decision making leadership table quite quickly. It was noted that this was outside the realm of typical decision making process at the organization. While the participants described that the decision conditions influenced the process of decision making, the requirement for evidence and the use of evidence for decision making was unchanged.

“I mean the board, medical leaders, program leaders, we do analysis of great ideas and look at the evidence and decide whether it is the one we are chasing. Like that is how we do it. I cannot think of an idea where someone in this organization at a senior level woke up one day and said let’s chase this rainbow and we have just started running. There is a huge amount of assessments, analysis, engagement phase that happens.”
Typology of the evidence and conditions of the strategic decision to enter a strategic partnership:

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical research</td>
<td>Government focus on integration</td>
<td>Business case including volumes, patient acuity, cost, and internal capacity</td>
</tr>
<tr>
<td></td>
<td>and care continuity, other hospital interest</td>
<td>Other programs requiring infrastructure</td>
</tr>
</tbody>
</table>

Site 4: Partnership

The partnership at Site 4 was described as being focused on the transfer of a rehabilitation unit out of an acute hospital and into a specialized rehabilitation facility, with a continued relationship and resources for patient transfers. According to the decision makers at Site 4, despite the fact that there was an inpatient rehabilitation unit at the hospital, the clinical evidence demonstrated that patients requiring rehabilitation services are provided with better care at facilities that specialize in rehabilitation. Moreover, the hospital’s space resources were constrained and the ability to utilize the inpatient rehabilitation unit for another clinical service that is more aligned with the organization’s core business would be beneficial for the organization.

“I would say first and foremost it was the notion that patients would be better served by being treated within a rehab facility. Secondly, there was a financial attraction to it. We were able to negotiate with [the rehabilitation facility] an amount that still gave us a bit of a savings if you will, that was ongoing. I’d say those are the only two real factors. To some extent space is a premium here... Anyway, I strongly believed it was the right thing to do.”

This partnership would not only enable patients to be provided care in a more suitable environment, but also establishes a formalized relationship between the acute and rehabilitation hospitals. This relationship was of great interest and focus to the government, and in particular the Local Health Integration Network (LHIN) during the decision making process.
“We looked at our volumes, our finances and decided that this made sense for us. The LHIN was also very interested in new partnerships and we were one of the first to pursue this type of arrangement. We also believed that it was better for patient care to have them be cared for in a rehab facility rather than in an acute setting.”

“I think it was more internal but in keeping with what we believed was the overall mandate of the LHINs was to integrate services, streamline services we felt as well. And as it turned out the LHIN was extremely supportive of this move. I think it was the first formal transfer of services within the LHIN and they were very supportive of it.”

Typology of the evidence and conditions of the strategic decision to enter an organizational partnership:

<table>
<thead>
<tr>
<th>Evidence</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research studies suggesting that patient outcomes are heightened in specialized rehabilitation facilities rather than in acute settings</td>
<td>Government appetite for partnership across the continuum of care ¹⁵</td>
</tr>
<tr>
<td>Patient benefit, financial benefit</td>
<td>Facility requirements</td>
</tr>
</tbody>
</table>

Why evidence was used in the strategic decisions for partnerships

In the partnership decisions for Sites 1 and 2, the evidence was used in an instrumental/problem solving manner, as the evidence was described as being acted upon in a direct manner. In the absence of the evidence demonstrating the patient benefit of a new method of managing this particular patient population, the decision to change the model and to develop partnerships to enable this new model of care would not have been undertaken. After the model was adopted successfully at Sites 1 and 2, it could be said that the evidence was used interactively/deliberatively in order to support the partnership (to obtain government support for this partnership) so that the model could be expanded to extend optimal care to patients across the city.

¹⁵ “continuum of care” refers to the partnership of facilities ranging from acute, complex continuing care, rehabilitation and other specialized patient care facilities that manage the different needs of patients throughout their healthcare journey.
For Site 3, evidence was brought to bear as part of a strategic process for two existing programs to merge. The process by which the evidence was brought to bear was described as being interactive/deliberative given that there was an opportunity to capitalize on a specific market before others could follow suit. Regardless of the political nature of the conditions under which the decision was made, the final decision was not described as being predetermined. During the decision making process the evidence was used instrumentally to demonstrate that the program should continue and be restructured within the organization to merge two existing areas in order to facilitate the provision of optimal patient care.

For Site 4, the decision was political in nature, however, once the evidence was brought to bear in the decision making process, it was used instrumentally to arrive at a decision that was optimal for the patients and the two organizations involved. There were external government conditions that supported this work, in addition to internal benefits for other program growth if this work were transferred. These factors, however, were not described as the primary drivers of the decision. Evidence in this case was expressed as being used instrumentally to ensure that the transfer would yield optimal patient care; the additional organizational benefits were ancillary.

**Quality Decisions**

**Site 1: Quality decision**

In this case, the study participants described that evidence surrounding the importance of quality improvement existed. The organization’s leadership explained that due to existing expertise in the area, and a defined strategic priority already on quality, it would be beneficial to the organization to invest in quality infrastructure. This investment would build on existing clinical expertise but also on the academic focus of quality improvement. The conditions
surrounding this decision were from an external perspective, primarily the focus of the university and the impact on the academic program on quality. And, from an internal perspective it was aligned with the mission for excellent patient care and academic activities focused on excellent patient care, and existing expertise and leadership in quality.

*It only made sense that we be one of those leadership hospitals because it was right on our strategic goal, and it was right around leadership as opposed to implementing specific safety practices in your own hospital. It was leading a systems approach to things. So it fit very well within strategy.*

Absolutely. If that wasn’t one of our strategic goals, I’m not sure we would have been the first up at bat to have said that. All hospitals want to be safe, but this was right on a specific aspect of our strategy where we could actually show that we were in fact moving forward on our strategic direction to lead in safety best practice.

According to the participants, quality was also a key part of the organization’s culture, and as a result, was a good fit in terms of pursuing the decision to invest in quality as a strategic priority.

*I think it probably came about like many of our approaches to our strategy. We really looked at what is it that was ingrained in the culture of [our Hospital] … I mean every hospital has safety ingrained in their culture. But I think we were doing a number of practices that it just resonated when we asked a broader audience, and we did go out to a broader audience in developing our strategic goals. It wasn’t just about talking to a few people. It wasn’t just talking about the program heads developing theirs. The strategic goals really engulfed a much broader audience in terms of getting feedback. And the whole organization sort of resounded behind absolutely we have to have a strategic goal on patient safety because that is what [our Hospital] is about. That’s what we heard from grass roots people in the organization, that’s what we heard from doctors in the organization. Just everyone felt that that was what [our Hospital’s] reputation and focus was about for years.*

**Typology of the evidence and conditions of the strategic decision to strategically prioritize quality**

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research demonstrating the role of quality improvement in improving patient care</td>
<td>Business case for opportunity, data, current state for opportunity readiness</td>
<td></td>
</tr>
<tr>
<td>University focus on quality</td>
<td>Existing leadership and alignment from an academic stance, organizational culture</td>
<td></td>
</tr>
</tbody>
</table>
Site 2: Quality Decision

In this case, the CEO described his/her role in reviewing the research evidence surrounding quality improvement and its important role in healthcare, and resolved that this was critically important and raised it with the executive team. Through the CEO’s own literature review and through a strategic planning process, wherein internal and external scanning activity was conducted, the evidence demonstrated the important role of quality improvement. After much review of the evidence, quality was developed as a key strategic priority for the hospital. The external conditions surrounding this activity were the government’s focus on quality improvement, the economic context and organizational stakeholder support for quality. While the conditions surrounding the decision were supportive of this work, the evidence that demonstrated the importance and relevance of quality improvement were the main drivers of the strategic prioritization.

“It was the sort of I guess as I reflected on it to realize that hospitals were way behind the rest of the world almost any other business you could be in was already way down the road on quality improvement and it was shocking actually that hospitals were not there and there are just so many opportunities that might come out of that so it just as I thought and I read.  It became apparent to me that now is the time. That this was something that just had to happen in health care. You know, and at the same time you know there were fiscal pressures that you know we have with the economic downturn, things are even worse but even before that we are already under fiscal pressure and I guess for me I was aware that hospitals were terribly inefficient and there really was opportunity for increased efficiency if we would only sit down and start designing what it was we were doing and I guess I’ve always been a fan of standardization and you know physicians have resisted standardization forever and therefore not done it, and there is no question that it is really expensive to not standardize. It is also unsafe and it is also bad for patient satisfaction and lots of other reasons why not standardizing is bad but it’s for sure expensive. So, you know, kind of everybody knows that and so that is for me that is all part of it. It is realizing that we could do a whole lot better and it really fits under the rubric of quality improvement.”
Typology of the evidence and conditions of the strategic decision to prioritize quality improvement:

<table>
<thead>
<tr>
<th>Evidence</th>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research studies demonstrating the importance of quality and the impact on healthcare in terms of better patient care</td>
<td></td>
<td>Business case</td>
</tr>
<tr>
<td>Government appetite for quality and accountability, economic context</td>
<td></td>
<td>Stakeholder engagement and support for this work</td>
</tr>
</tbody>
</table>

Site 3: Prioritizing Quality

In this case, it was described by participants that the organization placed quality as a key strategic priority within their strategic plan. The decision to place this prominently within the plan as a result of the medical evidence suggesting the importance, in addition to the widespread attention that quality improvement had been garnering across the government. Moreover, the importance of value was critically important given the economic climate and the necessity for hospitals to provide better service at the same or for less cost.

“The literature review and the environmental scan like the environmental scan and all of the feedback you see all are strategy planning documents looked at trends and the policy environment trends nationally and trends internationally and needs streams of quality and value kept coming up. I mean we wrote this in the middle of recession and value is pretty present and we had lots of conversation about really we want a public hospital in Canada to be talking about value, but in fact we have because we can only do what we can afford and we have to do it as well as we can. And so you know getting to this is was not you just a particular board member saying I have got a vision - this came from that back and forth process of conversation with stakeholders and all the analysis that was done through the board.”

In addition to the external focus on quality, internally the organization had increasingly focused on measurement, and with data, the leadership was able to monitor activity and to drive quality improvement across the organization. This led to the increased emphasis on quality and the alignment of a greater strategic focus with existing activities.
"I would argue that in the last 8 years we have made huge change and it all started with the focus on measurement. So as a kind of a huge driver of change a focus on you know do not just tell me we are good quality we got to see it, we got to measure and we are going to set targets for our review and we can and are going to get better next year and a year after that. I would argue that has been transformational."

Typology of the evidence and conditions of the strategic decision to prioritize quality improvement:

<table>
<thead>
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<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research studies suggesting that quality</td>
<td>Business case</td>
</tr>
<tr>
<td>and value are important</td>
<td></td>
</tr>
<tr>
<td>Conditions</td>
<td></td>
</tr>
<tr>
<td>Government appetite for quality, efficiency and accountability, economic context</td>
<td>Stakeholder engagement and support for this work</td>
</tr>
</tbody>
</table>

Site 4: Quality Decision

In a similar manner to the previous case, the evidence for quality garnered the attention of the study participants, and the organization was committed to ensuring that it was a strategic priority. The internal and external scanning and data collection yielded the important role of quality improvement. The conditions both internal and external to the organization were aligned with this work, but the organization prioritized quality in advance of the government’s introduction of quality legislation to mandate quality improvement across all Ontario hospitals.

“Yes. We got broad input, feedback, and asked for submissions from the hospital and we developed how we would do this. The quality plan was embedded in our strategic plan and we had significant engagement. We – the senior leadership team - considered feedback and made changes as necessary. Internal and external data analyses were conducted and the board and our community were engaged. We have since developed strategies and metrics for measurement to know how we were doing on the plan and have had the entire organization engaged in this work.”

“I would say that we were actually a bit ahead of the curve before the Government really came out with ECFAA16. Even some of the public reporting we had been doing that, as many hospitals had, for quite a while on our website. We had a lot of things in order as far as our scorecards. Our quality strategic plan was in-place before ECFAA, probably a couple of years. This was two years ago before ECFAA. And so when ECFAA came about it was actually easier for us to comply because we had done so much work already.”

16 ECFAA is the Excellent Care for All Act quality legislation introduced in Ontario in 2010
Typology of the evidence and conditions of the strategic decision to prioritize quality improvement:

<table>
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<tr>
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<tr>
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<tr>
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<td>Business case</td>
</tr>
<tr>
<td>Government appetite for quality and accountability</td>
<td>Stakeholder engagement and support for this work</td>
</tr>
</tbody>
</table>

Why evidence was used in the strategic decisions to prioritize quality

In the decision case at Site1 there was already a strong strategic prioritization of quality. The expanded infrastructure was embedded within this larger decision imperative making the evidence brought to bear used primarily symbolically and interactively at the onset, and then instrumentally to ensure the evidence was truly supportive of this investment. For site 2, the case for prioritizing quality was a top-down decision from the CEO who “made it so”. It was a result of instrumental use of evidence demonstrating the impact of quality in organizations (inside and outside of healthcare) and the compelling reason for adopting quality as a front and centre strategic priority for Site 2. There was an external imperative given the government priority which could make the use of evidence in this case interactively at a secondary level after the evidence was initially brought to bear instrumentally.

For sites 3 and 4, evidence appeared to have been used instrumentally. The decisions were described as being based on the review of the evidence from internal and external scanning as part of a strategic planning exercise. That said, the decision also gained strength and support due to alignment with external imperatives, making the use of evidence interactive in addition to instrumental. The initial use of evidence, however, was instrumental, with other considerations strengthening the case, making the use of evidence also part of an interactive process.
Discussion

As outlined in Chapter 4, the sources of evidence that inform decisions are sought and developed from both within the organization and external to it. Study data, based on the interview respondents and document analysis, demonstrate that these actions are meant to gather evidence to determine whether or not there is a “fit” between the organization’s internal strategy and capabilities, and external opportunities. Sometimes these internal and external conditions initiate the decision making process, while at other times the evidence motivates the issue, or the surrounding conditions may support the decision.

Given the scale and scope of strategic decisions, organizational decision makers appear to critically analyze decision opportunities to ensure that they are in the best interest of the organization. One such method of doing so is the way in which they critically analyze internal capabilities against external opportunities. If an organization does not have existing expertise in the area, strategic decisions that venture away from existing strategy are increasingly resource intensive, due to the additional investment required for these new decisions to be implemented. As a result, due diligence is required before strategic decisions are taken. This appears to take the form of locating evidence external to the organization, but also internal evidence is collected and generated, for example very often through business case development. The following excerpts from two different decision makers in two different hospitals sites demonstrate this:

“Within that context you can still look at your external environment and look to see whether there are opportunities or threats because you lose a critical leader position expertise. The question is do you want to take a strategic position from when you actually have an opportunity to maybe change something that you are doing, build something that you are doing because there is a funding opportunity or a system need. They are driven from system need because the Government sometimes asks us to do something and then we need to strategically look at, are we to do it, and if they did do it what is the risk/benefit to us if our strategy is already in place.”
“They’d have to bring a business case. They’d have to show us how does it fit with the general strategic program, start with a definition of an academic health centre, our definition, does it fit? And that has to be on all three points. It has to be on the clinical. It has to be on the education. And it has to fit with research. Like, do we have the research capacity to go in this direction? Is it an area of expertise? If it’s totally off-the-wall and we have no infrastructure and we have no resources to do that we would probably say no. They would have to bring the business case that shows us that they’ve got all of their ducks in a row and that it would fit the definition of an academic health centre. And it would fit with the rest of the strategic priorities that we’ve already got in place.”

The study results support the conclusion that evidence is used in a directed manner in the organizations in this study when embarking on strategic decision making. The evidence sought is done so with intent to collect important and relevant evidence to support the decision at hand. Evidence is also developed and collected in order to assist in persuading decision makers and leading them toward an informed decision. This process occurred through the several occasions where the initial impetus for bringing evidence to bear was symbolic or interactive. However, once evidence was brought to bear on the decision, the participants described that the evidence was used instrumentally during the process. Evidence was critically appraised and utilized in the context of other conditions brought to bear on the decision.

The results of the uses of evidence in these cases based on the respondents and document analysis demonstrate that there are several forces at play during strategic decision making. Often several reasons for why evidence was used in strategic decision making were described. While numerous reasons for why evidence was brought to bear included for instrumental/problem solving, symbolic/tactical, and interactive/deliberative reasons predominantly, the processes appeared to be highly intertwined and not necessarily as straight forward as described by participants. Given the dynamic nature of organizations, multiple activities, opportunities and internal and external conditions, evidence may be brought to bear on a decision for several interwoven reasons.
The decision conditions, both internal and external to the organization, may also be viewed through the lenses of micro (individual), meso (organizational) and macro (system) levels as an intertwined process that appears to result in evidence being brought to bear on strategic decisions. At a micro/individual level, some participants described their personal reliance and value placed on evidence as an important feature of strategic decision making, for example the CEO at Site 2. At a meso (organizational) level there were decisions that leveraged existing priorities and organizational capacity which led to evidence being brought to bear on the decision. At a macro (system) level, there were imperatives relating to government appetite for a decision or new legislation. Additional reflections on the results will be elaborated on in the discussion section (forthcoming Chapter 7).

Summary

The results of research question 3, *When/under what conditions, and why, do decision makers use evidence in strategic decision making in public hospitals?* lead to the conclusion that there are a series of decision conditions that are considered as integral to informing a strategic decision. These conditions are used in concert with, and to contextualize, evidence. Additionally, in a similar manner to evidence, the conditions that inform the strategic decisions are derived from sources within the organization and external to the organization.

From this study, evidence appears to be often used for instrumental/problem solving use, in alignment with evidence based decision making theory; to directly inform the decision at hand. The results of the study, based on the interviews and document analysis also lead to other uses of evidence, including interactively/deliberatively and in some cases also symbolically/tactically. Depending on how embedded a decision is within an organization, it appears that the way in which evidence is used may be nuanced. For decisions that are embedded
in broader (already accepted strategic imperatives) evidence may be brought to bear symbolically/tactically and also used instrumentally through critical analysis of the evidence (e.g. clinical expansion decision and the partnerships for site 3 as examples). For other decisions (e.g. partnerships in sites 1 and 2), evidence was used instrumentally to implement the optimal patient care model, and also interactively/deliberatively in order to garner the required broader system support to enable the partnership to be put in place.
CHAPTER 7: IMPLICATIONS (Limitations, Discussion and Future Research Directions)

Introduction

Chapters 4-6 outlined the study results of the four research questions that guided this study. This chapter includes a synthesis of the study results in the context of contributions to the literature. The propositions from Chapter 1 to inform future research directions, in addition to other future research arising from this dissertation follow.

This study was particularly focused on strategic decisions given the high resource intensity of these decisions, and the risk associated with the outcomes of these decisions. There are no known studies of this kind that have focused on how evidence is defined by strategic decision makers and used in the context of strategic decision making in public hospitals. This study, then, stands to advance the literature on evidence based decision making and strategic decision making in healthcare settings.

The premise of evidence based decision making adopts an inherent assumption that the use of evidence ought to enhance decision quality. This initial exploratory work is thus relevant to setting the foundation for further study into strategic decision making process and decision effectiveness. There are no other known studies that have explored this assumption. The qualitative detail from this study could serve as a basis for future research, including qualitative, quantitative and mixed methods, in this area. If the use of evidence can lead to optimal decision outcomes, then this study makes an important contribution in the initial phase of research into this area.
Study Limitations

The nature of a qualitative study is that a rich in depth understanding is garnered by delving deeply into a particular context, but doing so limits generalizability to other settings and contexts. From a geographical perspective, this study was set in Ontario, Canada, and in particular in the Greater Toronto Area. Canada is a publicly funded healthcare system, and provincially there are different organizational structures that govern healthcare, making Ontario, and the Greater Toronto Area more specifically, a unique setting within the broader Canadian healthcare context. It is also possible that the accountability frameworks and public reporting requirements built into the Ontario healthcare context may yield different approaches to the definition, use and adoption of evidence in strategic healthcare decision making settings as opposed to other systems and settings. However, the rich description afforded by this study could serve to provide contextual richness to further investigation into other jurisdictions.

The hospitals in this study were also all adult acute care hospitals. These organizations were chosen given that they are sufficiently large, by bed size, program volume and budgets making strategic decisions highly influential and important on the broader healthcare system. While these sites were chosen through a series of key informant interviews, there may be inherent generalizability limitations given their size, scope. Additionally, they also all have affiliations with the University of Toronto, as fully affiliated academic health sciences centres or as affiliated community teaching hospitals. While the study represented the two main types of acute adult hospitals in the Greater Toronto Area, they both have levels of academic involvement. This could potentially lead to a heavier reliance on evidence than other types of hospitals and non-healthcare organizations. Additionally, the results could also be more relevant for acute adult hospitals with a more academic focus, rather than being more readily applied to
other types of healthcare organizations, including long term care, complex continuing care, rehabilitation and other remote or rural acute hospitals, as examples.

Qualitative study may not be viewed by some as being “objective” as compared to quantitative studies, given that the environment is not controlled. In fact, the context of a qualitative study is of utmost importance to capture. “Objectivity” may be of concern from multiple perspectives. First, the analysis may be questioned in terms of the influence of any personal views of the researcher. At the individual level, the primary researcher kept a series of detailed memos and exercised bracketing (Schwandt, 2007) in order to attempt to manage internal perceptions and to enable the data to emerge and speak on its own. Additionally, preconceived biases within the researcher as informed by proposed frameworks, experiences, or existing research were overtly acknowledged, but were set aside until data analysis was complete (Charmaz, 2006). In order to mitigate the potential influence personal views of the researcher interfering with the data, the interview guide was revisited on several occasions by the student and supervisor as themes emerged, and all transcripts and documents were analyzed separately by the student supervisor. Through consensus meetings which took place on an ongoing basis, coding and themes were discussed to arrive at the resulting analysis. This process was put in place to ensure quality of data collection and analysis, and to also overcome the reliance on one researcher’s perceptions of data analysis (Cohen & Crabtree 2008). The independent analysis conducted by the student and supervisor also enabled the potential challenges related to qualitative research to be overcome.

The second “objectivity” question related to this study may be focused on the participants. Given that the study was qualitative, with a strong focus on interview self reports, there is potential bias within those reports, and in particular, that respondents may reflect
decision making processes in ways that they perceive to be more favourable. This potential to report in a socially desirable manner was mitigated by the data collection and analysis process that included both interviews and document analysis. The documents included published reports, research studies, and meeting minutes that traced the process of decision making in a very procedural manner. Meeting minutes were primarily focused on tracing the key decision processes, and remained relatively free of subjective commentary (the purpose of taking meeting minutes). Document analysis was done in concert with the interview theme analysis to trace the decisions and what was brought to bear on those decisions to triangulate findings and mitigate potential bias in individual reporting.

Discussion

What evidence is brought to bear in strategic decision making?

A series of different types and sources of evidence emerged as informing any single strategic decision. Evidence ranged from research studies to local business evidence, and this was demonstrated through the individual strategic decisions in the study. Evidence was generated both internal and external to the organization and were used in concert to inform the strategic decision at hand. This result is consistent with theorization that several types of evidence may be brought to bear on a particular decision (Kovner & Rundall, 2006).

As the decision makers in the study defined the evidence they brought to bear on the strategic decisions, they described a broad range of evidence included in the hierarchies of evidence in both management and medicine literatures (Reay, et al., 2009). The evidence brought to bear in strategic decision making ranged from medical evidence generated in controlled environments to local organizational data that was developed and analyzed through the creation
of business cases to assess the strategic decisions that they faced. Additionally, it was consistently acknowledged by the decision makers in this study that an amalgam of evidentiary sources influenced a particular decision and that not one piece of evidence was the sole factor involved in taking the decision.

Evidence has been defined by the decision makers in this study as taking on various forms, consistent with theorization in the literature and the levels of evidence hierarchies in both evidence based management and evidence based management (Reay, et al., 2009). The literature on evidence based management and medicine distinguishes between “levels of evidence”, where higher level evidence is distinguished from lower level evidence by the rigour ascribed to the methods used to generate evidence. For example, if evidence is generated by highly controlled, generalizable studies, it is viewed as being of the highest level as compared to evidence which is arrived at through other methods, for example case studies, that are qualitative in nature and typically have more localized relevance. Table 1 outlines the rubric of evidence in the literature, from Reay, et al., 2009:

Table 1

<table>
<thead>
<tr>
<th>Level of Evidence</th>
<th>Medical Research</th>
<th>Management Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1 evidence is generated through...</strong></td>
<td>large sample randomized controlled trials (RCTs) that are either (a) positive, with small risks of false positive conclusions or (b) negative, with small risks of false negative conclusions, or (c) meta-analysis.</td>
<td>RCTs or meta-analyses.</td>
</tr>
<tr>
<td><strong>Level 2 evidence emerges from...</strong></td>
<td>small sample RCTs that show either (a) positive trends that are not statistically significant, with big risks of false positive conclusions, or (b) no impressive trends, but large risks of false negative conclusions, or (c) (a) a high quality literature review that is replicable, comprehensive, and provides a synthesis and actionable recommendations predicated on the synthesis, or (b) a systematic literature review.</td>
<td></td>
</tr>
<tr>
<td>Level of Evidence</td>
<td>Medical Research</td>
<td>Management Research</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------</td>
<td>---------------------</td>
</tr>
<tr>
<td><strong>Level 3 evidence is garnered through...</strong></td>
<td>observational studies, retrospective case control studies, or prospective cohort studies. Data from these studies helps us to understand what variables might be useful to consider as cause and effect variables.</td>
<td>comparative, multi-site case studies, or large sample quantitative studies involving data collected from more than one site (organization).</td>
</tr>
<tr>
<td><strong>Level 4 evidence is gathered through...</strong></td>
<td>the use of historical controls. One uses past experience as a control and assigns all new patients to receive a new intervention. It is important to understand clearly what happened to the patients in the past, before a new intervention is introduced.</td>
<td>small sample, single-site qualitative or quantitative studies. These studies are theoretically motivated and are completed by trained (management) researchers who have (at most) an arms-length relationship with the organization under study; the “voice” of these studies is objective.</td>
</tr>
<tr>
<td><strong>Level 5 evidence is generated through...</strong></td>
<td>descriptive clinical studies. This approach can be useful in studying how to apply a new technique, identifying the problems associated with it and how it works with different groups of patients.</td>
<td>descriptive studies and/or self-report stories. These studies generally include observations, admonitions and recommendations of import to managers. Early papers important to the then “new” area of evidence-based management offered nascent theory bolstered by Level 5 evidence.</td>
</tr>
<tr>
<td><strong>Level 6 evidence is based on...</strong></td>
<td>the opinion of respected authorities or expert committees without additional data. This is the weakest type of evidence.</td>
<td>the opinion of respected authorities or expert committees without additional data. Some papers offer anecdotal evidence as a means of supporting expressed opinions. This is the weakest type of evidence.</td>
</tr>
</tbody>
</table>

The typology of evidence that was introduced in Chapter 4 was meant to enable the differentiation of evidence brought to bear on decisions that are derived internal and external to the organization. Examining the typology closer, it is possible to identify how it captures concepts from the hierarchies of evidence in the Evidence Based Management and Evidence Based Medicine literatures. If one looks at the generation of evidence from the external environment, examples included randomized controlled trials and other generalizable research. This is consistent with the concepts of “Big E” evidence (Rousseau, 2006) and the highest levels
of evidence (Level 1) in both Evidence Based Management (Reay, et al., 2009) and Evidence Based Medicine (Sackett, et al., 1996) which include rigorous and highly controlled research studies that have generalizable relevance. Moving across the typology to the internal environment, a new output being generated would be considered more local research and analysis, for example business case development for a particular organizational decision. This could be considered “little e” evidence (Rousseau, 2006), or lower levels of evidence (levels 4 and lower) in Evidence Based Management and Evidence Based Medicine.

When comparing the levels of evidence rubric in evidence based management and medicine (Reay, et al., 2009) to the results of this study, Level 5 evidence in evidence based management could be broadened to include organizations developing their own evidence through synthesis and analysis of internal and external conditions by way of targeted data collection to inform a decision. The internal development of evidence figured prominently in the evidence brought to bear in the decisions in this study. The concept of decision makers developing their own evidence through local data is consistent with the local development of evidence from other organizations, and thus this level could be expanded to include the findings from this study.

**How evidence was obtained, developed, and brought to bear on the strategic decisions in this study**

The theme of evidence being generated internal and external to the organization is consistent with the literature on planning, environmental scanning and analysis when embarking on strategic decision making. The literature outlines the process by which organizational decision makers look internally and externally for inputs into strategic decision making (Harrison, 1996; Walters et al., 2001; Frishammar, 2003). The purpose of this activity is to identify opportunities, to be sensitive to changes in the environment that could inhibit or
strengthen their strategies, and to address “strategic gaps”, which focus on the fit between the capabilities of the organization and its most significant external entities, or the imbalance between the current and desired strategic position of the organization (Harrison, 1996). Harrison’s (1996) decision making model in particular reflects the results of this study that demonstrate that organizational decision makers search for evidence both internally and externally. While Harrison’s (1996) conceptual model acknowledges “information” from the external environment it does not explicitly address the role of evidence in the strategic decision making process. It also assumes that every strategic decision is new. The decisions in this study were predominantly strategic decisions that built upon already existing broader strategic decisions (with the exception of the partnership at Site 4 to transfer the rehabilitation beds out of the organization which was a complete departure from their current practice).

Harrison’s (1996) model is quite rational, but it does provide for some dynamic interaction with the external environment, which opposes the purely rational evidence based management decision making model proposed by Kovner and Rundall (2006). This study demonstrated that while there were processes and structures to ensure that strategic decision making was a somewhat rational process, through evaluating evidence as part of the decision making process, the conditions of those decisions were also crucial. These conditions were factors which made the organizational susceptible to a series of influences in the decision making process that were not evidence but that contextualized the evidence. For example, in several of the decisions there was an external opportunity that presented itself for the organizational decision makers to determine whether or not it would proceed with a decision. Furthermore, evidence was brought to bear in this study often to assist in persuading decision makers at high levels of the organization’s hierarchy to move forward with a particular strategic decision. In
other words, evidence was often brought to bear initially in a deliberative/interactive manner, however; once it was brought to bear on the decision it was used instrumentally by the decision makers through critical evaluation and analysis of the evidence in concert with other decision conditions.

The process by which evidence is gathered is also important. According to Kovner, Elton, and Billings (2000) definition: “an evidence based approach to health system management is the conscientious, explicit, and judicious use of current best reason and experience in making decisions about strategic interventions. The relevant skills include identifying emerging opportunities, precisely defining management challenges or opportunities, data collection, proficiently searching and critically appraising relevant information from published and non-published sources, and then deciding whether and how to use this information in practice” (p. 10). Embedded in this definition of evidence based management is the acknowledgement that at times evidence may not exist or be available to inform a particular decision; however, the act of searching for evidence and then identifying and analyzing all forms of evidence that are available to inform the decision is critical to the evidence based approach to making organizational decisions. In this study, based on the reports from the decision makers and from the content analysis of supporting documents from the decision making process, evidence was sought, obtained when available, and brought to bear for all of the decisions analyzed. The results of this study strongly indicate that there were processes undertaken to locate evidence and critically appraise the relevant evidence in order to proceed with the strategic decisions in these participating organizations.

Absent from the aforementioned definition is the motivation or reason why evidence may be brought to bear, which relates to the decision conditions. Based on this study, evidence was
brought to bear on strategic decision making as part of an interactive process involving decision conditions at a macro/system, meso/organizational and micro/individual level. While evidence was often analyzed and used instrumentally, the initial reasons for bringing evidence to bear often appeared to be symbolic to enhance the case for support for a particular strategic decision. This is consistent with Langley’s (1989) results that formal analysis and socio-political processes are highly intertwined in order to result in the intended decision. At a macro/system level, decision conditions included government appetite for a particular program or activity, at a meso/organizational level, conditions included a pre-existing strategic decision or internal capacity, and at a micro/individual level conditions included the decision maker’s capability to utilize and translate evidence in support of a strategic decision, in addition to judgment and experiential knowledge.

As a salient result from this study was the level of sophistication at the decision making table regarding the ability of decision makers to be critical of the evidence brought to bear, and the increasing expectation that evidence be brought to bear for important organizational decisions to be made. It was acknowledged that over time evidence has been used more frequently and as a result has become embedded in the organizational process. In particular, there was an expectation that evidence would be brought to bear, and there was also a process by which evidence was critically analyzed and evaluated in an iterative way until the decision makers were confident in the quality of the evidence brought to bear. Internal evidence was subject to business case development that was codified in forms and templates, and both internal and external evidence were subject to scrutiny on the part of the decision makers to ensure the rigor and reliability of the evidence brought to bear. Moreover, one of the four hospital sites in the study adopted a set of decision making criteria, which they used to evaluate the evidence brought to
bear on the decisions in order to arrive at the final decision. This may be a unique result based on the particular training and capabilities of the decision makers in this study, or it may be a reflection of this particular public healthcare environment. Evidence, and the ability to understand, analyze, and bring evidence to bear may be viewed and valued differently in the healthcare system, and perhaps in the public healthcare system, than in other industries. This particular question was beyond the scope of this particular study, but could be examined by future research endeavors.

Other factors that were brought to bear on the strategic decisions in this study

The strategic decision makers in this study considered an amalgam of several types of evidence, experiential knowledge, intuition and judgment in strategic decision making. While a series of forms of evidence were sought, experiential knowledge, intuition, and judgment were considered crucial in the absence of and/or to be used in concert with formal evidence and criteria when making strategic decisions. While the decision makers acknowledged the important role of judgment, experiential knowledge and intuition, they did not see these as forms of evidence in their definitions. These were factors that were relied upon in the absence of evidence or to be used in concert with evidence, but were not in and of themselves defined as evidence brought to bear in decisions. These findings depart from current theorizing which suggests that experiential knowledge, judgment and intuition are all types of evidence that are regarded as credible and are brought to bear in decision making(Kovner, et al., 2000; Kovner & Rundall, 2006).

This observation relates to Baba & Hakem Zadeh’s (2012) work that attempts to reconcile the dynamic nature of decision making with evidence brought to bear in decision
making. Baba and Hakem Zadeh (2012) acknowledge individual decision maker characteristics (judgement, education, experience) as informing evidence, but not as evidence in and of themselves. This perspective is aligned with the results of this study about the conditions that contextualize the evidence brought to bear on strategic decisions. This is a departure from Kovner and Rundall’s (2006) conceptual framework of evidence based management, where the decision conditions are not acknowledged, and it posits a purely rational step wise decision making process.

As mentioned earlier, there were also a series of decision conditions that were considered as integral to informing the strategic decisions in this study. These conditions lie outside of the current definitions of what constitutes evidence in evidence based management and medical decision making, but they are used in concert with, to contextualize, and to encourage bringing evidence brought to bear on decisions. Additionally, in a similar manner to evidence, the conditions used to inform the strategic decisions were derived from sources within the organization and external to the organization and could be categorized at a micro/individual, meso/organizational and macro/system level. Decision conditions ranged from personal characteristics (micro), organizational strengths and opportunities (meso) and environmental opportunities, including financial constraints, government appetite for a particular decision or newly introduced legislation (macro) related to the decision at hand.

**Contributions to the literature on strategic decision making**

The strategic decisions in this study followed an integrated strategic decision making model, that included a hybrid model of procedural, process oriented decision making while accounting for broader contextual influences, echoed in the conceptual frameworks proposed by
Papadakis et al., 1998, Harrison, 1996, and, Baba and Hakem Zadeh, 2012. The organizational decision makers in this study were very specific about outlining a process that they undertook for decision making, and all of the organizations in the study had well developed templates and tools that required that evidence be brought to bear on decisions. By reviewing the twelve decision trajectories tracing how evidence was brought to bear in this study, the decisions were thoroughly evaluated, considered, and undertaken. The use of evidence in a highly instrumental manner in the decisions in this study formed a rational influence on strategic decision making, and through a highly procedural and codified process, it was aligned with rational forms of strategic decision making theory. The expectation that evidence be brought to bear, and the integration of evidence into codified procedure and process through templates and evaluation criteria, is a departure from the view that strategic decisions are often less routine and are more chaotic than other types of decisions (Elbanna & Child 2007). This result may be a function of the particular organizations in this study, but this observation could be further addressed by subsequent studies.

This “rational” view, however, should not be assumed as being reflective of all that occurred during strategic decision making in the organizations in this study. “Rational” procedure was balanced substantially under the decision conditions that included both internal and external influences (including internal and external political, economic and social forces) that strongly contributed to decision making, and in particular, to creating the agenda for decisions to be considered. Additionally, individual decision maker characteristics, including judgment, experiential knowledge and intuition played a role in the strategic decision making context in the case of these study participants.
The factors brought to bear on strategic decision making appear to be deeply intertwined. Given the dynamic nature of the organizations in this study, evidence may be brought to bear on a decision for several inter-related reasons. This study suggests that evidence interacts with the decision conditions and individual decision maker characteristics in context to affect a particular decision stance. This interwoven and dynamic process places evidence as an important feature in all that is brought to bear in strategic decision making. This phenomenon could be a result of the context within which this study is set, including the established public accountability and reporting frameworks and the impact of the role of government on organizations in publicly funded systems. It could also be a result of the individual characteristics and/or education backgrounds of the strategic decision makers in this study who may be trained to search for evidence and have the capacity to understand and implement the results.

**Contributions to Evidence Based Management: “Evidence based” or “evidence informed” strategic decision making?: A new Conceptual Framework**

The framework depicted in Figure 10 synthesizes the key results of what was brought to bear on the strategic decisions in the study. It is meant to demonstrate the interaction of what was brought to bear, and is not meant to imply that there is an ordered approach to how they are brought to bear. The evidence brought to bear on the decision and the decision conditions include the several types identified in the study and that they were both internal and external to the organization (macro and meso levels). Additionally, the individual decision maker characteristics, including judgment, experiential knowledge and intuition (micro levels) are included.
As a result of the interplay of several factors on strategic decision making, including evidence, conditions, and individual decision maker characteristics, the concept of “evidence based” is important to consider. This study demonstrates that while evidence played a critical and central role in the strategic decisions in this study, there are a series of important decision conditions, in addition to individual decision maker characteristics including the role of judgment, intuition and experiential knowledge that are also brought to bear. Accordingly, the
notion of “evidence informed” would be more appropriate to describe the use of evidence in strategic decision making rather than “evidence based”. “Based” presupposes a purely rational actor model of decision making that places evidence as the primary influence on how decisions are made, whereas “informed” acknowledges the interplay of the other factors that were brought to bear on the strategic decisions in this study. The concept of “evidence informed” acknowledges the central role of evidence in the strategic decisions in this study, while simultaneously recognizing decision conditions and individual decision maker characteristics.

While the decisions in this study were not solely based on the evidence, this result is relevant in addressing the literature’s admonition that evidence is not brought to bear in organizational decision making (Reay, et al., 2009). For the strategic decision makers in this study, evidence was an important factor in the strategic decision making process by playing a prominent role in all twelve strategic decisions in this study.

**Future research directions**

This study was focused on healthcare settings in the Greater Toronto Area. Future research could be undertaken to uncover whether or not the findings from this study resonate with other study contexts; in other healthcare settings, other industries, other Canadian jurisdictions, and other countries. Furthermore, research could be undertaken in other types of healthcare organizations, including long term care, rehabilitation, complex continuing care, and other types of adult or children’s acute hospitals that have varying degrees (if any) of academic affiliation. The influence of an “evidence based culture” that may be pervasive in an academically affiliated healthcare institution may or may not contribute the capability and willingness of healthcare
administrators to use evidence in strategic decision making in those settings, providing opportunity for future research.

A set of observations germane to the organizational setting, in particular, adult acute hospitals with academic linkages have been yielded from this study. Further exploration into strategic decision making in different settings would be important to develop the broader knowledge base on whether or not and how evidence is brought to bear on these decisions in other types of organizations, in healthcare and outside of the healthcare sphere. Future research could also look at strategic decision making in other jurisdictions, including other Canadian provinces, territories and other countries to determine whether or not the influence of government or a public healthcare system may influence the use of evidence in strategic decision making. Are public accountability structures that require data reporting, and in this case legislation for quality improvement targets and indicators, have an influence on whether or not and how evidence may be brought to bear on strategic decision making?

This study was focused on executive strategic decision makers, but it is acknowledged that there are other individuals at various levels of the organization who influence strategic decision making. Understanding these processes from the perspective of front line managers, clinicians, directors, and others could illuminate whether there may be differences in definition of evidence and how it may or may not play a role in influencing strategic decisions. Individual factors that strategic decision makers possess, including education and training, also provides a rich opportunity to explore whether or not this may impact on how evidence is defined and how it may or may not be applied to strategic decision making. In particular, are CEOs or other healthcare leaders who are also trained as health professionals more capable or willing to bring evidence to bear on strategic decisions? Differences among types of health professionals (e.g.
physicians, nurses, other health disciplines) and/or differences between clinicians and administrators could also be explored through future research. There also may be team dynamics that influence the use of evidence in decision making that would merit further study.

Related to the varying individuals involved in informing strategic decision making at various levels of the organization, it would be of interest to embark on a study of how evidence may or may not be used to inform operational decisions in organizations (as opposed to strategic decisions). The reasons for why evidence may or may not be brought to bear to inform operational decisions would also be interesting to compare and contrast, in light of this study’s findings of evidence brought to bear in strategic decision making. Furthermore, exploring the features of decisions could uncover the types and quantities of evidence brought to bear.

Furthermore, the results of this study could be tested through a mixed methods or quantitative approach, by exposing decision makers proactively to research results or other types of evidence. The decision making process could then be followed to evaluate whether or not and how the evidence was used. This could leverage some of the knowledge transfer and exchange tools that have been developed in the clinical fields (Van Eerd, et al., 2011), and evaluate their influence on decision making practice. Similar to evidence based medicine and the knowledge translation gap that identifies the difference between what is known through research and what is put into practice, there are similar opportunities in the field of organizational management. The richness of research that is generated on a daily basis in various organizational management fields, for example in organizational development/human resources, information technology, strategy, team dynamics, managing conflict, emotional intelligence, organizational culture, and several other fields are ready for application in settings.
This study suggests that there is a readiness for these particular hospital executives to bring evidence to bear in strategic decision making in the participant hospitals. This could lead to opportunity to expand the dialogue between practitioners and researchers in hospital senior management to not only encourage them bring evidence to bear, but to enable the evaluation of potential decision effectiveness by doing so. It could also lay the foundation for an evaluation of the competencies required by decision makers to critically understand and apply evidence and/or the development of evidence based training programs to support this.

Addressing the propositions from Chapter 1 and future directions arising from the propositions

Chapter 1 outlined a set of positions in the context of the literature on evidence based management and evidence based medicine. The dissertation addressed the future research directions set forth in Chapter 1, and can provide some illumination of its propositions. While all of the propositions are not specifically addressed in this study, there are some observations that perhaps could shed light on current thinking on this topic and provide additional thoughts for future research that may be aimed at more in-depth exploration of a subset of this work.

Proposition 1a: Varying types and forms of evidence may be combined to effect a particular management decision.

The results of the study support this proposition. Consistent across all of the decisions in the study, there were numerous types and forms of evidence utilized to effect the decisions. These ranged from best medical evidence to locally generated business data and there was consistency across the decisions that a number of types of forms of evidence were brought to bear on any one decision. These results could be tested in other organizational types and
jurisdictions to determine whether the study participants are unique or are reflective of similar practices by a broader sample of organizations and decision makers.

*Proposition 1b: Local business evidence may be brought to bear more frequently in management decision making than scientific evidence.*

The results of this study support this proposition; however, the result is importantly nuanced. This study demonstrated that while local business evidence was brought to bear for all of the decisions, scientific evidence was used frequently and was highly relied upon in the majority of decisions. This may be due to the fact that this study was conducted in hospital settings, and as a result this proposition could be explored further in other types of organizations to determine whether this was dependent the study context.

*Proposition 2: The nature of clinical and management decision making differs: decision-making processes, and the evidence brought to bear on decisions, are likely to be different as a result of the influence of contextual organizational, social and/or political forces that have particular impact on management decision making.*

While this study did not set forth an objective to develop comparisons with medical decision making, it did address what was brought to bear on strategic decision making. The strategic decisions in this study were certainly influenced by conditions including the organizational context, social and/or political forces that were considered in concert with evidence. In these decision cases, there were several conditions that were considered as part of the decision, and many of them would not necessarily be as applicable for consideration medical decision making at the patient bedside, for example strategic alignment or a government agenda. Medical decision making is likely less influenced by these forces given that decisions are made
at an individual level and not at a meso organizational or macro-system level with broad ranging impact.

**Proposition 3:** The rationale for utilizing evidence in decision making differs for medical and management decision making.

When comparing and contrasting evidence based medicine and evidence based management, there is an underlying assumption that evidence in medical decision making is always used instrumentally and that this may not be the case for evidence based management. For the decisions in this study, evidence was often brought to bear initially for deliberative/interactive reasons, in order to bring a decision to the attention of the decision makers and to assist in making the case or persuading the ultimate decision makers. That said, once the evidence was brought to bear, it was used instrumentally in the actual decision of whether or not to proceed. The evidence was clearly critically analyzed and questions and often sent back for a series of iterations before the decision makers were confident in the evidence presented. An expectation has been established by the decision makers in this study that evidence was a requirement for the decision to be made. As noted early, this phenomenon would be relevant for future research in other types of organizations and jurisdictions.

**Proposition 4:** Despite their differences, and the particular complexities inherent in each, some of the concepts from EBM may apply evidence-based management.

This study demonstrated a strong willingness and expectation on the part of strategic decision makers to use evidence in decision making. Given that the organizational decision makers in this study viewed the role of evidence as central in decision making, the tools from evidence based medicine and knowledge translation may be applied such that relevant evidence
for decision making can be developed into usable forms. The tools and methodologies developed through the knowledge transfer and exchange could be leveraged by management researchers to spread their findings to organizational decision makers, where the results are relevant (Van Eerd, et al., 2011). For example, the methods by which clinical evidence is synthesized and presented to clinicians to inform their decisions, could be applied to expose strategic decision makers to relevant evidence that could impact their decision making. Organizational management fields that may be particularly relevant to organizational leaders could include emotional intelligence, team dynamics and conflict, organizational culture, and change management.
CHAPTER 8: CONCLUSION

This study aimed to uncover how evidence is conceptualized and used by strategic decision makers in acute adult hospitals in the Greater Toronto Area. Because of the importance of strategic decisions to the course and performance of organizations, they were chosen as the focus of the study. The study demonstrates that evidence is used by strategic decision makers to inform their decisions, and that evidence is systematically sought and critically analyzed in the decision making process.

Evidence was conceptualized as a series of types generated both internal and external to the organization, ranging from research studies to local business cases. It is noteworthy that the internal development of evidence played an important role in the various types and forms of evidence brought to bear on the strategic decisions in this study. The concept of developing internal evidence while relevant and important for the organizations in this study has not necessarily been placed within the rubrics of evidence in the literature on evidence based management.

In addition to the use of an amalgam of types of evidence in any one decision, there were also decision conditions/contextual factors (macro-level imperatives) that were viewed as critical to the decision, including political, social and economic impacts both internal and external to the organization. These conditions played an important role in influencing whether decisions were brought to the fore and how they were decided upon and were used in concert with and to contextualize the evidence brought to bear on the strategic decisions in this study. There were also organizational (meso) level conditions including organizational alignment, existing expertise and resource availability, and decision maker characteristics (micro level
factors) including judgement, intuition and experiential knowledge that were brought to bear on strategic decision making. The strategic decision makers in this study did not view these individual characteristics as evidence, which is a departure from some theories of evidence based management.

An important result of this study is an understanding of the factors that influence strategic decision making processes, and their dynamics. These include evidence (internal and external), individual decision maker characteristics, and conditions (internal and external). Since strategic decisions are often protracted, these factors interact over time to inform strategic decisions; none of the decisions examined in this study relied upon only one factor. In particular, while evidence was considered by decision makers as central to the decision making process, the decisions were not solely dependent on evidence. It would thus be more fitting to consider referring to the decision making examined here as “evidence informed strategic decision making” rather than “evidence based”. This would connote more accurately the inherent characteristics of the strategic decisions and associated decision making processes examined in hospital settings in this study.

There were several reasons for which evidence was reported to have been brought to bear on the strategic decisions in this study. Often an issue for decision was brought to the fore as a result of conditions, for example, internal and external opportunities arising from political, social or economic agendas. In other instances, research evidence for clinical interventions in particular, were so strong that the evidence compelled decision makers to adopt new strategic initiatives in response. Regardless of the impetus for the decision, the data from the respondents and document analysis demonstrated that during the decision making process evidence brought to bear was critically reviewed and analyzed, and was viewed as an important factor in the
The strategic decisions in this study were often part of a broader strategic imperative that the organization had adopted. The reasons for which evidence was brought to bear were often intertwined given the dynamic nature of the decisions, the organizational context, and the external influences on the participating organizations. Decision conditions influenced why evidence was brought to bear initially (often for interactive/deliberative purposes), but when the decision process was undertaken, evidence was reportedly used instrumentally in order to reach the final decision.

Future research could focus on uncovering whether or not the results of this study resonate in other healthcare settings, other industries, and other jurisdictions; from a definitional perspective of what constitutes evidence, in addition to whether or not and how it is brought to bear. This could also be studied at various decision making levels, including operational levels, given that this study was focused on strategic decision making. It is also acknowledged that several individuals at various levels of the organization serve to influence the case for a strategic decision to arrive at the executive table; therefore, further study could illuminate how evidence is sought, used and brought to bear at that level of the organization.

This study outlined that a series of types of evidence are brought to bear to inform strategic decisions, ranging from research evidence to local business evidence. From the perspective research evidence, there are numerous studies published on an ongoing basis that are relevant to practitioners in management fields including organizational behaviour, organizational learning and information management, in addition to many others. As a result, an opportunity exists to undertake initiatives to support management/organizational research as one type of evidence in being brought to bear in the practice of decision making. This includes raising awareness of evidence through increased engagement between practitioners (at an organizational
and system level) and researchers. Furthermore, increased engagement could enable the co-creation of research agendas that speak to the issues that face decision makers which could yield a growing body of practice relevant research. If the promise of evidence based or evidence informed decision making is to ultimately improve decision effectiveness, performance, and outcomes, then there is an important opportunity for academicians and practitioners to work together to realize this potential.
References


Appendix A: Informed Consent

Consent to Participate in a Research Study

Strategic Decision Making in Acute Public Hospitals

1. Introduction

Before agreeing to take part in this research study, it is important that you read the information in this research consent form. It includes details you need to know in order to decide if you wish to take part in the study. If you have any questions, please contact Melanie Kohn, at email: melanie.kazmankohn@utoronto.ca.

You should not sign this form until you are sure you understand the information. All research is voluntary.

2. Investigator

Melanie K. Kohn, PhD candidate, Faculty of Medicine, Department of Health Policy, Management and Evaluation, University of Toronto.

For information or questions, please email: melanie.kazmankohn@utoronto.ca

Thesis committee members:

Dr. Whitney Berta, University of Toronto

Dr. David Davis, University of Toronto, American Association of Medical Colleges

Dr. Ann Langley, University of Montreal

3. Purpose and Description of the Research

The research you are invited to participate in will help to uncover the processes by which strategic decisions are made in acute hospitals (both academic and community). The aim of the study is to illuminate the processes of strategic decision making, who is involved, and what is brought to bear in decision making, under what conditions does this occur and why.

You will be asked to participate in an interview about particular strategic decisions that have been made in your organization. During this process you will also be asked to identify other individuals who were involved in the particular decisions that are discussed, so that the investigator is able to contact those individuals for interviews. This is the process by which the
investigator will develop the participant group. You may be called upon again for clarification of
items or to discuss some potential new items that arise from other interviews.

4. Study Sponsors

This study is a doctoral research study, conducted by Melanie K. Kohn, PhD(c), Faculty of
Medicine, Department of Health Policy, Management and Evaluation, University of Toronto.

5. Protecting your Personal Information

Your answers will only be seen by the project research team and all information will be reported
anonymously. The research team will not share individual answers (will not specify your name
with your responses) with anyone outside of the project research team.

Before the dissertation is published, a copy will be shared with participants. The final paper will
include direct (but anonymized) quotes in the text as part of the study methodology. Should you
feel that for whatever reason a quote may be attributable, you will be able to identify this to the
investigator for further protection before the dissertation is published/available publicly. When
the findings of the study are released in the future, all data will be anonymized.

6. Participation and Withdrawal

Participation in any research study is voluntary. If you decide to participate in this study you can
change your mind without giving reason and you may withdraw from the research study at any
time before or during the interview, up until the interview is completed.

7. Potential Benefits and Harms

The benefits of this study include the illumination of strategic decision making processes, with
the goal of being useful to you and other participants of the study. It will also inform current
theory in the literature – on decision making, management and strategy in the healthcare field,
and future research on strategic decision making.

There are no foreseen harms resulting from participation.

8. Research Ethics Board Contact

If you have any questions regarding your rights as a research participant, you may contact the
Office of
Research Ethics at University of Toronto at: ethics.review@utoronto.ca or 416-946-3273.
## Appendix B: Semi-structured interview guide

<table>
<thead>
<tr>
<th>Corresponding research questions</th>
<th>Interview questions (note: the interview questions will be repeated for each decision)</th>
<th>Probes</th>
</tr>
</thead>
</table>
| RQ 1, 2                          | Please describe how you arrived at (expanding a particular clinical program; entering a partnership; making quality a strategic priority) for your hospital | What informed the decision to make (expanding a particular clinical program; entering a partnership; quality) a strategic priority?  
Of those various things you said informed your decision, what was most relevant? Why? How was “this” brought to bear on the decision?  
Of the things you described, what was least relevant to the decision? Why? |
| RQ 2, 3, 4                       | Do you think that the process by which you made this decision was effective? (expanding a particular clinical program; entering a partnership; making quality a strategic priority) | What was good about it?  
Why?  
Looking back, what might you have done differently? Why? |
| RQ 2, 3                          | Please describe what's happened in the organization as a result of this decision | How has anything changed in your organization? Have there been positive outcomes? Negative outcomes?  
How has the decision made a difference within your organization?  
How has this decision made a difference externally to the organization? |
| RQ 3                             | Can you tell me who else was involved in making this decision? | Why were these individuals involved in particular?  
What roles did they play in the process? |
| RQ 3 | Please describe what else might have been going on when this decision was made | Was it a particularly busy time in the organization? How so?
Were there any external demands on the organization at the time? Can you describe them for me please
Can you describe how the decision was finally made? Was it unanimous? Why/why not? How was it resolved? |
|---|---|---|
| RQ 1, 2, 3, 4 | Please describe the typical way in which strategic decisions are made in your organization. Was the way in which you decided that quality would be a strategic priority for your organization typical of the way your organization makes strategic decisions? | How was it typical? Can you describe another example?
Please describe a time when a strategic decision was made differently. How was the decision making experience different? Why was it different? Did you think this was perhaps a more or less effective way to make a decision? How so? |