LEADERSHIP IN MEDICAL EDUCATION:
COMPETENCIES, CHALLENGES AND STRATEGIES FOR EFFECTIVENESS

A Thesis Submitted to the College of Graduate Studies and Research in Partial Fulfillment of the Requirements for the Degree of Master of Medical Education in the Department of Educational Administration at the University of Saskatchewan, Saskatoon, Saskatchewan

By

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Abstract

The complex nature of health care and medical educational organizations, their different primary goals (clinical service versus education), different organizational structures and the necessity for ensuring efficient and harmonious relationships between these two types of organizations create a challenging environment in which to provide effective medical education leadership. The calls for reform in both medical education and health care have added to these challenges.

The purpose of the study was to develop a framework of leadership for medical education and contribute to the literature on leadership in medical education, based on an analysis of the perceptions of key health education leaders in Saskatchewan medical education organizations at the national level in Canada.

The main objectives were the identification of core competencies, challenges and strategies for effectiveness in medical education with a focus on unique aspects of about leadership in the medical education setting. Multiple methods of data collection (individual interviews and an "event" study with components of focus groups interviews and short surveys) with subjects of varied backgrounds and at different levels of leadership in medical education were entailed in this study.

The data were collected over a period of 13 months (January, 2009 - February, 2010). The perceptions of 32 medical education leaders, stratified into first- (11), middle- (6) and senior-level (15) leadership positions, based upon the hierarchical position and the scope of the job, were obtained and analyzed. Quantitative data were analyzed through descriptive statistics. Qualitative data were analyzed for themes through content analysis.

The findings provide useful information on leadership competencies, challenges and effectiveness strategies in medical education. Leadership competencies included five domains including personal and interpersonal characteristics, skills for effective leadership, skills as an

efficient manager, skills in medical education delivery, skills as a teacher and skills as a researcher. All leaders considered personal and interpersonal characteristics to be at the core of leadership; while skills in medical education delivery, and skills as a medical education teacher and researcher were considered least important. The senior-level leaders spent most of their time in activities requiring leadership functions (e.g., strategic planning and creating alignment) followed by activities requiring managerial skills (e.g., operational management). This distinction in the rank ordering of leadership and managerial skills was not obvious for the first- and middle-level leaders; however, most did indicate that they spent more of their time in roles requiring more managerial skills than leadership skills. Among the key competencies, essential at all levels, were effective communication and building and managing relationships. For the most part, the leadership skills were acquired informally with only a few leaders having undergone formal leadership training.

The leaders faced three types of challenges: personal and interpersonal challenges including effective time management and personal limitations; organizational challenges including those around structures and processes, organizational communication, personal and organizational relationships, creating engagement and alignment, managing culture and resistance and limited resources; and inter-organizational challenges including competing agendas and interests of stakeholders.

The context (societal needs, multiple stakeholders and health care reform), content (medical education delivery and calls for reform) and culture (e.g. professionalism, apprenticeship model of medical education, and the hidden curriculum) of medical education and inherent dualities and conflict require situated leadership skills and strategies. The main leadership theories and approaches helpful in practicing contextual leadership included transactional, transformational, and servant leadership. However, other theoretical approaches, such as moral leadership and learner-centered leadership were also useful.

Effective leadership was considered to include personal and interpersonal strategies, strategies for becoming an efficient manager and strategies for practicing inspiring and effective leadership. Personal and interpersonal strategies included looking after self, seeking advice, consciously developing fortitude, allotting time for priorities and thinking and personal development. Becoming an efficient manager involved diligent delegation, appropriate organizational communication and managing priorities. Practicing inspiring leadership involved developing the structure and processes to achieve vision, providing hope, developing mutually valued relationships which were considered key to engagement, alignment, leading change and managing resistance, moving from power to process, using appropriate leadership styles, developing the art of leading change and managing resistance, proactively influencing culture and accomplishing the vision.

In conclusion, medical education leadership was perceived as requiring both effective leadership and efficient management. The practice of inspiring and effective leadership, however, appeared to be more an art requiring an alchemy of strategies than a simple matter of application.

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CHAPTER 1

Introduction to the Problem

In this chapter a broad overview of the problem is presented followed by the rationale and purpose of the study. Subsequently, the research focus, main objectives, significance, and parameters of the study are described. At the end the organization of this thesis is described.

The Research Problem: The Challenge of Leadership in Medical Education

The complex nature of health care and medical educational organizations, different primary goals (clinical service versus education), different levels of authority across the two systems, power discrepancies in terms of authority, accountability, and status create a challenging environment in which to provide effective leadership. Leaders in the medical education and related health education professions have to lead educational institutions and institutional programs in the context of a changing educational environment (curricular changes, inter-professional education, learning methods – increasing focus on student engagement and experience, and globalization). Leadership for change in medical education has been and will continue to be at the core of reform (Neufeld, Khanna, Bramble, & Simpson, 1995). Further, medical education leaders have to ensure efficient and harmonious relationships with healthcare delivery organizations whose top most priority at all times is population health (acute care, primary care, long-term care, and population health) and who are themselves at various stages of reform in response to societal demands, accountability needs and resource pressures.

The necessity to work with health care and education / university leaders means that establishing credibility with different stakeholders (including academics, practicing physicians, managers in healthcare organizations and other health care professionals), often with conflicting demands, will become a key requisite (Sussman, et al., 2005).

Efforts to develop leadership throughout the continuum of medical education are sparse. These efforts and programs are mostly focused at faculty interested in senior-level positions

(department headships, inter-departmental administrative positions or positions in the Deanery), while leadership at junior levels (course and program management) is offered mostly to those who have expressed an interest in these positions. Tomorrow's medical education leaders will require higher-level management and leadership development in view of the changing landscape of healthcare, educational reform, mergers and new partnerships, societal evolution, and globalization.

Rationale: The Need for this Study

Leadership is considered to be important to organizational effectiveness (Day, 2001; Hogan, 1994). Its measurement and assessment is important for feedback as well as near-term and long-term developmental purposes (Day, 2000; Kotter, 1990b). Further, it is linked with a positive economic value (Cascio, 1994). Leadership conceptualization lends itself to measurement and assessment based upon the theoretical framework.

But, there is a paucity of data on effective leadership in medical education and most extant studies are based on extension of leadership concepts from schools and colleges. Medical education leaders have to balance competing agendas including: 1) the dual demands of being in health care organizations and universities in a rapidly changing landscape of both types of organizations and, 2) the conflict between standardization of education and cultural diversity, and multiple values. At the same time the wider agenda includes influencing the future of health care systems.

The Research Context

This research was contextualized within the inherent complexity of academic health centres and current reforms in health care and medical education. At present, both medical education and health care systems are undergoing many reforms; while the current

recommendations are at various stages of implementation, this is not a static process and new recommendations are continuously being offered. The professionals in higher leadership positions in medical and health professions education have the daunting task steering medical education in a different direction from where it has been for the last 100 years.

In the general education literature, leadership is considered second only to instruction as a factor contributing to the overall success of the students. Leadership in medical education may be the most important variable determining the learning outcome of medical students since changes, considered to be radical by many, are to be implemented to create doctors ideally suited to meet society's demands and function effectively in the evolving model of health care characterized by higher degree of professionalism, higher accountability demands and care by multi-professional teams.

The theoretical framework for this study was provided by: 1) leadership theories and models, 2) the structure and complexity of medical education settings, 3) the current evolution of medical education based upon recommendations from major educational policy-making organizations and 4) reform in health care.

The Purpose of this Study

The purpose of the study was to develop a conceptual framework for and contribute to the literature on leadership in medical education, based on an analysis of the perceptions of key health education leaders (including educational program directors, senior medical education leaders and student leaders) in Saskatchewan and leaders in position of authority in medical education at the national level in Canada. It is anticipated that the identified competencies, challenges and strategies for effectiveness in medical education leadership will be presented to the senior education leadership at the College of Medicine, University of Saskatchewan with the intent of contributing to the enhancement of the leadership capacities in the college.

Research Questions

In order to develop a framework for leadership in medical education, three research questions were used to explore the opinions and insights of medical education leaders in Canada were used. These questions were:

1. What are the core competencies for leadership in medical education?
2. What are the challenges for leadership in medical education?
3. What are the strategies used to provide effective medical education leadership?

Significance of the Study

In view of the challenges and anticipated high-level leadership requirements in medical education in a changing landscape coupled with a paucity of data on this topic, this study was undertaken to distill current understandings of senior-level, middle-level and first-level education leaders in Canada. The findings in this study were compared to what already exists in the literature and then used to develop a post-research framework for leadership in medical education. It is anticipated that this study will provide the College of Medicine with additional useful information on leadership development, training and succession planning at the administrative level. Due to the fundamental importance of leadership as an individual attribute and the requirements of most postgraduate programs for training in the "manager" role, a curriculum in leadership may be developed for use at the post- and under-graduate levels of medical education.

Parameters of the Study

The elements of this study, including assumptions, delimitations, limitations, and definition of terms, are described in the following section.

Assumptions

The following factors were assumed in this research study:

1. This study will supplement pre-existing knowledge and identify and highlight applicable elements in leadership in medical education.
2. Most medical education leaders have valuable information to share on this topic, even though some of them may not have undergone formal leadership training and some of them may not be effective leaders.
3. There is something unique about situations in medical education that require practice of unique leadership, as opposed to other settings (e.g., business, military etc.).
4. Despite # 3, principles and learnings from the general education field are transferrable and adaptable to medical education in the context of changing healthcare delivery structures.

Delimitations

The following factors play a role in defining this study's boundaries:

1. This study was limited to the Canadian context of health care and medical education,
2. The study was limited to leaders with formal positions (assigned leaders) and largely excluded informal or emergent leaders,
3. The senior-level leaders such as the Deans were asked to focus their comments on a narrow slice of their work, specifically, medical education leadership, although their job descriptions have a much wider scope,
4. The study was delimited to voluntary participation of medical education leaders and managers,
5. Collection of data was limited to 13-month period,
6. The study focused on experiences and perceptions of medical education leaders in Canada,

7. The theoretical framework of this study was not explained to the participants, and
8. The theoretical framework was based upon leadership theories and applied educational administration in schools and colleges (and not specifically to healthcare professions education).

Limitations

The following factors are potential shortcomings of this study:

1. Limited time for data collection and the tight schedules of many educational leaders were significant constraints that affected recruitment,
2. Participation was limited mostly to leaders in College of Medicine at the University of Saskatchewan and specific leaders at the national level and may have limited the perspectives; this will affect transferability to other settings,
3. The study was based on participants' experience and understandings,
4. There was a risk in assuming that all leaders in formal leadership positions are effective leaders,
5. The study did not include analysis of objective data on leadership effectiveness, such as performance reviews of leaders or data on formal organizational effectiveness or enterprise performance,
6. Since there was a single author, the biases in values, orientations, and interpersonal relationships and a growing understanding of the topic likely affected interpretations,
7. The data collected were mostly individual perceptions and the results therefore may have been limited by lack of objectivity,
8. The use of multiple research methods may have been a limiting factor, when the data were conflicting,
9. Surveys for leadership research do not tap the full breadth of the operationalization of the leadership construct because these focus on a single level of analysis, usually

behavioural dimensions, neglecting the influence of many contextual factors. In addition to the general drawbacks to surveys, which include sampling bias, non-response bias, truthfulness of the individual, sensitivity of the respondents, and coding errors (Babbie, 1973; Rossi, Wright, & Anderson, 1985), others have noted following disadvantages specific to leadership surveys; 1) these are highly dependent upon the truthfulness of the individual, 2) the response may be influenced by social desirability (Conger, 1998), 3) the questionnaires are limited in tapping the full breadth of the operationalization of the leadership construct (Conger, 1998), 4) the questionnaires focus on a single level of analysis, usually behavioral dimensions neglecting the influence of many contextual factors (Conger, 1998), and 5) the questionnaires limit the range of responses (Alvesson, 1996) allowing for only a superficial generalized theme rather than the why and how of leadership (Conger, 1998),

10. The interview method also has certain disadvantages and limitations and these include; 1) interviews are most useful and beneficial when open ended and unstructured (Alvesson, 1996), allowing pursuit of lines of questioning that would yield most information even while not strictly adhering to the standardized format, 2) the interviews themselves are social situations and it is difficult to determine to what extent the statements from the interviewee are true reflections versus responses due to situational cues by the interviewer (Alvesson, 1996; Silverman, 1989), 3) the structured / limited response interviews are considered by some qualitative methods proponents to be less than an interview and more as "talking questionnaires" (Potter & Wetherell, 1987), 4) the interviewers should understand the terminology of leadership research and have a good understanding of the context; they should also be aware of any problems in the area of leadership in the interviewee's organization,

and 5) content analysis is prone to rater bias and is not value-free (Insch, Moore, & Murphy, 1997).

Definitions of Terms

I have chosen to define the terms that are useful in understanding the research questions and also those terms that have different meanings but were used interchangeably by the participants (e.g., barriers and challenges). Since leadership literature refers to theories, approaches, models and frameworks, I have defined these terms as well to remain true to the original usage of these words by the respective authors.

Academic Health Centre (syn: Academic Medical Centre; Academic Health Sciences Centre): The definition used is the one in the May 2010 report from the National Task Force on the Future of Canada's Academic Health Sciences Centres; "AHSCs in Canada are health care institutions that are affiliated with universities that have heath professions schools including a medical school. In partnerships with the university the role of the AHSC is to educate health professionals, in a clinical care setting, to provide clinical care (particularly complex specialized tertiary and quarternary care) and to undertake research that will continue to improve health and health care" (Brimacombe, 2010).

Approach: A theoretical perspective similar to a paradigm or a loose collection of propositions, concepts and logically related assumptions that orient thinking and research (Bogdan & Biklen, 2007).

Barrier: "Something immaterial that impedes or separates" (Merriam-Webster Dictionary).

Challenge: "To arouse or stimulate especially by presenting with difficulties" (Merriam-Webster Dictionary).

Competency: A competency is defined as a knowledge, skill, ability and behavior necessary to perform a task.

Framework: A framework is a set of assumptions, concepts, values, and practices that constitutes a way of viewing reality. Theories may provide frameworks to develop research questions.

Leadership: The definition constructed for use in this thesis has been derived from a synthesis of the work of different writers (Yukl, Kotter, Wasserberg, Rost, and Bennis & Nanus). Leadership is a process, 1) involving intentional influence by one person toward others (multidirectional) to guide, structure, and facilitate activities and relationships in a group or organization, 2) grounded in firm personal and professional values, and 3) aimed at seeking constructive and adaptive change through vision (Bennis, 2003; Kotter, 1990b; Rost, 1991; Wasserberg, 2000; Yukl, 2006).

Management: The definition of management constructed for use in this thesis is derived from the work of many authors (Fayol, Kotter, Bolam, Glatter, and Bush). Management is an executive function to provide order and consistency in organizations by carrying out agreed policy to achieve the aims of the organization through planning, organizing, staffing and controlling (Bolam, 1999; Bush, 2003; Fayol, 1916; Glatter, 1979; Kotter, 1990a).

Model: A model is a construct or a diagram that explains the underpinnings of a theory base (Bogdan & Biklen, 2007) and since it is not theory itself it can not be tested or validated. It is also considered a graphic description of interrelationships of variables or factors in a theoretical statement (Daresh & Playko, 1995). Models usually have arrows indicating direction of influence.

Theory: "Theory is an attempt to describe phenomena and interrelationships found in the real world in terms that reflect the true nature of the world" (Daresh & Playko, 1995). A theory is an organized body of interrelated concepts, assumptions and generalizations, which explains reality. Formulation of a theory is often followed by "testing" and "verification" leading to new research (Daresh & Playko, 1995).

Organization of this Thesis

In Chapter 1 the study's background, rationale, significance, objectives, underlying assumptions, limitations and delimitations are discussed. In addition, key terms in medical education and leadership are defined.

In Chapter 2 a review of pertinent literature is provided as a conceptual exploration for this study. Leadership and management concepts are discussed, first in a broader context and then within the confines of medical education. Competencies, challenges and strategies used to overcome challenges are then briefly reviewed. Finally, a pre-research conceptual framework is discussed.

In Chapter 3 design strategies to explore research questions are discussed using both qualitative and quantitative research methods through a triangulation strategy (subjects and data collection methods).

In Chapter 4 a detailed analysis of the findings on competencies, challenges and strategies to overcome challenges (data and observations) by medical education leaders in Saskatchewan and Canada is provided in the context of the research questions.

In Chapter 5 a summary, implications of this study and recommendations for further studies are provided. Both expected and unexpected findings are discussed in relation to what already exists in the literature and a post-research contextual framework is developed in this chapter.

CHAPTER 2

Literature Review

Introduction

The conceptual exploration for this study is provided by: 1) leadership theories and models, 2) the structure and complexity of medical education settings, 3) the current evolution of medical education based upon recommendations from major educational policy-making organizations and 4) reform in health care.

The first section in this literature review is devoted to an overview of management and leadership. Following a brief discussion on distinctions and overlap, management and leadership theories, approaches, frameworks and models are reviewed and critiqued. Although there is considerable overlap in the meaning of the terms theory, framework, and approach, I have used these terms to remain true to their original meaning as used by the original authors. Leadership theories have been considered in four broad categories, characteristics of the leader, leader-follower interactions, external variables that affect leadership and integrative theories.

Since this study is contextualized within the inherent complexity of medical education settings and ongoing changes in medical education and health care, the second section is devoted to factors that contribute to the unique perspectives and needs of management and leadership in medical education. It is generally held that the purpose of medical education is to produce physicians to meet societal needs and that the current system of medical education is not designed to accomplish this task. Further, the predominantly biomedical model of health care delivery with its current inefficiencies is not meeting society's health care needs either. Thus, neither the training of the physicians nor the health care delivery systems, in which they practice are ideally suited to societal demands / needs. In this section the structure, relationships and context of medical education institutions are reviewed, including a brief discussion on the nature

of medical education and health care settings as complex adaptive systems. Then, reforms in health care and medical education are reviewed.

The third section of the literature review highlights leadership and management aspects particularly relevant to medical education. In this section, competencies, challenges and strategies to overcome challenges for effective leadership are reviewed. At the end, a conceptual framework for leadership in medical education is described.

Leadership versus Management

Leadership and management involve accomplishment of goals, and working with and influencing people. Perhaps a useful initial distinction between managers and leaders can be understood in the phrase by Bennis and Nanus; "managers are people who do things right and leaders are people who do right things" (Bennis & Nanus, 1985, p. 21). Leadership involves development of mutual purposes through multidirectional influence relationships and management is concerned with coordination of activities to get a job done through a unidirectional authority relationship (Rost, 1991). Kotter's view that leadership produces change and movement by setting direction and developing a future vision while management is concerned with order and consistency is also a useful means of contrasting the two functions. Based upon Kotter's work, the major activities of management and leadership are compared and contrasted in Table 2.1 (Kotter, 1990a). The managerial functions include planning and budgeting, organizing and staffing and controlling and problem-solving, while the leadership roles include establishing direction, aligning people and motivating and inspiring others.

Table 2.1 Management Contrasted with Leadership

Management **Produces Order and Consistency**	**Leadership** **Produces Change and Movement**
Planning / Budgeting	**Establishing direction**
Establish agendas	Create a vision
Set timetables	Clarify big picture
Allocate resources	Set strategies
Organizing / Staffing	**Aligning people**
Provide structure	Communicate goals
Make job placements	Seek commitment
Establish rules and procedures	Build teams and coalitions
Controlling / Problem solving	**Motivating and Inspiring**
Develop incentives	Inspire and energize
Generate creative solutions	Empower subordinates
Take corrective action	Satisfy unmet needs

The relationship between leadership and management is variously viewed as leadership being an integral part of management (Cunningham, 1986), as two halves of the same concept or as partially overlapping concepts (Bennis & Nanus, 1985). These different perspectives are diagrammatically depicted in Figure 2.1, which shows that leadership may be viewed as one of the functions of persons in a management position (far left) or leadership may be distinct from management either with completely different functions (middle) or with some degree of overlap with management (far right).

Figure 2-1: Relationships Between Leadership and Management

Organizations require both competent management and skilled leadership to be successful (Kotter, 1990a). Although management and leadership are considered different, in practical

settings, it is often the same person who functions in both capacities to varying degrees. However, even if the managers and leaders are different persons, there would be situations requiring the mangers to influence a group of people and the leaders to be involved in planning, organizing and staffing. A person in an formal authority position would require proficiency in both managerial and leadership competencies to be an effective (Northouse, 2007).

Management and its models

From the above discussion on leadership versus management, it is apparent that management is concerned with achieving stability and order in organizations. Educational management has been considered as, “an executive function for carrying our agreed policy” (Bolam, 1999, p. 194) and it involves internal operations and managing relationships with external audiences, (e.g. the communities and the external bodies to which the organization is formally responsible) (Glatter, 1979). Bush argued that educational management be tied to the central purpose and the goals of education or run the risk of succumbing to “managerialism” – “a stress on procedures at the expense of educational purpose and values” (Bush, 1999, p. 240).

Based upon the initial work on “scientific management movement” (Taylor, 1947) and “general principles of management” (Fayol, 1916) the study of management has led to the development of various management models. A brief overview of the six major models is provided in Table 2.2. It is based on the main theories of management subjected to empirical verification in the UK education system and discussed in considerable detail by Bush (2003). It can be seen from this table, that many of the management functions, (e.g., human resource management and financial management) are common to all organizational settings, while some functions would need to be adapted to the educational settings (e.g., managing professionals in a bureaucracy).

Table 2.2 Management Models

Management model	Premise and Proposition
Formal Models	This umbrella term includes many similar models emphasizing structural elements of organizations (organizations are systems with hierarchical structures) and a focus on pursuing objectives through rational processes. The authority lies with the leaders based on their formal positions and the power is position-based. The organizations are accountable to the sponsoring bodies. The models in this category include structural, systems, bureaucratic, rational and hierarchical models.
Collegial Models	The organizations make decisions and determine policy through the collegial process of discussion leading to a consensus. Power is shared between the leaders and either some (restricted collegiality) or all (pure collegiality) organizational members who have a shared understanding about the institutional aims. These models are strongly normative in orientation and are considered appropriate for institutions with many professional staff, These models assume a common set of values and decision-making by consensus. Since size of the group has a bearing on collegial management, the scale issues of larger groups are addressed by formal representation.
Political Models	Based on the assumption that policy and decisions in organizations emerge through a process of negotiation and bargaining, these models view conflict as a natural phenomenon. Interest groups and alliances pursue the objectives and the power resides with dominant coalitions rather than with formal leaders. These models focus on group activity rather than the whole institution assuming that the goals of the organizations are unstable, ambiguous and contestable.
Subjective Models	The underlying assumption is that organizations are creations of the people within them and the organization has a different meaning to each member. The perceptions and interpretation of situations for each member is based n his/her background, experience and values. The focus, therefore, is on individuals e.g., the meanings placed on events by people, rather than the whole institution or its subunits. Finally, the organizational structure is considered a product of human interaction rather than pre-determined or fixed. The emphasis is on the significance of individual purposes while the existence of organizational goals may be denied.
Ambiguity Models	These models stress uncertainty and unpredictability in organizations emphasizing complexity and instability as dominant features of organizations with changing and uncertain external contexts adding to the ambiguity. The organizational structure is somewhat problematic due to uncertainty about the relative power of the different parts. Fragmentation and loose coupling based upon common values and goals characterize the organizations. Institutional objectives are not clear and are often vague. The decision-making processes are not be properly understood and the decisions are often unplanned. Participation by members is fluid as they move in and out of the decision-making groups. These models stress the advantages of decentralization and seem to be particularly relevant to professional client-serving organizations e.g., academic institutions.
Cultural Models	These emphasize the informal aspects focusing on values, beliefs, ideology and norms of individuals and how shared organizational meanings are formed through a coalescence of individual perceptions. The value-preferences and ideas of individual members influence their behaviour and their interpretation of the behaviour of others. Symbols and rituals convey shared traditions. The organizational heroes and heroines embody the values and beliefs and typify the culture.

Adapted from Bush, T. (2003). *Theories of Educational Management and Leadership*. London, UK: Sage.

Effective teaching and learning is the core function of educational institutions and the various models discussed below emphasize different aspects of management functions for

educational managers and leaders. Management in educational settings involves cross-pollination from various models, (e.g., the educational institutions are accountable to external stakeholders and have formal authority-based power, but also depends upon collegial decision-making process within the organization; at the same time, the loose-coupling of medical schools with the teaching hospitals is reminiscent of ambiguity models where many decisions are made based upon political management model).

Critique of management models.

Formal leadership models are based upon the scientific management (Taylor, 1947), general principles of management (Fayol, 1916) and bureaucracy (Weber, 1947) constructs initially developed in non-educational settings and later applied to educational settings with mixed results. The emphasis on hierarchical organizational structure explains the formal and official aspects of the organization and its relatively stable nature (Hoyle, 1986) and provides a means for control over staff but it does not account for the informal relationships. Goal development in this model lends itself to alignment of individual, unit and organizational goals and the accountability to external agencies requires the institutions to be responsive to external environmental changes (Everard & Morris 1990). The major criticisms of the formal models in the education context include, 1) that the goals of educational institutions are difficult to define and even more difficult to measure (Bush, 2003), b) that decision-making is not always a rational process (Weick, 1976b), c) that the contributions of individuals are underestimated (Greenfield, 1973), d) that the assumption that power resides at the apex augments tensions between bureaucracy and hierarchical management practices on the one hand and engaging the professionals who have authority of expertise on the other (Osborne, 1990), and e) that the assumption of stability in the formal models is not applicable to most educational institutions and certainly not so during times of change (Bush, 2003). Despite the criticisms, the formal models are prevalent in educational institutions and the newer models developed in response to the

formal models have generated new paradigms but have not dislodged the formal models (Owens & Shakeshaft, 1992).

Collegial models have been adopted by most universities to coexist with formal models. The organizational structure and the importance of goals is shared between both models, however, the emphasis is different. Collegial models require that there be agreement among the members regarding institutional purposes and policies and that the organizational structures are more horizontal with participants and leaders sharing power and equal rights. This may not always be practicable limiting the usefulness of collegial processes (Baldridge, Curtis, Ecker, & Riley, 1978). Further, "the ambiguity of the decision-making process within collegial organizations creates a particular problem in terms of accountability to external organizations" (Bush, 2003, p. 74). The collegial processes tend to be slow and cumbersome and the consensus-based decision-making underestimates the significance of conflict and disengaged staff can cause a failure of the collegial system.

Political models focus on conflict, interests and power and are primarily descriptive as opposed to other models, which are generally normative. Political models strongly highlight the interest groups and alliances and underestimate the significance of rational (formal) and collaborative (collegial) processes in the organizations (Bolman & Deal, 2008) minimizing the role and importance of institutional level decision-making. Political models, however, capture essential features that are important from the theory-for-action perspective as facilitating understanding of how educational institutions work (Morgan, 1997). Bush stated "the view that disagreement is likely to be resolved ultimately by the relative power of participants is also a persuasive contribution to understanding and practice in educational institutions" (Bush, 2003, p. 111).

Subjective models were developed in response to the perceived limitations of formal models. These are not comprehensive in approach and do not provide a clear framework for

analysis. They are considered prescriptive and strongly normative and are the focus of considerable opposition (Hughes & Bush, 1991; Willower, 1980).The concept of an organization in the subjective models is abstract – within the minds, interpretations and behaviours of the members – and the institutions have no structure beyond that created by the members (Cuthbert, 1984). The goals of the individuals are stressed and organizational objectives are denied (Greenfield, 1973). Subjective models do not address the accountability demands of the external agencies and there is very little attention to relationships with the external environment; the accountability of individual members is implied and even that may be to personal beliefs and values (Bush, 1994). If, within an organization, the meaning is due to individual interpretations, the model falls short of explaining the shared meaning between institutions. Further, these models do not provide advice for action in practical settings (Bush, 2003). However, the subjective models have helped "soften" the rigidity of formal models and highlight the "individual aims" perspective for institutions (Bush, 2003).

The ambiguity models are descriptive approaches and not normative theories. In the ambiguity models, the goals are not only unclear but also not useful for guiding behavior; it is the decision-making process that provides an opportunity for discovering goals (Cohen & March, 1986). The organizational structures are considered aggregates of loosely-coupled subunits and subject to a variety of interpretations due to different combinations of ambiguity and autonomy of the various parts (Enderud, 1980). Members often underuse their decision-making rights, participating only for the issues relevant to them and decisions made without enough participants may become problematic later. Satisfying the needs of external agencies adds to the ambiguity as, for example, the market economy has demanded that the educational institutions become more sensitive to the needs of existing and potential clients (Bush, 2003). Ambiguity models are inappropriate during stages of stability and offer little practical advice during times of turmoil or rapid change. They also exaggerate the degree of uncertainty since the policy-making framework

of the institutions largely remains intact, even though participants move in and out. Ambiguity models are considered to supplant but not replace the formal and collegial models.

Cultural models' contribution of the informal dimension and the human aspect through values and beliefs of participants complements the formal models. Well articulated goals, especially if linked to organizational values, may be helpful in creating strong cultures (Clark, 1992), however, the existence of multiple subcultures with different values may lead to different interpretations and subversion of the organizational goals (Fullan & Hargreaves, 1992; Schein, 1997). The organizational structure is linked to the culture (Handy & Aitken, 1986), however, the underlying assumptions are not easy to decipher (Schein, 1997). The external environment acts as a source of values, norms and behaviours thus contributing to culture and the complementary values between an organization and an external agency can be exploited for sponsorship (O'Neill, 1994). One of the limitations of the cultural model is the assumption that the leaders can determine organizational culture (Morgan, 1997), while in reality this is hardly ever true; the most the leaders can do is influence the culture (Hargreaves, 1999). Attempts to create a monoculture or shared values may be seen as imposition of a leader's will (Prosser, 1999). Finally, there may be too much emphasis on rituals and symbols while underestimating other organizational elements (Schein, 1997). The cultural models appear timely in view of the emerging focus on societal culture. These models emphasize the significance of the context and provide a focus for action in the organizations.

The six models discussed above provide different frames and the relevance of each model varies with the context. These models are different in their approach to organizational goals, organizational structure and the relationship with the external environment.

Leadership

Although there are general connotations associated with the word leadership, the definitions of leadership are numerous and dependent upon individual perspectives and the

specific aspects of the leadership phenomenon being emphasized (Stodgill, 1974; Yukl, 2006). A common theme in all definitions, however, is that it is a process involving intentional influence by one person over other people to, “guide, structure, and facilitate activities and relationships in a group or organization” (Yukl, 2006, p. 3). There are however, two more dimensions that are needed to develop a working definition of leadership. These are values and vision. Influence by itself is neutral and the construct requires leadership to be grounded in firm personal and professional values and “unification of people around key values is considered a primary role of a leader” (Wasserberg, 2000, p. 158). Vision is commonly regarded as an essential component of leadership and four of ten “emerging generalizations” of leadership, are directly related to vision (Bennis & Nanus, 1985).

Leadership As a Social Construct and Theories of Leadership

Leadership is a social construct (Duke, 1998; Shapiro, 2006) and its theories and perspectives tend to reflect societal norms and overarching common understandings at the time the theories were put forward, the orientations of the authors and the settings in which these were developed. Leadership can be viewed from different perspectives and most leadership theories can be categorized in three broad categories, characteristics of the leader, leader-follower interactions and external variables that affect leadership.

Leadership Theories Based on Leader Characteristics

Three theories and one approach can be considered under this broad category (Table 2.3). In this table a brief explanation of the salient features of each of these theories and approaches is given. Some of these theories provide justification for identification of people for leadership positions based on their inherent characteristics, (e.g. trait and cognitive resources theories), while others lend themselves to development of leadership skills through training programs (e.g. leadership skills theory and Style approach).

Table 2.3 Leadership Theories Based on Leader Characteristics

Theory / Approach	**Premise and Proposition**
Trait Theory	According to these "great man" theories, people with certain innate personality characteristics (traits) such as intelligence, self-confidence, determination, integrity and sociability can provide leadership under any circumstances (Stodgill, 1948, 1974). It proposes that leaders are born (Zaccaro, Kemp, & Bader, 2004).
Cognitive Resources Theory	Explains leadership based on cognitive characteristics or resources of the persons. These cognitive characteristics included intelligence and experience (Fiedler, 1986; Fiedler & Garcia, 1987).
Leadership Skills Theory	Explains leadership based on personal skills (capabilities) e.g., problem-solving, social judgment and knowledge that are used to implement solutions to complex organizational problems. It suggests that leadership skills can be learned and developed (Katz, 1955; Mumford, Zaccaro, Connelly, & Marks, 2000).
Style approach	Emphasizing the behaviour of the leader towards the followers in different contexts it explains how the leaders use two kinds of behaviors to reach a goal. The two general kinds of behaviors include task behaviors (that facilitate goal accomplishment) and relationship behaviors (that make the followers comfortable with themselves, with others and with the situations). The classic studies include the Ohio State Studies (Hemphill & Coons, 1957; Stodgill, 1974), The University of Michigan Studies (Bowers & Seashore, 1966; Likert, 1967) and the leadership (managerial) grid of Blake and Mouton (Blake & McCanse, 1991; Blake & Mouton, 1964).

Critique of leadership theories based on leader characteristics.

Based on extensive research, the trait theory has uncovered leader attributes leading to the development of benchmarks, which have been exploited in many instruments (e.g., the Minnesota Multiphasic Personality Inventory) helpful in understanding one's profile and in the selection of leaders. However, the list of traits is endless and is not directly linked to leadership effectiveness leading to a subjective determination of most important traits. Further, it ignores situations and does not take into account that certain traits that make someone a leader in one situation may not be helpful for effectiveness in other situations (Stodgill, 1948). Also, it is not helpful in developing leadership since traits are considered to be fixed psychological structures. There has been a resurgence of interest in traits in some modern approaches to leadership e.g., the transformational leadership (Avolio, 1999; Bass & Avolio, 1994), charismatic leadership (Conger, 1999) and emotional intelligence theories (Goleman, 2000).

The leadership skills theory appeals because the skills can be learned and improved upon and it has become the basis of most leadership development programs. Its broad perspective encompasses many complexities of the leadership phenomenon. One of its strengths is also one of its weaknesses; i.e. its broad scope includes so many skills that the precision is lost and this is contributed to by the absence of relationships between skills and their linkage to effectiveness. It includes as skill some “traits” e.g., cognitive abilities and personality variables. Finally, it was mostly developed based on research in military settings and its generalizability to other settings has not been definitely proven (Mumford, et al., 2000).

The styles approach is supported by extensive research and its broad conceptual map is helpful in understanding one’s own leadership behaviors. It highlights two core functions of leadership task and relationships and the managerial model has been used extensively in organizational training and development. However, the leader behaviors have not been convincingly linked to outcomes such as productivity, job satisfaction and morale (Bryman, 1992; Yukl, 1994). The implication that a high-high style (high task and high relationship style) as the most effective leadership style is not fully supported (Yukl, 1994). Also, a universal set of behaviors that would lead to effective leadership has not been identified.

Leadership Theories Based on the Interactions Between Leaders and Followers

The theories based on the interactions between the leaders and the followers include four theories and one approach. These are listed in Table 2.4, which provides a brief explanation of the salient features of each of these theories and approaches. By focusing on the interaction between the leaders and the followers, these perspectives allow for identification of leadership behaviours, which the leaders could adopt in their settings. For example, the participative leadership theory and the social exchange theory provide guidance for bi-directional behaviours between leaders and followers, while the transactional leadership theory describes unilateral

leadership behavior useful in certain settings. The Leader Member Exchange Theory may explain, how and why the leaders may get along more with certain followers and not with others. The psychodynamic approach discusses the usefulness of personalities for different leadership roles.

Table 2.4 Leadership Theories Based on Interactions Between Leaders and Followers

Theory / Approach	**Premise and Proposition**
Transactional Leadership Theory	Explains leadership based on a one-sided and autocratic role of the leader. There are four types of behaviours associated with transactional leadership, contingent reward, constructive transactions, active management by exception, and passive management by exception. This theory proposes that followers do not have any influence on the behaviour of the leader (Bass, 1985, 1996; Bass & Avolio, 1994).
Psychodynamic Approach	The psychodynamic approach emphasizes personality (a consistent pattern of ways of thinking, feeling and acting) and suggests that different personality types are suited to different leadership situations. There is no single theory or model but various authors emphasize the leaders should become aware of their and the followers' personalities (Berens, et al., 2001; Zaleznik, 1977). Based upon the work of Sigmund Freud and Carl Jung it explains that leadership is the result of early relationships with one's family and proposes that there are three different stages that influence leadership: the first stage based on the role of the parents, the second stage based on independence from parents (maturation or individualization) and the third stage when the leader becomes an adult (Kets de Vries, 1988; Lindholm, 1988).
Participative Leadership Theory	Explains leadership as the result of interaction between leaders and followers, where followers can have some influence on the behaviour of the leader (Heller & Yukl, 1969; Strauss, 1977; Tannenbaum & Schmidt, 1958; Vroom & Yetton, 1973).
Leader Member Exchange (LMX) Theory	Explains leadership as the specific relations that leaders develop with followers over time. According to this theory, the leader develops closer exchange relations with a small number of trusted followers, defined as "in-group". People outside the "in-group" are defined into the "out-group" and have another type of exchange relations with the leader (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975). High quality exchanges between the leader and followers in higher accomplishment, less follower turnover and better organizational performance.
Social Exchange Theory	Explains leadership based on exchange of benefits or favors, where followers have certain expectations from leaders, e.g., providing direction (Hollander, 1980; Jacobs, 1970).

Critique of leadership theories based on leader-follower interactions.

Although these theories have been very helpful in teasing the influence process of leadership, these are not without criticisms. Transactional leaders are effective because the interests of both the leader and the followers are advanced and it is in the best interest of the followers to do the leader's bidding (Kuhnert, 1994; Kuhnert & Lewis, 1987).

The psychodynamic approach permits analysis of the relationship between the leader and the follower and emphasizes the need for self-awareness in the leaders. It suggests that effective leadership requires tolerance for other styles and dissuades the use of manipulative behaviour (Stech, 2007). The major criticisms of the psychodynamic approach include, a) its basis on the earlier work on psychiatric patients (the abnormal) with almost no attention to the adult ego state, b) reliability and validity limitations of the key instrument – the MBTI, c) does not taking into account the organizational factors such as culture and structure and d) limited usefulness for leadership development other than assessment of personalities (Stech, 2007).

In the LMX theory the relationship between the leader and followers is the central point and highlights the communication between the two as being crucial. It has a strong research base linking high quality relationships to organizational success, but the validity of the research instruments for measurement has been questioned (Schriesheim, Castro, Zhou, & Yammarino, 2001). The perception of injustice and unfairness by the “out group” members can have a negative effect on those members (McClane, 1991). The theory also does not explain how high quality exchanges are to be formed (Yukl, 1994).

Leadership Theories Based on External Variables or Contingency

Many theories explain leadership in terms of contingency or variables that affect leadership, essentially stating that leadership is dependent on a particular situation. These include the following six perspectives, which are briefly described in Table 2.5. These perspectives are useful in understanding that in addition to leader characteristics and interactions with followers, there are always external variables that will have an influence on leadership effectiveness. According to these theories, the leader would need to adapt the leadership behaviour to the unique situation, (e.g.; according to the Hersey and Blanchard model different leadership tasks would include directing, coaching, supporting and delegating). The path goal theory describes how leaders can influence the followers to achieve organizational objectives.

Table 2.5 Leadership Theories Based on Variables that Affect Leadership

Theory	**Premise and Proposition**
Least Preferred Co-worker (LPC) Contingency Model	Explains leadership based on how the leader's style fits the context; the LPC score of the leader defines if the leader is "task oriented" (low LPC score), or "socio-independent" (medium LPC score) or "relationship oriented" (high LPC score) . Situations are defined by measuring leader-member relations, task structure and position power. Leadership effectiveness is determined by matching the style to the setting (Fiedler, 1964).
Hersey and Blanchard Leadership Model	Leadership is comprised of both directive and supportive dimensions that need to be adapted to the situational demands evident in the competence (skills) and commitment (motivation) of the followers. It explains leadership based on the maturity of the followers (job maturity and psychological maturity). According to this theory, if the followers have well-developed maturity, this would facilitate the performance of the leader (Hersey & Blanchard, 1977). The leadership styles according to the Situational Leadership II (SL II) model include directing, coaching, supporting and delegating (Blanchard, 1985).
Path Goal Theory	Explains leadership based on how the leader can influence the satisfaction and performance of an individual follower. This theory recognizes four behaviors to influence the individual followers: supportive, directive, participative and achievement-oriented (Evans, 1970; House, 1971).
Multiple Linkage Model	Explains leadership based on how the leader can influence the satisfaction and performance of a group to achieve the goals(s) . This theory recognizes four behaviors to influence the group: managerial behaviors, intervening variables, criterion variables and situational variables (Yukl, 1981).
Leadership Substitute Theory	According to this theory leadership is based on situational variables that can reduce or eliminate the need for a leader. The situational variables can be substitutes and neutralizers (Kerr & Jermier, 1978).
Vroom and Yetton Normative Decision Theory	Views leadership based on established norms or guidelines to be used in specific situations. The two variables to effective leadership are decision quality and decision acceptance by followers (Vroom & Yetton, 1973).

Critique of contingency-based leadership theories.

Fielder's contingency model is based upon extensive research and explains why leaders may not be effective in all situations and it can predict leadership effectiveness. However, the face validity and workability of the LPC score has been questioned and the theory does not explain the link between styles and situations. Situational leadership model of Blanchard offers a practical and easily applicable approach for training of leaders and offers advice on what to do in different situations and to remain flexible for leadership effectiveness. However, in the absence of a strong research basis to support the underlying assumptions and the lack of explanation of how followers move from one state to another, the "matching" of styles to situations is questionable. Further, this model is inapplicable to group such as team leadership settings. The

Path-Goal theory explains how the leadership styles affect and help follower satisfaction and productivity and it integrates motivational principles into a leadership theory. On the other hand, the vast range of assumptions and the paucity of a strong research base make it difficult to apply in organizational settings; it is heavily leader oriented and does not adequately address the process of influence or the involvement of followers.

The major problem with situational leadership theories is that there are endless situations and therefore endless forms and types of leadership. So, how does one learn and even begin to understand? It is also uncertain how the organizations can use the findings for situational engineering

Newer and Integrative Approaches to Leadership

The above-described three categories of leadership theories are often considered managerial or transactional - helpful in times of stability but woefully inadequate during periods of change. Since change is often the only constant in organizations, additional concepts, integration of models and varied emphases have led to newer theories of and perspectives on leadership (Bryman, 1996; Storey, 2004). Some theories are considered integrative, since these include variables from more than one of the above three categories. For example, the charismatic theory and the emotional intelligence theory incorporate trait characteristics. Particularly relevant to the educational context is instructional leadership, focusing on teaching and learning and very distinct from other non-educational settings. Seven of these theories / approaches are briefly discussed regarding their definitions and salient points in Table 2.6.

Critique of newer and integrative approaches to leadership.

The emotional intelligence theory has incorporated some trait theory characteristics while distributed, collaborative and learning-oriented leadership approaches incorporate values, followers' needs, and a compassionate and thoughtful approach.

Table 2.6 Newer and Integrative Approaches to Leadership

Approach / Perspective	**Premise and Proposition**
Charismatic Leadership Theory	Charisma is a Greek word that means "divinely inspired gift" and is considered to be limited to certain leaders. Leadership is based on unique personality characteristics (e.g., dominant, desire to influence, confident and strong values) and behaviors (act as strong role models, show competence, articulate goals, communicate high expectations, express confidence and arouse motives) of the leader that influence and motivate followers generating trust, unquestioned acceptance, affection towards the leader, obedience, identification with the leader, emotional involvement, and increased confidence (Conger & Kanungo, 1987; House, 1977; Kets de Vries, 1988).
Transformational Leadership Theory	Leadership is based on changing individuals by helping them reach higher levels of motivation and morality; it considers performance and personal development of followers (Bass, 1985, 1996; Burns, 1978; Downton, 1973). It espouses exceptional influence to implore followers to accomplish more than what is usually expected from them by understanding and adapting to the needs and motives of the followers. Four factors (the 4 Is) are necessary for transformational leadership; these include idealized influence, inspirational motivation, intellectual stimulation and individualized consideration (Bass, 1985; Bass & Avolio, 1994). There are two other perspectives on transformational leadership, which are very similar to the one described above. These are the works of Bennis and Nanus (Bennis & Nanus, 1985) and Kouzes and Posner (Kouzes & Posner, 1987, 2002).
Servant Leadership Theory	Explains leadership based on the idea of the leader acting as a servant, with the duty to serve his/her followers (Greenleaf, 1977). The emphasis is on the leader being a servant first – serving others or a higher purpose.
Emotional Intelligence Theory	It has incorporated some trait theory characteristics such as emotional intelligence in explaining effective leadership (Goleman, 2000). Self awareness and the ability to control emotions in one's own self and others are essential components.
Distributed Leadership	"Leadership at all levels" is about sharing leadership across the organization based upon the ideas that a pool of talent is more effective in managing the complex nature of the organizations and the need for "coherence-making" (Fullan, 2001).
Collaborative Leadership	Collaborative leadership with a focus on a commitment to the partnership requires sharing of power and resources as well as the burden. It requires maturity, high self-esteem. The specific behaviors required of leaders include assessing the environment, demonstrating clarity of values, seeing commonalities and making connections, sharing vision and building and mobilizing people, building and sustaining trust, sharing power and influence and developing people and reflecting on self (Rubin, 2002).
Learning-centered Leadership (also known as Instructional Leadership)	Aimed at promoting growth in student learning as the main purpose of education, leadership is focused on creating new opportunities and providing resources for learning of students and teachers. It is focused on the direction rather than the process of leadership (Bush, 2003). The main tasks of the leader are, a) making learning central to their own work, b0 consistently communicating the centrality of student learning, c) articulating core values that support a focus on powerful, equitable learning and d) paying public attention to efforts to support learning (Southworth, 2005).

The charismatic leadership theory has significant overlap with the transformational leadership theory – it represents a merger of the transformational notion of social influence and the trait theory - has been revised and expanded a few times (Conger, 1999; Conger & Kanungo,

1998). In general terms has a strong potential to link the followers to the leader and the organization by emulating values and behaviors. However, the concept of organizational "heroes" in the charismatic leadership theory is considered unsustainable. The dark side of the charismatic leadership where leaders succumbing to or exploiting narcissistic behavior exploit the followers towards personal ends (Howell & Avolio, 1993). The classic examples are those of Hitler, Stalin and Mao, but the corporate scandals of our times (e.g., Nortel, the Ponzi schemes) are just as worthy of being included here.

The emphasis on intrinsic motivation and the development of followers makes transformational leadership currently popular (Bass & Riggio, 2006) and relevant in view of the current needs of the follower to be empowered and inspired. It is intuitively appealing, and not only does it emphasize the importance of followers by focusing on their growth but it also emphasizes values and morals. However, its basis, the multifactor leadership questionnaire (MLQ) has been challenged due to high correlation between the 4Is and the transactional and laizzes-faire factors (Tejeda, Scandura, & Pillai, 2001). It is considered to lack conceptual clarity in view of significant overlap between the 4 Is indicating that these are not clearly different from each other (Tracey & Hinkin, 1998). Other criticisms include the implied "trait-like" quality making it difficult to teach (Bryman, 1992), the heroic –leadership bias because of its focus on leaders (Yukl, 1999) and being elitist and undemocratic (Bass & Avolio, 1993). Finally, the leaders may manipulate the meaning of the environment to suite their personal goals (Conger, 1999). The positive transformation in followers aimed at raising morality, which is the essence of authentic transformational leadership (the socialized leadership) transcends self interest (Howell & Avolio, 1993) and the term pseudotransformational leadership (Bass, 1998) distinguishes it from the negative exploitive, self-serving and power-oriented leadership with warped-moral values (the personalized leadership) (Bass & Riggio, 2006; Bass & Steidlmeier, 1999). Despite the criticisms, Transformational Leadership is a common current approach.

These approaches and models value human capital and imply the need for alignment between the goals of the followers and those of the leaders and organizations.

Summary of Leadership Approaches, Perspectives and Theories

From the above description, it is apparent that there are multiple leadership notions, approaches, perspectives and theories and the leadership construct is complex that continues to present a challenge to develop a unifying concept. The two structural elements of leadership, the leader and the followers are linked by the interaction between the two and the practice of leadership is through the process of influence, which is bidirectional. Although this thesis is based primarily upon the perceptions of the leaders in positions of authority (the assigned leaders), leadership process is applicable to emergent or informal leaders just as well.

From the above discussion on leadership and management it emerged that the context and setting in which leadership is practiced, (i.e.; the situational relevance) is crucial to providing effective leadership. In order to develop a framework of leadership competencies in medical education and to understand the challenges that this setting provides, the following section is aimed at reviewing the context of medical education setting.

Medical Education: Institutional Structures, Context, Complexity and Directions

In the following section, the broad context of medical education is reviewed with emphasis on its uniqueness. First, the medical education institutions and their unique placement at the intersection of universities and hospitals is discussed. This is followed by a brief discussion on the complex nature of these academic health science centres. Finally the reform and future directions in both medical education and health care are discussed.

Medical Education Institutions and the Academic Health Centres

Medical education institutions include medical schools / colleges and clinical practice sites that provide patient care and opportunities for training of future physicians. The training of

medical students and residents is primarily through the medical schools / colleges. Health care organizations (HCOs) are directly involved in medical education by providing learning resources (teachers, patients, and facilities) and learning environments. Physicians learn and ultimately practice their profession by becoming a part of the health care system and working in HCOs. The HCOs are thus central to not only providing the settings for medical education delivery but are also a source of teaching faculty. Medical education in USA and Canada is remarkably similar and subject to same accreditation requirements (accredited by one body, the Liaison Committee on Medical Education – LCME), however, the health care system in the two countries is quite different and is evolving in different directions.

The academic medical (health) centre (AHC / AMC), also known as academic health sciences center (AHSC), "is an organization or collaborative of organizations, which includes an accredited medical school and one or more affiliated hospitals where many of the medical staff physicians are faculty members" (Wietecha, Lipstein, & Rabkin, 2009, p. 170). The above definition is somewhat limiting since it does not explicitly refer to the other health professions that are a part of the academic health centres e.g., nursing, pharmacy etc. A broader definition has been used in the May 2010 report from the National Task Force on the Future of Canada's Academic Health Sciences Centres; "AHSCs in Canada are health care institutions that are affiliated with universities that have heath professions schools including a medical school. In partnerships with the university the role of the AHSC is to educate health professionals, in a clinical care setting, to provide clinical care (particularly complex specialized tertiary and quarternary care) and to undertake research that will continue to improve health and health care" (Brimacombe, 2010). Medical education institutions are usually affiliated with the universities, but may rarely be stand-alone organizations i.e., the Mayo Clinic. Traditionally, the AHCs have included tertiary care hospitals, but the expansion of medical education delivery into community settings, especially in areas with no university hospitals, is leading to a revised and expanded

view of AHCs (Topps, 2010).

Although there are many variations, in general the AHCs are organized in one of the two governance formats; one is, “a single fiduciary, one executive leader” format as seen in the University of California systems and the other is the, “multiple fiduciary and multiple executive leaders” format at most institutions where the medical school deans and the teaching hospitals CEOs and the university senior leadership team member are the key governance stakeholders. The relationships between the medical school and the university to which it belongs are also strained due to the clinical care emphasis and demands on the medical school and the university’s primary mission of education (Phillips & Rubenstein, 2008), although it is not impossible to achieve synergies (Levine, et al., 2008). The governance, mission and financial structure and flow of funds in the teaching hospitals is different from that of the medical schools (Ludmerer, 1999) and the AHCs are not seamless organizations.

The three primary functions of an AHC are patient care (clinical service), teaching (education) and research (discovery). The educational mission often takes a back seat to the clinical and or research enterprises at academic medical centers (Griner & Danoff, 2000). Given the mandate and mission of AHCs and the need for reform in both medical education and health care, the role of AHCs and its leadership is considered critical and pivotal. The Institute of Medicine in its 2004 report on AHCs made seven recommendations in areas including reforming the education of health professionals, demonstrating new models of care, translating the discoveries of science into improved health, utilizing information and communications technology, establishing and measuring AHC wide goals for change and leadership for strategic change throughout the AHC (Kohn, 2004). A Canadian initiative on the role and future of the AHCs has been unfolding under the auspices of the Academic Health Sciences Centres National Task Force, which recently held a national symposium in January 2010 to engage the stakeholders for review and feedback on the recommendations and implementation strategies

contained in their draft report (AHSC-NTF, 2010) and the final report has been released in May 2010 (Brimacombe, 2010).

It is useful to consider the complex adaptive nature of health care systems and the academic health care centres. The CASs (Stacey, 1996a) are; 1) non-linear with multiple rules-based local interactions between its elements (agents) involving multiple feedback loops, where the relationships between the agents are just as and perhaps even more important than the agents themselves (Cilliers, 1998), 2) emergent and self-organizing (Cilliers, 1998) or self reproducing (Maturana & Varela, 1987) leading to more complex behaviors (Holland, 1995) and the emergence of an order that may be quite different from the original forecast (Kauffman, 1995) and 3) unknowable regarding a definite future due to a dependency on the initial conditions (Kellert, 1993) coupled with non-linear interactions (Prigogine & Stengers, 1997). The terms unknowable or unpredictable are not synonymous with random; the future state may lie within boundaries and be patterned (Stacey, 1996b) and share characteristics with similar organizations (e.g., similar hospital structures and functions). Further, there may be "structures" that limit the emergence of certain behaviors e.g., the climate and weather analogy (Goertzel, 1993), where the exact weather may be unpredictable but the possibilities or the range can be predicted by knowing the climate.

A majority of the medical schools in the West have medical education units most of which were established between 1990 and 2000 (Anderson, 2000); these units play a major role in reforming the medical education. For example, these are involved in faculty development, training of medical teachers, curriculum planning, revisions and monitoring, assessments, program evaluation, teaching medical students about various forms of learning activities, introducing innovations and research in medical education and development of best practice guidelines.

Health Care Delivery and Reform

Since HCOs are integral to medical and health professions education, it is important to understand their inherent nature and priorities, their influence on medical education and their ongoing changes in response to societal and financial pressures, since leaders in medical education will have to continuously interact with and influence HCO leaders for desired changes and outcomes.

Health care structures and delivery formats.

A free flowing "dispersed" model across the three levels of care (primary - common health problems and preventive measures, secondary – more specialized attention such as hospital treatments and tertiary – management of complex and rare conditions) (Dawson, 1975), which places more emphasis on tertiary care, is the traditional health care delivery structure in the USA and Canada as a whole. However, the AHCs now include primary care settings and the placements of training physicians at these sites would require allocation of adequate clinical and teaching resources.

Health care reform.

Health care reform is affecting the operations in the hospitals essential for medical education and this has implications for medical education leaders. The tensions on the health care system often pull in different and sometimes opposite directions (Table 2.7); (O'Neil & Seifer, 1995) and add to the dualities and conflict in health care. These have direct implications on the teaching of future health care professionals.

There have been multiple calls for reform in both countries. The Institute of Medicine (IOM) has recommended organization of health care delivery around many priority areas including quality, chronic disorders, use of information technology and development of interdisciplinary health care teams (Adams & Corrigan, 2003; Greiner & Knebel, 2003; IOM, 2001).

Table 2.7 Major Tensions in Health Care (O'Neil & Seifer, 1995)

Health of the individual patient	Health of the population
Tertiary care	Primary care
Acute Care	Chronic and preventive care
Cost unawareness in medical practice	Cost awareness
Unlimited expectations for care	Affordability of care
Individual physician	Organized health care team
Professional management	Corporate management
Market competition	Government regulation
Inequity in distribution	Fair distribution

The IOM has recommended development of continuous healing relationships, anticipation of patient needs, delivery of evidence-based care and a focus on patient centered care (Adams & Corrigan, 2003). The reform goal in Canada appears to be achieving the most cost effective way to provide the best possible quality health care to the greatest number of people who need it. Based on the recommendations of numerous commissions and task forces to different provincial governments (Mhatre & Deber, 1992) reforms in Canadian health care system have included, 1) cost-cutting through rationalization of human resources (Chan, 2002; Marchildon, 2005) and service delivery (Mariott & Mable, 1998), 2) improvements in quality and access through integration of services (Adams, 2001). The ongoing second phase of Canadian health reform is associated with increased public health expenditures, concerns about the fiscal sustainability of the public health care, calls for market-based reform for increasing private system and new commissions and task forces (Alberta, 2001; Canada, 2002a, 2002b; Quebec, 2002; Saskatchewan, 2001). Many changes have been implemented and some recommendations have been accepted including, 1) an increase in federal funding and reorganization of services (Detsky & Naylor, 2003), 2) creation of a Health Quality Council (Saskatchewan, 2001), 3) creation of the Health Council of Canada and the Public Health Agency of Canada, 4) increased requirements for performance measurement and accountability (CICS, 2004), and 5) establishment of targets for services (CICS, 2003). The debate for and experimentation with

private-for-profit delivery for services within medicare continues (Deber, 2004; Flood & Archibald, 2001; Greschner, 2004; Taber, 2001).

In summary, the inherently complex HCOs and health care systems in USA and Canada are undergoing changes and their main focus remains patient care.

Medical Education Reform

If you want to understand today, you have to search yesterday.

Pearl S. Buck

This section highlights the current status of the ongoing and proposed reform in medical education. The major framework for medical education for the large part in the 20th century in most Western-style institutions including those in Asia is based upon the recommendations of Abraham Flexner (Flexner, 1910). The major features of this framework include, 1) the medical schools belong to the universities, 2) there is a high level of involvement by faculty in research, and 3) there is active learning through laboratory and clinical experience and curricular with one-two years of basic sciences followed by two-three years of clinical sciences. The major achievement of the Flexnerian system has been standardization and quality control, as originally proposed and evident in the requirement for achieving and maintaining accreditation status with the Liaison Committee on Medical Education (LCME) in USA and Canada.

However, subsequent evolution of medical education deviated from the originally intended path primarily due to two factors, research and healthcare changes. Research influenced by the theory of reductionism became more molecular in orientation and distanced itself from patients and most clinical teachers were unable to pursue cutting edge research. Further, research was considered and rewarded much more than teaching in academic hospitals that led to a narrowing of the perspective with patient care, teaching, and research in public health issues becoming less important. Flexner's original belief that research was not an end in its own right (think much, publish little) (Flexner, 1940) was replaced in the academic health centres by a publish or perish

culture (Ludmerer, 1985). The commercialization of health care with attendant higher demands for clinical productivity led to a reduction in time available for teaching by clinicians (Berger, Ander, Terrell, & Berle, 2004; Tarquinio, Dittus, Byrne, Kaiser, & Neilson, 2003; Williams, Dunnington, & Folse, 2003). Currently, the teaching of medical students is mostly performed by clinicians who are not productive researchers and by researchers who do not possess the depth of clinical knowledge and experience (Ludmerer, 2003).

Since Flexner's times and more so in the second half of the 20th century, many concerns have been expressed with the medical education system and these can be broadly considered under the following categories: 1) purpose, 2) curriculum, 3) resources and their allocation, 4) teaching and learning environment, and 5) adjustments in response to external variables (Amin & Eng, 2003; Cantor, Cohen, Barker, Shuster, & Reynolds, 1991; Ludmerer, 1999); these are briefly summarized in Table 2.8.

Table 2.8 Issues With the Current Medical Education System

Category	**Issues / Concerns**
Purpose	Discordance between patient needs and physician training
Curriculum: Goals	Excessive focus on biomedical and research aspects with little emphasis on humanities
Curriculum: Content	Content overload; Excessive biological orientation; Lack of opportunities for students to see the entire spectrum of the illnesses; Paucity of teaching in inter-professional care, population health, health policy, health services organization, and humanities; Limited opportunities for acquiring and developing moral and evolving professional values
Curriculum: Implementation sequence	A lack of continuity between basic and clinical sciences with artificial separation of the two; Suboptimal interactions between basic and clinical sciences
Curriculum: Teaching strategies	Limitations of large class setting; Insufficient emphasis on problem-solving skills and life-long learning; Limited opportunities for independent learning
Curriculum: Assessment of learners	Questionable validity and reliability of assessments,
Resources	Based on biomedical model
Evaluation	Accreditation-driven
Teaching and learning environment	A heavy emphasis on research in academic health centres with teaching taking the third place after patient care and research; Distracted and overcommitted teaching faculty; Erosion of learning environment primarily due to the impact of the managed care and a shift in the emphasis from academic pursuits to clinical revenue generation; Limited opportunities for learning in community care settings.
External variables	Scientific progress, Technology, Globalization
Admissions	Selection of candidates with values integral to the profession and practice of medicine in the context of changing societal demands

From this table it can be seen that there are many fronts where the medical education system is misaligned both internally (the components of the learning cycle including learning objectives, instructional methods and assessments and evaluations) and externally (societal needs vs. physician training). A narrow biological orientation of medical education, formulation of basic knowledge in context-free and value-neutral terms, less emphasis on humanities and acquisition of practical skills / values, a heavy reliance on didactic teaching methods, questionable student assessments, and suboptimal learning environments are major contributing factors. This is not considered to be the desired state by many individuals and organizations.

Recognizing the need for improvement, there have been many calls for reform in medical education including those from: 1) the World Health Organization (WHO), 2) the World Federation for Medical Education, 3) the Network of Community-Oriented Educational Institutions for Health Sciences - renamed The Network: TUHF (The Unity for Health), 4) the General Medical Council (GMC) – UK (GMC, 1993), 5) the Johnson Wood report from USA (Marston & Jones, 1992), 6) the AAMC reports (AAMC, 1984; AAMC, 2004), 7) The Commonwealth Fund (Blumenthal, 2002), 8) The Blue Ridge Academic Health Group (BRAHAG, 2003), 7) the ACME-TRI report from USA, and 8) the Institute of Medicine reports (Kohn, 2004; Kohn, Corrigan, & Donaldson, 1999).

The Network called for multi-professional collaboration in improving community health, fostering collaboration between education institutions with complementary strengths and adoption and diffusion of educational reform (Kantrowitz, Kaufmann, Mennin, Fulop, & Guilbert, 1987; Richards & Sayad, 2001; Schmidt, Neufeld, Nooman, & Ogunbode, 1991). The GMC has recommended two major reforms: 1) reduction of factual overload and 2) promotion of self-education, critical thinking and evaluation of scientific confidence (GMC, 1993). The recommendations in the Johnson Wood report (Marston & Jones, 1992) included, 1) integration of basic sciences throughout the curriculum, 2) incorporation of behavioral and social aspects of

medicine in the curriculum, 3) extension of clinical training beyond tertiary care hospitals into ambulatory care settings, community hospitals, general practitioner clinics and nursing homes and hospices, 4) integrated methods of assessment and, 5) creation of central coordinating authorities within the medical school for implementing the changes. The ACME-TRI report made recommendations on program organization and management, faculty development, student assessment, educational strategies and information management and dissemination (Swanson & Anderson, 1993). The Institute of Medicine (IOM) (Greiner & Knebel, 2003) has advocated extensive use of information technology and educating for the development of interdisciplinary teams.

In general, the medical education institutions and their leaders have been aware of the necessity of the required changes for some time (Mennin & Kalishman, 1998; Swanson & Anderson, 1993). These recommendations and calls for reform have led to a change in the emphasis in medical education as summarized in Table 2.9.

Table 2.9 Changing Paradigms in Medical Education

From:	To:
Teacher-centered learning	Learner-centered learning
Passive learning	Active learning
Motivation: Examinations	Motivation: Learning
Learning in isolation	Group and collaborative learning
Fragmentation of knowledge	Integration of learning
Predominance of lectures	Varied instructional methods
Rote memory	Comprehension, Application and Problem-solving
Teacher-directed assessment	Incorporation of self- and peer-assessment
Departmental organization of courses and teaching	Centralized curriculum planning and delivery Interdisciplinary approaches to teaching

Various educational frameworks have focused on developing competencies in the medical expert role to sharpen the focus and reduce the information overload. It has been recognized that in order to be an excellent physician, skills other than those related to medical expertise are required, especially in the areas of professionalism, communication, collaboration, health advocacy, scholarship, and managerial functions (AAMC, 2002; Frank, 2005). The competency-

based curriculum and reduction in content reflects a shift from a disease-centered to a patient-centered approach to teaching/learning. Inter-professional education is being incorporated to reflect the team-based approach to patient management. Cross discipline accreditation standards around collaborative practice and inter-professional education are being developed in Canada (Nasmith, 2007).

The Royal College of Physicians and Surgeons of Canada (RCPSC), responsible for training oversight and certification in all specialties, and the College of Family Physicians of Canada (CFPC), responsible for training oversight and certification in Family Medicine, have been active for a long period of time in medical education reform.

The CanMEDS format of training is an internationally accepted norm. Based upon its generalist foundations including the four principles of Family Medicine and the roles of future physicians (Woollard, et al., 2000) the CFPC has made 30 recommendations for changes in undergraduate medical education essentially reflecting transformations in medical practice, an approach inherent in whole person model rather than the biomedical model of medicine, an understanding of how people learn, a closer representation in Family Medicine of the demography of illness in the community, and the appropriateness of the learning environment in Family Medicine settings. These recommendations are in three broad areas, 12 guiding principles for the curriculum (e.g., the use of generalist faculty for teaching), eight recommendations regarding the pre-clerkship areas (e.g., active learning strategies) and ten regarding the clerkship areas (focused on developing ongoing relationships with patients and providers) (CFPC, 2008).

Some of these changes have been in place for almost a decade e.g., the introduction of a wider range of courses including professionalism, integrated (non-departmental) approaches to course design, expanded use of ambulatory care sites for teaching, and increasing role of residents as teachers and role models (Whitcomb & Anderson, 1999). Most recommendations have been accepted by medical schools worldwide (Baum & Axtell, 2005; Beck, 2004),

however, a strong resistance to the proposed changes has led to a slower rate of implementation (Anderson, 1993).

Strategies for the implementation of reform have been drafted (AAMC, 2006) including those for specific areas such as the use of technology (AAMC, 2007). An evaluation of the curriculum reforms along three parameters - pedagogy, educational context and knowledge status - needs to be ongoing and the adequacy of the reform also needs to be determined (Iedema, Degeling, Braithwaite, & Chan, 2004).

The *Future of Medical Education in Canada* project led by the AFMC initiated in 2007 is aimed at changing the medical education in Canada to better meet the society's present and future demands in order to promote excellence in patient care (AFMC, 2007). In January 2010, the FMEC project's recommendations – ten major and five enabling recommendations - were launched nationally (AFMC, 2010; Gold, 2010); the postgraduate phase of this project has begun in April 2010.

In summary, medical education system is undergoing an evolution in terms of its purpose (to reflect societal needs for generalist physicians) and process (modification of curriculum, and incorporation of best practices based on general education literature).

Implications for Leadership and Management in Medical Education

It appears from the above discussion that the inherently complex nature of medical education settings coupled with ongoing changes and calls for reform in both health care and medical education create a unique situation that has implications on the leadership in medical education.

There is a paucity of literature on leadership and management in health professions education while there is no dearth of theory, research and advice in the context of schools and colleges. In contrast to general theories of leadership alluded to above, the work on educational

leadership and management has considered educational leadership within various models, paradigms, metaphors and perspectives.

Medical education institutions, both stand-alone as well as those affiliated with universities, like other organizations, are facing demands to work more efficiently and effectively as well as become competitive in the global market place. This directly translates into a need for higher-level leadership requiring collaborations and partnerships, which are intra-institutional (with other administrators, faculties e.g., nursing, pharmacy etc.) as well as inter-institutional.

Based on a survey of more than 100 schools in the USA, it was identified that an increasing generalist orientation coupled with health care delivery changes has influenced the academic deans' perspectives on changes needed in curriculum aimed at a broader and more humanistic role for physicians (Graber, Bellack, Musham, & O'Neil, 1997). It was recognized that maintaining excellence in research needed to be balanced against the broader generalist role and the provision of strong primary care leadership by physicians, providing medical education outside the academic tertiary-care setting and developing a culture of mutual respect and commitment to community service. Some research intensive medical schools have excelled in this bimodal role (e.g., the University of California, San Francisco, the University of California, San Diego, the University of Washington and the University of North Carolina) (Osborn & O'Neil, 1996).

Keeping in mind the intertwined nature of effective leadership and management, and the work on typology of management models (Bush & Glover, 2002; Leithwood, Jantzi, & Steinbach, 1999) it is useful to consider leadership and management paradigms as these apply to medical educational administration and governance. Leadership and management are complementary activities and both are required for success in complex organizations and environments (Kotter, 1990b).

Competencies for Leadership in Medical Education

In general education, standards for educational leadership exist, specifically the 2008 Interstate School Leaders Licensure Consortium (ISLLC) Educational Leadership Policy Standards – which have evolved from earlier versions of these standards in 1998 and 2002; these have been adopted by the National Policy Board for Educational Administration (NPBEA) (CCSSO, 2008). There are six categories of standards including vision, culture and instructional program, management of organization and resources, collaboration, personal characteristics and understanding and influencing larger contexts. There is an accompanying document, which is an implementation guide and provides performance expectations and indicators for educational leadership (Sanders & Kearny, 2008). The Educational Leadership Constituent Council (ELCC), which is composed of three National Council for Accreditation of Teacher Education (NCATE) has drafted standards (ELCC standards), which are similar but have seven categories, the first six being nearly identical to ISLLC standards and the seventh additional category referring to real-work settings for accreditation (http://www.uni.edu/coe/elcpe/edleadership/professionaldevelopment/elcc_standards.shtml; accessed July 10, 2008).

Table 2.10 ELCC Standards for Leadership Competencies

ELCC Standards: Candidates who complete the program are educational leaders who have the knowledge and ability to promote the success of all students by:
Standard 1: facilitating the development, articulation, implementation, and stewardship of a school or district vision of learning supported by the school community.
Standard 2: promoting a positive school culture, providing an effective instructional program, applying best practice to student learning, and designing comprehensive professional growth plans for staff.
Standard 3: managing the organization, operations, and resources in a way that promotes a safe, efficient, and effective learning environment.
Standard 4: collaborating with families and other community members, responding to diverse community interests and needs, and mobilizing community resources.
Standard 5: acting with integrity, fairness, and in an ethical manner.
Standard 6: understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context.
Standard 7: through substantial, sustained, standards-based work in real settings, planned and guided cooperatively by the institution and school district personnel for graduate credit.

A survey of potential employers (Deans, Department Heads and CEOs) of future medical education program directors identified the following nine leading skills; communication skills, interpersonal skills, competent practitioner, educational-goal definition skills, educational design skills, problem-solving and decision-making skills, team worker and building skills, written communication skills and fiscal and budgeting skills. In addition, the personal attributes considered essential were: visionary, flexible and open-minded, trustworthy and value-driven (Bordage, Foley, & Goldyn, 2000).

There is no document of standards for leadership competencies in medical education leadership, however, the National Health Services in UK has developed a NHS leadership qualities framework for clinical service leaders (NHS, 2006). There are 15 qualities with personal, cognitive and social dimensions arranged in three clusters, personal qualities, setting direction and delivering the service. Further, a review of publications, syllabi of degree programs e.g., New England University Masters program, postgraduate certification programs in medical education leadership, e.g., University of Bedfordshire, stand-alone courses e.g., Harvard Macy program for educational leaders and institutes/workshops e.g., Canadian Leadership Institute in Medical Education, The Association for the Study of Medical Education leadership program, and FAIMER fellowship in education and leadership (https://faimeronline2.ecfmg.org/, accessed July 11, 2008) shows that these emphasize certain aspects of medical education management and leadership. Some of the elements in these programs includes sessions on personal and interpersonal effectiveness, leadership styles, leading change, conflict resolution, working in teams, and scholarship in medicine.

Challenges for Leadership in Medical Education

Leaders face challenges in many areas including personal and organizational domains. In general terms, personal challenges may range from, a) lack or paucity of essential skills,

knowledge, attitudes and behaviors, b) lack of capacity to adapt, c) lack of self control, d) being uncaring or unkind, e) putting self interest ahead of the interests of the followers and f) being insular (Kellerman, 2004). Personal issues such as work-life balance, organizational issues including organizational barriers, balancing competing agendas and influencing the impact on the wider health care agenda were identified to be major categories of challenges for medical education leaders based on interviews of a small number of leaders in the UK (McKimm, 2004).

As can be seen in the sections above on reform in health care and medical education, there is a trend towards generalism, community-oriented practice and care by multiprofessional teams. Since the main purpose of medical education is to produce excellent physicians suited ideally to meet society's demands, the revisions in medical education need to be synchronous with these changes.

A majority of the problems in the unselected population are minor ailments addressed at the primary care level; this was observed in 1961 (White, Williams, & Greenberg, 1961), 1980 (Fry, 1980) and confirmed in 2001 (Green, Fryer, Yawn, Lanier, & Dovey, 2001). White had noted the discrepancy in what was taught in tertiary-care oriented academic medical centres and the health care needs of the community,

> Serious questions can be raised about the nature of the average medical student's experience, and perhaps that some of his clinical teachers, with the substantive problems of health and disease in the community. In general, this experience must be both limited and unusually biased if, in a month, only 0.0013 of the "sick" adults….or 0.004 of the patients…in a community are referred to university medical centers… Medical, nursing, and other students of the health professions can not fail to receive unrealistic impressions of medicine's task in contemporary society… (White, et al., 1961).

The tasks of primary care are considered to be, a) first contact care, b) longitudinal care, c) comprehensiveness and d) coordination (Starfield, 1998). Because primary care focuses on common problems, the tendency to consider it routine and not requiring special expertise has been challenged and it is considered that practitioners trained to

focus on organ systems or pathogenetic mechanisms are not ideally suited for this type of care

(Starfield, 1998).

Changing the direction of medical education is expected to require strong leadership to create a balance between the biomedical and the humanistic aspects of medicine. The ongoing reforms in both areas (health care and medical education) exert pressures in multiple directions. Leadership for the changes that are needed will not come from a once-in-a-lifetime leader of heroic proportions but from everyone within academic medicine leading the profession to its promising future through quality education (Cohen, 1998). Diversity and an expanding cultural framework add to the skills required for successful leadership (AAMC, 2009a).

The inherent necessity to work with health care and education / university leaders means that establishing credibility with different stakeholders (including academics, practicing physicians, managers in healthcare organizations and other health care professionals), often with conflicting demands, has become a key requisite. Integration of AHCs with community centres is required (Sussman, et al., 2005). Leadership for change in medical education has been and will continue to be at the core of reform (Neufeld, et al., 1995). The conflict and opposing demands of scientific pursuit and compassionate humanistic primary care are not a 21st century phenomenon:

> Changing social, economic, and political issues affecting medical and health sciences education are so diverse that now diversity itself is the primary challenge for medicine and the health science. The social responsibility of the profession is as urgent as its biomedical mission… (Wharton, 1987).

Encouraging educational leadership (Parsell & Bligh, 2000) in medical schools and building leadership capacity in medical schools is a must for sustaining the changes (Hill & Stephens, 2005). In addition, leadership is an integral part of health care practice, therefore, leadership is needed for introducing leadership courses at both undergraduate (O'Connell & Pascoe, 2004) and postgraduate levels (Awad, Hayley, Fagan, Berger, & Brunicardi, 2004). This will be a challenge, since this will most likely come at the expense of medical expert content.

"We teach not what we know but who we are"
Jean Jaures

Strategies for Effective Leadership in Medical Education

The impact of the leaders' actions on the organizational performance, followers and other stakeholders is a common denominator in various metrices used to assess leadership effectiveness. Some examples of outcome measures are overall organizational performance in areas defined in mission and vision statements, financial metrics, adherence to processes, preparedness to deal with crises or emergencies, follower and customer satisfaction, and the leader's retention of the high status with in the group etc. The outcomes are also temporally separated, (i.e., immediate vs. long-term effects). The farther along in the causal chain of variables, the longer it will take for the effect to materialize. Further, the delayed effects would be influenced by other variables and may not be an accurate measure of leader effectiveness (Yukl, 2006).

The relevance of the measures would depend upon the perspective (e.g., owners, other stakeholders, and employees etc.) and the research question. In view of the negative correlations of some measures e.g., growth of the organization and financial performance, efficiency and flexibility one would have to account for the trade-offs among criteria. Leadership can also be considered at different levels of interactions (e.g., intra-individual, a dyadic process, a group process or an organizational process) (Yukl, 2006). Most leadership theories address one of these levels and this has a bearing on developing criteria for evaluating leadership effectiveness. There are performance indicators for effective leadership based on various criteria and models including Kirkpatrick's criteria (Kirkpatrick & Kirkpatrick, 2007) and those based on ISLLC 2008 standards (Sanders & Kearny, 2008). However, this assessment is beyond the scope of this thesis.

To be a competent medical education leader one needs to acquire skills in management, leadership and application of knowledge in medical education along with a clear understanding

of where health care and medical education are headed. Having been in the trenches as a medical teacher and performed medical education research will broaden the perspectives and provide the necessary experience.

A report by the American Association of Medical Colleges (AAMC) on leadership in medical education highlighted finance and health care reform as the two topmost concerns for medical education leaders and called for integrative leadership in medicine recommending: 1) a commitment to sharing organizational values between teaching hospitals and medical schools, 2) reengineering incentives to shared commitment between hospital CEOs and medical school deans, 3) creation of an organizational culture of transparency and accountability, 4) the need for critical conversations with key stakeholders on education and health care reform, 5) prioritization of patient access and population health, 6) analysis of leadership in their organizations, 7) transforming leadership structures, 8) engaging stakeholders in discussing, "what is right for our organization", 9) developing strategic focus, and 10) endless communication (AAMC, 2009b).

Conceptual Framework: Complexity of Leadership in Medical Education

Based on the literature review, the conceptual framework for this study can be summarized in the following diagram (Figure 2.3). Leadership in medical education is influenced by several variables. These include: 1) the dual roles of the health care systems (disease management vs. health promotion), 2) the internal nature of HCOs and AHCs as complex adaptive systems and its leadership implications, 3) ongoing and proposed health care reform, 4) the conflict between the purpose of education vs. the outcome of vocational training in medicine, 5) the internal nature of medical institutions and its leadership implications, 6) ongoing and proposed medical education reform and 7) the inherent conflict in academic health centres between patient care and education and research. These seven factors exert variable pressures and place often opposing demands on medical education leadership.

Figure 2-2 Conceptual Framework for Leadership in Medical Education

Based upon the general leadership principles and theories and deeper dimensions of leadership and drawing from leadership competencies in the general education literature, the pre-research model for effective educational leadership is proposed to include the following seven domains (Figure 2.4). These include personal and interpersonal characteristics at the core of all leadership. Exercise of leadership in formal authority would require skills as a manager and as a leader. A separate skill set in understanding and influencing the larger context is also considered important. The special context of medical education would required that the leaders have referentially some training in, but at a minimum a deep understanding of skills as a medical education teacher, researcher and expertise in the delivery of medical education. This framework would then offer opportunities for development of standards and measurement tools for assessing

leadership and have implications for the development of leadership training programs.

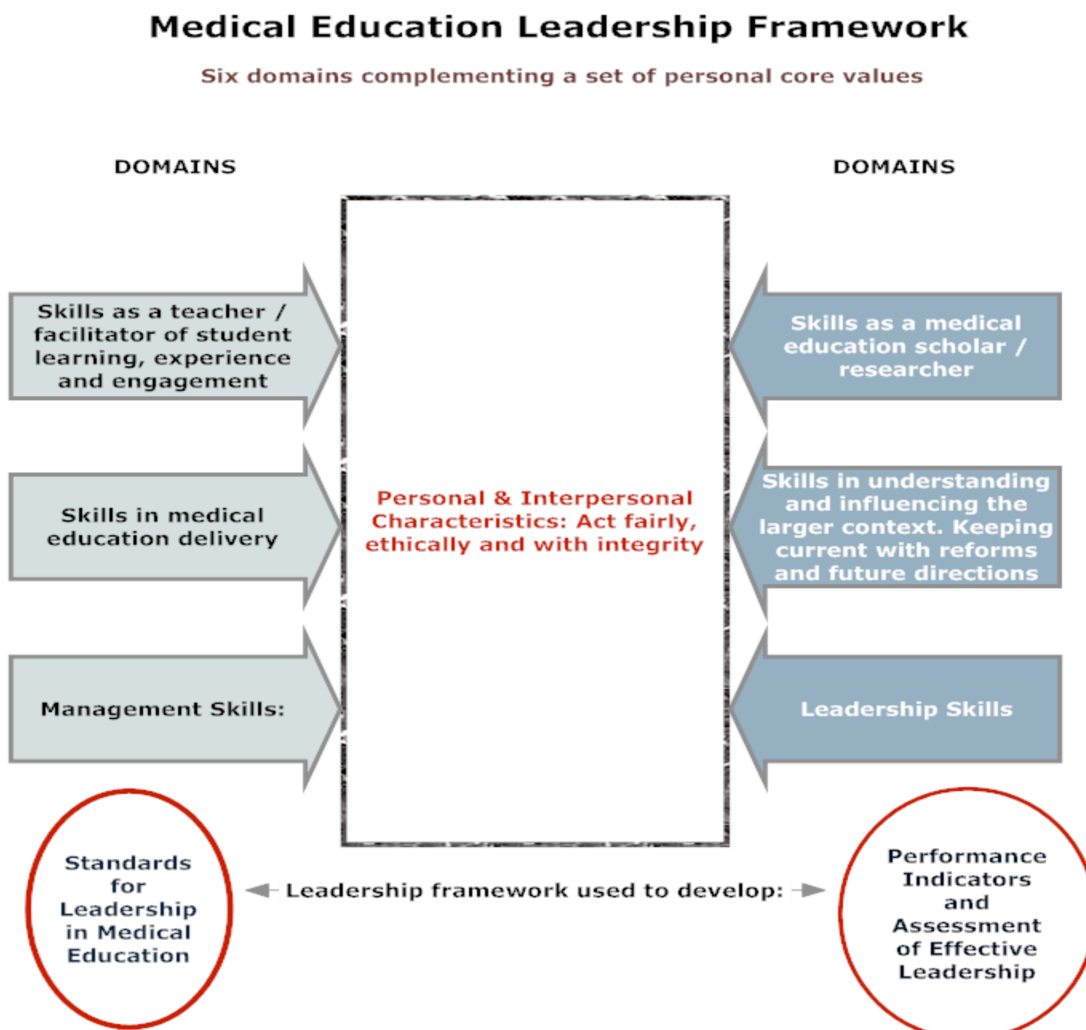


Figure 2-3 Pre-Research Framework of Medical Education Leadership

Summary of Chapter 2

A review and critique of the various management and leadership models in this chapter provided the theoretical foundation for exploration of leadership in medical education. The unique nature of the academic health centres due to their inherent complex adaptive nature coupled with the external pressures and calls for reform provided a basis for identifying factors that contribute to the leadership requirements in medical education. The theoretical basis for competencies, challenges and strategies to overcome challenges for effective leadership were then reviewed. A

conceptual framework for leadership in medical education incorporating seven variables was described followed by a pre-research framework of competencies for leadership in medical education. The conceptual framework and the pre-research competency framework informed this research study in its design, questions and tools.

CHAPTER 3

Research Design and Methodology

Introduction

The purpose of the study was to use extant leadership literature and data collected from key health care education leaders to create a framework of leadership for medical education. This was accomplished by analyzing the perceptions of key health education leaders at various levels of leadership and management positions in medical education in Saskatchewan and across Canada (including educational program directors, senior medical education leaders and student leaders). The data were collected using two methods, an "event" study with a group of leaders and individual interviews. The event study had components of short surveys and focus group interviews that used facilitated conversations; the event study was undergirded by an appreciative inquiry approach to research. All three research questions were explored by both methods. The data were analyzed by appropriate qualitative and quantitative methods. The framework was developed based upon the identified competencies, challenges and strategies for effectiveness for leadership in medical education. Common themes, best practices, and differences in perspectives at different levels of educational leadership were considered. The analysis was contextualized with in the complexity of medical education settings and reform in health care and medical education.

Rationale For The Research Methodology

Since the main purpose of this study was to develop a framework of leadership in medical education encompassing competencies, challenges and strategies to overcome challenges, choosing a research methodology that best permits this was a central question.

Quantitative and qualitative research paradigms differ on a number of assumptions, and the selection of the approach depends on the purpose and nature of inquiry (Creswell, 1994). Quantitative methods are useful when phenomena under study need to be measured, when hypotheses are to be tested and generalizations of the measures are to be made. If measures are not clearly apparent or cannot be developed, then quantitative methods are inappropriate (Williams, 1992). The research on leadership has been dominated by positivist epistemological quantitative emphasis on objectivity, neutrality, procedure, technique, quantification, replicability, generalization and discovery of laws (Alvesson, 1996). This positivistic and technical focus has been the subject of many criticisms (Evers & Lakomski, 1991; Scheurich, 1997).

The qualitative studies – that illustrate the strengths and feasibility of qualitative methods - have been fewer in number. Incorporation of some tools of qualitative methods – interviews and observation – has also been such that the findings have been put together as a quasi-quantified data subjected to quantitative analysis. However, the contextual richness and complexity of leadership lends itself to assessment by qualitative methods (Alvesson, 1996; Bryman, Stephens, & Campo, 1996; Conger, 1998). Qualitative studies are concerned with meanings as these relate to the context; the focus is, "building a complex holistic picture, formed with words, reporting detailed views of informants and conducted in a natural setting" (Creswell, 1994).

The current emphasis in educational leadership research - and for this study - was, "what works" (Slavin, 2004)? Qualitative and quantitative methods can complement each other in this field; the former as a theory generating approach and the latter as a theory testing approach. The two research methods used in this study, an "event" study incorporating elements of short surveys, focus groups and interviews and the semi-structured interviews, taken together provided

a mixed methods approach, although the qualitative component heavily outweighed the quantitative component.

Research Context

The assessment of leadership competencies, challenges and strategies depends to a large degree upon the theoretical framework, intended purpose, population of interest and availability of resources. The analysis was contextualized within the inherent complexity of academic health centres and current reforms in health care and medical education. The theoretical framework for this study was provided by the, 1) leadership theories and models, 2) the structure and complexity of medical education settings, 3) the current evolution of medical education based upon recommendations from major educational policy-making organizations and 4) reform in health care.

Research Questions

Since the main purpose of this study was to develop a framework of leadership in medical education, in the context of complexity of medical education settings and ongoing reform in medical education and health care, three basic research questions were conceptualized that would help in developing this framework.

1. What are the core competencies for leadership in medical education?
2. What are the challenges for leadership in medical education?
3. What are the strategies used to provide effective leadership?

Research Methodology

To ensure validity and reliability of the study, triangulation of data collection methods (interviews and an “event” analysis - focused conversation – with elements of short surveys,

focus groups and interviews), subjects with varied backgrounds and at different levels of leadership in medical education (program, college, national) and analysis (qualitative and semi-quantitative) were used (Gall, Gall, & Borg, 2007). The data were collected over a period of 13 months (January, 2009- February, 2010).

My Background and Role as Researcher

In this predominantly qualitative study, where the meaning is emergent (Tedlock, 2000), and where the perceptions of the participants reflecting their thoughts and emotions are difficult to discern through more conventional and quantitative methods (Strauss & Corbin, 1998), the background of and various assumptions made by the researcher are believed to influence research design, and collection and analysis of data (Schwandt, 1997).

Currently, I am Professor of Pathology at the College of Medicine, University of Saskatchewan and a practicing hematopathologist. I have recently been appointed as Assistant Dean, Postgraduate Medical Education. My interest in medical education and evidence-based administration was sparked by some of the literature on health care and academic health centres and management in Pathology laboratories. Occupying first-level and middle-level management positions in medical education administration (Course coordinator for an interdepartmental Hematology course, Program Director for General Pathology Residency training program) and clinical service delivery (Head, Division of Hematopathology) were instrumental in pursuing how best to manage and lead in personal areas of responsibility in medical education and health care. I found myself immersed in both health care and medical education reform as a front-line administrator. I experienced, first-hand, resistance and inertia, small pockets of excellence, ineffective change management, both high and low engagement and the huge power of organizational culture.

I attended many leadership courses and realized that this is a very complex field and the practice of efficient management and effective leadership cannot be learnt by simply attending a

few courses and reading by myself. Based on what I read and learnt, I also saw many examples of ineffective and effective leadership and stifling and creative management. I felt I needed an academic approach with formal learning. This led me to enroll formally in M.Ed and MBA courses and chose leadership as a topic of formal inquiry for these degree programs.

Participants

The medical education leaders included in this study represent different levels in the medical education system. The hierarchy in the organizational structure and the scope of the positional authority was used to distinguish these levels. Table 3.1 describes the distinctions between the three levels. This stratification was based upon Adair's work on the levels of leaders proposing that the leaders belong to one of the three categories, the team leaders, the operational leaders and the strategic leaders (Adair, 2003). The team leaders lead teams of about 5-20 people and are charged with achieving an outcome with given resources and within certain timelines; this is usually a front-line position. In this study these have been referred to as first-line leaders. The operational leaders occupy a middle management position and are concerned mainly with creation and interpretation of policies and procedures, setting standards and are involved in some outcome oriented work that involves leaders of multiple teams reporting to them. These are referred to as middle-level leaders in this study. The strategic leaders occupy top-level positions with accountability for the whole organization or a significant portion thereof and are involved in creating and communicating vision, formulating strategy and its translation into meaningful objectives, and obtaining resources. These are referred to as senior level leaders in this study.

After obtaining the ethics approval, a letter was sent to all current and six previous leaders in positions of authority at the College of Medicine, University of Saskatchewan. This request for recruitment provide the contact information of the researchers and include the following sections, the purpose and procedure, potential benefits and risks, storage of data, confidentiality, right to withdraw, where the participants could address their questions, follow-up and debriefing

and consent information. The leaders at the national level, the RCPSC, the CFPC, CAME, the MCC and the AFMC were contacted similarly. Interested leaders replied and with many of them I had personal conversations to answer their questions. A total of 24 leaders were recruited for the event study and eight for the individual interviews.

Table 3.1 Leadership Levels of Participants

Level	**First-level**	**Middle-level**	**Senior-level**
Position in organizational hierarchy	First line	Middle-level	Higher- Highest (at or near the apex)
Scope of positional authority	Limited, (i.e., single department courses, student leaders with limited formal organizational authority)	Middle within an institution, (i.e., mutlidiscpilinary courses, specialty training programs)	Wide, (i.e., institution-wide or provincial / national in scope)
Examples	Course Chair or Course Coordinator for departmental or interdepartmental courses, Student leader	Program Director for residency training program or a departmental undergraduate program or Chair of the Department Education Division, Curriculum Chair for College wide programs	Leader at a national policy-making and certification / accreditation body;* Leader responsible for an academic institution (Dean) or its significant portion (Associate Dean or Assistant Dean)

* The national level organizations included in this study were the Royal College of Physicians and Surgeons of Canada (RCPSC), the Association of Faculties of Medicine in Canada (AFMC), the Medical Council of Canada (MCC), and the Canadian Association for Medical Education (CAME).

Data Collection

The data were collected using two approaches: an “event” study that was essentially a focused conversation and interviews. The event study had components of short surveys, focus groups and interviews. All three research questions were explored by both methods. The following matrix (Table 3.2) provides the purpose and rationale, and usefulness of the three components (focus group component of the event study, survey component of the event study and interviews).

Table 3.2 Research Methodologies: Participants, Purpose and Usefulness

	Survey questionnaire component of the "Event" study	**Focus group component of the "Event" study**	**Individual Interviews**
Participants	A broad cross-section in Saskatchewan with leaders from all three levels	A broad cross-section in Saskatchewan with leaders from all three levels	Senior education leaders
Primary purpose of this method and rationale for its use	Understand leadership competencies as a set of virtues (rational / technical)	Understand the best manifestations of the competencies	Gain an understanding of deeper dimensions of leadership
	Gather information on past and present views.	Gather information on the practice of leadership. Permitted identification of deeper insights generated through group interaction	Gather information through personal "lived" experiences
Usefulness	For generalizability of the set of competencies (i.e. the **science of leadership**) required for leadership positions	For generating preferred futures for the **praxis of leadership**	For reflections on the **art of leadership** (poetic, resonant, and political leadership) through a sharing of personal experiences
	Useful in developing standards and frameworks for leadership assessment programs.	Useful in generating frameworks for leadership development programs	Useful in personal growth in leadership

Table 3.3 presents the three research questions and the research methodologies designed to provide answers to these questions.

Table 3.3 Research Methodologies Linked to Specific Research Questions

	Survey questionnaire component of the "Event" study	**Focus group component of the "Event" study**	**Individual Interviews**
Res Q 1 Competencies	Identify a list of competencies and create a rank order of competencies and commonly used styles	Gain an understanding of common practices of competencies and differences at various levels of leadership	Experiences on changes in styles for situational leadership, adapt principles of leadership to suit the context, leading change, and ethical leadership
Res Q 2 Challenges	Identify key challenges through open ended questions	Differences in challenges at various levels of leadership, overlap with and ambiguity between leadership and management	Personal challenges, Challenges for managing culture of organizations and leading / inspiring academic faculty in the collective agreement setting of the universities and clinical faculty with primary responsibilities in clinical service, pitfalls , greatest mistake
Res Q 3 Strategies	Identify common strategies used for effective leadership using open ended questions	Commonly used strategies at various levels, institutional support for leadership and management, working through the corporate culture of health care and collegial culture of the educational institutions	Strategies for: managing self, creating resonance, transformational leadership, navigating politics, inspiring a large number of followers, working through the corporate culture of health care and collegial culture of the educational institutions

The "Event" Study

Two half- day sessions involving leaders at multiple levels at the College of Medicine (both Saskatoon and Regina campuses) with sponsorship from the College of Medicine, University of Saskatchewan were held. The notice for the event study was sent out from the Educational Support and Development Office and an administrative assistant in this office kept track of the responses and helped finalize the date and the participants. She also helped in the logistic of arranging this "event". At the first event study there were eight participants and at the second event study there were 16 participants. These event studies constituted group sessions, which combined elements of focus group interviews that used facilitated conversations and surveys; these event studies was undergirded by an appreciative inquiry approach to research.

The group setting involved 24 educational leaders at the University of Saskatchewan (Saskatoon) with an interest in educational leadership. Small groups (four-five participants per group) formed from among the leaders at different levels of management/leadership responsibilities were asked to consider, reflect, summarize and articulate their thoughts, feelings and experiences in six broad areas. The event study began with a brief introduction and explanation of the process. Each participant was asked to provide brief demographic information and their simplest definition of leadership. This was followed by six sessions. The six sessions were on the following topics: 1) differences between management and leadership, 2) medical education reform, 3) competencies for leadership in medical education, 4) challenges faced by leaders, 5) strategies for effective leadership, and 6) what the participants considered to be unique to medical education leadership. Each session was 30 minutes in duration with initial 15 minutes for discussion among the group members on a predetermined question towards the end of which the group a summary of their discussion was to be recorded on a flip chart or a sheet of paper. This was followed by discussion of the key points among all the groups for 10 minutes.

The last five minutes of each session were for each participant to complete individually a short survey and for catching up any lost time. There were six sessions and in each session participants were presented with a predetermined set of questions The data were collected in the form of summarized reports, flipchart writings, short surveys and recorded observations. The participants were asked to sign the consent form. The phenomena being studied were similarities or differences between the educational leaders in their understanding of effective leadership and the practice of leadership and the effects in their domains of influence. The event study guideline is attached as Appendix 8. The two components of the event study are briefly discussed below.

The questions in the survey component of the event study were guided by the overall research objectives and attributes of effective leadership. The questionnaire was developed according to the guidelines in Educational Research (Gall, et al., 2007). A five-point Likert scale range was used since it has been used in other leadership surveys and data analysis of the ordinal data generated is not cumbersome (Blaike, 2003; Gall, et al., 2007; Jamieson, 2004). Based on the research question needs the survey was kept short, with attractive questions, questions to allow for branching, avoiding negatives, each question asking for one piece of information and with simple clear instructions. Prior to administering, it was pilot tested by "judges" to ensure clarity of questions, response rate, time and length. The survey questions are included in Appendix 8 in the event study guidelines. Surveys were included because these are inexpensive, easy to administer and easy to score. Questionnaires have been used for a long time in leadership research and have a long established history of validity, reliability and usefulness.

The focus group interviews guided by the facilitated conversation approach enabled exposition of the participants' social orientation toward leadership and the group interaction allowed me to obtain and explore deeper levels meaning about the participants' leadership understandings. The interview methodology, which formed part of this method, is discussed below in the Interview section.

Interviews: Design and Administration

The interviews were semi-structured based upon a set of general questions (Mischler, 1991). The sampling approach was judgment (purposive) non-probability sampling of the target population. The participants in the interviews were senior medical education leaders at the College of Medicine of the University of Saskatchewan (Dean and Associate Dean), national level policy-making bodies such as the Royal College of Physicians and Surgeons of Canada, the Medical Council of Canada, and a professional society (i.e., the Canadian Association for Medical Education). The sample was based on their current leadership positions with an assumption that they had reached this senior level based upon competencies and track record of leadership in education. The participants were asked to sign the consent form.

Since the leaders usually have extremely busy schedules, they were contacted well in advance and convinced of the importance of the study and its relevance to their practice. The anonymity and intrusion of privacy were main considerations. Whether the interviewees agreed to disclose their names or not was explicitly ascertained beforehand.

The main interview questions were guided by the research questions and drew from the grounded theory's social constructionist orientation. The main resources for developing the questions were the ELCC leadership framework (Table 2.10, chapter 2), the five practices and ten commitments of leadership (Kouzes & Posner, 2002), and the newer and integrative approaches to leadership (Table 2.6, chapter 2). The questions required responses based on personal understanding of leadership, attributes of effective leadership and what steps leaders had taken in their own organizations and what processes and procedures the leaders have placed in their units. The questions were generated in cooperation with and advice from Dr. Walker, the thesis supervisor. Based on the participants' responses, a few open-ended questions were used to further explore the topic(s). The interview questions were framed so as to encourage the participants to recall stories and experiences. Questions 1, 2, 3, 12 and 13 were focused in

competencies; questions 6 and 8 specifically addressed challenges and barriers and questions 4, 5,7,10, 11, and 13 were aimed at identifying strategies for effectiveness. The questions were framed to explore deeper understandings of leadership behaviour. Question 14 specifically asked for the participants' views on the uniqueness of medical education leadership. The questions were offered to the interviewees ahead of time indicating that these were core questions and may be adjusted in each interview / conversation as necessary. The interview questions were pilot tested to establish the trustworthiness and credibility of the questionnaire (n=2). Based upon the pilot data and further guidance from Dr. Walker, the questions were revised to generate sharing of unique and extraordinary experiences and encourage imagination.

The interviews incorporated an "ethic of care" (Fontana & Frey, 2000) aimed at developing trust and openness between the researcher and the participant(s) by attempting to become "co-equals" conversing about a mutually relevant subject. There were seven male and three female interviewees. I paid careful attention to the issues highlighted by the differences in social locations (e.g., race, ethnicity, age, etc.) and subjectivities (Reinharz & Chase, 2003) when male researchers interview female participants by paying attention to and avoiding even a suggestion of arrogance and inattentive listening.

The interviews lasted approximately one to one and a half-hour. The data were collected by note taking and tape recording. The audio recordings were transcribed. The transcripts were forwarded to the interviewees for review and signature on a data transcript release form. Having the transcripts checked by the participant(s) for completeness, bias and accuracy ensured the dependability of the data. The interview questionnaire is attached as Appendix 7. A large amount of information was gathered in a relatively easier and convenient method.

Data Analysis

Data on all three research questions were collected by both methods (event study and interviews).

Quantitative data

Survey component of the event study: The surveys were analyzed through category-coding approach, (e.g., frequency count of each occurrence). Intergroup comparative analysis between different levels of leadership (first-level, mid-level and senior-level) was attempted by Chi-squared test and one-way ANOVA, however, the number of participants in each group was too small for meaningful statistical interpretations; this was thus not pursued. The data were then interpreted in the context of the theoretical framework of the research questions.

Qualitative data

Survey component of the event study: Themes were extracted from the open-ended and write-in responses from the surveys. Content analysis was used for analyzing the data. Qualitatively it was analyzed to consider meaning from different perspectives and to include observer feelings and experiences in the interpretation.

Interviews and focus group component of the event study: The interviews were audio taped and transcribed into electronic format, and then printed as hard copies. Notes were made during the interviews and focused conversations. These notes included the themes, categories, ideas, concepts, and analogies that were helpful later in the coding process. The responses to the open ended questions were categorized while the responses to the closed questions were used to calculate percentages. The more structured response data were used to produce descriptive statistics. The unstructured data were analyzed for major themes by content analysis, which combines the depth of information of qualitative methods and the rigor of quantitative methods (Insch, et al., 1997). In Figure 3.1 the process of content analysis is outlined. It is based on, 1) a model of qualitative data analysis process involving noticing, collecting and thinking (Seidel,

1998), 2) coding activities during data collection, observations and analysis based on grounded theory (Strauss & Corbin, 1998), and 3) a description of content analysis process (Gall, et al., 2007).

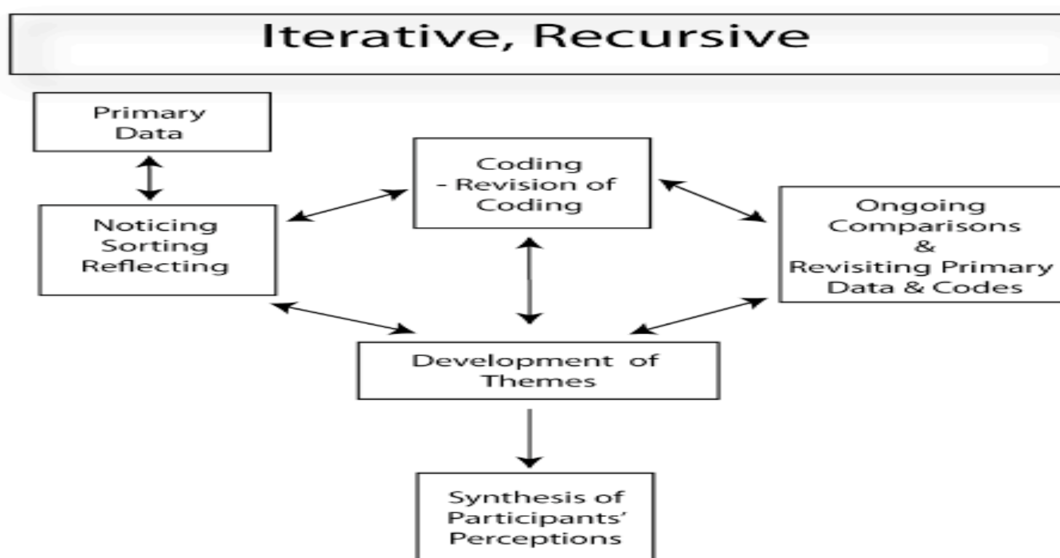


Figure 3-1 Analysis of Qualitative Data and Extraction of Themes

The transcripts were read many times, initially to "get a sense of the whole" (Patton, 2002) and the descriptive notes made during this "immersion in the data" phase allowed me to identify major concepts, themes, categories and ideas. This "open coding" permitted inductive analysis (Patton, 2002) by finding categories and themes applicable across multiple transcripts. This allowed me to make connections and identify patterns. Repeated reflections and readings made me change many categories and develop new ones to ensure that the themes did indeed encompass large expanses of data from multiple transcripts. Fully realizing the subjectivity in such an approach, the final decision on themes was based upon my perceived significance of the overarching theme and how it fit into my understanding of the leadership phenomenon. The similarities and differences among the leader groups (entry, intermediate and senior) were based upon the coded data and the original transcripts were used only for understanding something that was not clear.

A qualitative analysis of the interview transcripts was attempted using a software program, the SPSS Qualitative, however this was found to be of limited usefulness. This software's limitations rendered it inadequate for any meaningful analysis because of the long narratives, complexity of the data, a large amount of "noise", and questions having been asked differently, sometimes with follow-up questions. It was somewhat useful in identifying common words in question 1, where the participants were asked about their leadership skills. The software-assisted analysis was discontinued and the results are not being reported in this thesis.

Data Dissemination

The research findings were used develop a framework for leadership in medical education. The findings will be presented to the senior education leadership at the College of Medicine, University of Saskatchewan with the intent of contributing to the enhancement of the leadership capabilities at the college. The findings will be used for research publications at national and international conferences and publication in peer-reviewed journals. The findings will also be referred to in future studies on leadership in education and health care settings.

Ethical Considerations

This study was performed after obtaining approval from the Behavioural Board of Ethics of the University of Saskatchewan Ethics Committee. The ethics approval letters are attached as Appendices 1 and 2. A copy of the ethics proposal is attached as Appendix 3. The study was considered to be minimal risk. The study disclosure form is attached as Appendix 4. Informed consent was obtained from all participants. The consent forms for the interview and event study are attached as Appendices 5 and 6 respectively. The purpose of the study and why the participants have been chosen will be explained to the participants. None of the survey or interview questions were observed to be of an uncomfortable nature. All data were considered

and treated as confidential and de-identified in presentations. All data will be stored for five years after completion at a confidential storage at the University of Saskatchewan and subsequently destroyed in accordance with University regulations.

Summary of Chapter 3

In this chapter the purpose of the study and the research questions were restated. The participant selection was through stratified random sampling of leaders in medical education at the College of Medicine, University of Saskatchewan and at the national policy-making organizations in Canada. The data collection methods, the event study and the interviews, were discussed. The quantitative and qualitative data analysis methods were described. The plans for data dissemination were outlined. This study was performed after ethics approval was obtained from the University of Saskatchewan and the process for obtaining ethics approval was described at the end of this chapter.

CHAPTER 4

Data Presentation, Analysis and Discussion

Introduction

This study was performed to identify the competencies, challenges and strategies for effectiveness in medical education leadership. This purpose was achieved by examining the explanatory ability of the combined methods of interviews and focused conversations, the latter harnessing the power of focus group interviews and short surveys. The multiple data collections allowed qualitative and quantitative descriptions to evaluate perceptions and experiences. This chapter presents the data collected from current medical and health professions education leaders at different levels (first-level, middle-level and senior-level) as defined in Chapter 3. The quantitative data included the demographics and the survey questions using five-point Likert scales and rank order lists. The qualitative data was collected from three sources; the open-text comments in the surveys, focused conversation summaries, and the interviews. The collected data were summarized and analyzed, and is being presented as results of the study with interpretations to answer this study's research questions.

The results are presented in three sections organized according to the three research questions: 1) leadership competencies, 2) challenges to leadership, and 3) strategies for effective leadership, with the development of a post-research conceptual framework. The answers to the research questions are organized according to themes identified from multiple data collection methods. I reviewed the responses to each question and summarized these in various themes, according to the process outlined in Chapter 3. Towards the end of each section, the emergent themes and the answer to a specific question, "what is unique about medical education leadership?" are then used to synthesize what are the unique aspects of medical education leadership for that particular research question.

Each theme either begins with or ends with my interpretation and is supported by evidence

from the data. Specifically, open-text comments are referred to in the brackets as (oc), focus group conversation summaries as (fc) and the interviews as (int). The senior-level leaders, who were interviewed, are referred to by their gender and SL followed by serial number assigned to that interviewee (e.g., male, SL-7). Paraphrasing has been used to describe broad themes.

The Participants

The participants were volunteer medical education leaders at various levels at the University of Saskatchewan, College of Medicine and at senior-level nationally. The levels of the positions were primarily determined by the hierarchical level of formal responsibility in the medical education enterprise (limited at the first-level to broad at the senior level) linked to the scope of the job description. Leaders with no formal authority but with opportunities for influence were also considered in the first-level category (e.g., student leaders who serve on committees at the College of Medicine). Specifically, the first level of leadership was assigned to leaders with responsibility for a course and the student leaders with limited formal ability / authority to institute changes. The middle level was assigned to leaders with responsibilities for larger cross-discipline programs (e.g., undergraduate curriculum and postgraduate programs at a university). The senior-level leaders were considered such because of the their wider and higher perspectives (college-wide, country-wide) and formal authority (e.g., Associate and Assistant Deans and College Dean, and leaders at professional and certification bodies). The sample was heterogeneous by age, ethnicity and experience and overall there was a slight male preponderance (10:7). Table 4.1 provides a summary of the demographic findings.

All face-to-face interviews and focused conversations were held at the University of Saskatchewan locations and telephone interviews (6/10) were audio-taped in my office in the College of Medicine. Recursive contact occurred by emails and telephone and in some cases (3/8) through personal meetings at conferences.

Table 4.1 Characteristics of the Participant Leaders

Category		No. of participants	Gender (M:F ratio)	Age range (mean)	Years in medical education leadership position(s) (mean)
First-level	Event Study	11 (34%)	4 : 7	23 – 62 (29.5)	3-14 (5.2)
	Individual Interviews	x	x	x	x
Middle- level	Event Study	6 (18%)	5 : 1	28 – 61 (45.1)	6-15 (10.4)
	Individual Interviews	x	x	x	x
Senior-level	Event Study	7 (22%)	4 : 3	53 -68 (61.8)	17-24 (20.2)
	Individual Interviews	8 (25%)	5 : 3	48-68 (57.1)	10-20 (15.7)
Total		32	10 : 7	23-68 (46)	3-24 (11.7)

Engagement With the Participants

The time commitment required for participation in this project was large, one-one and a half hour interviews with the senior-level leaders and the event study lasting about four – four and a half hours. The participants were very open and conveyed a degree of enthusiasm while participating in this study. Many shared personal stories and were frank about what could or could not be used. Most expressed a desire to be kept informed of the study's progress.

The Participants' Views on Leadership

The interviews offered and capitalized on a greater opportunity for sharing of individual stories and feelings, disclosure of personal and private reactions and reflections on both positive and negative leadership experiences. The focus groups benefitted from group interactions, emergence of shared experiences and offered a large amount of information and insight. The short surveys, conducted as part of the focused conversations, permitted the participants to write personal opinions that they might not have otherwise shared in a group setting, especially when the group had their teachers and administrative personnel from the College. The recursive contact was mainly helpful in clarification of statements and to some degree for me to understand what was implied (in addition to being said overtly). The five Ws (who, what, when, where, why) and the how analytic questions enabled me to look in different ways at the data in

the open coding phase. This approach was also helpful in the latter axial coding process and identification of relationships among categories and the leadership context(s).

Leadership Competencies

The following description of leadership competencies first refers to the overlapping functions of leadership and management, followed by a rank order list of leadership competencies and then a description of each competency.

Leadership and Management are Overlapping Roles

The 5-point Likert scale data collected at the event study is summarized in table 4.2. The overarching theme was that the two words – Leadership and Management - describe distinct roles with a variable degree of overlap; 96% indicated that these were intertwined roles.

Table 4.2 Leadership Contrasted with Management Survey Data

	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Managing and leading medical / health care education are two different roles with minimal overlap.	7/24 (29%)	15/24 (63%)	2/24 (8%)	x	x
It is difficult for a person to exercise both manager and leader roles in a formal administrative position.	6/24 (25%)	10/24 (42%)	2/24 (8%)	6/24 (25%)	x
Leaders are responsible for establishing direction and inspiring people.	x	x	x	13/24 (54%)	11/24 (46%)
Managers are responsible for planning and organizing.	x	x	1/24 (4%)	14/24 (58%)	9/24 (38%)
Occupying a formal administrative position in the medical / health care education setting is necessary for affecting institutional change.	5/24 (20%)	11/24 (46%)	4/24 (17%)	4/24 (17%)	x
Leadership and management are intertwined roles.	X	X	1/24 (4%)	11/24 (46%)	12/24 (50%)
Political savvy is useful but it is not an essential requirement of effective leadership.	1/24 (4%)	10/24 (42%)	1/24 (4%)	11/24 (46%)	1/24 (4%)
Effective leadership in medical health care education requires charisma as an essential ingredient.	2/24 (8%)	7/24 (29%)	5/24 (21%)	9/24 (38%)	1/24 (4%)

In general, management was considered day-to-day functions for ensuring that, “things were on track,” “for planning and organizing” while leadership was a people-oriented

relationship-based activity that required working together aimed at establishing direction and inspiring people. The phrases used by participants included that leadership required engagement of people to "make things better" and "inspire personal development." Leaders invariably had to do some managerial work. In the event study questionnaire, 67% participants disagreed with the statement that "it is difficult for a person to exercise both manager and leader roles in a formal administrative position" and 92% indicated that the two roles have more than minimal overlap. There was no clear consensus on the need for charisma and political savvy for leadership, with a significant proportion of participants agreeing and disagreeing.

Common Leadership Competencies

The following Table (4.3), representing the data collected at the event study, provides a rank order list of the competencies required by leaders in medical education according to leaders' level and with all groups combined.

Personal and interpersonal characteristics were ranked either number 1 or number 2 attesting to their fundamental importance at the core of leadership by leaders at all three levels. Leaders at all levels considered skills related to teaching, research and delivery of medical education as the lowest ranked skills. Many first- (5/11) and some middle-level leaders (2/6) did not rank these three skills at all. Skills required for managerial and leadership functions were spread in the middle, between the personal and interpersonal characteristics at the top and skills related to teaching ,research and medical education delivery at the bottom.

The rank ordering by senior leaders indicated that most of their time was spent in activities requiring leadership skills, such as strategic planning, creating alignment, and leading change, while managerial skills such as operational management and management of resources were ranked lower. This higher ranking of the leadership skills also was evident in the individual interviews, where the senior leaders, mentioned many skills required for effective leadership

roles. For example, one senior leader commented, “I spend most of my time on engagement and alignment…”

Table 4.3 Rank Order List of Competencies in Medical Education

	First-level leaders*	**Middle-level**	**Senior-level**	**All groups combined**
1	Personal Characteristics (Integrity, Trustworthiness, Honesty)	Interpersonal Characteristics (Appropriate Communication and Influence Skills)	Personal Characteristics (Integrity, Trustworthiness, Honesty)	Personal Characteristics (Integrity, Trustworthiness, Honesty)
2	Interpersonal Characteristics (Appropriate Communication and Influence Skills)	Personal Characteristics (Integrity, Trustworthiness, Honesty)	Interpersonal Characteristics (Appropriate Communication and Influence Skills)	Interpersonal Characteristics (Appropriate Communication and Influence Skills)
3	x	Leading Change	Strategic Planning	Organizational and Personnel Development
4	x	Leading Teams	Creating Alignment	Strategic Planning
5	x	Organizational and Personnel Development	Leading Change	Leading Change
6	Strategic Planning	Strategic Planning	Operational Management	Creating Alignment
7	Leading Change Creating Alignment	Operational Management	Leading Teams	Leading Teams
8	Leading Teams	Creating Alignment	Organizational and Personnel Development	Operational Management
9	Management of Resources	Management of Resources	Management of Resources	Management of Resources
10	Skills in Medical Education Delivery	Skills in Medical Education Delivery	Skills in Medical Education Delivery	Skills in Medical Education Delivery
11	Skills as a Teacher	Skills as a Teacher	Skills as a Teacher	Skills as a Teacher
12	Skills as a Medical Education Researcher	Skills as a Medical Education Researcher	Skills as a Medical Education Researcher	Skills as a Medical Education Researcher

* Organizational and Personnel Development skills were ranked from no. 1 to 12 with no clearly identified rank order.
X No competency was assigned to this rank order

This distinction in the rank ordering of leadership and managerial skills although was not clear for the first- and middle-level leaders, most did indicate that they spent more of their time in roles requiring more managerial skills than leadership skills.

There is therefore a difference among the leaders at different levels in what skills are required most commonly for their roles. The first-level and middle-level leaders more commonly

used management-related skills, while the senior leaders spent more time on leadership skills. This overlap of time spent in management and leadership roles and the skills required for these roles is pictorially depicted in Figure 4.1.

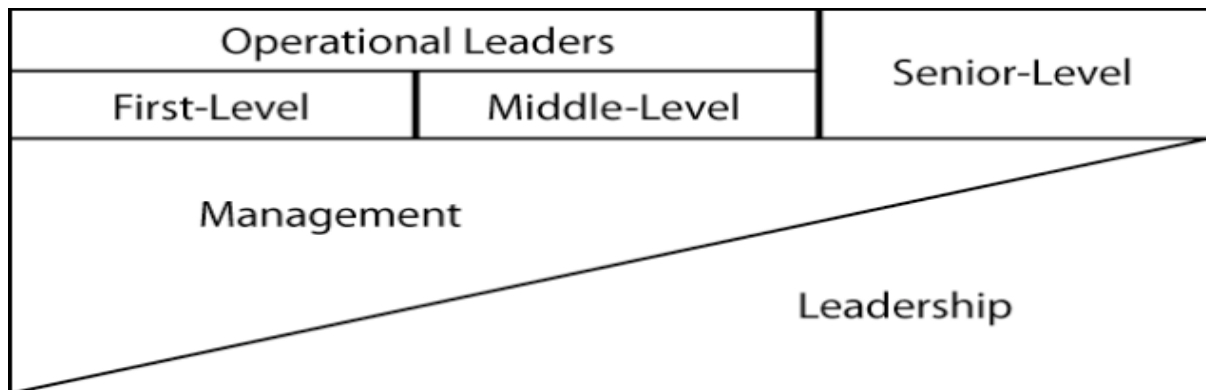


Figure 4-1 Overlapping Dimensions of Leadership and Management Among the Three Levels of Leaders

The overall list of competencies combined by all levels can be considered in four groups according to decreasing level of importance: 1) personal and interpersonal characteristics, 2) leadership skills, 3) management skills, and 4) skills related to teaching, research and medical education delivery.

Personal and Interpersonal Characteristics Are at the Core of Leadership

The rank order lists generated at the event study by all groups had interpersonal and personal characteristics within the top two ranks. Personal characteristics listed in the questionnaire included trustworthiness, integrity and honesty. The interpersonal characteristics referred to appropriate communication and influence skills and emotional intelligence. Leaders should be capable of “independent thinking,” have the capacity “to adapt,” “multitask,” and “stay calm” (fc). The fundamental importance of these characteristics came across quite clearly in individual interviews where the senior leaders kept referring to “integrity,” “should be able to trust even if they do not agree with your decision” when they were talking about implementing vision and organizational changes.

Being adaptable and flexible was identified as crucial to leadership.

In addition to the commonly identified core personal and interpersonal characteristics, many leaders referred to being adaptable and flexible as a crucial skill to possess. The phrases that captured this skill included "multitasking," "staying calm under pressure," "independent thinking," and "resilience" (fc & int).

Communication and Influence are the Most Commonly Identified Interpersonal Leadership Competencies

Leaders at all three levels referred to effective communication as an essential skill. During the event study many leaders commented on the necessity of "articulating well," "listening with attention," "being respectful," "using proper channels of communication," "communicating passion," "reading between lines," "paying attention to body language," and "requirement of proper communication as basic skill."

In the individual interviews, the importance of communication was mentioned by most leaders either in response to the question, "what are the key leadership skills that have served you well?" or during other questions asking about change management and aimed at identifying strategies for effectiveness.

> One [key competency] is communication skill. I remember from when I was quite young a role model who demonstrated very clearly that face-to-face communication is one of the best ways of getting things done in terms of being able to persuade people to say yes," recalled one senior leader (SL-6, female).

The limited scope of their authority was recognized by leaders at all levels and even when positional authority was there, many were reluctant to use its power to get things done. The phrases, "stating goals in their terms," "making them see why it might be important to them," "creating value for them," and "don't force but gently persuade" captured the essence of working through influence (fc). Most senior leaders referred to the key leadership tasks of creating engagement and alignment through influence and one stated, "when you do not have authority and are held accountable for results, you work through influence" (male, SL-5).

Building and Managing Relationships is a Key Competency

The participants considered working with and for people central to any leadership endeavor. In the focused conversation sessions, relationships emerged as the dominant theme for effective leadership.

In the individual interviews with senior leaders, in response to the question, "what are the key leaderships skills that have served you well?" the leaders commonly used the words and phrases, " bringing people together," "building healthy relationships," "collaborative," "negotiation," "conflict resolution," and "motivating people." One senior leader (male, SL-7) explained this as:

> For me, in essence, it's all about relationship building. If there is a mutually valued relationship, conflict if it occurs, can be resolved. If there is no mutually valued relationship, then conflict is inevitable and it cannot be resolved. So it's all about building relationships. Sometimes it's easy and sometimes it's difficult.

In addition to personal relationships, the importance of organizational relationships was also highlighted. One senior-level leader (male, SL-7) explained:

> By relationships it goes all the way to the personal but it also goes to the organizational. For instance, when I came the College of Medicine was felt to be, by the university, a rogue, out-of-step, not supportive of the university, a problem, etc. So there is a responsibility in leadership to build the relationship to the central administration in the university. We are constantly trying to build relationships in the health region and regions.

Empathy and healing are integral.

Given the central importance of building and managing relationships, many leaders were cognizant of the "nurturing" aspect of building relationships.

Empathy as opposed to rules-based interaction with people was acknowledged a fundamental skill by a senior-level leader (male, SL-7) spoke:

> You have to have, actually how would I say this, the best phrase would be to say that you have to develop empathy because quite often one can, in a position of leadership, simply revert to the rules and you apply the rules and so I am not very rules oriented and don't really like rules so my ability to listen and to try to put myself in the position of people

within the organization gives me a better feel of where work needs to be done within the organization.

The traditional “healer” role of the medical profession was considered by one of the leaders (female, SL-2) to be a useful skill when working in an environment where the trust had eroded and relationships were broken and explained this as

> When things are in disarray, particularly when it’s destructive to the lives of the people in whatever the situation is, I take satisfaction in being able to go in and bring out of that mess a circumstance that is healthier where people are thriving and not dying on the vine. As I’ve been thinking about it, that has been a recurring pattern. Much of what I’ve done over the last six years in this role has been to identify what is broke and to figure out how we’re going to fix it. I think the particular skill that I may bring to that is a sensitivity for discouragement. I’m pretty attuned to that emotional colour around me, even when other people might not be. I’m a pretty effective encourager of discouraged people, so that my strength for the most part has been the ability to step into a situation where people are demoralized and tired and frustrated, preparing to throw in the towel and finding ways to provide encouragement, hope on the horizon, a sense of what’s possible, the end is in sight and all will be well.

In summary, developing and nurturing both personal and organizational relationships was considered important by leaders at all levels.

Strategic Planning and Leading Change are Important at All Levels of Leadership

Although senior-level leaders spent most of their time in the roles requiring these skills, these were important for all leaders. The rank order list for all three groups of leaders had these skills in the upper one third of the list. The phrases used to describe these skills included “see the big picture,” “vision,” “environmental analysis,” and “systems thinking” (fc & int).

Leaders at all levels recalled their experiences in changing things from where these were to a different level. From the front-line tasks of changing instructional methods and course content to the complex tasks of changing organizational culture and implementing educational reform occupied the leaders’ time and energy. Most leaders were dissatisfied with “status quo” and were almost always engaged in leading or managing change either in response to accreditation requirements or changes identified through program evaluation and self study.

Creating Alignment is a Higher Priority Competency for Senior Level Leaders

"I spend most of my time in engagement and alignment," commented one senior-level leader (male, SL-7). In recalling their experiences on institutional changes, influencing culture and getting the buy-in for organizational goals the senior leaders referred to the time they had to spend in aligning the personal goals of the individuals with those of the organization. Working towards having reward systems in place consistent with the organizational values and what needed to happen required alignment of college standards with the university standards.

Managerial Skills are Somewhat Important

"Planning," "execution," and "getting things done" were the common phrases used for managerial functions (fc & int). First- and middle-level leaders spent more of their time in managerial functions while the senior-level leaders mostly used delegation for managerial tasks. Managerial skills were ranked lower than leadership skills in the rank order list when all groups were combined.

Skills as a Teacher and Researcher and in Education Delivery are Ranked Lowest

Although some leaders ranked these skills higher than others, in general, being an effective teacher or a medical education researcher were not considered top-ranked skills to be a leader in medical education. Most leaders felt that it was more important to know what was required than the ability to do it by themselves. Some did not rank these skills at all and put a cross against these (n =5).

Acquisition of Skills was Mostly Informal

Most of the current leader participants did not have a formal leadership or organizational management qualification. Leaders acquired the skills by modeling others in similar situations, through experience, by trial and error, by reading books, and learning from a mentor. Many leaders had taken some formal short (one day-three days) leadership courses and a very small minority were pursuing Masters degree in leadership. One senior leader teaches in leadership

courses (female, SL-6).

Complexity in Competencies: What is Unique to Medical Education?

Some leaders when asked about the competencies listed a few but mentioned many more when they were describing change management, implementation of programs etc.
Many referred to the need for building relationships but were also prepared to sacrifice even close personal relationships for the organization's mission. One senior leader (male, SL-7, int) recalled with some sadness, " it cost a personal friendship, but my job as a …., is to get the this college to …..." The competencies unique to medical education setting were those that required skills in communication and relationship management, and skills in medical education delivery.

Leadership Challenges

In the focused conversation sessions and interviews, I got a sense that the participants used the words challenges and barriers according to their personal meaning of these words as evidenced by considerable overlap between the issues identified under the two terms. For example, many participants referred to time management as a challenge while some referred to it is a barrier. Similarly, competing priorities, communication, paucity of formal development of leadership skills, lack of resources, and personal attributes such as being impatient, being disorganized, and being sensitive to discouragement were mentioned both as barriers and challenges, albeit by different participants.

One male senior leader (SL 7), however, distinguished the two by stating:

> I will just distinguish a little bit between [a] challenge and [a] barrier. A barrier is for me more often something that could become a challenge but at the moment it is seen as something that cannot be overcome in a simple easy way. So any change has challenges, which is the resistance to change, which is inherent to the inertia of the organization. Barriers for me are usually more systemic and so they are more structural. I can give you several examples. Resourcing and financing in the College of Medicine currently is a barrier to change.

For the purposes of presenting the data, I have followed this distinction, which also is my understanding and was the basis of generating the questions on challenges and barriers. The leadership challenges could be grouped in three categories, as shown in Figure 4.2. These categories were; 1) personal and interpersonal, 2) organizational, and 3) interorganizational. The key challenges under each category are listed in this Figure. The description of leadership challenges follows this format describing each of the challenges.

Personal and Interpersonal	Organizational	Interorganizational
• Time management • Personal limitations • Lack of support from superiors • Lack of support from peers • Lack of feedback • Lack of opportunities for leadership training	• Structure and Processes • Organizational Communication • Relationships (personal and organizational) • Negative politics at workplace • Engagement and alignment • Managing Culture • Managing Resistance and Inertia • Organizational Complexities • Limited Resources	• Challenges between institutions • Competing agendas and interests of stakeholders

Figure 4-2 Major Challenges for Medical Education Leaders

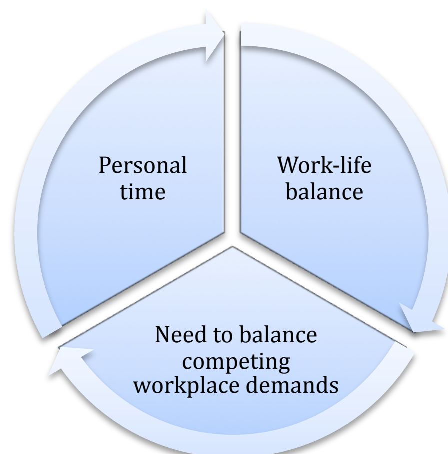
Personal and Interpersonal Challenges

The participants were very open in describing their personal and interpersonal challenges and many stories and experiences shared were quite personal.

Time management.

A frequent personal challenge was effective time management. Some senior leaders identified lack of personal time as, “no flex time,” and “no margin,” available for thinking about things. There were three major factors that contributed to the challenge of time management; these are depicted in Figure 4.3. Personal time, balancing work and life and balancing workplace demands contributed to an overall challenge of effective time management.

Figure 4-3 Key Factors Contributing to the Challenge of Time Management



Many leaders struggled with the need to balance competing workplace demands. For physicians, clinical responsibilities came first (fc) and even in non-clinical areas there were multiple priorities (fc). The key phrases mentioned in the short surveys included, " "need to balance teaching and administration & patient care," "limited time to dedicate to the requirements," "demands of many roles," and "large demand and limited time". Some recalled, "fragmentation with interruption," and "frustration with constantly having to scramble". One senior-level leader (male, SL-3) in an individual interview, referred to it as "juggling and balance:"

> I think that this changes over time but currently, the most challenging aspect is juggling and balance. You hear that a lot from academic physicians, while the nature of being an academic doctor is to have many, many hats and my disposition is such that I like to do many, many things at a time and so the biggest challenge is to make sure that one is successful at all of the things that you take on and for me, what I do is make sure that I keep track of my roles and goals that I make sure that my goals to be a great dad and a great husband and a healthy person is on my radar just as my role to be an effective [leader] and so on.

Work-life balance was another challenge for many leaders. This was highlighted by the discussions that mentioned the following phrases, some of which were also written down in the short surveys; these included, "family time," "family support," "home work balance," and "demands from family and friends."

In summary, the major factors that highlighted this time management challenge were: 1) need to balance competing workplace demands, 2) work-life balance and 3) personal time.

Personal limitations.

I was humbled by the reference to personal limitations by leaders at all levels, especially senior-level leaders. One senior-level leader (male, SL-4) said, “Probably the biggest barrier is my personal limitations.” In the focused conversation sessions, participants mentioned personal attributes as barriers and challenges to effective leadership. When the participants talked about their own limitations, they were quite open and trusting of each other. The examples shared were personal without mentioning any names. Six themes of personal limitations were identified and these are shown in Figure 4.4. The category of psychological predispositions refers to the natural inclinations and default mindsets of the participants when faced with adversity. Disorganization and personal limitations with effective communication coupled with a lack of formal training in leadership skills were commonly mentioned together by the participants. Some participants slid into discouragement when adverse situations persisted and when they felt that the systems in place were not conducive to change. Many senior leaders mentioned their natural preferences to stay with one leadership style even if the situation demanded other styles.

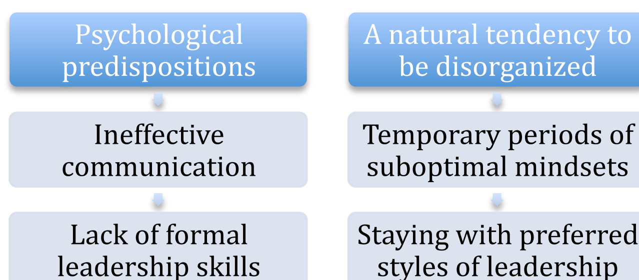


Figure 4-4 Categories of Personal Limitations

Psychological predispositions.

One male participant referred to his "lack of patience," while another looked at himself as being "impulsive." " Not asking for help is my natural tendency," said one male participant. Another male participant referred to "self criticism" as a hindrance. Some leaders identified "defensiveness" (a male participant) and "too much personalization" (a female participant) as their personal challenges. One female participant mentioned, "self awareness of personal weaknesses" as a challenge.

A natural tendency to be disorganized.

One male participant openly shared "being disorganized" while a female participant recalled instances making her believe, "that she lacked organizational skills."

Communication.

The openness evident in many participants' acknowledgement that they may not have well developed communication skills was a reminder to me of the openness required to practice leadership. "[My] listening abilities [are] not very well developed," said one male participant, while another male participant wondered if he was, "being heard." One female participant stated, "I am not sure, if I am expressing my opinions and passion appropriately," while another had concerns about, "communicating the end goal". One male participant mentioned "articulating well" as a challenge.

Temporary periods of suboptimal mindsets.

Many participants mentioned finding themselves in states of emotional and psychological mindsets that were not conducive to optimal leadership. A female participant said, "she has had temporary losses of inspiration and loss of vision where she was looking at her feet and not the horizon." One male participant recalled times where he had, "difficulties maintaining mental clarity." Another female participant felt periods of holding herself back, "due to frustrations, when I am not making a difference." A "sensitivity to discouragement" was identified by a

female participant, shared by another female participant, who had an experience where she had struggled with "maintaining emotional balance and inner peace." A male participant referred to having difficulties with, "confidence and maintaining energy and enthusiasm." One male participant identified "fatigue" as a limitation. "Not having personal fulfillment at work is a definite problem for me," said one male participant.

Lack of formal leadership skills.

Many participants were open in sharing their lack of training in formal leadership skills as a detriment to success. One senior-level leader (male, SL-8) stated, "[I] could have had more formal leadership training."

Staying with the preferred style of leadership.

Many senior leaders referred to having preferred styles of leading and commented that they would reluctantly resort to a different style, if the situation so required. Some, however, noted this as a limitation.

One male senior-level leader (SL-5) stated:

> It is not the style of leadership which serves in all environments as well as it could. There are some environments which I know would benefit from a style of leadership which would be more authoritative, straight forward, aggressive not in a negative sense that is not my style, that would be a challenge and a limitation.

Lack of support from superiors.

When I first heard about the lack of support from superiors, I thought this would be a relatively rare challenge. At the end of this study, fortunately it is not a common challenge, but still noticeable as a theme and a major challenge for many leaders.

In the focused conversation sessions, occasional leaders mentioned, "end runs" (two female participants), "lack of respect for [an] individual and [the] job" (one female participant), "lack of understanding of time needed to develop relationships that support change" (male participant) and even "lack of leadership" (female participant) above them.

One female participant reflected on, “inconsistent, unpredictable, uncertain and sometimes lack of support from her boss.” During an interview, one female senior-leader (SL-2) stated that, “managing from the middle is the most challenging bit.” She elaborated:

> The really hard part about that is when I don’t feel supported by my superior or superiors, depending on the situation, in difficult situations such that they are made more difficult. Being given responsibility for a task but then not being given the authority or freedom to get it done is a problem. That is troublesome to me. In part, because I tend to take it personally because it feels like distrust, you either don’t trust my intentions or my ability to accomplish this. That is the dynamic that makes me most likely to want to run back ….and kiss the leadership side goodbye.

Another senior-level leader (SL-1) mentioned, “active undermining of my role and responsibilities [by her superior].” This interview got emotional and although the interviewee did share many details, but forbade me to mention anything else.

Lack of support from peers.

Some participants (two male and one female) felt that their educational leadership endeavors were not fully supported by their peers and sometimes even in groups of leaders, “there was an unwillingness of fellow leaders to do their part” (fc).

Lack of feedback.

In the focused conversations, participants discussed a “lack of appreciation of efforts” (male participant), and a “lack of recognition” (female participant).

Lack of opportunities for leadership development.

Many first- and some middle-level leaders were concerned about the limited opportunities available to them for formal leadership development given the demands on their time and the need to maintain clinical practice (fc).

Organizational Challenges

Many leaders recalled experiences that had arisen from challenges at the organizational level. These could be grouped in nine broad categories and are discussed below.

Structure and processes (roles and responsibilities not well defined).

Participants most often mentioned that the roles and responsibilities were not clearly defined. During a focused conversation session, one male participant stated, “there is lack of knowledge of my roles and responsibilities,” while a female participant mentioned, she found, “ defining roles and responsibilities’ was a challenge. There was “also a lack of value of position importance” (female participant).

According to one male participant, ”lack of knowledge around university processes” hindered with his work. “Confidence in the leader” and “processes that do not facilitate change” were also mentioned as challenges (two female participants).

Organizational communication.

One senior leader (male, SL-8) emphasized that, “Communication between the mothership [College of Medicine] and the satellites [sites of training outside Saskatoon] was not always optimal. Along the same lines a student leader mentioned that, “disseminating information back to [the] students,” continued to be a challenge. Dissemination of information within the organization was brought out in many stories shared at the focused conversation sessions.

Negative politics at workplace.

“Political backbiting and stabbing by others” was mentioned as a significant challenge, and although many participants nodded their heads, there was not much enthusiasm to discuss the topic and one male participant mentioned, “it is difficult to discuss this openly, especially with my peers and bosses in the room.”

Building and growing mutually valued relationships.

Although the importance of relationships was identified earlier as a competency, many participants found this to be a challenge. Building personal relationships that would survive, “the stormy waters of change and actions required to achieve the vision” was mentioned by many

participants. “Managing relationships in both growth and contraction phases was a challenge, since in the times of plenty it is easy to distribute resources, but in times of contraction only core strategically aligned functions are supported.”

In addition to personal relationships, many leaders, especially senior leaders, referred to the importance of organizational relationships. One senior leader (male, SL-7) emphasized the importance and challenge of building organizational relationships:

> We are constantly trying to build relationships in the health region and regions. Sometimes in building the relationships to Regina, we create problems in the relationship with Saskatoon. So, that is what you are trying to do within the university you are trying to build relationships with the College of Arts and Sciences, with Engineering, etc. In the communities, you are building relationships with Prince Albert, the Northern Inter-Tribal Health Authority, with Meadow Lake; this is all about relationship building. Even around the Council of Health Sciences Deans you are building relationships between Medicine and Nursing and Pharmacy and Dentistry. It is not easy. This is the hardest, most significant challenge we face.

Engagement and alignment – leading change.

Engaging people, aligning them with the organizational mission and vision and leading change were constant themes in all interviews with the senior leaders and emerged as common challenges for all levels of leaders in the focused conversation sessions.

Dealing with professionals.

“Dealing with professionals,” “herding cats,” “dealing with challenging personalities,” “unwillingness of followers to engage,” and “insufficient engagement of colleagues” were the phrases commonly mentioned during the focused conversation sessions.

Motivation and execution.

At later points in the focused conversation sessions, participants commented and wondered if motivation and execution of tasks were the main reasons for this challenge. Participants’ recall of experiences identified commonly held views, which emerged in phrases such as, “ faculty apathy,” “lack of motivation of the other members of the group,” “not finding

others with the same vision to work with," and "suggestions not being implemented or acknowledged". One male participant was frustrated "when other members of the group don't fulfill their responsibilities." One female participant wondered if it was due to her, "difficulty articulating importance of making changes to others" while another female participant questioned if not, "provid[ing] support for actions of others" was the reason.

At the senior level, engagement and alignment were key challenges and took up most of the time of the leaders. Leading change was perceived to be the primary role and progress depended upon engaging people according to all senior leaders.

Managing culture.

This was a key challenge for many senior leaders. Whether promoted from inside or brought in from outside, senior leaders spent considerable time understanding, influencing and attempting to change the culture. This had the potential to be a very frustrating endeavor, but most senior leaders understood that this was an ongoing activity, which would outlast them.

The challenge of managing culture was attributed to ambiguity in authority, the decision-making processes in place especially around recruiting and the need for incorporating opinions and interests of multiple stakeholders.

Ambiguity in authority.

The nature of the authority of a leader in an academic setting was questioned by many participants, stating that, "most of the faculty members are professionals and the academics are not governed by strict hierarchy that creates a situation where, the boss can not simply tell people what is the norm, as opposed to a military or a business setting, where the boss rules." The "authority of the formal leaders is limited," noted many participants.

Decision making processes.

The "decision-making processes [are] "collegial" under collective bargaining" and "the hiring of staff is done by the departments, while the dean has limited powers in this area." It is

difficult to enforce hiring of professionals based upon the needed values for the organizational culture to change when the expertise in an area is required to fill a gap in clinical services. “For a place like Saskatchewan, where people do not want to come in the first place, forcing this issue [hiring for values] will leave us shortchanged and we might be unable to meet community needs,” commented one leader.

Opinions and interests of multiple stakeholders.

Most participants felt that it was not possible to, ”satisfy all those who are involved” and “all individuals do not share the same goals.” One leader mentioned this challenge as, “Not being able to motivate others or [to] get them to prioritize as I have.” Two other leaders agreed with the priorities not being same for all.

Managing resistance and inertia (immobility, ennui).

Leaders at all levels agreed to a common theme of institutional dimension to resistance and inertia and variously referred to it as, “institutional resistance to change,” “institutional resistance to go in a certain direction,” “organizational inertia,” and “ennui”. One leader partially attributed this to, “lack of knowledge of education by non-education leaders” (fc).

Organizational complexities and institutional agendas and interests.

Many factors associated with the inherent complexity at the organizational level constituted challenges to effective leadership. These are discussed below.

Navigating systemic and structural barriers.

Only the senior leaders emphasized the inherently complex nature of the academic health centres mentioning navigation of systemic and structural barriers as a significant challenge. For example, one senior leader (male, SL-7) explained the financing structure as a barrier to managing operations in a manner conducive to achieving the vision. Navigating barriers was

easy for some leaders and in certain situations while it was a challenge for others. Some senior leaders considered the changing landscape and the pace of change as significant barriers.

Political management.

The political dimension of managing organizations was highlighted by many senior leaders while leaders at the mid-level and first-line level wondered about, “the lack of connections to key people in positions of power” as a possible challenge to achieving success.

Perceptions of not being committed to the mission.

Many leaders had to manage the perceptions of themselves, “not being committed to the mission” or the institution placing, “no emphasis on educational mission,” especially in view of the widely held perception that there was, “lack of recognition of the importance of teaching.”

Limited resources.

Limited financial resources, human resources and a lack of adequate infrastructure support were commonly identified issues by leaders at various levels.

“Limited skill set,” “not enough personnel to teach,” and “lack of colleagues to delegate and share tasks with” were commonly used expressions in the focused conversation sessions.

Inter-organizational Challenges

Many senior leaders explicitly identified the challenges they faced when dealing across organizational boundaries, (e.g., College of Medicine and the Health Regions, a central national organization and various universities).

Challenges between institutions.

These were significant for senior leaders, in view of their positions at the apex of the organizations and the requirement to deal with external stakeholders.

“Formulating strategy and aligning with the college and university,” “College of Medicine is a square peg in a round hole - provides service and education,” and “two different

ministries at the government level govern the College of Medicine's role" were the key expressions that highlighted the challenges at the institutional boundaries.

Competing agendas and interests of stakeholders.

This was another significant issue for senior leaders at the provincial and national levels. "Unrealistic expectations of external stakeholders," "expectations of organizational bodies," "demands for more from accrediting bodies," and "bringing together federal and provincial perspectives" came up as commonly held views among the senior leaders.

Complexity in Challenges: What is Unique to Medical Education Leadership

The participants agreed that the academic health care centres were inherently complex and that there were multiple dualities in the training of future physicians. The participants identified that the context, content and culture of medical education were unique and added to the inherent complexity of the AHCs. Taken together, these formed the basis for the unique challenges to leadership in medical education. These factors that contribute to the requirement of unique leadership skills and strategies are depicted in Figure 4.5. The societal needs, multiple stakeholders and health care reform formed the basis of the unique context. Delivery of health care and medical education in AHCs and the ongoing medical education reform provided the content uniqueness. The unique culture of medical education was attributed to the apprenticeship model of medical education, the hidden curriculum, professionalism, innovation and development and the town vs. gown phenomenon. These are summarized in the figure 4.5. This combination of challenges was believed to create a somewhat unique setting for leadership in medical education.

COMPLEXITY
Academic health centres as complex adaptive systems
Dualities in Medical Education Settings

CONTEXT	CONTENT	CULTURE
Societal needs Multiple stakeholders Health care reform	Medicine and Health care delivery Education delivery Education reform	Apprenticeship model Professionalism Hidden curriculum Innovation & Development Town vs Gown

Figure 4-5 Factors Contributing to Uniqueness of Medical Education Leadership

Strategies for Effectiveness

The energy level of the individual groups was highest during the session on the strategies for effectiveness at the two event studies. Recalling their successes, the senior leaders, during individual interviews, were enthusiastic in sharing the strategies and tactics when answering questions about leading change, managing change and resistance, and creating vision. The strategies could be grouped into three broad categories including personal and interpersonal strategies, strategies for becoming an efficient manager and strategies for practicing effective and inspiring leadership (Figure 4.6). Most leaders affirmed that leading others required that they have mastered the art of leading self and becoming adept at managing themselves. To be a successful leader, most participants felt that there were managerial tasks and these had to be done efficiently otherwise the faculty and staff would get the impression that the leader was, “all talk and no action.” The key leadership work had to do with change and ensuring that most people in the organization were on board and the strategies aimed at practicing effective and inspiring leadership were centered on authenticity and engaging the followers. These broad categories of effective strategies and the individual strategies under each category are discussed below.

Personal and Interpersonal Strategies	Becoming an Efficient Manager	Practicing Effective and Inspiring leadership
•Looking after self •Seeking advice •Consciously developing fortitude •Time for priorities and thinking •Personal development (self and leadership)	•Diligent delegation •Appropriate organizational communication •Managing priorities	•Developing the structure and processes to achieve vision •Providing hope • Developing and nurturing mutually valued relationships •Moving from power to process •Strategies for leading change and managing resistance •Influencing culture proactively •Accomplishing the vision

Figure 4-6 Strategies for Effectiveness

Personal and Interpersonal Strategies

Given the central importance of personal and interpersonal skills as core competencies, it is not surprising that leaders at all levels shared common views on the importance of looking after self and personal development.

Looking after self.

Looking after one's own self through, " exercise," "meditation," having "a life outside work," "devoting time to hobbies," "keeping family and friends as top priorities in life," and maintaining "work-life balance" were most commonly mentioned phrases by the participants (fc & int). Most leaders were aware of the necessity of maintaining work-life balance and many were quite good at it and expressed satisfaction. "I compartmentalize things," and "I shut off the work when I am driving back home" were some expressions of how they achieved this balance. Some leaders mentioned that when there were times of work-life imbalance they could see things "coming apart at the seams" and had to quickly work to achieve the balance to prevent a " complete unraveling" (fc).

Seeking advice.

Most participants mentioned that their work was often high-stakes and required making right decisions in a timely manner. Many participants spoke of "having mentors," seeking advice from wise mentors," and "mentor to discuss issues." Many said that there were situations, which could not be discussed with superiors, peers or mentors at work and they highlighted a need for having access to expert advice outside the work setting.

One senior leader (male, SL-3) referred to having "his personal board of directors" and elaborated as:

> I am surrounded by people who I love to work with. I am very fortunate that way. However, that doesn't mean there aren't frustrations and I think it's really important for leaders to have people who they can talk to. If that's not in their immediate circle, then they need to develop their own network. I think really effective leaders in any domain have a network of people they tap. I always say to people who are thinking about medical careers that to have a successful medical career, especially academic medicine, not only cultivate a mentor but cultivate a personal board of directors, as I call it. That's people who have different roles in your life and they give you mentoring or advice, depending on the scenario. I always have those people to turn to. They have been wonderful to me. I try to be that way for other people. That makes a difference. You could always bounce it off these really wise people who have been there before and that help you get through.

Another senior leader concurred (female, SL-2) with the need for having a sounding board but for a different reason:

> In addition to my spouse there are two other people in my life, that I use as sounding boards. Not to fix things, but just to be able to vent, because you're right. This is a very lonely position.

Consciously developing fortitude.

To survive and thrive in a leadership role, many senior leaders referred to the need of constantly being guided by their inner strengths and "radars." 'Developing a thick skin," "being internally strong," "not wavering in response to multiple types of feedback," "having inner courage," and "developing strong core values" were phrases that captured this theme (fc and int).

Developing and strengthening internal validation was considered necessary for fortitude and patience and persistence were manifestations of fortitude-based leadership practice.

Internal validation (staying committed to true north).

While "responding to feedback and adjusting and modifying" was integral to providing successful leadership, many successful senior leaders agreed that "gauging success from achieving organizational vision," and having or developing, "a high degree of internal validation" was crucial "to stay on an even keel" during conditions of stability and more so when there were "stormy conditions" and the frustrations and negative feedback may lead to despair and alienation.

Patience and persistence.

Developing patience and being persistent were common themes that emerged in both focused conversations and the interviews. When leading change and trying to get people engaged, patience and persistence were considered keys to success.

Paying careful attention to time for priorities and thinking.

Good time management skills and organizational skills were considered essential for "delivering on time." In addition, the need to have "time to think" often referred to as "flex time" or "margin" was considered crucial for "staying ahead of the game" and "giving due diligence to strategically thinking about issues." Lack of this time was a huge obstacle in providing inspiring leadership, "because you are then always playing catch-up" and most senior-leaders had blocked off time in their calendars specifically for thinking about issues.

Personal development (self and leadership).

Given the complexities of leadership tasks and the necessity to adapt to the situation, many leaders felt that they needed to engage in self-development and further acquisition of skills through leadership development programs. Some talked about the "need to learn the content," and "mastering the art of communication."

Becoming an Efficient Manager

The overlap between leadership and managerial roles in formal administrative / leadership positions required that the leaders become efficient managers; this was considered essential by most participants. Three themes were identified that contributed to becoming an efficient manager. These included diligent delegation, effective communication and managing priorities.

Diligent delegation.

Appropriate delegation of tasks and holding people accountable for the delegated tasks was essential to effective leadership. "You cannot micro manage," said one leader. He elaborated this by stating, " Not only you lose your time and are unable to pay attention to what is truly important, but you also lose the respect of the people who are working for / with you, since they feel, what is the point of doing anything, he will reject it anyways and do it himself."

Practicing appropriate communication.

Effective communication had already been identified as a competency and a key challenge. When discussing the strategies for effective communication, the participants talked about interactions with others, the timeliness of message and the message itself.

Interactions with others.

There was emphasis on listening and respecting others. One participant mentioned, "ask questions and listen again" (fc). "Getting input and giving feedback" and "communicating better in both directions" were other phrases mentioned at the focused conversation sessions. The necessity of "effective, honest, open communication" for "discussing and addressing conflict" was repeatedly identified (fc & int). One leader felt that some situations required a modification of the oft-mentioned carrot and stick method as "carrot on a stick" method to communicate. This was explained as communicating in a manner that both the reward and punishment were very

explicitly closely linked and obvious. Most leaders agreed that this was not a good explicit strategy.

Communicating early and extensively and using multiple channels.

"Communicate effectively in a timely manner" was a shared theme among the leaders at all levels. Most felt that simply sending a message in one manner e.g., an email or a paper notice was insufficient.

Message.

A shared strategy among the leaders was, " communicating vision in understandable terms." The message had to be "concise," "to the point," "not offensive," "framed appropriately," "contextualized," and "appealing to a wide variety of audiences."

Managing priorities well.

Many leaders summarized that to stay on top of the game they had to manage their priorities very well. "Deadlines had to be met" to "maintain credibility with stakeholders and constituents." Since there were multiple areas of responsibility for most leaders, the need for a good administrative assistant was repeatedly identified, especially one who could work across the boundaries of clinical and academic domains (fc & int). Some leaders had to go through a "revolving door of administrative assistants" before they found one, who managed their work life efficiently. "Without an efficient administrative assistant, I would get no where," stated one senior leader (male, SL-4), confirming this need.

Practicing Effective and Inspiring Organizational Leadership

The strategies for the practice of effective and inspiring leadership could be grouped in eight broad categories, as discussed below and also shown in table 4.4 above.

Developing the structure and processes to optimally achieve the vision.

Establishing the appropriate structure to support the organizational strategy to achieve the vision was at the core of practicing inspiring organizational leadership. The goals and outcomes

and the processes for achieving these goals had to be clear to everyone in the organization. Clearly defining roles, "build in processes that ensure continuity and renewal" and which are "transparent", "always staying close to the mission," "looking at big picture," and "creating strategic frameworks" were commonly mentioned phrases highlighting this strategy.

Providing hope

The relative ease with which the professionals were discouraged was captured in the frequent statements made by many participants based either on their own experiences or on what they had heard. These included, "overwhelming slowness and depersonalization of bureaucracy," "reward systems not congruent with the mission and vision," "teaching not valued," "resources not being there," "leaders supporting only their favorites," and "ignoring the masses for the stars."

All senior-level leaders and most middle-and first leaders stated that people had to feel that what they were doing was worthwhile. While they had no trouble believing this for their clinical work, the teaching and administrative aspects of their work had to be perceived to be meaningful and "making a difference." Although only a few leaders mentioned explicitly the phrase, "providing hope", the theme was emergent in focus group discussions and individual interviews.

Developing and nurturing mutually valued relationships.

Similar to effective communication, developing and maintaining mutually valued relationships was at the same time a required competency, a major challenge and a strategy for effective leadership. Mutually valued relationships were considered by all leaders to be essential to engagement, alignment, leading change and managing resistance. All leaders considered that relationships were crucial for success and considerable time and attention was required to develop and nurture these relationships.

Relationships required investment of time & energy and maintaining integrity.

Building and developing relations required investment of time, energy and maintaining integrity as a leader. “Build strong relationships from day 1” and “heal the relationships” were identified by senior leaders as crucial to success.

A subset of leaders identified the need to manage the superiors by stating, “have clearly defined rules of engagement with the boss,” and “have the [superior] back you up.”

Realizing that it will not be possible to have mutually valued relationships with everyone in the organization, most leaders identified that even if people disagreed with the decisions made by the leader, they still needed to believe that the leader had behaved in a manner that was honest and had not compromised his/her integrity.

Some situations require getting people “off the bus”.

Some senior leaders identified that there might be times when one has to let go of certain people either formally or through going around them for implementing a change that is required for achieving the vision.

Moving from power to process.

“ Try and promote an environment of shared responsibilities” was touted as key to working in an academic institution with the professionals. “Encouraging people to get involved and practice leadership behaviours,” “empowerment,” “help people achieve individual goals - as long as these are consistent with organizational goals and do not jeopardize others’ careers” were commonly identified behaviors by many leaders. Leaders expressed marked reservations about the use of position-based and coercive power to achieve results indicating that, it was a surefire way to destroy relationships and loose credibility and the ability to be effective in the long-term” (fc).

Using a variety of leadership styles.

The leadership styles rank order list generated from the data collected during the event studies is given below in Table 10.5. The most common style for a given rank (from 1– 6) is given and if the percentages indicated that the commonest style at that rank was very close to the next style then more than one style is listed for that rank. The commonest style(s) is (are) bolded. The leaders used a variety of styles and the rank orders among various levels of leaders identified more than one style at any given rank.

Authoritative, coaching, affiliative and democratic styles were the most commonly used styles with a different preference for the most commonly used style at different levels of leadership. The preferred leading styles for all leaders were authoritative and coaching styles. The first- and middle-level leaders used democratic style more frequently as a preferred style, while the senior leaders preferred the affiliative style. Pacesetting and commanding styles were the least preferred styles or not used at all, however, most senior leaders during the individual interviews recalled using the commanding leadership style very infrequently only in situations requiring hard decisions within a short time frame.

Table 4.4 Rank Order List of Leadership Styles

Rank	First-level leaders	Middle-level leaders	Senior leaders	All groups combined
1	**Democratic (40%)** Authoritative (33%) Coaching (20%)	**Coaching (50%)** Authoritative (40%) Democratic (17%)	**Affiliative (33%)** Authoritative (29%) Coaching (29%)	**Authoritative (33%)** Democratic (26%) Coaching (30%) Affiliative (18%)
2	**Coaching (50%)** Authoritative (22%) Democratic (20%)	**Democratic (33%)** **Coaching (33%)** Authoritative (20%) Affiliative (20%)	**Authoritative (29%)** **Democratic (29%)** Coaching (14%)	**Coaching (35%)** Democratic (26%) Authoritative (24%)
3	**Affiliative (50%)** Democratic (30%) Authoritative (22%) Coaching (20%)	**Affiliative (40%)** Democratic (33%) Authoritative (20%) Coaching (17%)	**Coaching (43%)** Authoritative (29%) Democratic (14%)	**Affiliative (30%)** Coaching (26%) Democratic (26%) Authoritative (24%)
4	**Affiliative (17%)**	**Affiliative (40%)** **Pacesetting (40%)**	**Affiliative (33%)** Democratic (29%)	**Affiliative (30%)** Democratic (13%)
5	**Pacesetting (75%)** Affiliative (17%)	**Pacesetting (40%)**	**Pacesetting (17%)** **Affiliative (17%)**	**Pacesetting (67%)**
6	**Commanding (50%)**	**Commanding (100%)**	**Commanding (50%)**	**Commanding (67%)**

Strategies for leading change and managing resistance.

Engagement, alignment, leading teams and change, managing resistance and overcoming inertia were significant challenges for senior leaders and middle-level leaders. Based on the experiences of the participants effective strategies for overcoming these challenges could be grouped into following six themes: 1) identifying what should change, 2) deciding what needs to be kept form the current system, 3) processes around change, 4) engaging people, 5) making changes in small increments, and 6) managing resistance. The following summary statements highlight the process that emerged in the focused conversations and in the interviews.

What should change.

The first step in leading change was to decide what needed to change. Many leaders commented that there were multiple triggers and points in time when a need to challenge status quo and institute a change or changes was felt. For example, change in leadership, calls for reform, and unsatisfactory evaluations of courses by students represented these triggers. Before getting carried away with overly enthusiastic change it was important that the change itself should be properly assessed. The participants commented that it was very helpful to, "stay focused on the societal needs," "always stay close to the mission," "understand the background," and "to decide on what needed to change."

What to keep.

Many leaders cautioned that when change was being instituted, everything that was in place did not need to be thrown out and there was a huge merit in keeping the best parts of the old system as long as these were consistent with what will be "new" and in place. This was especially important when one was forced to change, allowing one to follow the process of evolution rather bringing in a revolution – a more palatable way for professionals and academics.

Processes around change.

To ensure that the desired change had a chance to be successful, involvement of the faculty and the people to be involved in instituting the change was crucial. Without the buy-in all changes efforts were doomed. Regarding the first and foremost step, there was general consensus reflected in the following phrase by a female participant, "[the leader] should be able to clearly define / identify the problem." The participants commented on working through the process including, "communicate the vision in ways that are understandable and relevant," "ensure that there is consensus about the vision," "recognizing weaknesses and working around them," "support and engage those involved in change," and "collaborate with others;" these strategies were used by leaders at all levels. Some senior leaders stated that when the change was essential to organizational movement, there might be instances to, "rarely go ahead alone."

Engaging people.

This was a constant struggle and leaders at all levels had to continuously work on revising and fine tuning their strategies for engaging faculty and other stakeholders. The strategies could be grouped around three main subthemes, which included;

1) Buy-in: Getting buy-in early was essential. It required, "explain the change and its rationale to a large group of people," "taking the time needed to help people understand the problem and engage with the vision," "listening to the concerns of others," "pitch ideas to many people to iron out and involve them," "ask questions when there are disagreements," and "engaging group in decision-making." Although most felt that, "democracy rules", sometimes there would be circumstances where having the leader's superior "the boss' come in to explain and support the change was a good strategic move.
2) Finding people to work with: Many participants commented that at the initial stages of change implementation, there would not be widespread enthusiasm. The initial stages involved working with a smaller group of committed and motivated people. Identification

of these people – "troops to move your ideas forward" - involved, "getting people involved who share your vision/goal," "finding motivated individuals," "discussing ideas with people who have expressed an interest earlier," "enlist help," and "working with like-minded colleagues."

3) Engaging resistors: Many participants mentioned that would always be people who would resist the change and sometimes these were very strong personalities or informal leaders who had the potential of sabotaging change efforts. To prevent this or to reduce the impact of these individuals, leaders had resorted to, "include some naysayers in the group," and "having one-to-one discussion with the resistors and asking them their reasons for opposing change, explaining why change was necessary and sometimes even asking them not to sabotage.' Some felt that some of the resistors might be doing so because of lack of experience and if this were to be the case, then, "working with those who needed help to form effective partnerships" was a useful approach.

Small incremental changes.

"Do changes only in small increments" was a dominant theme among most leaders who emphasized, "the necessity to go slow," and "take small risks and obtain small wins before launching huge changes," because "small changes are relatively easier to accomplish and large changes are met with resistance."

Managing resistance.

This was a major challenge for academic institutions and the leaders. Most participants, especially at the senior-level that successful management of resistance was a test of successful leadership and depended upon: 1) developing and nurturing mutually valued relationships, 2) staying close to the mission, 3) providing hope and 4) and specific strategies for engagement that included buy-in, finding people to work with and engaging resistors (as outlined above n the

previous section). Loss of morale and discouragement of the faculty members were definite predictors of failure and often would require change in leadership.

Influencing culture proactively.

Most participants felt that the culture of the organization was a key influence in determining the success or failure of the leader. Although it was very difficult to change the culture of the organization definitely in an academic setting over the period of a leader's term, nevertheless it had to be assessed and managed actively.

Proactively assessing culture.

A recurring theme was the need to pay close attention to assessing what was on the ground and how people were thinking. If culture had to be changed or influenced, then the leaders needed to know where it was prior to putting effort into it.

Building coalitions around fundamental values.

Influencing or changing culture required that the faculty members in the system were aligned along similar personal and organizational values. Investing time and energy in developing relationships and adding personal touch to organizational interactions was considered necessary for building coalitions.

Actively managing through a values-based hiring (and firing).

Many leaders commented that hiring for expertise came with a price tag that included dysfunctional personalities, faculty members with personal agendas who used the system to advance their careers and left when they had reached a point where the organization was no longer conducive to their personal goal achievement. These members always played the expertise card and were not amenable to common visions. Hiring for values, especially for where the organization wanted to go, was a better strategy in the long-term, because the expertise could always be acquired but the basic personalities were almost impossible to change. Some leaders talked about firing certain individuals and the difficulty of firing faculty members from

university-based positions, but it was necessary for the organization to move forward towards a culture of nurturing learning environments and patient safety.

Accomplishing the vision through conscious monitoring and course corrections.

One of the ways the leaders' success or failure was determined was by measuring how much they had moved the organization toward the vision, when they first came in. "Always staying close to the mission," "keeping the vision in mind," and "steering with constant monitoring and course corrections" were the common strategies identified by senior leaders. Annual reports, town hall meetings, memos and other communications, faculty meetings and other for a represented opportunities for leaders to impress upon the faculty how much progress had been made towards the vision.

Putting it All Together: Combining the Science and Art of Leadership

The practice of successful and effective leadership required leaders to draw upon a variety of resources.

Adapting evidence from literature on management and leadership.

Most leaders referred to relying on experience and advice and in many instances, "reaching for a book on the shelf" or "articles in journals" to see what could be done about a particular issue. Leadership programs and courses offered insights but often confirmed where, "I was already leaning towards." Many first-level leaders and some middle-level and rare senior-level leaders were engaged in formal leadership degree programs. Adapting evidence from literature on management and leadership was a relatively new endeavor for most leaders, but it fit in nicely with their comfort level regarding the use of evidence for clinical decision-making. Figure 4.7 depicts the use of the combination of experiential and informal learning and evidence to make strategic and tactical decisions for effective leadership. They key decision for many leaders was how to adapt what they had learnt before or which advice from the literature could be adapted for use in the situation they were currently facing.

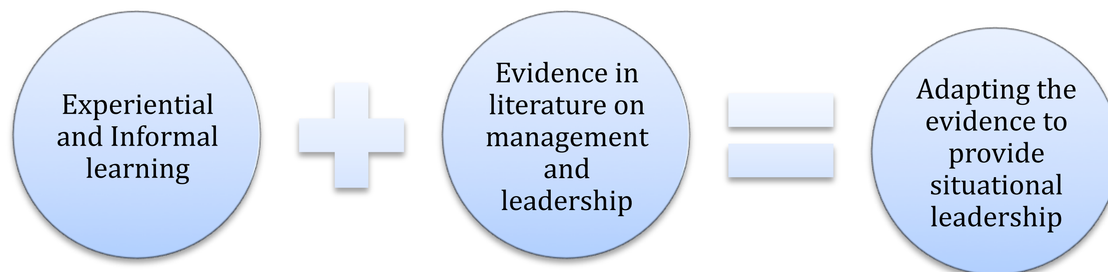


Figure 4-7 Evidence-Informed Decision-Making for the Practice of Leadership

Complexity in Strategies; What is Unique to Medical Education Leadership?

From the focused conversations and the interviews (the latter included a specific question on what is unique about medical education leadership?), four broad categories were identified. Although the categories themselves would be applicable to any setting or industry, it was the content in those categories that made medical leadership unique. The inherent complex nature of the academic health centres was made even more complex by the context, content and culture of medical education and multiple dualities, as shown in Figure 4.8.

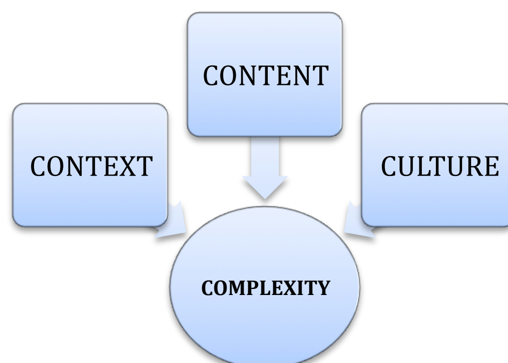


Figure 4-8 Complexity of Leadership in Medical Education

Medical education leaders had to have expertise in the content, were to be guided by the context, and needed to understand and influence the culture and be able to manage and lead through the weave of complexity in an environment generating pressures on the system.

Gender, Ethnic or Cultural Differences in the Perceptions

The number of leaders belonging to a particular ethnic group or culture were small (and these were not specifically identified), and therefore these differences were neither analyzed nor reported. Gender differences were not specifically analyzed. The comments form women leaders were more reminiscent of compassion, caring, “healing”, sensitivity to “managing from the middle” and a higher tendency to “ become discouraged” due to “end runs” and “bad politics”.

Summary of Chapter 4

This largely qualitative study coupled with limited quantitative inquiry, through descriptive questions was aimed at identifying competencies, challenges and strategies for effectiveness in leadership in medical education. There were some differences according to the levels of the leaders (first-level, middle-level and senior-level, but there more similarities than differences.

CHAPTER 5

Summary, Conclusions and Implications

Introduction

In this final chapter, a summary of the study is provided followed by a discussion the findings, a reflective narrative on this study's implications for practice, a review of this study's limitations, recommendations for future studies and conclusions. The summary section provides brief review of the research problem, purpose, the conceptual framework, research questions, methodology and findings. In the discussion section, the findings are discussed in relation to the conceptual framework and the existing literature. In the implications section, practical application of the findings are discussed with some speculation. In the Limitations revisited section, the positivist approach to the study of leadership in this thesis is discussed. The recommendations for future studies, some ideas are provided for further research and suggestions for improving the current study are discussed. Data-supported conclusions are provided in the final conclusions section.

Summary of the Study

This section has a brief review of the research problem, the conceptual framework, purpose, research questions, methodology and findings.

Research Problem

Due to a paucity of data on effective leadership in medical education and leadership being considered only second to instruction in the overall success of the students in the general education literature, I felt that developing a framework for leadership in medical education, which is offered in the complex environment of academic health science centres would be timely, especially given the current calls for reform in health care and medical education.

The Pre-Research Conceptual Framework of the Study

The theoretical framework for this study was provided by the: 1) leadership theories and models, 2) the current evolution of medical education based upon recommendations from major educational policy-making organizations, and 3) changes and reform in health care systems and industry.

Based upon the literature, seven variables were identified to be components of the pre-research conceptual framework of this study. These include: 1) the dual roles of the health care systems (disease management vs. health promotion), b) the internal nature of HCOs and AHCs as complex adaptive systems and its leadership implications, 3) ongoing and proposed health care reform, 4) the conflict between the purpose of education vs. the outcome of vocational training in medicine, 5) the internal nature of medical institutions and its leadership implications, 6) ongoing and proposed medical education reform and 7) the inherent conflict in academic health centres between patient care and education and research. These seven factors exert variable pressures and place often opposing demands on medical education leadership.

Purpose of the Study

The overall purpose of the study was to develop a framework of leadership for medical education and contribute to the literature on leadership in medical education, based on an analysis of the perceptions of key health education leaders in Saskatchewan and leaders in position of authority in medical education at the national level in Canada. The analysis was contextualized with in the framework of ongoing reforms in health care and medical education.

Research Design and Methodology

The main objectives of this study were identification of core competencies, challenges and strategies for effectiveness in medical education with a focus on what, if anything, was unique about leadership in the medical education setting. To ensure validity and reliability of the study, triangulation of data collection methods (interviews and an "event" analysis with components of

focused conversations and short surveys), subjects with varied backgrounds and at different levels of leadership in medical education (program, college, national) and analysis (qualitative and semi-quantitative) were used.

Data Collection

The data were collected over a period of 13 months (January, 2009- February, 2010). Perceptions of 32 medical education leaders who were at different levels of leadership stratified into first- (11), intermediate- (6) and senior-level (15) leadership positions based upon the hierarchical position and the scope of the job description, were obtained and analyzed. Quantitative data were analyzed through descriptive statistics. Qualitative data were analyzed for themes through content analysis.

Summary of Findings

Leadership and management were considered to be overlapping roles and leaders at all levels used both management and leadership-related skills. Figure 5.1 depicts the major categories for the competencies, challenges and strategies for effective leadership in medical education. Three broad categories were identified for each research question.

Personal and interpersonal characteristics formed the core of leadership skills. The rank order list of the leaders at three levels was different. The first-level leaders spent most of their time in “managing” the affairs of their role, while the senior –level leaders spent most time in leadership activities (e.g., creating alignment).

The key competencies essential at all levels included effective communication and building and managing relationships. Skills as a teacher or researcher were considered least important. The leadership skills were acquired mostly informally with only a few leaders having undergone formal leadership training.

Figure 5-1 Categories of Competencies, Challenges and Strategies

The leaders faced three types of challenges. Personal and interpersonal challenges included time management, personal limitations, lack of support form superiors and peers, lack of feedback and lack of opportunities for leadership training. Organizational challenges included structures and processes, organizational communication, personal and organizational relationships, negative politics at work, creating engagement and alignment, managing culture, managing resistance and inertia, organizational complexities and limited resources. Inter-organizational challenges included challenges between institutions and competing agendas and interests of stakeholders.

The context, content and culture of medical education were considered to be unique leading to the complexity, which would require unique leadership skills and strategies. The societal needs, multiple stakeholders and health care reform formed the basis of the unique context. Delivery of health care and medical education in AHCs and the ongoing medical education reform was the content uniqueness. The unique culture of medical education was due

to the apprenticeship model of medical education, the hidden curriculum, the professionalism, innovation and development and the town vs. gown phenomenon.

Personal and interpersonal strategies for effectiveness included looking after self, seeking advice, consciously developing fortitude, allotting time for priorities and thinking and personal development. Becoming an efficient manager was another strategy and included diligent delegation, appropriate organizational communication and managing priorities. Practicing effective and inspiring leadership involved developing the structure and processes to achieve vision, providing hope, developing mutually valued relationships which were considered key to engagement, alignment, leading change and managing resistance, moving from power to process, using appropriate leadership styles, developing the art of leading change and managing resistance, proactively influencing culture and accomplishing the vision.

Discussion

In the discussion section, the findings are discussed in relation to the conceptual framework and the existing literature.

Leadership and Management

The formal administrative positions require both management and leadership roles. The first-level leaders alluded to most of their time being spent in management roles, while the senior –level leaders spent most of their time in leadership activities (e.g., creating alignment). This is consistent with the view that a person in an formal authority position would require proficiency in both managerial and leadership competencies to be an effective (Northouse, 2007).

Leadership Competencies

Although the rank order lists for the three levels of leaders were different, leadership competencies in decreasing order of importance were: 1) personal and interpersonal skills, 2) leadership skills, 3) managerial skills, 4) skills in the delivery of medical education and 5) skills

as a teacher and medical education researcher. There were minor variations amongst the three groups when ranking each competency but the general categories were similar. The pre-research framework was modified to include five and not six distinct competencies. Skills in understanding and influencing the larger context and keeping current with reform were considered to be part of leadership skills domain and not a separate domain.

Personal and interpersonal characteristics were identified to be at the core of leadership competencies / skills in this study. Personal values, self-awareness and emotional and moral capability are considered to be expressions of character of leaders and leadership begins with the character of leaders (Greenfield & Ribbins, 1993). The importance of values has also been highlighted in a research on 12 effective schools in England and Wales, "good leaders are informed by and communicate clear set of personal and educational values which represent their moral purposes for the school" (Day, Harris, & Hadfield, 2001). The importance of having a core of integrity and high personal values is consistent with the need for providing transformational leadership. This is because the leaders who exhibit TL have strong internal values and ideals required to be effective in motivating followers to act to support greater good rather than self interest (Kuhnert, 1994).

Among the interpersonal skills the key competencies essential at all levels included effective communication and building and managing relationships. The importance of listening for leaders is highlighted in: "the person in a position of leadership who is not open to actively listening, questioning and reflecting in a very conscious way will be judged as a hypocrite if they continue to talk the language of partnership…" (van Zwanenberg, 2003).

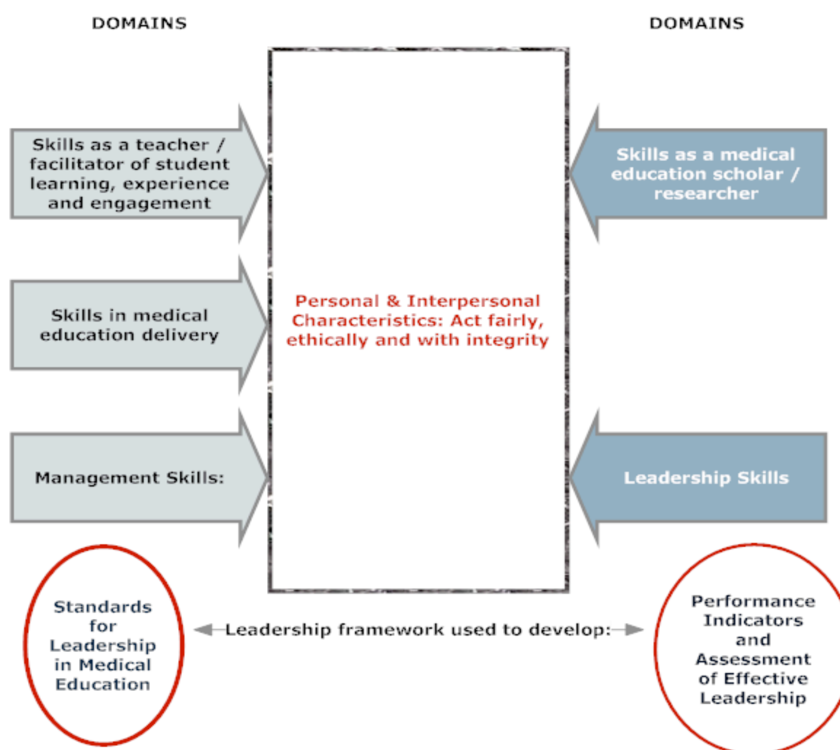


Figure 5-2 Revised Leadership Competencies Based on Saxena (2010) Findings

Relationships are key to effective leadership. In the relational leadership model, leadership is viewed as, “a relational process of people together attempting to accomplish change or make a difference to benefit the common good” (Komives, Lucas, & McMahon, 1998, p. 60). The collaborative foundations of leadership competencies have also been highlighted by others (Bennis, 2003).

Skills considered traditionally in the leadership realm such as strategic planning, leading change, leading teams and creating alignment were only second to the core personal and interpersonal skills for all leaders. Managerial functions necessary for getting things done on a daily basis was required by all leaders, although its emphasis was different for leaders at different levels. Senior-level leaders attended to their management roles mostly by delegation while the first-level and middle-level, this was a more hands-on type of activity. These

leadership and managerial skills are similar to other leadership frameworks and syllabi of many degree programs and courses on leadership development (CCSSO, 2008; NHS, 2006). Since most of the participant leaders acquired leadership skills mostly informally, with only a few leaders having undergone formal leadership training, it appears that the informal processes, at least in the setting of this study, are adequate in understanding the broad strokes of leadership competencies.

Curriculum planning based on the instructional cycle was directly relevant to first-level and middle-level leaders since education delivery is their main role. Skills in delivering medical education would be a management related skill specifically targeted to medical school learners (CCSSO, 2008). When asked why they ranked it low, many leaders emphasized that although it is essential but it is not crucial to provide leadership, since the leaders can find experts in this area and consult them.

Skills as a teacher or researcher were considered least important. This is somewhat surprising in an academic setting where one would intuitively think that having been through the trenches and having skills in these areas would provide for an empathetic understanding of the roles of the teachers who are to be led and managed for the educational mission. It should be noted that many leaders did not rank skills as a teacher and researcher at all.

Leadership Challenges

The leaders faced three types of challenges – personal and interpersonal, organizational and interorganizational. This is very similar to the challenges identified in a study reporting interviews with a small number of leaders in the UK; the categories were personal issues, organizational and cultural issues, balancing competing agendas and the wider agenda (McKimm, 2004).

Personal and interpersonal challenges included time management, personal limitations, lack of support from superiors and peers, lack of feedback and lack of opportunities for leadership training.

Organizational challenges included structures and processes, organizational communication, personal and organizational relationships, negative politics at work, creating engagement and alignment, managing culture, managing resistance and inertia, organizational complexities and limited resources.

Most senior-level leaders referred to spending most of their time on creating engagement and alignment and found it a challenging aspect of their job. The underlying issues had to do with difficulty in leading the cultural change to the desired state, wading through the swamps of inertia and boring their way through the hard rocks of resistance. The core issue was possession of different value sets and divergent goals (between the individuals and the organization) by different members in the institution. The misfit between the employees and the organizations goals lead to frustrations, absenteeism, psychological withdrawal restriction of output, feather bedding, sabotage and formation of power groups to redress the balance (Argyris, 1964). Some people try and climb out of the hierarchy to do a better job and then perpetuate the whole sorry process.

Inter-organizational challenges included challenges between institutions and competing agendas and interests of stakeholders. There are many boundaries that need to be managed for effective delivery of medical education. Some of these are internal such as the departments and subject areas for interdepartmental and cross-discipline courses. The major external boundaries for the medical school are the teaching hospitals and the universities in which these schools are located. Each unit or organization has its own mission and vision, structures, cultures, and funding mechanisms and keeping everyone bound by the same vision is a significant challenge

for leaders in the AHCs. There is often a conflict in prioritizing clinical care and teaching (Phillips & Rubenstein, 2008).

Many senior leaders referred to the internal complexity of the academic health centres (AHCs) as one reason for barriers and challenges. Managing the culture of medicine was also identified as a factor that contributed to challenges. The professional culture of medicine is reflected in its language, communication styles, thought processes, customs, beliefs and symbols e.g., the white coat, the doctor talk and the physicians' explanatory model and is largely learnt by the next generation of physicians through the hidden curriculum (Lempp & Seale, 2004). The health care settings in which medical education is provided is considered most hierarchical of any organizations except the military and most groups including students, residents, nurses, and pharmacists are often intimidated by the physicians (Shostek, 2007). Some student learners experience abuse and intimidation and harassment and since such behaviors are contagious (Reddy, et al., 2007), contribute to dysfunctional organizational cultures of fear and intimidation, and diminished pride and morale (NPSF, 2010). In a survey-based research report, it was observed that third-year medical students, although initially critical of unprofessional behaviors, increasingly perceived these to be appropriate and began to adopt these behaviours (Reddy, et al., 2007). The values, attitudes and behaviors developed in this cultural environment lead to perpetuation of the cultural beliefs and norms among the newer generation of physicians. This "hidden curriculum", although has its positive aspects, may lead to adoption of negative virtues. The professional egocentricity among the physicians, believed to be a cultural phenomenon, is not conducive to team building (NPSF, 2010); this is especially troubling at a time when team-based care is quickly becoming a norm. Changing this culture to a state where learning environments are more optimal is clearly a leadership role (Hafferty, 1998).

The content of medicine and the delivery of education was another factor creating challenges. Some leaders had made the observation that the physicians had no idea about the

educational principles. Medical education reform proposals share some common themes; these include, a) linking medical education to community needs and emphasizing preventive and public health, b) revising the content to include skills required to practice medicine in addition to medical expert skills e.g., communication etc. and using a competency –based approach to teaching and learning, b) addressing the learning contexts issues by providing teaching in generalist and community contexts, exposure to inter-professionalism and explicitly addressing the hidden curriculum, c) changing the admissions process, and e) building a generation of medical leaders (AAMC, 2007; AAMC, 2004).

The contextual factors also played a role in creating a challenging environment for leadership. The context of medicine is an overarching concept that refers to many variables including the organizations in which medical care is provided and medical education is offered, population determinants of health and disease, effects of social class on health and access to health care, health care delivery systems, health care reform, societal demands, doctor-patient relationships and communication (van Weel, 2001), among others. The tensions between the health of an individual patient and population health (O'Neil & Seifer, 1995) are changing health care management models. Although, "medicine has always been a servant of the community" (Charles, 1962), the renewed focus on societal demands, and reform in medical education and health care have created newer realities and added to the complexity of leadership requirements.

Special Characteristics of Leadership in Medical Education

One of the questions at the beginning of this study was to identify what, if anything, was unique about leadership in medical education. What emerged was not unique but how the general leadership approaches, theories and practices could be adapted to the medical education setting. The "end-goal" for other leadership settings is different from that in medical education; specifically, it is profit in the business sector and winning in military settings. The goal of medical education is "production of a competent physician with appropriate values to meet

societal needs." The setting in which this product is developed is at the interface of the medical school / university and the health care institutions – the so-called academic health centres. The special characteristics for leadership in AHCs reflect the challenges inherent in the AHCs coupled with external pressures on the system due to societal needs and reform. The following figure (Figure 5.3) depicts the inter-related nature of the context, content, culture of medicine and medical education, and inherent conflict and dualities, which contribute to the complex nature of AHCs. Providing leadership in medical education requires adapting general leadership skills to the situations resulting form and reflecting this complexity. The strategies for leadership and leadership implications are discussed in the Strategies and Implications sections below.

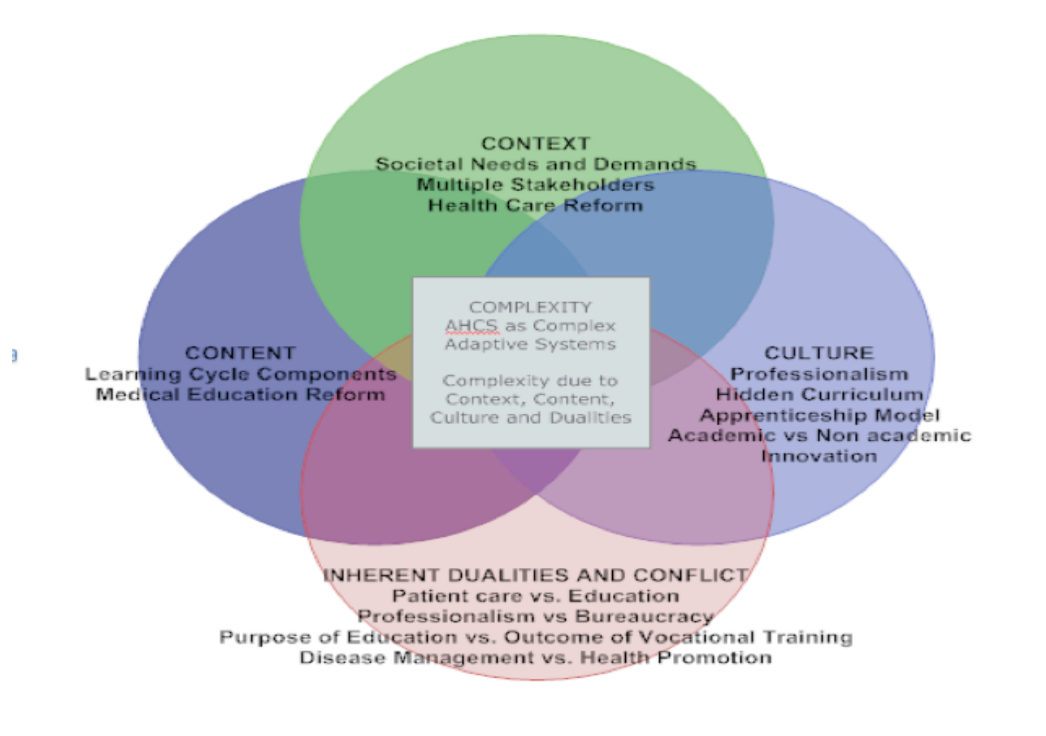


Figure 5-3 Special Characteristics of Leadership in Medical Education

Strategies for Effectiveness

This section is arranged to first list the findings of this study along with literature support or contradictions, followed by how the management and leadership theories and approaches are

useful in medical education leadership and ending with the leadership implications of complexity seen in medical education settings.

Personal and interpersonal strategies for effectiveness included looking after self, seeking advice, consciously developing fortitude, allotting time for priorities and thinking and personal development. Managing oneself as a knowledge worker is central to providing long-lasting effective leadership (Drucker, 1999). Becoming an efficient manager was another strategy and included diligent delegation, appropriate organizational communication and managing priorities. Practicing effective and inspiring leadership involved developing the structure and processes to achieve vision, providing hope, developing mutually valued relationships which were considered key to engagement, alignment, leading change and managing resistance, moving from power to process, developing the art of leading change and managing resistance, proactively influencing culture and accomplishing the vision.

Devoting time and energy to develop mutually valued relationships identified in this study is in keeping with the understanding that the foundations for building productive and genuine working relationship lie within the shared values (Kouzes & Posner, 2002). Shared values among a group of people lead to improved communication, more creativity and engagement, higher loyalty and enhancement of the integrity in decision-making.

The leadership approaches and theories most applicable to - but not limited to - leadership in medical education are transactional leadership, transformational leadership and servant leadership. Transformational leadership is a useful approach since it encompasses influence activities ranging from influence on one individual to the entire organization and in influencing the entire culture (Bass, 1985; Bennis & Nanus, 1985; Kouzes & Posner, 2002). It is critical in change management or leading change binding the leaders and followers together (Bass & Avolio, 1994). Servant leadership, due to its focus on people (Greenleaf, 1977) and

learning-centered leadership to improve teaching and learning (Southworth, 2005) are useful additional approaches for effective contextual leadership.

A revision to the charismatic leadership theory has implications for leadership in medical education settings. The transformation of followers' self concepts and linking the identity of followers to the collective organizational identity by emphasizing the intrinsic rewards of work and deemphasizing the extrinsic rewards was developed (Shamir, House, & Arthur, 1993). This is useful for developing distributed medical education in community settings because every hour cannot be bought and the Hippocratic oath does inculcate in the physicians the professions' value of teaching the future generation of doctors. Charismatic leadership has the potential to align the self-concepts with organizational identity.

Affiliative, democratic, and visionary leadership styles were most commonly identified styles of leadership. Commanding leadership style was used only in situations requiring hard decisions in a short time frame. Power in organizations is a significant issue for all leaders. The referent and expertise basis of personal power and the legitimate, reward and coercive basis of positional power (French Jr & Raven, 1959) are relational concerns for leaders and followers. The authority of expertise may be in conflict with positional authority of position. Coercive power was not something any of the participant leaders referred to when they mentioned their leadership styles and recalled experiences of leading change but appropriate use of power to achieve common goals was a commonly mentioned strategy. This is consistent with the use of power from a relationship point of view (Burns, 1978).

Leadership for Medical Education Reform

As for the future, your task is not to foresee it, but to enable it.
Antoine de Saint-Exupery

The future, as has been the past, will be shaped by the societal demands. The commitment to social accountability has become more explicit and the vision has been translated into a wide array of activities (Hawkins, 2005). The search for an optimal balance between what needs to be

taught in order to best meet societal needs continues (Cooke, Irby, Sullivan, & Ludmerer, 2006). A reduction in the medical expert content, provision of training in additional roles as articulated in CanMEDS document (Frank, 2005), incorporation of social, economic and political aspects of health care delivery, and teaching of humanities and improvement in students' learning skills will continue to sculpt medical education. The new curriculum will have to be based on an appropriate balance of many competing issues and the teachers will have to be prepared to teach this new evolving curriculum (Davis, Kahn, Wartmann, Wilson, & Kahn, 2001; Pascoe, Cox, Lewin, Weiss, & Pye, 2004). Improvements in the delineation of performance standards and assessments reflecting these standards will continue. Interdisciplinary approaches to teaching (Harden, 2000; Speer, Stagnaro-Green, & Elnicki, 1995), shortened core rotations in residency training with earlier specialty training (DaRosa, Bell, & Dunnington, 2003; Goldman, 2004) will need to be addressed by the institutions either in response to accreditation requirements (Leach, 2004) or voluntarily (Whitcomb, 2005). The financial considerations for the reform will need to be actively attended to by the institutions and their leaders (Knapp, 2002; Ludmerer, 2004; Reinhardt, 2000). At the same time, newer challenges will be identified e.g., increasing requirements for attention to quality, safety and documentation of care by physicians may reduce students into passive observers. This will need to be proactively addressed, since being responsible for patient care is a strong stimulus for learning (Miller, Bligh, Stanley, & Al Shehri, 1998); appropriate opportunities for experiential learning and practice will need to be provided while meeting service demands of teaching hospitals.

As the medical education reform continues, the need for leadership remains high. The solutions to the problems and challenges facing medical education are simple and straightforward in some areas, while in others strong leadership is required for instituting major changes. The resistance to proposed changes in medical education identified above (Anderson, 1993) remains formidable and comes in a variety of forms. Some are not convinced of the need

for change, others resist the adoption of changes in teaching and learning paradigms and evidence-based management of medical education and finally, there are those who believe changes are required but these need to be cautious and slow in implementation.

In general, medical profession is responsive to societal needs and the successful adoption of changes would require physician engagement rather than marginalization and exclusion by overenthusiastic proponents of change. Implementing the change and developing a committed physician followership would be quite a challenge for medical education leadership. Collaboration, rather than competition between different health and community stakeholders is an emerging theme (Boelen, 2000). Leadership in the context of reform is essentially leadership for change and would require an artful application of strategies uniquely suited to varied situations.

Leadership Implications of Complex Adaptive Systems

The usefulness and limitations of complexity principles to leadership can be understood in the context of a two-dimensional construct, depicted in Figure 2.2, involving certainty and agreement by Stacey (Stacey, 1996b). Here both mechanistic and the CAS perspectives can be visualized (mechanistic in simple and CAS in complexity). The concept of life, “at the edge of chaos”, also called, “far from equilibrium” refers to the zone between simple and chaotic states. It is in this zone “at the edge of chaos” (Langton, 1989) that the system is most adaptable and most creativity is possible.

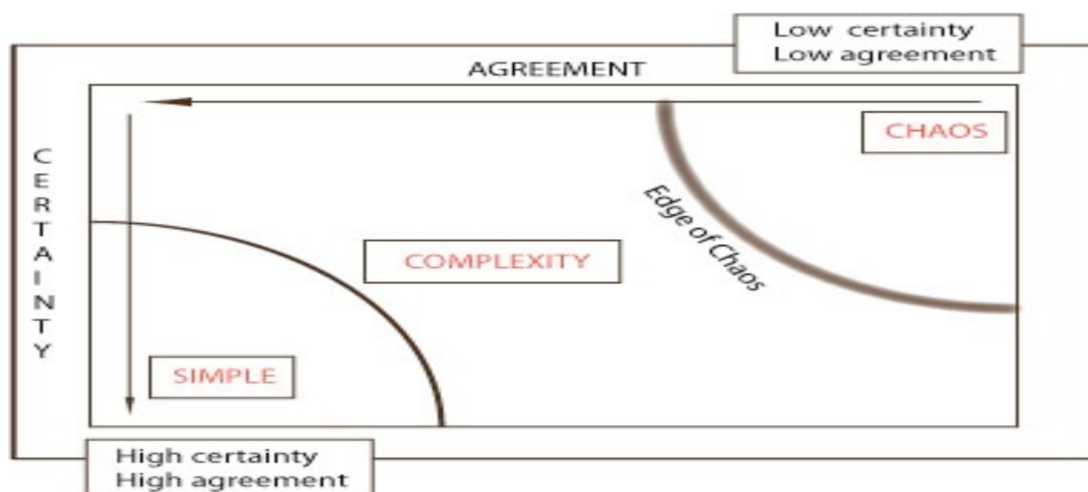


Figure 5-4 Agreement and Certainty in Complex Evolving / Adaptive (CES/CAS) Systems (adapted from Stacey 1996b)

Some of the strategies useful in the complexity setting of the AHCs are discussed below. To encourage the edge of chaos conditions, the leaders need to effectively influence five parameters; the diversity of agents, the number of connections between agents, the pace of information flow, the level of contained anxiety and the degree of power differentials (Stacey, 1996a). The challenge is to juggle these to the degree so that the group stays is in the domain of complexity and neither drifts into chaos nor gets frustrated to adopt simple solutions. It is obvious then that the role of the leader is not central control but facilitation of dispersed control or partnerships.

Diversity in values and expertise in heath care is likely a strength rather than a weakness to be addressed and provides a fertile ground for creativity that can be exploited in appropriate situations (McDaniel & Walls, 1997). The complexity view of resistance to change is considered under the concept of attractors, (i.e., constraints to change). Herein lies the importance of framing, (i.e., stating the goals and objectives and arguments in frames that provide alternatives for people to consider issues from different perspectives thereby providing alternative attractors). If these appeal to early adopters and key decision makers then another aspect of complexity

approach comes into play, the "butterfly effect"; this essentially refers to small changes having a large system wide impact.

Minimum critical specifications are required when writing mission, goals and boundaries allowing for creativity and self organization (Morgan, 1997; Stacey, 1996b). Since the real future in CES is unknowable, scenario planning and professional values should be exploited for creating meaning. Protecting multiple options for realizing the full potential and not allowing these to be rejected early on by skeptics and cynics is important. This has been identified as a breeding ground for innovation and helps increase resilience (Kelly, 1994). Based upon the tenet that changing behavior allows for a faster evolution (Kelly, 1994), it has been proposed that leaders should take advantage of unexpected events and little changes that generate a lot of feedback as in a CES these will be amplified (Goldstein, 1994). Using the informal organization in a manner complimentary to the formal organization and tapping into its creativity potential (Goldstein, 1994).

What is obvious from all these strategies is that the key words are relationships, unpredictability and creativity. These words are reminiscent of the higher level motivational needs of people according to Maslow's theory, (e.g., a sense of belonging and self actualization). The recent emphasis in the leadership literature on relationships, i.e. emotional intelligence (Goleman, Boyatzis, & McKee, 2002) and resonant leadership (Boyatzis & McKee, 2005) is consistent with this thought movement of embracing complexity principles in understanding and leading organizations and people. The role of the leader in this context is better appreciated as framing, managing constructive conflict, nudging people towards the edge of chaos, using the informal organization, allowing for divergent views to surface and be discussed and since the CES are unpredictable, it may sometimes be that the leader has to follow what the creativity of the group has allowed to emerge. The task of defining the mission and vision are also slightly different in that these are not grand designs for strict following rather that these are stated in

softer terms allowing for creativity to flourish. Health care industry is in a volatile environment and may wish to learn from earlier research that successful organizations in volatile environments were those that had a diversified strategy and the organizations were emergent (Brown & Eisenhardt, 1998).

In summary, appropriate principles and approaches are required depending upon the context. The issues best addressed at the edge of chaos would require gently nudging the agents (people) into this zone – not expecting a defined outcome but whatever emerges there. One should be careful not to use these in decisions in the simple zone lest the employees / followers / agents perceive this to be a lack of authority. Another challenge would be to control the parameters such that slipping into chaos or sliding into a default position of the simple zone is prevented.

Post-Research Conceptual Framework

Most medical education organizations including the AHCS, medical colleges and their departments and the universities reflect a combination of formal and collegial management models. The presence of bureaucracy and formal models is evident organizational charts, position-based power and goal oriented decision-making (Weber, 1947). The collegial management model's 'alongside' rather than a "top-down" approach built on assumptions of common values, expertise-based authority and consensus decision-making is reflected in university committees and academic freedom. Although a bureaucratic organizational structure is considered appropriate for educational management (Lungu, 1985), its tendency to become preoccupied with maintenance of its structure and processes (Osborne, 1990) and the inherent conflict between bureaucracy and professionalism (Mintzberg, 1992) - the latter more pronounced when managing physicians - often leads to inflexible structures. Maintenance of these structures becomes heavily dependent on polices and calls for reform from "top-down" are often resisted.

The leaders in medical education are likely to find themselves drawing from other management models and relevant leadership practices. For example, political management (Hoyle, 1986) using the bureaucratic processes, collegiality and micro politics as conduits for power flow (Ball, 1987; Hales, 1997), paying attention to the influence of interest groups for creating policies (Baldridge, et al., 1978) and using appropriate power as part of transactional leadership will be required at times. "Ambiguity is prevalent in complex organizations such as colleges and is particularly acute during periods of rapid change" (Bush, 2003, p. 134); this is applicable to some reform recommendations. Ambiguity management emphasizes change, uncertainty and unpredictability and organizations are considered to be fragmented with loose coupling (i.e., the garbage can model of Cohen & March) so that the decisions are the result of fluid processes (Cohen & March, 1976; Weick, 1976a).

The leadership functions appropriate for formal management structures include goal setting, using authority to the organization's advantage and aligning the relationships with the external environment, often requiring a "hero" leader (Handy, 1995). Transactional leadership is very similar to traditional management in that it focuses on systems and resources (as opposed to transformational leadership that focuses on strategies and people) (Kotter, 1996). The leadership models, which fit best with the collegial management model are based on the assumption that the leader is "first among equals" (Baldridge, et al., 1978). These leadership models include participative, transformational, interpersonal and distributed leadership models. Negotiation, listening, facilitation and consensus building form the basis of leader's influence (Coulson, 1986) as also highlighted in the four principles – idealized influence, inspirational motivation, individualized consideration and intellectual stimulation – of transformational leadership (Bass & Avolio, 1994).

In the medical education settings engaging people and aligning personal with organizational goals are key to achieving success; top down "orders", as opposed to business and

military settings are almost always strongly resisted and contribute to leadership failure. This study has shown that the key "mechanism" to engagement and alignment is through influencing and managing culture, which is a distinguishing feature for leadership in medical education setting compared to business and military settings. In other colleges and departments in a university, the need for influencing the practice settings such as the teaching hospital for medical education is varied but somewhat limited compared to medical and even other health profession settings.

Managing and influencing culture would draw from cultural model of management and leadership practices appropriate to that model. Cultural management emphasizes informal modes of influence, centrality of values, and beliefs and ideologies, (i.e., "the way we do things around here") (Deal, 1985) – based on symbols (visual, physical, linguistic and behavioural) essential to construction of meaning. This is now even more important in inter-professional education. Organizational cultural changes are difficult to implement since they represent established norms based upon underlying values and assumptions and are deeply rooted in the organization's history (Schein, 1997). Change efforts are generally viewed with fear and anxiety and some leaders maintain that culture is extremely powerful and "culture will eat strategy every single time". Changing the culture of an organization takes time and requires commitment from the leadership. An assessment of the current culture and the underlying reasons coupled with a clear determination of what type of culture is required for the organization's growth are considered initial steps. Effective communication and relationship management are key to influencing culture and hiring for desired future values and strong character are proactive ways of embedding cultural change. Moral leadership based on the notion of integrity and similar to transformational leadership emphasizes commitment of followers; in addition, it emphasizes values (ethical stance, self-understanding as evident in the work on emotional intelligence (EI) by Goleman, and personal values and concern for others as in the servant leadership model of Greenleaf) and

vision.

Effective leaders require two cognitive competencies, systems thinking and pattern recognition to deal with complex organizational challenges (Senge, 1990). Effective decision-making reflected in judgment is a key attribute/skill of effective leaders. The normative decision theory proposes that the quality of the decision and the acceptance of the decision by the followers are central to effective leadership (Vroom & Yetton, 1973). Arguing that judgment trumps experience and that it is neither common sense nor gut instinct, Tichy and Bennis have proposed that effective judgment is a three-part process involving, preparing (framing the issue appropriately), making the call (arriving at the decision and explaining it) and executing (carrying out the decision) (Tichy & Bennis, 2007).

These baseline abilities are essential for leadership positions; however, it is the emotional intelligence (EI) competencies - self-awareness, self-management, social awareness and relationship management- that are known to account for 85-90% of the difference between outstanding and average leaders (Goleman, 2000). EI has been associated with success in academics, relationships and life (Zeidner, Matthews, & Roberts, 2004) and organizational effectiveness (Wienberger, 2002).

Even if a leader is adept in personal and group EI and social intelligence (SI) the chances are that the ride will get rough. Apart from incompetence and stubbornness, active inertia, "the tendency of the organizations to follow established behavioral patterns" (Sull, 1999), is a strong determinant of failure. There are four hallmarks of the dynamics of failure including; strategic frames acting as blinders, processes becoming routines, relationships turning into shackles and values becoming dogmas. These recipes for failure can enter into negative feedback loops with the leadership (Senge, 1990). One of the single most important challenges of leadership – loneliness - becomes especially taxing in situations of personal, social and political pressures (Hill & Wetlaufer, 1998). There are two points here for leaders; one has to do with renewal and

the other with personal values.

The leaders, because of the fundamental nature of "giving of self" associated with loneliness, power stress and too little time for renewal are prone to 'sacrifice syndrome" and eventually may lose resonance (Goleman, et al., 2002) and become dissonant and lead the organization into dissonance and failure (Boyatzis & McKee, 2005). The authors argue that EI is not enough to sustain resonance in any organization and recommend that the path to restoring resonance is through renewal involving mindfulness, hope and compassion (for self and others). Strategies and actions such as meditation, honesty, and perseverance would be in keeping with these principles. It was interesting to see clear evidence of strong adherence to core ethical values - respect, trustworthiness, caring, responsibility, justice and fairness and citizenship – the six pillars of character, emerge in my study. Peter Drucker's article on managing oneself (Drucker, 1999) provides insights on personal learning styles, acting in a manner consistent with one's values and managing the self. The importance of humility and fierce resolve of the level 5 leaders (Collins, 2001) is a key ingredient of successful leadership. Although how to achieve that state is not well understood.

The practice of leadership is integrative and it is believed by many authors that both transactional and transformational leadership are required for effective leadership (Bass, 1985; Bass & Avolio, 1994; Kotter, 1996; Westley & Mintzberg, 1989; Yammarino, 1993). Situational or contingent leadership is based on commonsense idea that there will be interactions between the leader's attitudes, environment, and team members. Essentially it is about adapting leadership styles (e.g., transformational in early stages of a transition process and transactional for stabilizing the change). Goleman's six leadership styles (coercive, authoritative, affiliative, democratic, pace-setting and coaching) provide a useful leadership style –situation fit (Goleman, 2000). There are situations in medical education settings where applications of servant leadership would be useful due to its focus on followers (Greenleaf, 1977) and the necessity of aligning

personal and organizational goals due to accountability requirements (Ramsden, 1998). The directional focus of learning-centered leadership (Bush, 2003) to improve teaching and learning (Southworth, 2005) provides a very concrete focus to leadership efforts in medical education settings.

Based on the literature review and the results of this study, it appears that the most important functions of leadership are fostering hope and empowering people. The key leadership roles are: 1) strategic planning, 2) leading positive organizational culture, 3) leading change, 4) leading teams, 5) getting results and 6) maintaining followership. The ongoing changes in medical education and health care systems require that leaders be successful in all these roles.

Although what is discussed above may appear to be prescriptive and definitive, that is certainly not the case. There are super-rational, overlapping, dynamic, aspects to leadership practice. Some variables belong to many categories, (e.g., communication); it is a competency, but also a challenge and effective communication is a strategy. So if communication is in all categories where does it begin and where does it end? Leaders need to have metacognition. Also, a challenge might be a strategy, (e.g., creating a sense of urgency) is one of the first steps in Kotter's change management (Kotter, 1996). Keeping an eye open for any crisis offers an opportunity for capitalizing.

Leadership is not just action-reaction in the Newtonian sense, it is better viewed using quantam approach with reciprocal interactions. It is more like systems where one intervention is likely to lead to a ripple effect and while one problem is being solved another one is being created. The set of leadership competencies is like a bag of virtues, but leadership is more than that. Leadership itself is not a competency, it is actually a complex behavior. Leaders need to create environments, create conditions, and need to decide what to give attention to at a point in time.

Limitations Revisited

Although the descriptive questions and open –text comments did provide an opportunity for loose application of grounded theory work, the major work is positivist in approach. The positivist approach to this study and the rational and reductionist approach to identifying competencies and challenges and strategies to be put back together to create a framework for leadership, such that it will provide clues to the mystery of leadership, is a limitation of this study. This positivist approach only succeeded in scratching the surface. Some of the complexity did come through, however, more research is needed. The study provided some hunches, insights, perceptions, and some rare moments of rich and deep dimensions. May be a rational approach to a messy phenomenon was not right.

Identification of common themes through the content analysis process allowed aggregation of "shared understandings", however, its is quite likely that position- or role-specific comments and perspectives were diluted and not given due importance. This "central tendency" effect would make this study less useful when considering leadership development or selection for higher-level positions such as Deans.

Based upon the comments by many leaders in this study it is not too farfetched to state that the practice of leadership is an art and not a set of competencies where there is a formulaic approach to solving problems or even adaptive thinking. Even though we know the major perspectives and the need to adapt to situations and the preferred styles that might get the desired response – how to actually translate that into "action for a particular situation" comes from mastery and excellence and not a competency framework. Identification of characteristics, attitudes and behaviours is too simplistic for leadership in the complex environment of an academic health centre.

The participant leaders in this study shared their perceptions of how to become effective leaders. However, this study did not explore objective measures of the participants' leadership

effectiveness. These measures would include metrics on organizational effectiveness such as those captured through a balanced scorecard tool (e.g., measures of student success such as LMCC scores, financial management, quality of education measures), satisfaction surveys., accreditation status of programs or institutions etc.)

The generalizability of this work to medical education leaders is questionable since the findings represent the opinions of a few leaders over a short period of time with the questionable assumption that they are indeed effective and that they know what leadership involves.

The "popularist" approach of this work, although informative is not definitive. It might lend itself to identification of what would be desirable in future leaders and what could become part of a leadership development program, but it does not do justice to the deeper and artful dimensions of leadership. The effectiveness strategies may well be the qualities of the participants in this study and not of leadership itself.

Implications

The implications of this study along with concluding remarks are discussed below. The implications for theory, praxis, leadership development programs and future research are discussed below.

The theoretical implications are the need for developing an integrative leadership framework that incorporates management and leadership approaches and theories in light of the current trends and future of academic institutions including the universities and especially the academic health centres.

The implications for the praxis of leadership are encapsulated in the statement that leadership is about serving others. There are three fundamental requirements. First, there should be an innate desire or a sense of purpose to make a positive difference in the lives of others. Second, there should be a set of core ethical values and commitment to higher social values.

Third is the possession of high-level cognitive abilities. To be able to lead others requires that one should first have the ability to lead one's own self. This, then sets the stage for leadership development. Interpersonal skills, discipline-specific skills and organizational skills can be developed and honed. In being a leader, the key activity is influencing / teaching others. It can be seen that leadership in medical education is similar to captaining a ship in the stormy waters of ongoing reforms in health care and medical education. The compass (competencies and effectiveness strategies in leadership) needs to be working well but one needs to rely on many other factors since the true north appears not to be very clearly defined. The calls for reforms are based on sound educational principles and societal needs, but one needs to keep in mind that the globalization of the world will continue to generate changes and shifts not encountered up until now. Leadership in medical education in the context of proposed reform essentially requires change management.

There are numerous leadership development programs and the content of these programs reflects the generic leadership skills. The special characteristics of leadership in medical education reflecting the inherent complexity fueled further by the context, content and culture requires integrative leadership approaches. A synthesis of the applicable leadership theories and how can these be used in a contextual manner would add to the value of the leadership programs. Selection of future leaders for leadership development programs may consider selecting individuals with a set of desirable core ethical values such as respect, trustworthiness, honesty, integrity, and justice. These values and some cognitive skills are likely to be inherent or developed early in childhood and are difficult to teach/learn at later stages in life, according to the psychodynamic leadership theory (Kets de Vries, 1988; Lindholm, 1988). The leadership development programs can however hone these further and provide opportunities for development of managerial and leadership skills such as developing effective decision-making and judgment skills.

The Future of Medical Education in Canada project report has ten major recommendations, the tenth one being, “foster medical leadership” (AFMC, 2010). This study has provided useful insights that would be useful in leadership development programs in the medical education settings.

The implications for future research can be considered in two broad categories, what could be studied and how could it be studied. Most of the classic leadership work is considered two dimensional and developed over a time (almost two decades ago or earlier), when the organizations were quite different from contemporary organizations. Evolving organizational structures (e.g., network, virtual), reemphasis on formal management models partly due to accountability demands (Ramsden, 1998) and newer more integrative paradigms of leadership, such as authentic leadership (Gardner, Avolio, Luthans, May, & Walumba, 2005), connective leadership (Lipman-Blumen, 1996) and paradoxical leadership (Kark, Shamir, & Chen, 2003) and some including societal interests in spirituality and morality e.g., spiritual leadership (Fry, 2003) and ethical leadership (Brown & Trevino, 2006) provide opportunities for development of more contemporary leadership theoretical frameworks. Since this study focused only on leaders’ perceptions, a useful follow-up study would be the assessment of leaders’ effectiveness using parameters of organizational effectiveness and follower and stakeholder satisfaction.

A grounded theory approach to studying leadership (Lakshman, 2007) in medical education will always be a useful approach. Comprehensive case studies have been advocated to understand “deep and consequential” changes (Coburn, 2003). Design research, where new theories are developed, tested and refined in real contexts by developing both research and tools is helpful in linking research and practice (Brown, 1992). Quantitative research is still useful, especially in identifying trends across populations, especially if data reliability and validity can be improved (Desimone & Floch, 2004).

Conclusions

The findings of this study provided useful information on leadership competencies, challenges and effectiveness strategies in medical education. The inherent complexity of the academic health centres coupled with the need to take into account the context, content and culture of medicine along with the dualities of perspectives and accountabilities require practice of integrative leadership.

Competencies for leadership in medical education have common domains across all levels in the organizations, however, as one moves from first-level to higher-level positions higher – order skills like strategic organization planning and policy-making become more important while many of the management skills are used for effective delegation and oversight roles. This is the area where most gains were expected and realized through this research. The challenges faced by medical educators included personal, interpersonal , organizational and interorganizational and reflected to a large degree the context, culture, content and complexity of medical education.

Medical education leadership requires both effective leadership and efficient management. Relationships are at the core of key leadership functions such as leading change and teams, influencing culture and engagement and alignment and managing resistance and inertia. The main leadership theories and approaches helpful in practicing contextual leadership include transactional, transformational, and servant leadership. However, other theoretical approaches, such as moral leadership and learner-centered leadership are additional useful approaches. Leadership styles need to vary depending upon the situations. Notable exceptions to generally accepted wisdom such as sacrificing relationships or excluding certain people from process and decision-making highlight the responsibility and commitment of the leaders to the higher purpose of the organization.

Leadership as opposed to management is best viewed not as a competency but rather as an art. The systems thinking and the rationalistic approach to this thesis are somewhat its

limitations – since leadership is best understood in terms of complexity science. Scientific management and systems thinking make useful contributions but these by themselves are not enough for artful mastery of leadership.

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Appendix 6 “Event” Study Guideline

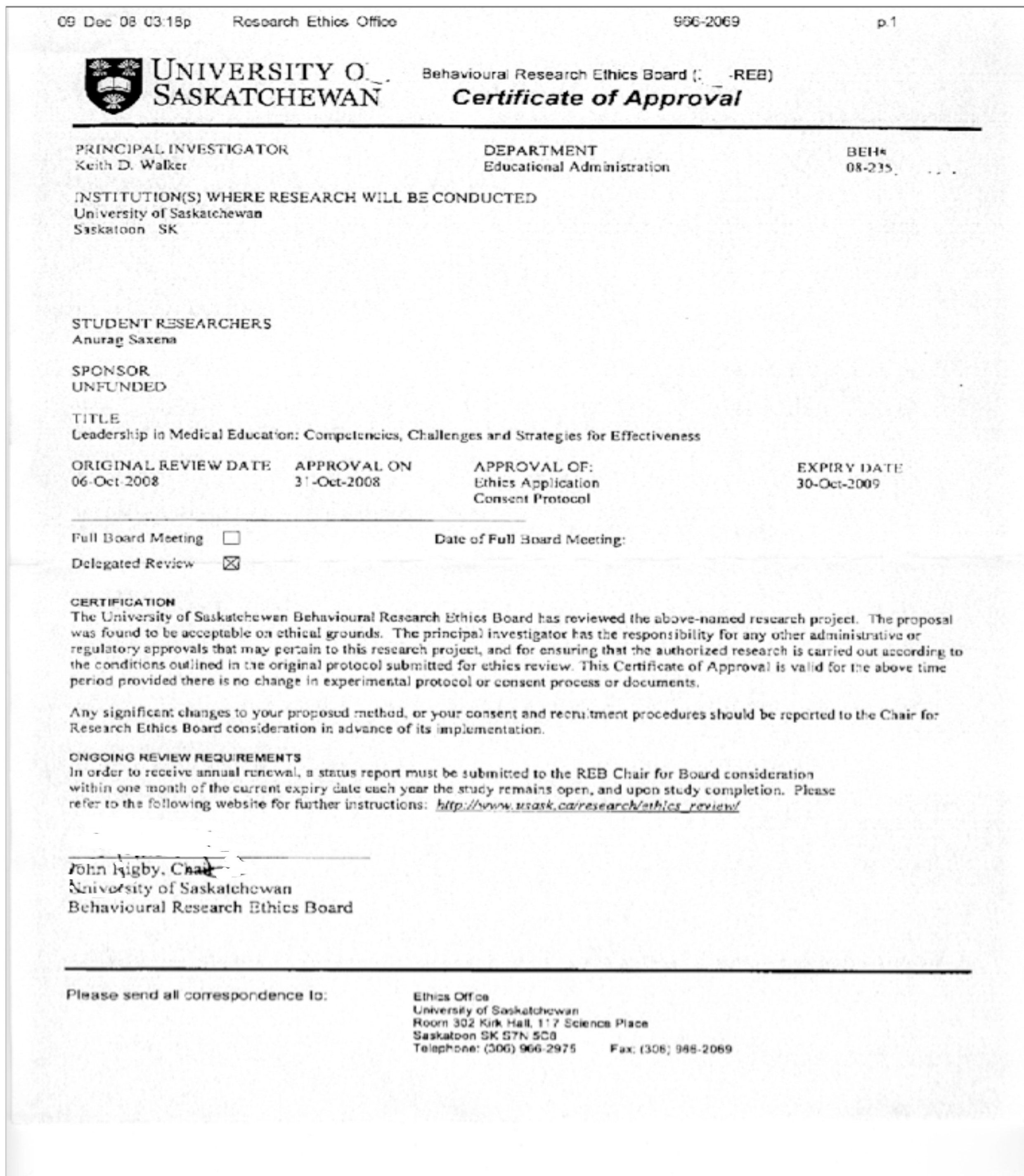
Appendix 7 Consent Form for the “Event” Study

Appendix 8 Interview Questionnaire

Appendix 9 Consent Form for the Inter\view

Appendix 10 Transcript Release Form

Appendix 1 - Ethics Approval Certificate (renewal)



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UNIVERSITY O_ SASKATCHEWAN

Behavioural Research Ethics Board (-REB)

Certificate of Approval

PRINCIPAL INVESTIGATOR
Keith D. Walker

DEPARTMENT
Educational Administration

BEH#
08-235

INSTITUTION(S) WHERE RESEARCH WILL BE CONDUCTED
University of Saskatchewan
Saskatoon SK

STUDENT RESEARCHERS
Anurag Saxena

SPONSOR
UNFUNDED

TITLE
Leadership in Medical Education: Competencies, Challenges and Strategies for Effectiveness

ORIGINAL REVIEW DATE	APPROVAL ON	APPROVAL OF:	EXPIRY DATE
06-Oct-2008	31-Oct-2008	Ethics Application Consent Protocol	30-Oct-2009

Full Board Meeting ☐ Date of Full Board Meeting:

Delegated Review ☒

CERTIFICATION
The University of Saskatchewan Behavioural Research Ethics Board has reviewed the above-named research project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol or consent process or documents.

Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

ONGOING REVIEW REQUIREMENTS
In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month of the current expiry date each year the study remains open, and upon study completion. Please refer to the following website for further instructions: http://www.usask.ca/research/ethics_review/

John Rigby, Chair
University of Saskatchewan
Behavioural Research Ethics Board

Please send all correspondence to:

Ethics Office
University of Saskatchewan
Room 302 Kirk Hall, 117 Science Place
Saskatoon SK S7N 5C8
Telephone: (306) 966-2975 Fax: (306) 966-2069

Appendix 2 – Ethics Approval Certificate (initial)

UNIVERSITY OF SASKATCHEWAN

Behavioural Research Ethics Board (Beh-REB)

Certificate of Re-Approval

PRINCIPAL INVESTIGATOR
Keith D. Walker

DEPARTMENT
Educational Administration

Beh #
08-235

INSTITUTION (S) WHERE RESEARCH WILL BE CARRIED OUT
University of Saskatchewan
Saskatoon SK

STUDENT RESEARCHER(S)
Anurag Saxena

SPONSORING AGENCIES
UNFUNDED

TITLE:
Leadership in Medical Education: Competencies, Challenges and Strategies for Effectiveness

RE-APPROVED ON
20-Oct-2009

EXPIRY DATE
19-Oct-2010

Full Board Meeting ☐

Delegated Review ☑

CERTIFICATION

The University of Saskatchewan Behavioural Research Ethics Board has reviewed the above-named research project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol or consent process or documents.

Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

ONGOING REVIEW REQUIREMENTS

In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month of the current expiry date each year the study remains open, and upon study completion. Please refer to the following website for further instructions: http://www.usask.ca/research/ethics_review/

John Rigby, Chair
University of Saskatchewan
Behavioural Research Ethics Board

Please send all correspondence to

Ethics Office
University of Saskatchewan
Room 302 Kirk Hall, 117 Science Place
Saskatoon, SK S7N 5C8
Phone: (306) 966-2975 Fax: (306) 966-2069

Appendix 3 - Ethics Approval Application

Behavioural Research Ethics Board (Beh-REB)

APPLICATION FOR APPROVAL OF RESEARCH PROTOCOL

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1. **Name of researcher(s)** and/or supervisor (s) and related department(s).

   1a-1) Name of Student: Dr. Anurag Saxena
   1a-2) Name of Supervisor: Dr. Keith Walker, Dept. of Educational Administration

1b. **Anticipated start date of the research study (phase) and the expected completion date of the study (phase).** 30 September 2008 – 30 September 2011

2. **Title of Study:**
   LEADERSHIP IN MEDICAL EDUCATION: COMPETENCIES, CHALLENGES AND STRATEGIES FOR EFFECTIVENESS

3. **Abstract (100-250 words)**
   There is a paucity of data on effective leadership in medical education and most studies are based on extension of leadership concepts from schools and colleges. This is a study of the competencies, challenges and strategies to overcome the challenges for effective leadership in medical education. The **purpose** of the study is to create a model of leadership for medical education and contribute to the literature on leadership in medical education. The perceptions and knowledge of the participants (key health education leaders) at various levels of leadership and management positions in medical education in Saskatchewan as well as across Canada (including educational program directors, senior medical education leaders and student leaders) will be used to determine common themes, best practices, and differences in perspectives at different levels of educational leadership. Three methods will be used for data collection, an on-line survey, semi-structured interviews and an "event" study that combines elements of focus groups, interviews, and action research and is undergirded by an appreciative inquiry approach to research. The data will be analyzed by appropriate qualitative and quantitative methods. The analysis will be contextualized with in the framework of reform in health care and medical education.

4. **Funding** Self-funded project

5. **Expertise** Not applicable

6. **Conflict of Interest**
   Many of the participants are my colleagues and peers (program directors, undergraduate course coordinators), while some are my superiors (Dean, Associate Dean and Assistant Deans). In addition, a small pool of students will also be participating in the study (undergraduate medical students and postgraduate residents). I have no formal relationship with national level organization members to be interviewed and have met them only occasionally. All participants will be asked to participate on a purely voluntary basis and no coercion will be used. There are no financial benefits to me from this study and no monetary incentives for recruiting the participants

for this study. The study findings may be presented at local, regional, national and international education meetings as well as publication in both peer reviewed and professional journals.

7. Participants

The participants will be purposively sampled persons in management and leadership positions in the College of Medicine (Saskatoon and Regina campuses), national level policy-making organizations (The Royal College of Physicians and Surgeons of Canada, The Medical Council of Canada, The Association of Medical Colleges in Canada) , a national professional society concerned with medical education (The Canadian Association of Medical Education) and student leaders from the University of Saskatchewan, College of Medicine at both post- and under-graduate levels. The participation will be purely voluntary.

The potential faculty and student participants at the University of Saskatchewan (including the Regina campus) in the interview and the event study will be first contacted individually (by email and / or paper copy of the invitation along with the disclosure document) through a third party representative from the Dean's office in an attempt to minimize any potential coercion to participate. Upon their favourable response, formal participation will be only after they have signed the consent form. This letter of invitation will be according the guidelines as provided in the template:

1. Clear statement that the project is a research study.
2. Name and contact information of the researcher.
3. Procedures of the study and what is expected of the participant.
4. Amount of time required to participate.
5. The following standard statement, "If you are interested in learning more about this study, please contact X and more details will be provided".
6. REB approval and contact information statement.

The potential interview participants (senior leaders at national level) will be personally contacted by the researcher (Anurag Saxena) through email or telephone and a written copy of the disclosure document, since it is believed that leaders at these positions are unlikely to be coerced into participation by such an initial contact.

The potential survey participants will be sent a letter of invitation along with the survey and as explained in the letter of invitation, the return of completed surveys will be taken as evidence of consent to participate.

8. Consent

The researcher (myself) will personally contact each participant and the following will be explained, a) the purpose of research, b) the consent process, and c) that they are free to withdraw from the study at any point in time with no detrimental effect (and any data collected up to that point would be destroyed). Informed consent will be obtained from all those participating in the interviews and "event" study. Return of completed surveys by the participants will be accepted as proof of consent.

a) Alternative consent protocols

Not applicable

b) Recruitment from organizations

Not applicable

c) Children under 18 years of age

Not applicable

d) Participants are in a dependent relationship to the researcher

The student leaders at undergraduate and postgraduate level will be personally contacted and upon their favourable response to participate in the study, they will be asked to sign the consent form prior to participation. Article 2.2 of the Tri-Council Policy Guidelines will be followed.

1) It will be made explicitly clear in writing, as well as verbally, that they are under no obligation to participate in this study and that there are no penalties should they choose to decline to participate.

2) Most of the students will not be under the researcher's direct supervision and the process for determining success / failure in the courses is not directly influenced by nor accessible to the researcher.

3) For those students under direct supervision of researcher, the process of assigning marks at the postgraduate level are under the auspices of a committee (College of Medicine and the Royal College of Physicians and Surgeons of Canada evaluation guidelines).

4) For the students in the undergraduate courses, the time frame of the study is such that the event study in which the students will be participating would be conducted at a point in time (late October or November 2008), when the course where the researcher assigns marks (Interdepartmental Hematology course) would already have been completed and the other courses in which the researcher teaches the course coordinators assign the marks.

e) Participants are not able to given either consent or assent

Not applicable

f) Participant-Observation research

Not applicable

g) Research involving small groups

This research does not involve study of a preformed group.

9. Methods/Procedures

To ensure validity and reliability of the study, triangulation of data collection methods (survey, interviews and an "event" analysis), subjects with varied backgrounds and at different levels of leadership in medical education (program, college, national) and analysis (qualitative and semi-quantitative) will be used (Gall et al, 2007). The data will initially be collected over a period of first four months (October 2008- January, 2009) and later spread over the duration of the study.

A survey (administered electronically), interviews (in-person) and an event study will be the three methods of collecting data: survey form, semi-structured interview questions and the event study guide is attached.

Surveys: The sampling approach is stratified probability sampling of education leaders stratified into postgraduate and undergraduate levels of training. The participants in the surveys will be mid-level education leaders including program directors of residency training programs, chairs of curricula and "phases" in the undergraduate setting and senior academic administrators such as Department Heads and Assistant Deans. This survey will be administered electronically and sent to leaders at multiple institutions across Canada. To ensure good return rates, a personalized cover letter including study purpose, confidentiality assurance, conditions for informed consent, and requesting return date will be sent. Return of completed surveys by the participants will be accepted as proof of consent.

Themes will be extracted from the responses. Content analysis is the method for analyzing the data. Qualitatively it will be analyzed to consider meaning from different perspectives and to include observer feelings and experiences in interpretation. Quantitatively it will be analyzed through category-coding approach, e.g., frequency count of each occurrence (and then using descriptive statistics); A five-point Likert scale range will be used since it has been used in other leadership surveys and data analysis is not cumbersome. The data will then be interpreted in the context of the theoretical framework of the research questions.

Interviews: The sampling approach is judgment (purposive) non-probability sampling of the target population. The participants in the interviews will be senior medical education leaders at the College of Medicine of the University of Saskatchewan (Dean and Associate Dean), national level policy-making bodies such as the Royal College of Physicians and Surgeons of Canada, the Medical Council of Canada, and the professional society i.e. the Canadian Association for Medical Education etc.). The interviews will be semi-structured based upon a set of general questions. The questions will be offered to the interviewees ahead of time indicating that these are core questions and will be adjusted in each interview / conversation as necessary. The questions will require responses based on personal understanding of leadership and what steps leaders have taken in their own organizations. Based on the participants' responses, a few open-ended questions will be used to further explore the topic(s). The interview will last approximately one hour and it will be audio taped and transcribed. The participants will be asked to sign the consent form. The transcript will be forwarded to the interviewee for review and signature on a data transcript release (Appendix).
The responses to the open ended questions will be categorized while the responses to the closed questions can be used to calculate a percentage. The more structured / limited response data can be analyzed empirically. The more unstructured data will be analyzed for major themes by e.g., content analysis, which combines the depth of information of qualitative methods and the rigor of quantitative methods.

Event study: The sampling approach is convenience sampling. The participants will be leaders at entry-, mid- and senior level in medical education at the University of Saskatchewan's College of Medicine including those at the Regina campus and student leaders at the College of Medicine who have an interest in medical education and educational leadership (approximately 20-30 participants). This event study is essentially a facilitated group session, which combines elements of focus groups, action research and interviews. Small groups (4-8 participants) formed from among the leaders at different levels of management/leadership responsibilities will be asked to consider, reflect, summarize and articulate their thoughts, feelings and experiences in the broad areas of their leadership notions, differences between management and leadership, medical education reform, and competencies, challenges and strategies for effective leadership. The data will be collected in the form of summarized reports, flipchart writings, taped sessions, short surveys and recorded observations. The participants will be asked to sign the consent form.
The more structured / limited response data can be analyzed empirically. The more unstructured data will be analyzed for major themes by e.g., content analysis, which combines the depth of information of qualitative methods and the rigor of quantitative methods. The descriptions will be assessed for similarities, differences of theories-in-action (personal understanding of effective leadership behaviours) and the impact on the performance of the department / units.

10. Storage of Data

The researchers (student - Dr. Anurag Saxena and supervisor – Dr. Keith Walker) will assume responsibility for data (transcripts, filed notes, audiotapes, survey artifacts) storage (in the Department of Educational Administration) for a minimum of five years – after completion of the

study according to (University regulations– *approved by University Council, December 8, 1993; revised February 21, 1994*) - before being destroyed.

[The principal investigator or co-investigator and/or student researcher shall be able to verify the authenticity of all data, or other factual information, generated in his or her research, while ensuring that confidentiality is protected where required. Such material should not be destroyed while there is a reasonable probability of questions from other investigators, colleagues or readers of resulting publications which could require access to primary data or may require a re-analysis of the data.]

11. Dissemination of Results

The study findings will form the basis of the thesis being pursued and in addition, presented at education conferences and submitted for publication in journals related to the field. The study findings may also be used to pursue further studies in this area. The salient findings form the event study will also be submitted to the Office of Dean of the College of Medicine, University of Saskatchewan.

12. Risk, Benefits, and Deception

This is a minimal risk study and will be conducted only after obtaining ethics approval and informed consent form the participants. It does not involve risk or harm to the participants. Deception is not being used.

The benefits of the study include, a) contribution to the literature on leadership in medical education, b) the possible use of the summary data from the event study for considering changes / best practices in leadership for eth College of Medicine, c) reflective practice of leadership perspectives by the participants, and d) the use of process by others.

Risks:

a) No vulnerable population is being studied.
b) A captive or dependent population, such as children or prisoners, is not being studied.
c) There is an institutional/ power relationship between researcher and some participants (i.e. teacher/student). The participation will, however, be totally voluntary. Participation has no bearing on their success or failure in the exams, since that decision is not that of the researcher but belongs to a committee.
d) It is not the intention to associate specific information in your data file with specific participants.
e) Third parties will not be exposed to loss of confidentiality/ anonymity.
f) Audio taping, but no videotaping, will be used for interviews and event study.
g) The participants will not be actively deceived or misled.
h) The research procedures are not likely to cause any degree of discomfort, fatigue, or stress.
i) There is no intent or plan to ask participants questions that are personal or sensitive or those that might be upsetting to the respondent.
j) The procedures are not likely to induce embarrassment, humiliation, lowered self-esteem, guilt, conflict, anger, distress, or any other negative emotional state.
k) There is no social risk (e.g., possible loss of status, privacy or reputation).
l) The research will not infringe on the rights of participants by, for example, withholding beneficial treatment in control groups, restricting access to education or treatment.
m) The participants will not receive compensation of any type except for breakfast, coffee and lunch for those who will be participating in the event study.
n) I can not think of any other possible harm that participants might experience as a result of participating in this study.

13. Confidentiality

All participants will be assured that third party privacy (confidentiality) will be maintained through the period of data collection, report writing and dissemination of findings by the following means. Pseudonyms will be used to identify participants. Personal information about the participants will not be used in any report. The data will be reported as aggregate results and will remain non-identifiable. In situations where it is necessary to link identifying information for a participant, this data link will be destroyed upon completion of data analysis. To account for the remote possibility of the use of direct quotations, a written permission and a modified consent form will be used for all participants in the interview process.

The participants in the event study (a group of people in various leadership / management positions in the College of Medicine, University of Saskatchewan) will be informed that there are limits to which the researcher (Dr. Anurag Saxena) can ensure the confidentiality of the information shared. The consent form will have a clause for each participant to sign his / her responsibility and agreement to protect the integrity and confidentiality of what others in the group have said during the research sessions. For the participants in the event study the formation of smaller groups will be according to the level in management (student leaders, course chairs, program directors, Assistant and Associate Deans) and this will be explained to the participants, so that the person who agrees to participate in the group does so on an informed basis.

14. Data/Transcript Release

It is not the intention to use direct nor attributed quotes from the participants in research reports, oral presentations or written publications; however, it is possible that there might be some instances where the statements given by the participants are best conveyed as direct quotes to retain meaning and emphasis. To account for this latter possibility, and to give the participants an opportunity to withdraw their responses after the interview and prior to the publication of findings, the modified version of the transcript release form will be used (category b below):

a) Participants in the interview will review the final transcript and sign a transcript release form wherein they acknowledge by that the transcript accurately reflects what they said or intended to say.
b) Participants will review the quotations that will appear in written or oral presentations of the material, and grant permission to the researcher to include those quotations. This permission will be recorded in writing using a modified version of a transcript release form obtained from the Research Ethics Board website: http://www.usask.ca/research/files/index.php?id=21.

15. Debriefing and feedback

The participants in the interview method will have the opportunity to review their responses when they read the transcripts to ensure that their intellectual property (thoughts, feelings, knowledge) has been correctly represented.

The participants in the event study will receive a copy of the summary of findings to ensure that it is an accurate reflection of their intellectual property. A summary of the common themes generated during the event study will be given to the Dean, College of Medicine as well as all the participants.

Summaries of “findings to date” will be available to participants upon request. All participants will be able to access the research findings presented or published through the public research databases e.g., PUBMED, ERIC or PROQUEST.

16. Required Signatures

Student Researcher	Supervisor	Department Head
Dr. Anurag Saxena	Dr. Keith Walker	Dr. Sheila Carr-Stewart
	Professor	Head of the Department
	Dept of Educational Administration	Dept of Educational Administration
	College of Education	College of Education

17. Required Contact Information

Please include name, telephone, fax, email and mailing address of student researcher(s), research supervisor(s), and Department Head.

	Student Researcher	**Supervisor**	**Head of the Department**
	Dr. Anurag Saxena	Dr. Keith Walker	Dr. Sheila Carr-Stewart
Tel	306-655-2157	306-966-7623	306-966-7611
Fax	306-655-2223	306-966-7020	306-966-7020
Email	anurag.saxena@usask.ca	Keith.walker@usask.ca	Sheila-carr.stewart@usask.ca
Mailing address	Rm 2870, G Wing, Department of Pathology, Royal University Hospital 103 Hospital Drive Saskatoon, SK, S7N 0W8	Department of Educational Administration, College of Education, University of Saskatchewan 28 Campus Drive, Saskatoon, SK, S7N 0X1	Department of Educational Administration, College of Education, University of Saskatchewan 28 Campus Drive, Saskatoon, SK, S7N 0X1

Appendix 4 – Study Disclosure Form

DISCLOSURE DOCUMENT TO STUDY PARTICIPANTS

A study on Leadership in Medical Education:
Competencies, Challenges and Strategies for Effectiveness

Hello faculty colleagues and medical students,

I am currently working towards a Master's Degree in Educational Administration specializing in Medical Education. The purpose of my study is to develop a model of leadership for medical education based on an analysis of the perceptions of key health education leaders (including educational program directors, senior medical education leaders and student leaders) in Saskatchewan and leaders in position of authority in medical education at the national level in Canada.

There are three arms to this study including interviews, an event study and an on-line survey. You will be asked to participate only in one arm. The event study is a four-hour facilitated small groups event where you will be asked to discuss various aspects of medical education and leadership and complete short (up to 2 minute) surveys. The interviews are in depth semi-structured interviews (up to one and a half hours) designed to address various aspects of medical education and leadership. The survey (can be completed in up to 20 minutes) is designed to collect information on medical education leadership competencies and challenges.

This project has been reviewed and approved by the University of Saskatchewan's Behavioural Research Ethics Board on 31 October 2008.

Please be assured that participation in this study is completely voluntary. Should you choose to participate in this study, you will need to read and sign a consent form, which will allow me to use your information for my research.

If you have any questions or concerns regarding this research project, please feel free to contact me (655-2157; Anurag.saxena@usask.ca) or my supervisor Dr. Keith Walker (966-7623; keith.walker@usask.ca). Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office (1-306-966-2084). Out of town participants may call collect.

Thank you for your consideration.

Anurag Saxena

Appendix 5 – Letter of Invitation for Event Study

Subject: Invitation to participate in a study on leadership in medical education and health professions education

Hello colleagues and medical education leaders:

This is to invite you to participate in the "event study" component of a research study on leadership in medical education and health professions education.

Why you? As a leader /manager your opinion on leadership is crucial in understanding how it works and what are the challenges and strategies for effectiveness.

Purpose: The primary purpose of this study is to develop a model for effective dyad leadership. This study is an inquiry – both academic and applied- in to what works and what does not and is not a brainstorming or a planning session. The findings will be used for my Med thesis and shared with the senior leadership of our college and all participants allowing us to benefit from best practices.

What's in it for you?

1. The findings of this study will be available to all participants to allow sharing of identified themes and best practices.
2. You can take this tool, which combines elements of focus groups, appreciative inquiry, survey and interviews to your setting.
3. As a small gesture of appreciation, the names of all the participants will be entered in a draw for two iphones each with a one year prepaid contract – the winners will have a choice of changing the iphone to a touch iPOD.

Voluntary and anonymized: Your participation in this study is completely voluntary. Should you choose to participate in this study, you will need to read and sign a consent form, which will allow me to use your information for my research. No statement will be attributed to anyone. All findings will be presented in an anonymized fashion.

When: Two events have been planned, each 4.5 hours in duration (July 07, Tuesday, 8.00-12.30; July 16 Thursday, 12.30-5.00). You only need to attend one of the three sessions. It would be preferred that you attend this with your dyad partner, but it is not essential.

What will happen: These events will include sessions on seven-eight themes where brief discussions on your opinions will be summarized followed by a short (up to 2 min.) survey. The sessions will be preceded by either breakfast or lunch and will have a short break. You will need to sign a consent form prior to participating in the event.

What is required from you: Should you choose to participate, could you please let Ms. Kate Hounjet- (kate.hounjet@usask.ca or 966-6151) know which day will work for you, deadline is June 20th. You only need to attend one of the two sessions.

Ethics approval: This project has been reviewed and approved by the University of Saskatchewan's Behavioural Research Ethics Board.

Need more info? If you have any questions or concerns regarding this research project, please feel free to contact the principal investigator, Anurag Saxena (655-2157; anurag.saxena@usask.ca).

Thank you for your consideration.

Anurag Saxena, MD, FRCPC, FCAP
Professor and Head, Division of Hematopathology
Program Director, General Pathology Residency Training Program
Department of Pathology and Laboratory Medicine; Royal University Hospital
103 Hospital Drive, Saskatoon, SK. S7N 0W8 CANADA
Tel: 1-306-655-2157; Fax: 1-306-655-2223; email: anurag.saxena@usask.ca

Appendix 6 - "Event" Study guidelines

This event study is a facilitated group session, which combines elements of focus groups, action research and interviews and is undergirded by an appreciative inquiry approach to research. Small heterogeneous groups (4-8 participants) formed from among the participants at various levels of management/leadership responsibilities will be asked to consider, reflect, summarize and articulate their thoughts, feelings and experiences in the broad areas of leadership notions, competencies, challenges and strategies for effective leadership.

The sampling approach is convenience sampling. The participants will be leaders at entry-, mid- and senior level in medical education at the University of Saskatchewan's College of Medicine including those at the Regina campus and student leaders at the College of Medicine who have an interest in medical education and educational leadership (approximately 20-30 participants). The participants will be asked to sign the consent form.

Heterogeneous small groups (4-6 participants) formed from among various levels of management/leadership responsibilities.
Student leaders
Individual Course chairs
Program Directors of residency training programs
Undergraduate phase chairs, coordinators of larger programs
Department Heads
Assistant Deans, Curriculum chair, Associate Deans

The **data will be collected** in the form of summarized reports, flipchart writings, taped summary sessions (digital tape recorders), recorded observations and five one-minute surveys.

Logistics

Timeframe: Three – three and a half hour event (breakfast, coffee break, and lunch (optional) provided; costs covered partially by the Dean's office, College of Medicine); Preferably a weekend day (Saturday) – end of October or November.

Venue: Most likely a hotel or an event facility on campus

Participants: Contacted initially by Anurag Saxena, then a formal invitation letter to participate in the study will be sent by the Dean's Office. List to be provided by Anurag Saxena

Arrangements: Made through the Dean's Office; Invites to up to 35-40 people (expected attendance – 25)

Physical: A large room with six-seven round tables
Facilities for flip charts, projector/screen/computer, writing instruments, paper
Facilitators: Anurag Saxena, Dr. Keith Walker; Dr. Albritton to address the group at the beginning

OUTLINE OF THE EVENT STUDY FACILITATED SESSION

	Session / Topic	**Overall Time Frame**	**Overall Time frame Morning / Afternoon**
1	Breakfast / Collecting signed consent forms	30 min.	8.30 -9.00 / 12.30 - 1.00
2	Introduction	5 min.	9.00 – 9.05 / 1.00 - 1.05
3	Introductions of each member by their partner	10 min.	9.05 – 9.15 / 1.05 - 1.15
4	Session 1: Discussion on notions of leadership and differences between management and leadership	30 min.	9.15 – 9.45 / 1.15 – 1.45
5	Session 2: Discussion on trends. reform in medical education and the need for leadership	30 min.	9.45 – 10.15 / 1.45 – 2.15
6	Coffee break	15 min.	10. 15 – 10.30 / 2.15 – 2.30
7	Session 3: Discussion on the competencies they use in their practice or what ought to be there	30 min.	10. 30 – 11.00 / 2.30 – 3.00
8	Session 4: Discussion on challenges faced by them	30 min.	11.00 – 11.30 / 3.00 – 3.30
9	Session 5: Discussion on commonly used strategies to become effective in their management / leadership positions	30 min.	11. 30 – 12.00 / 3.30 – 4.00
10	Session 6: What is unique to leadership in medical education	30 min.	12.00 - 12.30 / 4.00 – 4.30
11	Conclusion and follow-up plan, Thanks	15 min.	12.30 – 12.45 / 4.30 – 4.45
12	Lunch / Snacks- Optional	45 min.	12.45 – 1.30 / 4.45 – 5.30

Details of sessions

	Session / Topic	Time frame	Details	Data collection
1	Breakfast / Collecting signed consent forms	8.30 -9.00 12.30 -1.00		Collect signed consent forms
2	Introduction	9.00 – 9.05 1.00 – 1.05	Explaining the process (a summary sheet would have been sent to each participant prior to the event)	
3	Introductions of each member by their partner	9.05 – 9.15 1.05 – 1.15	9.05 – 9.10: Each group to choose a spokesperson. Introduction by each member to other participants at their table (Name, position, something they can share with the group that otherwise might not be known to others, and their leadership / medical education interest OR their simplest definition of leadership). A sheet with these four columns to be provided for each table. 9.10 – 9.15: Introduction of the participants at one table to the entire group by the spokesperson for each table.	Collection of sheets completed at each table (data used for leadership definitions)
4	**SESSION 1:** Discussion on notions of leadership and differences between management and leadership	9.15 – 9.45 1.15 – 1.45	9.15 – 9.30: a) Discussion at each table: **How might you best express the distinction between leadership and management in medical educational settings you are familiar with?** b) A summary on a flipchart by the group 9.30 – 9.40: Presentation by each table to the rest of the group 9.40-9.45: A short survey and stretch break (Survey no. 1)	Flip chart material, One-minute survey, Digital recording of the discussion and summary.
5	**SESSION 2:** Discussion on trends / reform in medical education and the need for leadership	9.45 – 10.15 1.45 – 2.15	9.45 – 10.00: a) Discussion at each table: **As you imagine medical education at its best, as you have experienced it, what is your sense of what needs to change to achieve this state on a continuing basis?** b) A summary on a flipchart by the group 10.00– 10.10: Presentation by each table to the rest of the group 10.10-10.15: A short survey and stretch break (Survey no. 2)	Flip chart material, One-minute survey, Digital recording of the discussion and summary.
6	Coffee break	10. 15 – 10.30 2.15 – 2.30		
7	**SESSION 3:** Discussion on the competencies they	10. 30 – 11.00 2.30 – 3.00	10.30 – 10.45: a) Discussion at each table: **What are the competencies you draw upon in your daily practice of leadership / management related to educational activities?**	Flip chart material, One-minute survey, Digital recording of

	use in their practice or what ought to be there		b) A summary on a flipchart by the group 10.45 – 10.55: Presentation by each table to the rest of the group 10.55-11.00: A short survey and stretch break (Survey no. 3)	the discussion and summary.
8	**SESSION 4:** Discussion on challenges faced by them	11.00 – 11.30 3.00 – 3.30	11.00 – 11.25 a) Discussion and summary of: **The commonest personal and organizational challenges faced in the daily practice of educational leadership / management.** 11.25 -11.30 A short survey and stretch break (Survey no. 4)	Flip chart material, One-minute survey, Digital recording of the discussion and summary.
9	**SESSION 5:** Discussion on commonly used strategies to become effective in their management / leadership positions.	11. 30 – 12.00 3.30 – 4.00	11.30 – 11.45: a) Discussion at each table: **What are the strategies / tactics you use to overcome challenges in your daily practice of leadership / management related to educational activities? Please discuss with reference to the challenges identified in 8 above.** b) A summary on a flipchart by the group 11.45 – 11.55:Presentation by each table to the rest of the group 11.55-12.00: A short survey and stretch break (Survey no. 5)	Flip chart material, One-minute survey, Digital recording of the discussion and summary.
10	**SESSION 6:** Discussion on what is unique to medical education.	12.00-12.30 4.00 – 4.30	12.00 – 12.15: a) Discussion at each table: **Assuming you were giving advise to someone new to medical education leadership, what might you suggest would be some uniqueness that prevents an unthinking plucking of business environment practices into a medical institution?** b) A summary on a flipchart by the group 12.15 – 11.25: Presentation by each table to the rest of the group 12.25-12.30: A short survey and stretch break (Survey no. 6)	
11	Conclusion	12.30 – 12.45 4.30-4.45	Conclusion and follow-up plan, Thanks	
12	Lunch / Snacks-Optional	12.45 – 1.30 4.45 – 5.30		

Leadership in Medical Education: Competencies, Challenges and Strategies for effective leadership – Questionnaire (Five one-minute surveys used during the Event study.

Please indicate your formal level of medical education leadership position:

Course chair ☐

Program Chair ☐
(e.g., Program Director of a Residency training program; Chair of the undergraduate programs, Chair of an inter-professional program)
Curriculum Chair ☐
Assistant Dean ☐
Associate Dean ☐
Student leader ☐
Other ☐
Please specify:

There are five parts to this survey and it should not take more than five minutes for you to complete the entire survey.
Each part is to be completed after each corresponding session.

Survey for session 1: Leadership and Management in Medical / Health Care Education

Given below is a set of statements regarding leadership and management in medical and health care education.

Please circle your response on a five-point scale from strongly disagree to strongly agree.

			Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	A	Managing and Leading medical / health care education are two different roles with minimal overlap.					
	B	It is difficult for a person to exercise both manager and leader roles in a formal administrative position.					
	C	Leaders are responsible for establishing direction and inspiring people.					
	D	Managers are responsible for planning and organizing.					
	E	Occupying a formal administrative position in the medical / health care education setting is necessary for affecting institutional change.					
	F	Leadership and management are intertwined roles.					
	G	Political savvy is useful but it is not an essential requirement of effective leadership.					
	H	Effective leadership in medical health care education requires charisma as an essential ingredient.					

Survey for session 2: Trends and Reform in Medical Education

1. List three changes / trends in medical education, with which you completely agree:

	Medical Educational Trend / Reform
1	
2	
3	

2. What, in your opinion, are major impediments to change in medical / health care education. (Please list three)

	Impediments to Medical / Health Care Educational Trend / Reform
1	
2	
3	

<u>Survey for session 3: Competencies for Medical / Health Care Education Leadership</u>

1. Please <u>rank order</u> the following domains of competencies in decreasing order (from 1-12) based upon what you need most in your daily practice of educational management / leadership.

b) Please put a cross against the domain, that your role does not require / you do not need

Domains of leadership	**Your rank order (from 1-10 in decreasing order of importance)**
Personal characteristics (integrity, trustworthy, honesty)	
Interpersonal characteristics (appropriate communication and influence skills, emotional intelligence)	
Strategic planning skills	
Leading change skills	
Alignment creating skills	
Leading teams	
Operational management	
Management of resources	
Organizational and personnel development	
Skills in medical education delivery areas	
Skills as a teacher / facilitator of learning	
Skills as a medical education researcher	

2. (If applicable): Please list up to two competencies you use, but that are not listed above:

	Competencies
1	
2	

Survey for session 4: Challenges in Medical / Health Care Education Leadership

1. **Please list three challenges you face routinely as an educational manager / leader in each of the following two categories:**

	Personal	**Organizational**
1		
2		
3		

2. Please name one challenge where you would benefit from mentoring or expert advice:

Survey for session 5: Strategies for effectiveness in Medical / Health Care Education Leadership

1. Please list three strategies / tactics you use to overcome challenges in your educational management / leadership role.

	Strategies / Tactics
1	
2	
3	

2. Please rank order the following styles you commonly use as an educational manager / leader (Rank these from 1-6in decreasing order of use).
b) Please put a cross against the style you never use.

Style of leadership	**Style in a phrase**	**Your rank order**
Visionary Leadership (Syn: Authoritative)	"Come with me"	
Coaching Style	"Try this"	
Affiliative Leadership	"People come first"	
Democratic Leadership	"What do you think?"	
Pacesetting Leadership	" Do as I do, now"	
Commanding Leadership (Syn: Coercive)	"Do what I tell you"	

3. From your personal experience, please list up to three pitfalls / mistakes, which are not conducive to effective leadership in medical / health care education.

	Pitfalls / Mistakes
1	
2	
3	

Survey for session 6: What is unique to medical education / health professions education leadership? Your personal comments

Appendix 7 – Consent Form for the "Event" Study

Behavioural Research Ethics Board (Beh-REB)

CONSENT FORM

You are invited to participate in the **event study portion of a research project** entitled (Leadership in Medical Education: Competencies, Challenges and Strategies for Effectiveness). Please read this form carefully, and feel free to ask questions you might have.

Researcher(s):
Student: Dr. Anurag Saxena, Department of Pathology, College of Medicine, University of Saskatchewan, Tel: 655-2157; 230-3610; Fax: 655-2223, email: anurag.saxena@usak.ca

Supervisor: Dr. Keith Walker, Department of Educational Administration, College of Education, University of Saskatchewan, Tel: 966-7623; email: keith.walker@usask.ca

Purpose and Procedure: The purpose of the study is to create a model of leadership for medical education and contribute to the literature on leadership in medical education, based on an analysis of the perceptions of key health education leaders (including educational program directors, senior medical education leaders and student leaders) in Saskatchewan and leaders in position of authority in medical education at the national level in Canada. The analysis will be contextualized with in the framework of reform in health care and medical education. By identifying competencies, challenges and strategies for effectiveness in medical education leadership, the findings will be presented to the senior education leadership at the College of Medicine, University of Saskatchewan with the intent of contributing to the enhancement of the leadership capabilities at the college.

Potential Benefits: The results of this study will be used for my Master's thesis. The findings may be used by the Dean's Office of the College of Medicine for any changes they may wish to undertake in the area of educational leadership. The findings are likely to be published in peer-reviewed journals and presented at conferences with the attendant possibilities of contributing to the literature in this field.

Potential Risks: There is potential risk of loss of anonymity as it is likely that you know each other. For those of you who are being interviewed this risk is very low since you will be interviewed by me personally at a place of your choice while those of you whoa re participating in the event study, you will be able to meet with others and hear what they say. However, all information will be gathered in a summarized manner and presented such that individuals are not identified.

For those of you who are being interviewed, the audiotape will be transcribed and analyzed to identify the emerging patterns and themes. You will receive a smoothed narrative version of the transcripts with false starts, repetitions, and paralinguistic utterances (um, eh etc) removed to make it more readable. You will have an opportunity to add, delete or change information to reflect your thoughts, beliefs and what you intend to convey. Subsequently, you will be asked to sign a Letter of Consent for Release of Transcripts.

Storage of Data: Upon completion of the study the data will be kept for a minimum of five years with my supervisor, Dr. Keith Walker at the University of Saskatchewan, in accordance with the University of Saskatchewan guidelines. Should the data be destroyed after five years, it will be destroyed beyond recovery.

Confidentiality: Your confidentiality will be maintained through the period of data collection, report writing and dissemination of findings by the following means. Pseudonyms will be used to identify you. Your personal information will not be used in any report. The data will be reported as aggregate results and will remain nonidentifiable. In situations where it is necessary to link identifying information for you, this data link will be

destroyed upon completion of data analysis. To account for the remote possibility of the use of direct quotations, a written permission will be used from you.

For those of you participating in the event study (a group of people in various leadership / management positions in the College of Medicine, University of Saskatchewan) there are limits to which the researcher (Anurag Saxena) can ensure the confidentiality of the information shared. It is also your responsibility and you agree to protect the integrity and confidentiality of what others in the group have said during the research sessions.

Right to Withdraw: Your participation is voluntary, and you can answer only those questions that you are comfortable with. There is no guarantee that you will personally benefit from your involvement. The information that is shared will be held in strict confidence and discussed only with the research team. You may withdraw from the research project for any reason, at any time, without any negative consequences (e.g., grades in a course for students participating in this study). If you withdraw from the research project at any time, any data that you have contributed will be destroyed at your request

Questions: If you have any questions concerning the research project, please feel free to ask at any point; you are also free to contact the researchers at the numbers provided if you have other questions. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on (insert date). Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office (1-306-966-2084). Out of town participants may call collect.

Follow-Up or Debriefing:
The participants in the event study will receive a copy of the summary of findings to ensure that it is an accurate reflection of their intellectual property. A summary of the common themes generated during the event study will be given to the Dean, College of Medicine as well as all the participants.

Summaries of "findings to date" will be available to participants upon request. All participants will be able to access the research findings presented or published through the public research databases e.g., PUBMED, ERIC or PROQUEST.

Consent to Participate:

(a) Written Consent
I have read and understood the description provided; I have had an opportunity to ask questions and my/our questions have been answered. I consent to participate in the research project, understanding that I may withdraw my consent at any time. A copy of this Consent Form has been given to me for my records.

______________________________ ______________________________
(Name of Participant) (Date)

______________________________ ______________________________
(Signature of Participant) (Signature of Researcher)

Appendix 8 - Interview Questionnaire

	Questions framed as "behavioral interviewing"	**Time**
1	Would you please describe your journey to the current leadership position? What would you say are some of the key leadership skills that have served you well in your current position and how have you acquired these?	5 min.
2	Medical education is changing and even described by some as reforming, How have you processed the value of these reforms/ changes and what implementation decisions have been made by your institution?	5 min.
3	Could you describe a time when you consciously worked to rally your organization around a common vision in medical education? What was the vision? Did the people rally?	5 min.
4	It is said that most leaders have preferred styles of leading. Could you share an example of how you have adjusted your leadership style to a particular situation?	5 min.
5	As you think back to your experience with a significant organizational change, how would you describe your approach, initial steps, mid course corrections and what was the outcome? Did you learn anything from the experience?	5 min.
6	What do you find to be the most challenging aspects of your leadership role? Why?	5 min.
7	Describe the culture of your current organization and how have you may have influenced it? Leading peers can be a daunting and even a taxing responsibility (especially in an academic setting). Please describe a time when you needed to motivate both full time clinical faculty as well as the academic faculty on the same issue? How did you go about this? What did you learn from your experience?	5 min. 5 min.
8	What, for you, are the main barriers to providing exceptional leadership in your position? What one experience could you share, where in hindsight you might have lead differently?	5 min. 5 min.
9	Leading others requires a lot of "giving of self". Can you tell us how you look after yourself and keep yourself focused and healthy?	5 min.
10	Describe a time when you had to develop or shift organizational goals to accommodate a larger organizational vision of an academic health centre. What was this like for you and what did you learn from the experience?	5 min.
11	Describe how you have created an environment of learning and knowledge sharing in your organization in the past. Would you say it is transformed?	5 min.
12	It is often said that it is all about politics. How do you balance competing interests and allocation of limited resources.	5

	How do you work to maintain your credibility in the process?	min.
13	How would others who work with you describe you as a leader? How do you know that you are successful as a leader? How do you solicit and handle feedback on your leadership? Can you point to adjustments that you've made as a result of the experience of feedback?	5 min. 5 min.
14	What is unique about medical education leadership compared to leadership in other settings e.g., business, non-profit organizations, politics, sports, community settings etc.?	5 min.
15	Is there any thing else you would like to say that would help me think more clearly about medical education leadership, its challenges and its features?	2-5 min.
16	Thank you for your time [and describe the post-interview process once again].	2 min.

Appendix 9 – Consent Form for the Interview

Behavioural Research Ethics Board (Beh-REB)

CONSENT FORM

You are invited to participate as an interviewee in a research project entitled (Leadership in Medical Education: Competencies, Challenges and Strategies for Effectiveness). Please read this form carefully, and feel free to ask questions you might have.

Researcher(s):

Student: Dr. Anurag Saxena, Department of Pathology, College of Medicine, University of Saskatchewan, Tel: 655-2157; 230-3610; Fax: 655-2223, email: anurag.saxena@usak.ca

Supervisor: Dr. Keith Walker, Department of Educational Administration, College of Education, University of Saskatchewan, Tel: 966-7623; email: keith.walker@usask.ca

Purpose and Procedure: The purpose of the study is to create a model of leadership for medical education and contribute to the literature on leadership in medical education, based on an analysis of the perceptions of key health education leaders (including educational program directors, senior medical education leaders and student leaders) in Saskatchewan and leaders in position of authority in medical education at the national level in Canada. The analysis will be contextualized with in the framework of reform in health care and medical education. By identifying competencies, challenges and strategies for effectiveness in medical education leadership, the findings will be presented to the senior education leadership at the College of Medicine, University of Saskatchewan with the intent of contributing to the enhancement of the leadership capabilities at the college.

Potential Benefits: The results of this study will be used for my Master's thesis. The findings may be used by the Dean's Office of the College of Medicine for any changes they may wish to undertake in the area of educational leadership. The findings are likely to be published in peer-reviewed journals and presented at conferences with the attendant possibilities of contributing to the literature in this field.

Potential Risks: There is potential risk of loss of anonymity as it is likely that you know each other. For those of you who are being interviewed this risk is very low since you will be interviewed by me personally at a place of your choice while those of you whoa re participating in the event study, you will be able to meet with others and hear what they say. However, all information will be gathered in a summarized manner and presented such that individuals are not identified.

For those of you who are being interviewed, the audiotape will be transcribed and analyzed to identify the emerging patterns and themes. You will receive a smoothed narrative version of the transcripts with false starts, repetitions, and paralinguistic utterances (um, eh etc) removed to make it more readable. You will have an opportunity to add, delete or change information to reflect your thoughts, beliefs and what you intend to convey. Subsequently, you will be asked to sign a Letter of Consent for Release of Transcripts.

Storage of Data: Upon completion of the study the data will be kept for a minimum of five years with my supervisor, Dr. Keith Walker at the University of Saskatchewan, in accordance with the University of Saskatchewan guidelines. Should the data be destroyed after five years, it will be destroyed beyond recovery.

Confidentiality: Your confidentiality will be maintained through the period of data collection, report writing and dissemination of findings by the following means. Pseudonyms will be used to identify you. Your personal information will not be used in any report. The data will be reported as aggregate results and will remain nonidentifiable. In situations where it is necessary to link identifying information for you, this data link will be

destroyed upon completion of data analysis. To account for the remote possibility of the use of direct quotations, a written permission will be used from you.

For those of you participating in the event study (a group of people in various leadership / management positions in the College of Medicine, University of Saskatchewan) there are limits to which the researcher (Anurag Saxena) can ensure the confidentiality of the information shared. It is also your responsibility and you agree to protect the integrity and confidentiality of what others in the group have said during the research sessions.

Right to Withdraw: Your participation is voluntary, and you can answer only those questions that you are comfortable with. There is no guarantee that you will personally benefit from your involvement. The information that is shared will be held in strict confidence and discussed only with the research team. You may withdraw from the research project for any reason, at any time, without any negative consequences (e.g., grades in a course for students participating in this study). If you withdraw from the research project at any time, any data that you have contributed will be destroyed at your request

Questions: If you have any questions concerning the research project, please feel free to ask at any point; you are also free to contact the researchers at the numbers provided if you have other questions. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on 31 October 2008. Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office (1-306-966-2084). Out of town participants may call collect.

Follow-Up or Debriefing:
The participants in the interview method will have the opportunity to review their responses when they read the transcripts to ensure that their intellectual property (thoughts, feelings, knowledge) has been correctly represented.

Summaries of "findings to date" will be available to participants upon request. All participants will be able to access the research findings presented or published through the public research databases e.g., PUBMED, ERIC or PROQUEST.

Consent to Participate:

(a) Written Consent

I have read and understood the description provided; I have had an opportunity to ask questions and my/our questions have been answered. I consent to participate in the research project, understanding that I may withdraw my consent at any time. A copy of this Consent Form has been given to me for my records.

____________________________ ____________________________

(Name of Participant) (Date)

____________________________ ____________________________

(Signature of Participant) (Signature of Researcher)

Appendix 10 – Transcript Release Form

Research Ethics Boards (Behavioural and Biomedical)

TRANSCRIPT RELEASE FORM

Thank you for participating in the research study, "Leadership in Medical Education: Competencies, Challenges and Strategies for effectiveness".

I am returning the transcripts of your audio-taped interviews for your review and the release of confidential information. I will adhere to the following guidelines which are designed to protect your anonymity, confidentiality and interests in this study.

a) Please review the transcripts for accuracy of information. You may add or clarify the transcripts to reflect what you intended to mean or include additional comments that will be your words. You may also delete any information that you may not want to be quoted in the study.

b) The interpretations from this study will be used for the completion of my Masters thesis. Except for the researcher in the study, your participation has remained confidential. Your name or any identifying descriptors will not be used in the final report or in any scholarly articles or presentations if you do not wish to have it used. It is possible that some direct quotes may be used attributed to you by name; should that be the case, then I will obtain your written permission to do so prior to publishing the findings.

c) In accordance with the University of Saskatchewan Behavioral Research Ethics Board, the tape recordings, writing samples, and transcriptions made during the study will be kept with the researcher in a locked file until the study is finished. After completion of the study, the tapes and other data will be kept for five years at the University of Saskatchewan and then destroyed.

d) Participation in this study is voluntary, and you may withdraw at any time without penalty. If this happens, your tape recordings and interview data will be destroyed.

I,________________________________, have reviewed the complete transcript of my personal interview in this study, and have been provided with the opportunity to add, alter, and delete information from the transcript as appropriate. I acknowledge that the transcript accurately reflects what I said in my personal interview with Dr. Anurag Saxena. I hereby authorize the release of this transcript to be used in the manner described in the Consent Form. I have received a copy of this Data/Transcript Release Form for my own records.

_________________________ _________________________
Name of Participant Date

____
Signature of Participant

_________________________ _________________________
Signature of Researcher Date