ATHABASCA UNIVERSITY

PERSPECTIVES OF MEDICAL RADIATION TECHNOLOGISTS REGARDING INVOLVEMENT IN PLANNING AND IMPLEMENTATION OF WORK-RELATED ORGANIZATIONAL CHANGES

By

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In partial fulfillment of the requirements for the degree of

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Dedication

I dedicate my work on this thesis to the light of my life, my daughter Stella, who inspired me to complete this degree when the chips were down and continues to inspire me to live each day like it's my last.

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I would like to thank my supervisor's Dr. Beverly Getzlaf and Dr. Beth Perry for their ongoing support, encouragement, patience and mentoring as I went through the process of preparing, conducting and completing my research and also for their understanding. Thank-you goes out to my committee members, Dr. Caroline Park, Dr. Steve Johnson, and external examiner Dr. Frank Peters for agreeing to take this project on and challenging me to think about my findings through a different lens. A big thank-you goes to Ms. Amy Kay for transcribing my recorded interviews and assisting with data analysis. Thank-you to the Ontario Association of Medical Radiation Sciences (OAMRS), in particular Ms. Sheila Phillpot, who assisted with formatting and Ms. Kate Solomon and Dr. Robin Hesler for allowing me access to the OAMRS membership database, facilitating communications for recruitment of participants in the study and helping keep me organized early on. Many thanks go to the participants in this study who contributed their time and shared their experiences. A special thank-you to a friend and colleague Mr. Ajesh Singh, whom I shared an office with at the Mohawk-McMaster Institute for Applied Health Sciences where we spent years of weekends and evenings working on our respective graduate degrees, making light of the rough patches, sharing a few beers and finding something to laugh about!

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Abstract

How organizational changes in the workplace are perceived by front-line Medical Radiation Technologists (MRTs) may have a direct or indirect effect on a number of underlying factors such as intrinsic motivation, trust, attitudes, stress levels, staff morale and job satisfaction. In turn, job performance, patient care, staff retention and attainment of strategic goals can be influenced. The aim of this study was to obtain a better understanding about if, and where, influential change in the MRT professional environment is occurring, how MRTs perceive that change and how their perceptions affected the practice environment. A purposeful sample was obtained for this qualitative descriptive study and data collection included personal interviews and a focus group. Analysis was achieved through characterizing and coding data to draw out themes and develop conceptualizations and interpretations after data saturation occurred. Rigour in the research design was maintained by following established standards in qualitative research practices.

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Chapter I: Introduction

Perspectives of Medical Radiation Technologists Regarding Involvement in Planning and Implementation of Work-Related Organizational Change

Human Resources and Social Development Canada (2007) named the profession of Medical Radiation Technology (MRT) as an occupation that is showing signs of shortages and is expected to experience increased shortage pressures over the next 10 years. In a study published by the Canadian Association of Medical Radiation Technologists (CAMRT) in 2006, it was suggested that 35% of the MRT workforce in Canada is over the age of 45 years. When broken down by discipline, Radiological Technologists stand out in that 46% are over age 45. The same study also indicated the majority of managers of MRTs felt the reason behind the need for increased staffing and high rates of unfilled positions was because patient and service demand had increased relative to the current workforce. Healthcare organizations that employ MRTs are now faced with significant changes in their work environment in an era of changing technology, diminishing resources, and pressures for increased services. No published research addresses how organizations are responding to these drivers of change and subsequently there is very little knowledge about this phenomenon in general MRT practice.

This study addresses the gap in knowledge regarding how organizations are contending with work related change in the Medical Radiation Sciences field, and MRTs involvement in the planning and implementation of these work related changes. The study details the direct or indirect effects of organizational change on MRTs' intrinsic motivation, trust, attitudes, stress levels, staff morale and job satisfaction. It is proposed that these factors can in turn affect job performance, patient care, staff retention and

attainment of strategic planning initiatives within organizations. Insight gained through this exploratory descriptive study may lead to further research that may positively impact MRT practice and effective deployment of MRTs. A qualitative descriptive study including background and purpose, literature review, conceptual framework, methodology and analysis to learn about MRTs' perceptions pertaining to their involvement in the planning and implementation of work-related organizational changes follows.

The Profession of Medical Radiation Technology

The profession of MRT, at the time of this study, is broken down into 4 unique disciplines comprised of Nuclear Medicine (NM), Magnetic Resonance (MR), Radiological Technology (RT), and Radiation Therapy (RTT). Graduates of accredited MRT undergraduate programs in Canada are eligible to write the National Certification Exam through the Canadian Association of Medical Radiation Technologists (CAMRT). The undergraduate training programs of study currently consist of three and four year community college or university programs. The profession as a whole is regulated in the province of Ontario by the College of Medical Radiation Technologists (CMRTO); graduates become eligible for registration with the CMRTO upon successfully passing the CAMRT certification exam. NM, MR and RT technologists typically find employment in acute care hospitals, independent health clinics and research facilities, performing a wide range of diagnostic procedures, contributing to the diagnosis of pathological diseases and physiologic anomalies. RTTs typically find employment in cancer centers performing therapeutic procedures as part of a plan for the treatment of cancer patients. As of 2008, there were 6030 registered MRTs practicing in Ontario making up 40.3% of

MRTs practicing across Canada (Canadian Institute for Health Information, 2010). Membership in the Ontario Association of Medical Radiation Sciences (OAMRS) is voluntary with approximately 4000 registered members working in Ontario.

Research Purpose

The purpose of this study was to explore the perspectives of MRTs concerning their involvement in planning and implementation of work-related organizational changes. The goal of the study was to obtain a better understanding about "if" and "where" organizational changes in the MRT professional environment are occurring, how front-line MRTs perceive those changes and how their perceptions of these changes affect the practice environment. This may provide insight into the nature and extent of MRT involvement before, during and after a change process, and how the transition (from old to new) affected them professionally and personally. Data collected through this study could provide new information to support further investigation into other areas such as leadership and change management strategies that could impact resource utilization areas such as MRT recruitment/retention, job satisfaction and quality of services.

Research Questions

The following questions will be addressed:

1. What organizational changes are occurring in the MRT environment and in what areas?
2. What is the nature of MRTs' involvement in the planning and implementation of work related organizational change processes?

3. How do MRTs feel about their involvement in planning and execution of work-related organizational changes?
4. What is the effect of MRT involvement (or lack thereof) on the practice environment during planning, implementation and after a work-related organizational change process?

Leaders in healthcare are faced with managing change in the work environment in a time of diminishing resources, changing technology, higher demand for services and changing medical practices. There has been no published research addressing how organizations that employ MRTs are responding to these drivers of change. The goal of this qualitative descriptive study is learning about MRTs' perceptions pertaining to their involvement in the planning and implementation of work-related organizational changes. It may provide insight into the nature and extent of MRT involvement, its effect on the practice environment and support future research in areas such as utilization management, leadership strategies and quality management.

Chapter II: Literature Review

The Change Evolution

I use the term “change paradox” in broad context to infer the need for organizations to adapt their practices to coincide with the natural evolution of time and the MRT practice environment in order to maintain service standards. In an era of technological advancement, changes in healthcare practices, and financial restructuring, public hospitals and clinics have had to change business processes and adapt to constantly changing environments. Taylor-Bianco and Schermerhorn (2006), in describing change paradox support this philosophy by suggesting leaders in today’s era need to acknowledge and successfully deal with the simultaneous need to manage for both change and stability.

Positive organizational change is a paradox and natural human inclinations toward positive outcomes have a tendency to promote positive change in human systems; conversely people react more strongly to negative stimuli than to positive, so the presence of negative events overshadows positive events (Cameron, 2008). The approach used to implement organizational changes may be perceived as negative or positive by members of the organization, and that can manifest into positive or negative outcomes for the change event. Lines (2005) divided areas of research related to employee reactions to organizational change into four broad categories including downsizing, implementation of new technology or mergers; process aspects such as communication or participation; procedural or distributive justice; and research concerned with specific reactions to change such as resistance. The top three categories of change initiatives within various organizations relate to reducing costs, improving performance, and enhancing turnaround times (Isern & Pung, 2007).

There is a gap in knowledge concerning how organizational changes affect MRTs. Much of the available literature relates to general principles of leadership and organizational culture applied in various industries but not specific to MRTs. The ideas presented here reflect a means for satisfying the fundamental principles of human psychology and adaptation of behaviours to promote and sustain successful change transitions established by Lewin (cited in Gold, 1999), Bridges (2009) and Senge (2010) and described in the conceptual framework for this study. I summate the works of these authors imply that behavioural changes are required by anyone undergoing a change from an old process to a new one. Further, how these behavioural changes are supported and encouraged by the organizational leaders could have an effect on the success of the change initiative and sustainability of the change for what it was intended.

Interaction with Leaders and Group Culture

Shrivers-Blackwell (2004) suggested organizational culture frames and shapes leader behaviours. Shrivers-Blackwell defines transformational culture as having a general sense of purpose and a feeling of family that transcends to the employees. Schein (2004) and Kotter (1995) asserted that change is only sustainable when new ways of thinking about change become part of the organizational culture. New ways of thinking lead to behavioural changes that become institutionalized (Erwin, 2009). An effective leader can transform organizational culture and influence change by changing the values perceived by the employees, however these changes need to take place over time (Schein, 2004; Kotter, 1995; Sproat, 2001). Early in a change process, when organizational members are first exposed to information about a pending change, they

form beliefs about the change and how the change will affect them, whether the organization is capable of implementing the change, and if the change is compatible with their values (Armenakis, Harris, & Mossholder, 1993; Isabella, 1990).

Bridges (2009) suggests that elements of change involved in starting a new beginning can be encouraged, supported and reinforced by providing a purpose, picture, plan, and a part (the “4 P’s”) for the changes. Organizational leaders have an opportunity to address each of these factors to ensure optimal change management from beginning to end. By helping employees understand all elements of the change, a successful transition from an old way of doing something to a new one is possible (Bridges, 2009). More specifically, people involved in the change need to see a purpose for the change; an overview for how the change will look and feel; a plan for phasing in the new outcome; and they need to understand the role they will play in the change. The idea of “the 4 P’s” implies there are two main parts to achieving successful organizational changes: effective leadership strategies and commitment from individuals and groups involved in the change transition.

Perceptions about change and the psychological process of rationalizing the event will be different for everyone. Dent, Galloway and Goldberg (1999) suggested employees may resist the unknown, being dictated to, or ideas that do not seem feasible from their standpoint. Senge (1999) emphasized the positive effects of “local openness” and “intrinsic motivation” whereby people are involved in decision making related to the change. Senge supports a systems approach for successful implementation of large, wide-scale change initiatives; defining a system as anything that takes its integrity and forms from the ongoing interaction of its component parts

while sharing a common purpose. These concepts relate to involving and reaching all people at all levels of an organization (or areas that will be affected in some way by a change process) through promotion of open communication without hierarchical barriers. Members of an organization develop values that emphasize shared vision and systems thinking and stay engaged in the process because of these attributes. Many organizations can fail because the social issues related to trust, integrity, transparency, and empowerment during times of change and systems management are not existent (Senge, Ross, Smith, Roberts & Kleiner, 1994).

Kuokkanen, Suominen, Harkonen, Kukkurainen and Doran (2009) found through a quantitative study on nurses' views of factors promoting and impeding empowerment in one hospital that organizational changes have a direct effect on the work environment in terms of empowerment and job satisfaction of nurses. In a similar study, Verhaeghe, Vlerick, Gemmel, Van Maele and DeBacker (2006) considered how the occurrence and appraisal of recurrent changes in the work environment of hospital nurses affected job satisfaction, stress (positive and negative) and absence through illness. The results of this second study showed that the occurrence of changes in the work environment had a negative effect on staff nurses. Specifically, changes were viewed by staff as threatening and were negatively linked to job satisfaction, stress, and sickness absenteeism (Verhaeghe et al.). Changes viewed as challenging were positively linked to job satisfaction and stress (Verhaeghe et al.). These studies support the concept of "the learning organization", specifically, "the five disciplines" relating to the concepts of engagement, intrinsic motivation, involvement and human interaction established by

Senge (1990) to attain a positive group culture and achieve effective organizational change while maintaining job satisfaction.

The concept of employee empowerment is supported by Hornung and Rousseau (2007) who investigated the developmental and socializing effects autonomy at work has on employees' proactivity and its effect on their support for organizational change. Results showed that promotion of on-the-job autonomy (employees given more unsupervised responsibility in their work) encouraged positive responses to changes in the workplace that could be a critical precursor to successful implementation of certain forms of organizational change. Hornung and Rousseau's work concerning autonomy encouraging positive responses to change validates Trofino (1997) who suggested drivers of change in healthcare demand speed and flexibility which requires flatter hierarchies to allow for faster reaction times and free flow of ideas.

The main themes presented in the literature concerning implementation of organizational changes were that change is an evolution over time and that interaction with leaders can influence group culture. Change is a dynamic phenomenon that results in a continuous cycle of "change events" needed to maintain service standards as time evolves. Although there is no specific literature relating to how organizational changes affect MRTs, the concepts of group culture and interactions with leaders have an effect on organizational change outcomes, the work environment and job satisfaction. Attention to the fundamental theories presented by Lewin cited in Gold (1999), Bridges (2009), and Senge (1990) pertaining to human psychology, intrinsic motivation, and human interaction relate to formation of a positive or negative group culture.

Chapter III: Conceptual Framework

The conceptual framework arises from the work of Kurt Lewin (cited in Gold, 1999), William Bridges (2009) and Peter Senge (2010). Lewin, as cited in Gold (1999); and Bridges (2009) presented fundamental ideas about human behaviour with respect to the psychological process a person goes through to rationalize and accept or resist a change intervention relative to a previous routine. Lewin and Bridges both recognized that successful change initiatives require behavioural changes over a period of time through a natural psychological progression in those persons affected by the change event. Further, they believe that those involved in change, need to feel like they are a part of the process. Senge (2010) subsequently described an effective change environment that promotes and fosters the evolution and sustainability of groups through changes over time.

Lewin's original model of change in 1947 described the cognitive and emotional response of individuals (over time) to change conditions through three stages that he labeled unfreezing, moving and refreezing. These change stages correspond to the concepts of undoing, rearranging and reconstitution (Musselwhite & Jones, 2010). Each stage described the sequence one must go through to effectively evolve through a change process. Lewin also proposed that a high level of tension generated by frustration in people experiencing changes causes regression to a less complex or earlier (more familiar) psychological state (Gold, 1999), thus creating resistance to the new experience. Similarly, Bridges (2009) defined transition, as moving from an old way of doing something to effectively establishing a new way of doing something. To Bridges transition is a psychological, three stage process that people need to go through as they

internalize and come to terms with the new situation caused by a change in the environment (2009). Bridges described the stages of transition as “letting go,” “the neutral zone,” and “launching a new beginning” and suggests that everyone will go through these stages at different times and may regress to an earlier stage before fully committing to the new process (p.5). Bridges (2009) reinforced Lewin’s (cited in Gold 1999) original research by asserting that there is a psychological progression that people involved in situational change events go through before a new way of doing something can become “the new situation” (p.3). Both Lewin and Bridges also discussed the fundamental ideas of aspiration and providing meaning for the attainment or non-attainment of behavioural goals of individuals (Gold, 1999; Bridges, 2009).

Senge’s concept of “the learning organization” includes underlying principles that support sustainability of change and builds on the ideas of Lewin and Bridges whereby fundamentals of human behaviour and interaction affect change and that change is an evolving process. Senge (2010) suggested the core of “the learning organization” is based upon five “learning disciplines” which require lifelong learning and practice and that are different for everyone. Senge’s learning disciplines are: personal mastery, mental models, shared vision, team learning, and systems thinking (p.7). The principle of learning disciplines supports the idea that organizations are a product of each individual’s collective thinking (Senge, Ross, Smith, Roberts & Kleiner, 1994) and Senge proposes the concepts of engagement, intrinsic motivation, involvement and human interaction to support the evolution and sustainability of organizations through changes and over time (2010).

Lewin, as cited in Gold (1999) and Bridges (2009) models of change transition described the psychological process a person must each go through to rationalize and accept a static change event from an old process to establishment of a “new norm,” or a new process. Both described that behavioural changes needed to be supported over a period of time for a “new norm” to materialize and be accepted and that regression to a previous, more comfortable state (or existence) and resistance to a change intervention can result in the absence of support through the transition. Figure 1 illustrates the progression of how an old process materializes into a new process and how the transition may regress and move forward several times prior to establishment of the new process.

Senge’s (2010) theory of sustainability of change over time described how concepts such as intrinsic motivation, engagement, involvement, human interaction, learning and practice are required to support the evolution of change in a dynamic (constantly changing) environment and promotes a positive atmosphere that embraces change and encourages a positive transition without regression. This concept of indirectly creating an environment that fosters sustainability of changes over time is illustrated in figure 2.

The MRTs’ perception of their experience of involvement in planning and implementation of organizational change initiatives may be better understood using the lens of Lewin’s, Bridges, and Senge’s change theories. These theories may also help explain why some change initiatives are successful and others are not. The fundamental concepts of intrinsic motivation and participant engagement may have a profound impact on change outcomes. Further, recognition of the psychological process

that each individual goes through before a change from an established routine is accepted may affect how the affected individuals view a change and subsequently how a “new norm” materializes.

In summary, Lewin described the cognitive and emotional response of individuals (over time) to change conditions through three stages describing the sequence one must go through to effectively evolve through a change process. He also proposed that frustration experienced by people going through the change causes regression to an earlier (more familiar) psychological state. Bridges also described a psychological, three stage process that people need to go through as they internalize a new situation caused by a change in the environment and suggested that everyone will go through these stages at different times. Bridges reinforced Lewin’s theory that people undergoing significant change may regress to an earlier stage before fully committing to a new process and that there is a psychological progression that people involved in change events go through before a new norm is established. Senge’s learning disciplines and concepts of engagement, intrinsic motivation, involvement and human interaction to support the evolution and sustainability of organizations through changes over time supports the theories presented by Lewin and Bridges whereby fundamentals of human behaviour and interaction affect change and that change is an evolving process.

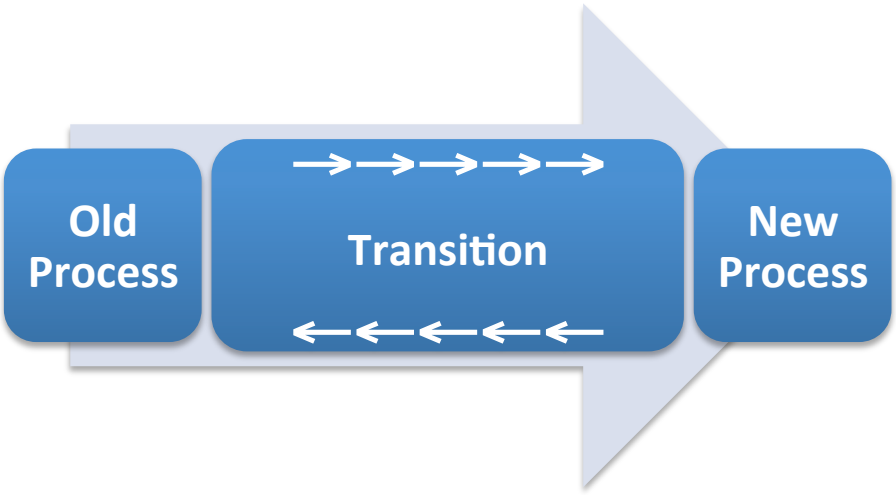

Figure 1

An Individual's Psychological Progression through a Static Change Event

Figure 2

Promotion and Sustainability of Changes over time

Chapter IV: Research Framework

Study Design

This study is exploratory in nature with the intention of acquiring rich, descriptive information about perspectives of MRTs involved in organizational change initiatives. Sandelowski (2000) suggests that qualitative descriptive studies offer a comprehensive summary of an event and that the expected outcome is an organized descriptive summary of the informational contents of the collected data. In descriptive exploratory studies there is no mandate to produce anything other than a descriptive summary of an event, organized in a way that best contains the data collected and that will be most relevant to the audience for whom it was written (Sandelowski, 2000). In this study, the "event" is interpreted more broadly as organizational changes. Themes that emerge from this exploratory study may lead to other, more detailed research questions employing a different study design.

Inclusion / Exclusion Criteria

MRTs were accepted into the study if they were:

- Employed in a permanent full-time position at a public acute care hospital, independent health clinic or cancer center in Ontario
- Registered with the CMRTO in one or more of the disciplines of Radiological Technology, Nuclear Medicine, Magnetic Resonance and/or Radiation Therapy
- Self identified as having been part of a major organizational change at a past or current place of employment within the last 5 years
- Self identified as working in a front-line, clinical capacity or holding a middle management role

- Expressed an interest in the research topic

MRTs were excluded from the study if they:

- Had not been employed by the same institution with full time status for a minimal time period of one year
- Held a senior leadership position at their place of employment
- Did not consent to participate in the study

Informed Consent

Informed consent was achieved by ensuring all participants acknowledged and were informed of the nature of the study and any potential risks to them. A formal letter was sent to each potential participant by email containing a detailed description of the study, including expectations for their role, the type of data that would be collected and how the findings would be used. Informed consent was obtained by receipt of each participant's email response to the letter, indicating that they acknowledged, understood and consented to being a participant in the study. All participants were given the choice to participate (or not) and the right to withdraw from the study at anytime without repercussions (see appendix A).

Participant Recruitment and Selection

Acquiring participants that met the inclusion criteria for this study was achieved using a purposeful sampling technique. Richards and Morse (2007) suggest purposeful sampling as a method that selects participants that will know the information required, are willing to reflect on the phenomena of interest, have time to participate and are willing to participate. The OAMRS provided access to contact information through their membership database for approximately 4000 MRTs working across Ontario. These

potential participants were sent an email message describing the study, listing inclusion criteria and participation requirements and inviting participation by responding to the email with an expression of interest and an overview of their ‘change experience’ (see Appendix B). There were also opportunities to recruit interested MRTs through ‘word of mouth’, outside of the email blast. In this instance individuals could have been forwarded the information by other’s who received the original email blast.

Eight participants were selected to participate in the study based on confirmation of meeting the defined inclusion and exclusion criteria and a perception (by the investigator) of the participant being a good fit for the study. ‘A good fit’ was determined in part by the type of change that the participant was involved in and how relevant that change event was to the goals of the study. The final selected group of participants did not need to be representative of all 4 MRT disciplines since this was not a consideration for the study.

Each individual selected to participate in the study was emailed a more detailed study information/consent form and a demographic questionnaire (see Appendix A, C). An emailed response from participants acknowledging they understood and agreed to participate in all aspects of the study was accepted as consent. The completed demographic questionnaire was returned as an attachment to the email of consent.

The described method of participant selection was advantageous in that the sample could be more easily achieved and reflective of a group of participants that would best contribute to the exploratory nature of this research. Further, the sampling process was economical and convenient.

Professional Profile of the Participants

The participants selected for this study each practice one of Radiological Technology, Nuclear Medicine, or Radiation Therapy.

Radiological technology. Radiological Technologists aid in the diagnosis of disease and injury by performing procedures and producing images that are interpreted by specializing physicians such as radiologists, cardiologists and orthopedic surgeons. Although much of the practice is attending to people with scheduled appointments within diagnostic imaging departments in acute care hospitals and clinics, Radiological Technologists also perform procedures with mobile x-ray equipment in the operating room, emergency departments, at the patient's bedside or within special care units as required. There are also several sub-specialty areas that fall under Radiological Technology including, Computed Tomography (CT), Mammography, Bone Mineral Densitometry, Fluoroscopy, and Interventional.

Nuclear medicine. Nuclear Medicine Technologists prepare and administer radiopharmaceuticals (radioactive tracers) to patients by means of injection, inhalation or ingestion and capture images and data using highly specialized gamma cameras and computer software to demonstrate organ and tissue function. Nuclear Medicine scans are used to determine the location and size of tumours, diagnose hormonal disorders, and to determine the extent of pathological processes in almost all of the human organ systems. The practice also utilizes molecular imaging to visualize biochemical events at the cellular and molecular level to rule out potential mechanisms of disease.

Radiation therapy. Radiation Therapists are an essential component of the cancer treatment team. Radiation Therapists apply specific doses of ionizing radiation to

targeted regions of the body to treat many forms of cancer. External beam radiotherapy uses specialized equipment to focus high doses of radiation at targeted cancer sites and brachytherapy places radioactive implants directly at a lesion site or in a body cavity to treat carcinogenic regions. Radiation Therapists also use advanced computer systems to design and implement treatment plans with clinical oncologists that include performing treatment simulations, radiation dosimetry, and constructing accessory devices. Because radiation treatments often extend over several weeks, Radiation Therapists also tend to play a supportive role with the patient and family in addition to counseling and assessing patients pertaining to the side effects of therapy and progression of the treatment.

Professional Profile of the Principle Investigator

I am currently employed by the Ontario Association of Medical Radiation Sciences (OAMRS) as the President and Chief Executive Officer. Prior to my appointment with the OAMRS, I worked as full-time faculty in the undergraduate Medical Radiation Sciences program at the Mohawk-McMaster Institute for Applied Health Sciences and have continued that role on a part time basis now. Experience was gained as a Health Services Manager at a hospital in Northwestern Ontario responsible for Diagnostic, Cardiopulmonary and Rehabilitation Services after working for a number of years as a front line MRT in the greater Toronto and Hamilton areas. My experiences working in the public healthcare sector in clinical, educator and leadership capacities has given me a broad perspective on the Canadian healthcare system, change management, and leadership that led to my interest in this study.

Data Collection

Data collection for this study first consisted of individual interviews with each participant. Several open-ended questions were asked that invited rich, descriptive, unobstructed responses, revealing patterns and themes concerning the proposed research questions. Interviews were conducted face-to-face, digitally audio recorded and later transcribed by a transcriptionist for analysis. Audio recordings from each interview were sent to the transcriptionist after each was recorded. Hand written and electronic field notes were logged throughout all aspects of the data collection process in a detailed journal by the investigator. This process provided an audit trail of activities and decisions that were made to capture impressions by the investigator at any given time, but particularly after each interview. Field notes were added to the transcribed interviews during data analysis. The aim for administering personal interviews with each participant was to obtain a foundation for ideas that will surface from the individuals' perspectives. The personal interview questions are included in Appendix D. Depending on the nature of the interview additional questions to solicit clarification and promote further dialogue were asked.

After all the personal interviews were completed, transcribed and initial analysis was finished a small focus group involving a sub-set (3) of the interviewees was conducted, via audio teleconference. The number of participants involved in the focus group was determined purposefully according to participant interest level, availability (of the participants), and by the necessity to clarify and refine the thematic analysis from the individual interviews. The focus group was used as a method to confirm themes that emerged through the personal interviews and potentially gain more insight into the

themes that surfaced, from a different perspective. A focus group promotes open discussion among a small group of people and differs from an interview in that the researcher acts as a facilitator to introduce topics and facilitate discussion and participation by the group (Polgar & Thomas, 2000). To conduct a focus group, the researcher usually selects no more than 10-12 people (Leedy & Ormrod, 2005) to participate. Richards and Morse (2007) suggest that the use of focus groups can provide researchers with more information about the dimension of a topic and a group's attitudes toward the issues.

Data collection for the focus group consisted of digitally audio recording (and transcribing) of the dialogue and detailed note taking by the investigator. Selected participants were sent an email prior to the focus group commencing to provide them with background and context for the activity. Participants were also given a brief verbal introduction at the beginning of the focus group and anonymity was protected by identifying participants as "Participant A", Participant B" and "Participant C" such that the participants could not identify one another during the focus group. During the focus group the investigator took the role of facilitator and asked a series of questions. See Appendix E for the focus group questions used to generate discussion. Depending on the nature of the discussion, additional, informal questions to solicit clarification or continue the dialogue were asked.

Data Analysis

Demographic information about the respondents was descriptively coded and categorized on a spreadsheet by age, sex, employment details, and years employed. A summary of participant demographic information can be found in Table 1. Analysis of

the interviews was started as each was received from the transcriptionist (data collection and data analysis of completed interviews occurred jointly and in no specific order). Transcripts from each interview and investigator notes were electronically merged and organized for analysis. Specifically, the data was first itemized and arranged by question and participant. Next, the data was further scanned and reorganized by question topic coded to create categories, independent of the participant. Topics were highlighted in the text and correlating investigator thoughts and reflections from the interviews were footnoted. Topic coding is an analytic activity that entails creating specific categories through recognition and reflection in deciding where the data belongs among ideas for the study (Richards & Morse, 2007). Analytic coding was undertaken with the intention of discovering themes, patterns or anomalies within the data according to their contextual meaning. New categories and comparison of the data sets were established at many points and in no particular order. The data sets were indexed using a word processor that was also used to highlight key words conveyed by the participants in their descriptive responses and saved to a separate consolidated document. Indexing consists of analysis of text data with the assistance of the computer software to help bring out the context in which key words may have been used (Trochim & Donnelly, 2007). The preceding analytical processes were applied to both the individual interviews and the focus group data set. From this end and throughout, conceptualizing and interpretation of the data occurred synonymously at all stages of analysis and continued until a feeling of data saturation occurred. Data saturation is the point in data collection when no new or relevant information emerges

and as such the researcher arrives at the point at which no more data need to be collected (Saumure & Given, 2008).

Table 1

Participant Demographic Information Summary

8 Participants in the Study	
Age Range	31 – 56 years of age
Range of experience as a technologist	6 – 35 years
Range of time in current position	1 year to 23 years
Ratio of females to males	6:2
Practice Specialties	5 Radiological Technologists; 1 Nuclear Medicine Technologist; 2 Radiation Therapists

Rigour

Guba and Lincohn (1981) suggested credibility, transferability, dependability and confirmability as criteria for judging the quality of qualitative research. These criteria relate to establishing credibility of results from the perspective of the participant; establishing a degree to which results can be generalized to other settings or contexts; establishing an accounting for the ever-changing context that occurs within the research; and establishing a method for confirmation or corroboration of results (Trochim & Donnelly, 2007).

A qualitative research process, regardless of design, is subject to many subjective influences that can contextualize the researcher's interpretations. Carolan (2003) defines reflexivity as "An acknowledgement of the role and influence of the

researcher on the research project, further, the role of the researcher is subject to the same critical analysis and scrutiny as the research itself" (p.6). The actions of reflexivity and self-reflection by the investigator are important components of qualitative research since investigators' interpretations, based on their understanding of the data, will have an effect on data analysis and subsequent conclusions. Self reflection needs to identify what effect the researcher's situation, beliefs, and value judgments have had on the observed findings (Pellatt, 2003). Carolan (2003) indicated this process is increasingly seen as a valid means of adding credibility to qualitative research. This study was a qualitative descriptive study with the intentions of collecting descriptive data about how MRTs are involved in organizational changes and its effect on the MRT practice environment, free from making broader generalizations from the findings. Reflective practice was a very important element for this descriptive study to ensure the analyzed data remained objective and without bias.

The collected data for this study was a rigourously maintained, dated and reflective documented history. This included manual field notes during each interview that were later reviewed with the detailed audio-recorded transcripts. Audio recordings were also listened to and more reflective notes were taken to reaffirm context and emotions to the transcriptions. These notes were added to the transcribed interviews, prior to formal analysis. Self-reflection took place before, during and after interviews and during all elements of data collection and analysis to some extent. All of these elements contributed to the analysis of findings and provided evidence of the journey through the different stages encompassing how the data was collected and processed and how interpretations were arrived at. Reflective practice also included the investigator

engaging in continuous auditing of research methods and practices for the duration of the study. The reflection guided appropriate decisions for changes to the research protocol as the study proceeded such as variation of the interviews based on the individual needs of the participants and the dynamic of each interview. Maintaining rigour was achieved through methodological congruence in the research design and all of the processes encompassed within it including comparing the literature with the findings and integrating elements of the literature into the findings to validate the points that were made.

The investigator needs to plan strategies for eliciting beliefs and values that are inherent within the organizational culture and processes that enable identification, comparison and contrasting of those characteristics (Richards & Morse, 2007). This is reflected in the visibility of processes, analysis and conclusions that are presented transparently while being attentive to partiality and limitations of the findings. Specifically, all processes conducted within this study include all steps related to recruiting participants, data collection (including transcripts, notes, audio recordings), documentation (including reflective notes, observations) and steps taken for analysis (coding, synthesis of the data and reasons for it). These elements are all demonstrated herein.

In addition to the methodological congruence of the research design, and all of the processes conducted during data collection and analysis, the use of a subsequent focus group helped corroborate results from the personal interviews each and added to the credibility and dependability of the findings. Davies and Dodd (2002) suggested qualitative research needs to be reliable but not in the sense of replication over time and

across contexts, rather, achievement of reliability in the data is based on consistency and care in the application of research practices. Since this study was designed to meet requirements for a Master's thesis, a thesis supervisor and subsequently a supervisory committee from Athabasca University also evaluated it at various stages of development. Overall, the investigator aimed for balance, fairness, completeness and sensitivity in the final analysis and interpretation of the data (Leedy & Ormrod, 2005).

Right to Privacy

Any identifying information obtained through the process of participant selection, data collection and data analysis was treated confidentially by obscuring the location of the research setting, individual participants' names, names of workplaces, and interview responses. This was achieved by developing unique codes for all identifiers used in the study and any subsequent presentations or publications will only use codes. All electronic questionnaire responses (see Appendices A, B, C), interview and focus group transcripts were coded prior to data analysis. Only coded data were shared with the investigator's supervisor and supervisory committee to ensure confidentiality for participants. Participants were also assured that any identifiers associated with this study would be identified by a code assigned by the investigator and all identifying information included in these documents will be treated confidentially.

To the discretion of the investigator, sensitive data were also removed from the final manuscript. Reporting all data may have compromised the anonymity of participants and lead to potential or perceived harm (Denzin & Lincoln, 2005; Leedy & Ormrod, 2005; Pope & Mays, 2006). Confidentiality among the participants was

discussed and acknowledged in the group prior to commencing the focus group activities.

Original electronic (email) correspondence received by participants was deleted from the investigator's computer system after being downloaded to a Microsoft Word file and saved electronically. The coded demographic questionnaire responses, interview transcripts and focus group transcripts were saved and stored according to ethical guidelines on a password-protected computer and also backed up on an external hard drive that was locked in a filing cabinet at the home residence of the investigator. Any paper copies of the transcripts were also stored in a locked filing cabinet at the residence of the investigator and have since been destroyed. A confidentiality agreement was also made with the transcriptionist involved in this study to confirm no identifiers would be released into the public domain, and that all documents would be kept in confidence during the transcription process and destroyed (deleted from the transcriber's database permanently) after the transcript was released to the investigator (see Appendix F).

Study Limitations

Limitations for this study correspond to established general limitations for all areas of qualitative inquiry. Because data collection was from a relatively small group of individuals in an exploratory, descriptive context, the quantity of data was limited and the findings could not be generalized to the larger MRT population or general population at large. Since the study was only open to actively registered, full-time MRTs in Ontario, there could have been retired, part-time or previously full-time MRTs from broader geographical locations that may also have had very useful perceptions to share.

Inclusion criteria required participants to have been part of a major organizational change at a past or current place of employment within the last 5 years, this may have had an effect on their ability to recall events and feelings retroactively for past change events that were not recent. The qualitative format being used for data collection (personal interviews and focus group) may have limited who expressed interest in participating and lack of compensation given to participants, as an incentive for their time, may have also been a limiting factor for attracting some participants. Because of the qualitative nature of the research design, the principle investigator (PI) was an instrument of the data collection and analysis that could have presented personal bias and a subsequent limitation in the data collection and analysis. There may be limitations in the data collection and analysis based on the interview, focus group and data analysis skills of the PI.

Ethical Considerations

This study adhered to the Tri-Council Policy Statement (2010) for ethical conduct for research involving humans. In Canada it is a requirement that an independent committee (Research Ethics Board) reviews and approves all research projects involving humans before participation of any subjects can commence. Ethical concerns posed by qualitative research are often equal to those of positivist approaches in terms of potential risk of coercion and perceived benefit to respondents (Larken, Dierckx de Casterle & Schotsmans, 2008). Potential ethical issues pertaining to the subjects involved in this study may include protection from harm, informed consent, right to privacy and honesty, exploitation, trust, deception, and betrayal (Leedy & Ormrod, 2005; Goodwin, Pope, Mort & Smith, 2003). This study received ethics approval from the

Athabasca University Research Ethics Board (see appendix G), and a letter of permission from the OAMRS for use of their membership database prior to beginning participant recruitment.

The research framework established for this study was based on a need to acquire rich, descriptive information about perspectives of MRTs involved in organizational change initiatives. Because there had been no research done in the past pertaining to perspectives of MRTs involvement in organizational change initiatives a descriptive qualitative design was selected. Participant recruitment and selection was based on each participant meeting the established inclusion/exclusion criteria and providing informed consent. Data collection consisted of eight face-to-face personal interviews and a focus group involving three out of the eight participants. Data analysis consisted of adhering to established standards for qualitative research. The study adhered to the Tri-Council Policy Statement (2010) for ethical conduct for research involving humans and received ethics approval from the Athabasca University Research Ethics Board (AUREB) prior to commencing any participant recruitment. Privacy standards were maintained at all times during the study and included coding of any identifiers in the manuscript.

Chapter V: Results

Personal Interviews and a Focus Group

The Change Experience

Eight personal interviews and one focus group were completed. Two of the eight participants experienced two different change events that were discussed separately during the personal interviews. There were a total of 10 change experiences described. Upon completion of the personal interviews, the 10 experiences were organized into two categories according to the described change situation. The two categories are:

1. Organizational changes that were initiated at a macro level that in turn affected the MRT practice area, and
2. Organizational changes that were initiated at a micro level that in turn affected the MRT practice area.

I define category one, as major organizational changes that were driven by the senior leadership team, which in the context for this study, would mean at the Chief Executive Officer (CEO) or vice president level. These relate to global changes that may affect all areas of the facility to some extent, including the MRT environment one way or another.

I define category two, as major organizational changes that were driven by the leadership team within the diagnostic imaging or radiation therapy department itself, and in the context of this study, changes that occurred no higher than the department director level. In either instance, macro changes that were being driven from a higher level inevitably required changes at the MRT level as part of a much larger plan. Alternatively, micro changes were inherent to the department itself and did not

necessarily transcend to a higher level. A summary of the types of organizational changes experienced by each participant is summarized in Table 2.

Macro Changes

Eight participants described their organizational change events as being initiated at the macro level, and requiring conformance and subsequent changes by the diagnostic imaging or radiation therapy departments within the organization. These changes evolved from hospital, independent health clinic or cancer centre restructures that were driven by new senior leadership (2); change of internal processes (1); hospital amalgamation with another hospital (3); change of hospital mandate (1); and cost containment measures (1).

Micro Changes

Two participants described organizational changes occurring at the micro level involving changes to department protocols and subsequent procedural practices. One change event was a plan to eliminate redundancies and inefficiencies in the process of caring for patients. Another participant described a change event as changes to department protocols and procedural practices based on a department renovation.

Upon completion of the personal interviews, participants 1, 7, and 8 formed the focus group. Focus group participant selection was based purely on who was available and willing to participate.

Table 2

Types of Organizational Changes by Participant

Study Participants	Reason for Organizational Change and subsequent Restructure	Micro level	Macro level
Participant 1 *Event 1 *Event 2	 Change of internal processes to increase efficiency (decrease wait times strategy) Implementation of new department protocols	 X	 X
Participant 2	New senior leadership		X
Participant 3	Hospital amalgamation		X
Participant 4	New senior leadership & Hospital Renovation		X
Participant 5 *Event 1 *Event 2	 Hospital amalgamation Hospital amalgamation	 	 X X
Participant 6	Hospital wide cost containment measures		X
Participant 7	Department renovation	X	
Participant 8	Change of hospital mandate		X

* Participants 1 and 5 expressed perceptions based on two different organizational change events. These are listed as “event 1” and “event 2” respectively.

Findings

Through the personal interview and focus group processes I found there were positive and negative experiences with positive and negative elements that could be gleaned from all the described change events. Whether positive or negative, the

findings appeared to fit well within the described conceptual framework for the study in terms of the perceived success of major change initiatives in the short and long term. There were variable perceptions concerning outcomes for the intended changes from a pragmatic perspective. Expressed feelings (positive or negative) appeared directly linked to the experience of the transition involved in the change event and indirectly linked to the outcome of the change initiative itself. For example, the outcome of a change event as intended may have been considered a success in a practical sense, however, the participants expressed strong feelings concerning the transition involved to achieve the desired outcome of the change event and less about the actual outcome of the change event. The personal interviews revealed that a perceived positive outcome could be linked to a positive or negative transition and a perceived negative outcome could be linked to a positive or negative transition.

From an organizational perspective, it was suggested by the participants that 7 out of the 10 change events in this study met the desired organizational outcomes proposed by leaders. 1 change event did not meet the desired outcome and 2 change events partially met the desired outcome. Five out of the 7 who suggested the change intervention met the desired outcome also described a positive transition in achieving the outcome. Two of the 7 who suggested the change intervention met the desired outcome described a negative transition. Three participants suggested a negative outcome and a negative transition associated with their change experiences. There were no described negative organizational outcomes associated with a positive transition in the context of meeting organizational outcomes. Figure 3 illustrates

perceived change transitions and perceived outcomes relating to outcomes for the organization.

Although organizational outcomes may have been met through the changes described, there were also personal outcomes for the individuals involved in the change events that were also linked with a perceived negative or positive transition. Seven out of 10 participants described positive individual outcomes, 3 of these were linked with negative transitions and 4 were linked with positive transitions. Three participants described a negative outcome for themselves as a result of the change event. Two of the 3 participants received demotions, and expressed negative transitions. One participant described a negative outcome for themselves in the form of job loss however, expressed a positive transition in effect. These were important findings because it revealed that negative outcomes did not always necessitate negative experiences in the transition leading to the outcome. It also revealed differences between perceived organizational and individual outcomes and transitions. Figure 4 illustrates perceived change transitions and outcomes relating to the individual involved in the change.

Specifically, where there was perceived a smooth transition, based on a well laid out plan, an effective communication network and involvement of staff, there were positive feelings expressed regardless of whether the change event caused personal detriment or not. Where these factors were absent, the feelings appeared to always be negative, however, these feelings were independent of the actual outcomes of the changes in the end.

There were instances where there was a perception that the organizational leaders felt that the imposed changes were accomplished as intended however this perception was not always shared by the staff involved. Further, the transition for the changes may not have been reflected positively by staff. Conversely there were also instances where the change carried a direct negative outcome for a participant but the transition was perceived in a positive way by that same participant. Table 3 provides a summary of perceptions of the change outcomes and associated change transitions by each participant and Table 4 summarizes perceptions of the change experience relative to personal detriment to the participant.

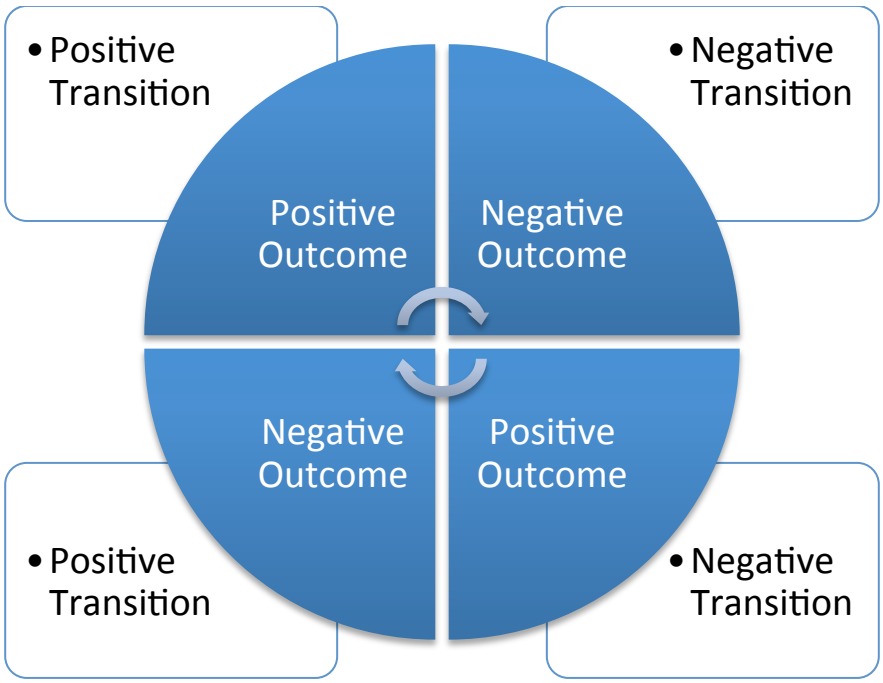

Figure 3

Perceived Change Transitions and Outcomes for the Organization

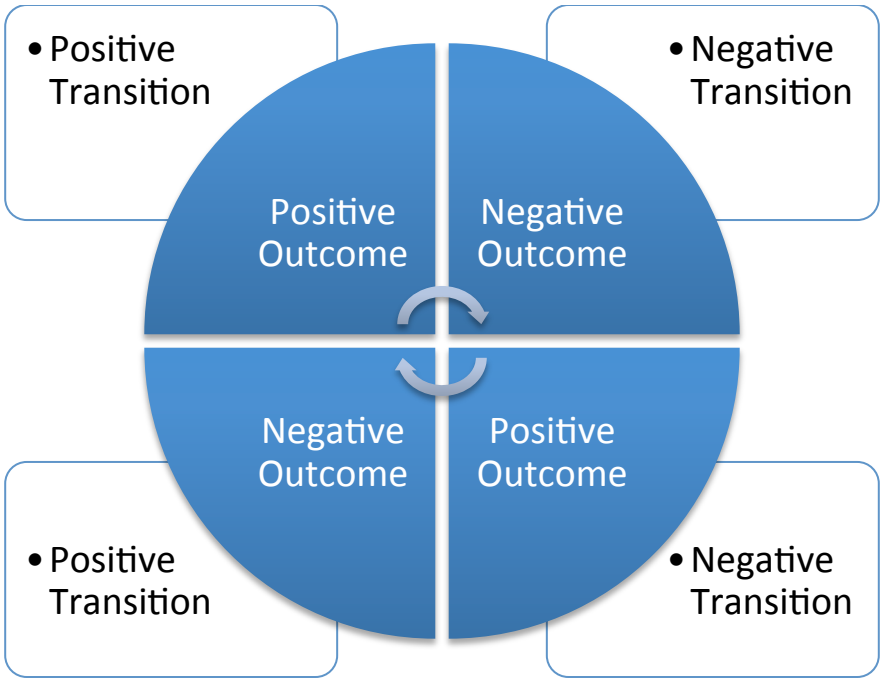

Figure 4

Perceived Change Transitions and Outcomes for the Individual

Table 3

Perceptions of Organizational Change Outcomes by Participant

Participant	The Change Outcome as intended was a success	The Change Outcome as Intended was not Successful	The Change Outcome as intended was partially Successful	Perceived Negative Transition	Perceived Positive Transition
1 *Event 1 *Event 2	X		X	X	X
2	X				X
3	X				X
4		X		X	
5 *Event 1 *Event 2	X		X	X	X
6	X			X	
7	X				X
8	X			X	

* Participants 1 and 5 expressed perceptions based on two different organizational change events. These are listed as “event 1” and “event 2” respectively.

Table 4

Perceptions of Individual Change Experiences by Participant

Participant	Changes Resulted in job loss or a demoted position for the Participant	Changes did not result in any change of position for the Participant	Perceived Negative Experience	Perceived Positive Experience
1 Event 1 Event 2		X X	X	 X
2	X			X
3		X		X
4	X		X	
5 Event 1 Event 2		X X	 X	X
6	X		X	
7		X		X
8		X	X	

* Participants 1 and 5 expressed perceptions based on two different organizational change events. These are listed as “event 1” and “event 2” respectively.

The common feelings associated with each participant’s respective organizational change event were organized into categories, sub-categories and broad categories. The broad categories represented the common themes that were

consistent across all of the interviews. See table 5 for a list of expressed feelings and established categories common to all participants.

Table 5

Common Feelings Expressed by Participants

Expressed feelings	Frustration; disorganization; confusion; pressure; stress; valued; not valued; not included in decision making or planning; prescriptive plans; complacency; fear; respect; acknowledgement; empowered; not a part of the consultation process; accomplishment; no plan/defined end; no direction; lack of communication; inclusion; empowered; recognition; organized; encouraged; controlled; no control; well organized; comprehensive consultation process; included; wanted; motivated; fatigued; chaos; excitement; depression; silos; competition; initiative; internal rewards; conflict; bullied; anger; worthless; dissatisfied; fulfilled; happy; enriched; burned out; respected; territorial; no trust; uncertainty; helpless
Expressed feelings where there was a perceived positive transition	Valued; respect; acknowledgement; empowered; accomplishment; inclusion; recognition; comprehensive consultation process; organized; included; wanted; motivated; excitement; initiative; internal rewards; fulfilled; happy; enriched
Expressed feelings where there was a perceived negative transition	Frustration; disorganization; confusion; pressure; stress; not valued; not included in decision making or planning; prescriptive plans; complacency; fear; not a part of the consultation process; no plan/defined end; no direction; lack of communication; controlled; no control; fatigued; chaos; depression; silos; competition; conflict; bullied; anger; worthless; dissatisfied; burned out; respected; territorial; no trust; uncertainty; helpless
Sub-Categories	Organization; acknowledgement; support; trust; empowerment; accomplishment; recognition; responsibility
Broad Categories	Communication; engagement; respect

Themes

The participants in the study described both positive and negative change experiences. In all the experiences described, the feelings expressed by the participants translated to common themes that were driven by fundamental human interactions that

fell within the broad categories of communication, engagement and respect. Collectively, it was found that these elements of human interaction had variable effects on daily operations that affected the transition and outcomes associated with the change initiative itself. Where negative or positive perceptions of respect from the leaders grew out of each experience, it was tied to communication and engagement, and participants expressed variable impressions to the practice environment. Where there were positive perceptions of open communication, engagement and respect, there were reported increased levels of job satisfaction, motivation, morale, quality of work, patient care, health outcomes to patients, staff retention, staff health, success for the organizational change and decreased levels of stress. Where there were negative perceptions of open communication, engagement and respect from the leaders, there were reported decreased levels of job satisfaction, motivation, morale, quality of work, patient care, health outcomes to patients, staff retention, staff health, success for the organizational change and increased levels of stress. A summary of the elements of human interaction and its effect on the MRT practice environment is presented in table 6.

The focus group served its purpose in terms of reinforcing the ideas and themes that surfaced from the personal interviews and in adding further examples and details to make the description of the experience more comprehensive. The themes of communication, engagement and respect that emerged during analysis of the interviews were reconfirmed through an open discussion during the focus group.

Communication is critical at all levels

There was a common desire across all experiences expressed by the participants to be heard and actively listened to. Throughout the change process, from start to finish, participants felt like they needed to see and feel what was coming to be able to accept it. One participant said,

> I think if you know where you're going and what you're doing even if it's a bad thing, at least you know. Here, there's no communication, there's no information. You really don't know what's going to happen down the road.

Another participant said, "You're not really involved, don't know what's going on, so there is frustration and people feeling disgruntled when you have no idea of what the changes are about or the process".

There was a need to be informed of a plan, and of a defined scope and an end point for the change initiative, regardless of whether the outcome was perceived to be positive or negative for the individual experiencing the change. There was a need to have an understanding of what changes were being proposed, what changes would be occurring, why the changes were necessary, and how the changes would affect them. Not having an idea of what was happening related to a change caused fear, anxiety, lack of trust and a growing resentment toward the leaders of the organization.

Active engagement brings people together

Participants felt like they needed to be included and actively involved in the change initiative to effectively establish meaning for the change in their lives and make them feel like they had a stake in the outcome of the change initiative. There was a

consistent feeling among all the participants that they needed to feel like they were a part of the change and contributing to the goals related to the change.

Aspects of engagement in the processes included being heard and opinions of staff being solicited and listened to as part of the change process. Participants commented that they wanted to be actively involved in performing tasks related to the change itself. One participant said

> I think in terms of whether staff generally are interested in being involved... I think probably, I don't know, it may be, you know one quarter or so are and three quarters aren't. And I think one of the big reasons that some people aren't is that they have had some involvement and they have been excited to, you know, be involved and be asked what their opinion was and so on. But then, very often, they find that it...their opinion didn't really have an opportunity to actually affect anything. So, you know, there are a lot of activities that go on where it's really more of.... they want to engage staff and maybe there's a genuine intention to engage staff, but ultimately, all the decisions are happening either before they engage staff or...with no real, sort of regard to what staff had to say and then I think people get very kind of disillusioned/disengaged with the whole thing.

Where these employee desires/needs were met, it created employee motivation and desire to embrace the changes and work toward common goals. Being engaged in the activities also reduced fear and anxiety and created a team atmosphere to embrace the changes. One participant said, “You know, initially there was pain, people, were afraid. They said: ‘Well, this is the way it is and you move forward,’ and it ended up being a good thing” another participant confirmed these positive feelings by saying, “I

felt that my opinion was valued; it was solicited, it was valued, it was heard……we were working together to see what were the goals and how we were going to get there".

There was a consensus in the focus group that MRTs were intrinsically motivated and desired to be a part of major organizational changes in principle, however there was a unanimous feeling that change related decisions were often made at higher levels of their organizations prior to there being any consultation with them at the front lines. Further, the focus group respondents shared the perception that if there was any consultation with them, related to a planned change it was only a formality because the real change decisions had already been made. One participant said "I think the decisions were already made on a higher level" and another said "It seems that many of the big decisions are taken before involving any of the staff, so they...they are asked but...after the decision is already made". This process created the perception that staff was not being heard or listened to and subsequently created complacency around offering opinions because they felt like they were not being heard anyway. One participant said, "At least listen to what your suggestions are and if they're not going to roll with them, then give reasons why those (suggestions) were overlooked. At least it would show they're listening and these are the reasons why".

Respect is a cornerstone for success

Participants indirectly and directly suggested that they needed to feel respected by their employers. This element of respect was very closely linked to communication and engagement. Where employees felt communication was clear, where they were given opportunities of genuine engagement in the change process, and where communication and engagement took place in a respectful atmosphere, participants

noted that they felt valued by the employer and that they were contributing something important to the change process.

Participants considered it respectful if they were provided with a formalized description and plan for change initiatives that affected them and it was important that this plan was communicated to all parties involved in the change. When this plan was respectfully shared, the intended result of the change, and the change transition, appeared to be more successful. One participant said “Not only am I not treated with respect, as an individual or a professional, I don’t feel that I’m able to deliver care to patients the way I used to. And I don’t feel that the patients’ needs are being addressed in terms of administration’s response to what is going on”. Another participant said,

> Communication from the top was not going down to the technologists. So there was a lot of miscommunication and there was a lot of frustration. Nothing was ever being communicated properly to us. We were the last to know about the changes. The impact was that there was a lot of disappointment and frustration that your work is not being acknowledged or appreciated; that no matter what you do you’re just a number.

The focus group participants confirmed there was often a lack of genuine consultation with front-line staff prior to change initiation was grounded in a general feeling of not being respected by their leaders. This was evident when one participant said, “They're pretending to respect you” and another said, “It's important that you believe that they respect you”. This sense of overall disrespect compounded negative perceptions and endangered trust in the organization. Focus group participants suggested that these feelings led to complacency and resentment and a lack of interest

in the proposed changes and in any subsequent change projects that occurred.

One participant went on to describe a theory about the concept of the lack of genuine engagement of staff in change management by saying,

> This touches on something I have been reading about...called esthetic management... The basic idea in this kind of area is that employee engagement is important in the sense that employees need to feel engaged but you don't have to actually engage them....which from an employee's perspective is rather disturbing. But when I was sort of reading that stuff I thought yeah, this sort of describes what I see happening.

This idea describes a management tactic where leaders create the illusion that staff is respected and involved, knowing it is important that employees need to feel engaged, but in reality there is a lack of respect for employees. Everyone in the focus group identified with this concept and provided examples of similar experiences with this tactic.

There were variable levels of change success described that hinged on the extent front-line staff were involved and how engaged they felt in the process. The participants discussed how perceptions of respect and engagement could be influenced positively by change leaders involving staff at an earlier stage of change processes and by maintaining an open communication network so that staff could understand and appreciate the rationale for imposed changes while also seeing and feeling progress and acquisition of intended outcomes.

Some participants provided examples of times when there was perceived a legitimate consultation process between front-line staff and leaders however in such instances, the group agreed that the consultation most often occurred much too late into the process. One participant said

> I've seen both (involvement and lack of involvement of MRTs) on the same project where the first part, people were not involved at all or involved too late in the system. After that, I've seen the transformation where, we went from not being asked to being asked for everything. So, I think if we could start by asking the MRTs at the beginning of any project what their ideas are, it would be much better.

It was suggested that nothing was asked of them early on in the process, then after it is too late, for the trajectory of change to be altered and they are requested for opinions, feedback or to complete change related tasks when little can be done. Everyone identified with this situation and expressed that it caused stress, anxiety and further resentment since late consultation provided them little time to think about the change or alternatives. It was suggested that if the staff involved and affected by the change were consulted from the beginning for their ideas, staff would be aware of the impact of the change and be legitimately a part of the change outcomes, whatever they are (negative or positive).

Participants noted that this consultation and early involvement did not have to be comprehensive. Rather, simply being informed could have a major effect on staff perceptions related to the change project. The group commented, and all agreed, that

they felt fundamentally if there was genuine respect for employees that they could feel, then all the other elements of the project would fall into place with minimal effort and be perceived more positively. The focus group participants suggested that whether the change event was a positive or a negative experience depended on whether staff felt respected. This sense of real respect was a critical element to how change outcomes were perceived and to the quality of the work environment.

Table 6

Human Interaction and its Effect on the MRT Practice Environment

Absence or presence of communication, engagement and respect felt by front-line MRTs involved in the Change process resulted in varying effects to the MRT practice environment*:
1. ↑ or ↓ job satisfaction
2. ↑ or ↓ motivation
3. ↑ or ↓ morale
4. ↑ or ↓ quality of work
5. ↑ or ↓ patient care
6. ↑ or ↓ health outcomes to patients
7. ↑ or ↓ levels of stress
8. ↑ or ↓ success for the organizational change itself
9. ↑ or ↓ staff retention
10. ↑ or ↓ staff health

* ↑ denotes an increase; ↓ denotes a decrease

There were a total of 10 change experiences described through eight personal interviews and one focus group. The 10 experiences were organized into two categories according to the described change situation, those being organizational changes that were initiated at a macro level that in turn affected the MRT practice area or

organizational changes that were initiated at a micro level that in turn affected the MRT practice area.

There were positive and negative experiences described by the participants. The findings appeared to fit well within the described conceptual framework for the study in terms of the perceived success of major change initiatives in the short and long term. The personal interviews revealed that a perceived positive outcome could be linked to a positive or negative transition and a perceived negative outcome could be linked to a positive or negative transition. This characteristic revealed that negative experiences could be linked to a positive outcome and positive experiences could be linked to a negative outcome.

Common feelings associated with each participant's respective organizational change event were organized into categories, sub-categories and broad categories. The broad categories represented the common themes that were consistent across all of the interviews and focus group, those being communication, engagement and respect pertaining to perceived negative or positive experiences associated with a change. The three themes were very closely linked to one another and resulted in variable effects, positive or negative to the MRT practice environment.

Chapter VI: Discussion

In change situations where there was not a network of open communication and active engagement between the organizational leaders and staff involved in the change event, the transition from the 'old' way of doing something to the 'new' way of doing something carried negative consequences and the time period for a successful transition was longer. What constituted a positive or negative outcome for the change event was variable among the participants and based on their perceptions of the lived change experience. One participant said,

> There were a lot of things that happened that we lost a lot of physicians that were actually referring patients to our clinic. We lost a lot of patients and doctors as a result. And as a result, that reduced the volume of the patients for nuclear medicine. So I don't think in that way it was a smooth transition but they implemented the change, which was the new software, so that was implemented. But it impacted other areas, which was also not good for them.

Another participant confirmed this idea by saying "I think the definition for being successful is how smoothly the transition took place. It wasn't a smooth transition. Along the way, there was a lot of conflict between the technologists and the management".

These comments are consistent with the theories presented by Lewin (Cited in Gold, 1999) and Bridges (2009). During the transition from an old process to a new one, Lewin proposed that a high level of tension was generated by frustration in people experiencing changes causes regression to a less complex or earlier (more familiar) psychological state (Gold, 1999), thus creating resistance to the new experience. Similarly, Bridges (2009) confirmed this sentiment by confirming a change transition as

a psychological, three stage process that people need to go through as they internalize and come to terms with the new situation caused by a change in the environment and that everyone will go through these stages at different times and may regress to an earlier stage before fully committing to the new process. Participants confirmed this philosophy by suggesting that not only did they need to feel included in the change initiative, there had to be an active engagement from start to finish, in order to create motivation and desire to get through the change transition effectively and establish the change as the new norm.

Participants expected change leaders to clearly communicate with them regarding the change process. This communication included providing staff with a detailed description of: the reasons for the changes, the effect on patient care and how the changes would affect them. Staff wanted to be informed of why changes were needed, what the process would be, and they wanted to be presented with a plan with proposed outcomes.

Lack of consultation and engagement with staff regarding changes of process that they (staff) were directly involved in was suggestive that the leaders were out of touch with daily activities in front-line areas. It was also perceived that the organizational leaders did not appreciate or empathize with the situation for the transition that staff were going through and the affect it was having on patient care, service quality or staff satisfaction. As one participant commented, “They did not seem to be in touch with the day-to-day issues that we were dealing with”. A second participant agreed by saying,

> They (the staff) were frustrated because they weren’t treated well. They were not acknowledged. They were not appreciated. They didn’t get the support. To be

> honest, I think it depends how you lead the role in the department. Everybody likes being appreciated; everybody likes being praised in performance issues.

Badea and Pana (2010) define empathy as the ability recognize the emotions of others and gauge from nonverbal signs. The importance of staff sensing that their leaders understand what they are experiencing and have empathy for what is asked of them in their day to day operations is supported by Badea and Pana (2010) that suggested empathy provides a building block for leaders to generate resonance among their team and that if the leader identifies with the feelings of others and demonstrates an understanding of their team's feelings and emotions, the leader may act in the best way, whether to settle fears, calm the anger, or cultivate an atmosphere of cooperation and trust.

Participants suggested universally that effective two-way communication was the main driver in change success. Even if this communication was minimal rather than not at all it could have a significant effect on whether MRTs held a negative or positive perception of their involvement in the change. This perception then in turn could positively (or negatively) affect other aspects of the project and the effectiveness of general work function. One participant said, "You're not really involved, don't know what's going on, so there is frustration and people feeling disgruntled when you have no idea of what the changes are about or the process". A focus group participant added,

> Frequent communication for a larger project to keep all staff in the loop and from there, get their feedback. Whether they take it (use the feedback) or not one thing but at least you have a chance to voice your opinion on the things that

they're doing, as the project evolves.

The focus group participants all thought that MRTs were listened to when their opinions were solicited however, there was little to no communication back from the leaders that suggested that their points were being considered or that they were really an integrated part of the project (if there was any consultation at all). These feelings led to a perception that MRTs were not being heard and that they had very little influence over decisions that were being made. One focus group participant suggested that they thought it was possible for MRTs to influence changes for smaller projects however did not think it was possible for larger changes at a macro level by saying,

> I do think MRTs can influence changes. I think it's easier for smaller scale things, for maybe more like small team-based things. Like in my department such as protocol development and things like that where the staff sometimes even lead that kind of thing. Bigger things where higher levels of management are involved, I don’t think so (MRTs cannot influence changes).

It appeared that complacency was a long-term effect of not feeling heard or engaged in the change activities resulting in a disengagement of staff in anything that was going on in the workplace. One participant said,

> I do think that type of thing (perceived interaction with staff) increases people’s feeling that you don’t really want my opinion so I’m not going to bother giving it to you and that kind of approach to change management drives people to disengage from being involved because they feel like: ‘Even if I’m asked I’m not really being asked’.

Another participant confirmed these feelings by saying,

> As a young therapist, I felt like there were a lot of us who were maybe newer and there was a lot more, kind of, initiative to be involved in things. The staff that had been here longer, to me, tended to have more of a: 'I'm just here to come in and do my work and get my job done and do a good job and go home,' and much less interested in that kind of stuff and I think a lot of it is 'I'm not going to bother answering that survey because no one is going to listen anyway…' But I think the key element in that for me is: how I'm being treated as a person and as an individual along the way of that. And how the patients are being treated as individuals along the way of that.

Complacency led to a feeling of being undervalued and unappreciated as another participant said, "I felt that my opinions, what I do was not valued. Umm….during these changes. Or other MRTs, I don't think we had a chance to make a positive difference potentially. So I just think that we're underappreciated sometimes". In some instances, some staff would still contribute to the best of their ability despite their feelings of complacency and being undervalued. One participant confirmed this by saying "We didn't get included in the decision-making. We just had to live with that. But in the process of change, we did try to help them out. I was part of the team to help out and we actually completed that transition".

These findings emphasize that engagement of staff in change initiatives to ensure their understanding for why the changes are occurring are a critical element of successful change interventions that are supported by Bridges (2009) who suggested

by helping employees understand all elements of the change, a successful transition from an old way of doing something to a new one is possible. More specifically, prior to initiating a change, people involved in the change need to see a purpose for the change; an outlook for how the change will look and feel; a plan for phasing in the new outcome; and they need to understand the role they will play in the change (Bridges, 2009).

Participants in the study expressed a desire to be involved in the decision-making for the change event and to feel like they were a part of the plan. Being a part of the change from beginning to end provided them with the perception of making the change exciting because people could see a potential positive outcome that they were a part of, even if the outcome potentially carried detriment such as lay-offs. Varying levels of engagement, motivation, and respect were expressed by the participants based on their perceived level of involvement in the change initiative. Fear, stress, anxiety, resentment, lack of trust and complacency were highlighted feelings based on a lack of knowledge about the change event, why the changes were occurring and how the intended changes would affect them.

Many participants said that they were “informed” of changes but were not provided with rationale for the changes and were not given an opportunity to provide feedback or opinions related to the change. Further, in some cases there were opportunities to participate in the change decision processes but they felt like the decisions had already been made and the process of their involvement in the change consultation was a formality. One participant illustrated this by saying, “When they were trying to bring these changes, they never involved the technologists fully. They were

expecting them to just accept what it is but they were never trying to consult or trying to talk to the technologists". Another participant agreed with the lack of genuine consultation by saying,

> The first meeting or two we had about it was framed as a planning meeting, it was framed as a 'here's what we'd like to do, we'd like your input.' But, it was pretty clear from the way the meeting actually went that it was more of a 'we are going to inform you of what we're going to do'. We want you to tell us what you think about it and we want to have a discussion, but we're not really going to change anything. I really feel like it made me realize that there's a lot of other things that go on in the workplace where we are, it feels like we have some involvement, we have some voice, but at the end of the day I don't think we really do. They try to make people feel like they're involved and give the impression that 'we care and we want your opinions and we want you to be involved'…but I don't think there is actually, I don't think it's real.

One focus group participant suggested that when there was consultation, it was not real by adding, "They're pretending to respect you and it's important that you believe that they respect you". This point becomes clear in one participant's words, "At least listen to what your suggestions are and if they're not going to roll with them, then give reasons why those (suggestions) were overlooked. At least it would show they're listening and these are the reasons why".

These statements are supported by Senge (1999) who emphasized the positive effects of local openness and intrinsic motivation whereby people are involved in

decision making related to the change. Senge's five learning disciplines, linked to the concepts of engagement, intrinsic motivation, involvement and human interaction contribute to attaining a positive group culture, achieving effective organizational change and maintaining job satisfaction (Senge, 2010). Wong and Laschinger (2013) supported this philosophy in a study to assess authentic leadership of managers linking with nurses' perceptions of structural empowerment, performance, and job satisfaction. The study revealed that more managers are seen as authentic, by emphasizing transparency, balanced processing, self-awareness and high ethical standards that creates a perception by nurses that they have access to workplace empowerment structures, and in turn are satisfied with their work, and report higher performance (Wong and Laschinger, 2013).

One participant said,

> They let us know, I think it started almost three or four years before they rolled it out that they were going to do this change. However, it was all behind the scenes and we didn't really know ahead of time how much it would impact us because we felt in the dark. We really didn't know what was going on until it happened. It was very difficult to go to work and it was very stressful. Everybody was worried (about their job security). And I mean stress leads to many things. When we're having a busy day there's conflicts, you start turning your back on each other……then everybody starts to speculate and start rumours. It was just an ugly situation that I felt could've been avoided if we weren't left in the dark so much. You know, if they had a grand plan, I find if you tell somebody up front, then at least you can prepare for it so you know what's coming. If in three months

> time they’re going to lay-off two people well you can kind of prepare for that but I just felt that everything was kept from the frontline staff.

The focus group participants suggested through discussion that where MRTs felt like they didn’t have a voice or the leaders were soliciting information and then making contrary decisions without providing rationale for the decisions, promoted feelings of not being included in the process or part of the team. These feelings of exclusion from meaningful involvement in the change process transcended into feelings of discontent, resentment, disrespect, lack of trust and being undervalued that created an environment of disengagement, lack of motivation, poor work ethic and morale. It was suggested by participants that these factors all tended to be built around the theme of open communication. Where leader-employee two-way communication was strong and MRTs were actively involved early in the change process they perceived they were respected and valued members of the team. One focus group participant confirmed these sentiments by saying,

> I think it starts from a genuine respect of all employees. Regardless if you're an MRT or kitchen staff, um, I think that's where it stems from. You have respect for...you know, if the higher management has respect for all employees then you'll have the respect to, um, involve them in decision-making or at least communicate the information before any huge decisions are made. Even if they're going to do them anyways at least communicate with the staff and give them that respect that I think everyone deserves in a workplace.

The sense of growing resentment and lack of trust in an organization was confirmed by a recent independent inquiry into patient care at a hospital in the United

Kingdom that was managed by Mid Staffordshire NHS Foundation Trust (Francis, 2013). The executive summary referenced the presence of a poor culture of trust and cited attributes such as bullying, target-driven priorities, disengagement from management, low staff morale, isolation, lack of openness, acceptance of poor standards of conduct, and denial as non-conducive to the provision of good care for patients or supportive working environments for staff (Francis, 2013). Further, Cleary, Hunt, Walter and Robertson (2009) reinforced that negative cultures can be perpetuated with unprofessional interpersonal staff relationships, competitiveness, hostility, and offensive behaviour and in turn subsequent conflicting goals can undermine staff efforts resulting in tension, lack of respect, and blaming behaviour.

A focus group participant emphasized the link between a healthy work environment and good patient care by saying,

> The situation snowballs into extra sick time, people calling in sick because they just dread coming to work and then there's extra work for the people that are there. It just trickles down the line. But what I saw was, it created conflict between MRTs, between people, between frontline staff, between all of us because of the uncertainty.

The effects of disruptive behavior among health care providers have been shown to contribute to medical errors, preventable adverse outcomes, and staff and patient dissatisfaction (Rosenstein & O'Daniel, 2005). In nursing workplaces, the term incivility has been used to describe negative group cultures that have been linked to a number of negative organizational outcomes, including increased burnout, turnover intention, decreased job satisfaction and job commitment (Laschinger, Leiter, Day, & Gilin, 2009;

Smith, Andrusyszyn, and Laschinger, 2010; Laschinger, Wong, Cummings and Grau, 2014). Sheehan, McCarthy, Barker, & Henderson (2001) suggested, at the time of their publication, an estimated that $23.8 billion is spent annually in the United States by organizations to pay for costs associated with uncivil and violent workplace behaviors, such as absenteeism, turnover, lost productivity, and legal action.

The Institute of Medicine, in a report entitled “Keeping patients safe: Transforming the work environment of nurses” (2004) expressed the importance of a positive work environment for ensuring patient safety in hospital settings and suggested creating and sustaining trust throughout an organization was a critically important leader activity. In assessing a strategy for addressing nursing shortages, Laschinger (2005) reinforced the fundamental findings of Francis (2013) by surmising that an important strategy for increasing recruitment and retention of nurses will be to create work environments that manifest justice, trust and respect. One aspect of building trust and respect is through workplace engagement. In an article exploring workplace engagement by nurses, Tillot, Walsh and Moxham (2013) outlined that when nurses feel empowered they are most likely to be more accepting of workloads, maintain control over their working relationships, feel rewarded and treated fairly for their contributions and in turn they are more likely to be engaged in their work and less likely to experience burnout. This finding was confirmed in a study that examined the relationship between nurse leaders' empowerment behaviours, perceptions of staff empowerment, areas of work life and work engagement suggested that the Leader's empowering behaviours can enhance person-job fit and prevent burnout (Greco, Laschinger and Wong, 2006).

Laschinger et al (2009) also published a study that found nurses perceptions of empowerment, supervisor incivility and cynicism most strongly predicted reduced job satisfaction and commitment to their jobs. The same study also noted that emotional exhaustion and supervisor incivility significantly influenced nurse turnover intentions (Laschinger et al. 2009).

Where there was open communication and active engagement between the leaders and staff involved in the change event, the transition from “old” to “new” was always reported by participants as smoother. Having a clear consultation process and active staff engagement (even to a minimal extent), promoted an environment where staff felt acknowledged, valued and respected. Further, genuine consultation and staff engagement promoted enhanced willingness and motivation to be involved in the change and enhanced staff perception that impending changes would be positive, one way or the other. To illustrate this point, one participant said,

> You knew what was happening and I’m not going to say that there weren’t positions that were reassigned and there was change, sure it happened but it happened in a predictable, understandable way. You knew what was going to happen, you knew what was coming up.

In explaining feelings about a change transition during a hospital amalgamation, one participant expressed how their perceptions for how the changes were being implemented promoted support, engagement and embracement of the transition despite fears and uncertainty that moved the changes forward in a positive way:

> Initially, it was a huge shock, because not only were two hospitals being amalgamated that (staff) had no idea this was coming, they were actually in politically different boundaries. So, there was…even funding issues and everything that had to be sorted out — and I'll give them complete credit – they sorted that out within a year. They had a vision and they went for it and the organization is stronger, to this day, because they had a plan. While your initial input wasn't really sought after you never felt like you didn't have a voice. You always felt like, you know, you had really something that needed to be shared you could share it. You always felt like you were, while not directing the process, you certainly knew what the process was. You looked forward to coming into work and working on some of these things in terms of the changes that were going on around you and participating in that. Initially you're a little bit frightened and intimidated. You know, changes can always scare you and it just depends on how you embrace it. So the initial perception was: 'Well, I don't really know how this is going to go.'

These comments are supported by Sergeant and Laws-Chapman (2012) who suggested that Building emotional resilience could create healthier workplace cultures, reduce absenteeism, improve teamwork and raise morale. Sergeant and Laws-Chapman (2012) define emotional resilience as an individual's ability to adapt to adverse conditions while maintaining a sense of purpose, balance and positive mental and physical wellbeing. Henderson and Schoonbeek (2013) in discussing changing a negative group culture to a positive one among nurses validates Sergeant and Laws (2012) by suggesting that effective leadership is important to limit problems and that

leaders need to focus on high quality care provision rather than administrative targets and that where these characteristics are absent, staff do not feel a sense of purpose, are less likely to engage in work, and are more likely to provide essential rather than optimum care.

One participant expressed the perception of a strong sense of accomplishment and positive feelings about their involvement in a change situation that was built around the principles of engagement and involvement by the leadership.

> I feel privileged. I went along with my VP department to go to Chicago with the VP, with the treasurer, you know, with the finance department. Like because they are going to expand my breast imaging department so, I feel kind of like every decision I make, I have to think it twice, like you know, and that kind of thing.
>
> So, I'm the one setting up the department, choosing the machine with them, which mammo unit I thought was good. I went to Chicago with them looking at different technologist things. I've been helping setting up all the policy and the procedures. So…at the beginning, if you ask me to look back on it now, there's a very big sense of achievement for me — great sense of achievement in my work because I set up everything and it seems it works, now (being included in the change). My boss kind of depended on me as a big role. I can see that. So, I do feel really good. I was very proud of myself.

Where staff was consulted and subsequently knew what was happening regarding a change and what changes were coming, they could mentally prepare for the outcomes. For example, one participant said

> I feel like, you know, I guess Local management, like our leadership in oncology, physics and therapy — our more immediate leadership — I feel like they really did understand our position, they did listen to us…they did care about our input, but they didn't have any support further up to actually do anything to help.

The traits expressed by the participants based on their knowledge about the intended changes supported the ideas presented by Armenakis, Harris, and Mossholder, (1993) and Isabella (1990) who proposed that early on in a change process, when organizational members are first exposed to information about a pending change, they form beliefs about the change and how the change will affect them, whether the organization is capable of implementing the change, and if the change is compatible with their values. Participants suggested that even if the impending changes carried detriment, having an understanding for why the changes were occurring and what the plan was for the change reduced anxiety, and stress and allowed them time to commit, relative to being surprised after a period of built up resentment. One participant said,

> I'm not pointing the finger, necessarily at administration; there are some specific instances where, yeah, you know, it's clear they were wrong. They're trying to do the best they can with what they have as well. But, there really isn't a sense of working together. It's very much an 'us' and a 'them' and there's a lot of suspicion between the groups and, you know what, the fault with that does lie with the management.

Uncertainty concerning changes and subsequent actions led to a perception among front-line staff that they were being bullied by their leaders. This bullying resulted in fear, anger and a growing resentment for the organization and for its leaders. Participants in the study further these findings. For example, one said,

> The fact that people were ousted from their jobs has left people feeling very vulnerable. And in addition to that, their treatment if they go on any kind of sick leave beyond four days is also pretty devastating. So people are afraid to look after themselves and they're also afraid if they do go off and look after themselves they're afraid to come back to work. They're afraid if they're off and they're looking after themselves that they're going to lose their jobs or at the very minimum they're going to lose their pay.

Another participant also emphasized the sense of fear that can manifest when employees do not feel safe in the workplace. This participant noted,

> Everybody's very much in fear of being the next one (fear of being let go). You feel kind of worthless. We feel like we've been bullied and no getting around that…I know myself and one of the other part timers were scrambling…I'm taking a CT course, the other one is taking a mammography course just to…because we're both, you know, on the verge of turning 50 and it doesn't look good out there…50-year-olds trying to find more work. So, you know, boost up your resume.

As another participant reported this sense of fear begets more bullying saying,

> Huge, huge fear. Huge fear. Because of the fear, this is part of the reason why

> the bullying goes on. The anger and the frustration because you have no control, you have no say, you have nowhere to go because…like even though, as mad as I am at the manager, there's nowhere to go to above her head. I think somebody in the lab tried to go above her head about other reasons and they were told, "there's the door". I mean that's the only answer you get so you have nowhere to go, no recompense, no support.

The literature on bullying in the workplace confirms the cyclical nature of bullying. For example, in one study, Chipps (2013) assessed workplace bullying among perioperative staff working in operating rooms at two academic medical centers and confirmed more than one-third of the participants could be considered the targets of bullying, experiencing an average of 2.1 bullying acts on a weekly or daily basis. Bullying acts in the study included having his or her opinion ignored, being shouted at, having information that affects his or her performance with held, being humiliated, having rumors or gossip spread about him or her, being ordered to work below his or her level of competency, being ignored or excluded, facing hostility when approaching others, having insulting or offensive remarks made about him or her and having key areas of responsibility replaced with trivial or unpleasant tasks (Chipps, 2013).

One participant said, "I felt very helpless. It was a situation of just basically trying to get through the day safely, effectively and trying to, you know, meet patient needs and deliver high-quality care in the face of tremendous obstacles". This statement resembled normalizing of bullying, where a staff member becomes desensitized to the abuse over time and carries on despite the work conditions. Normalization of bullying acts occurs when bullying becomes acceptable behavior within a work group

(Hutchinson, Jackson, Wilkes and Vickers, 2008). Institutional cultures can normalize bullying by failing to adequately intervene when the problem has been identified (Ferris, 2004). Comments by participants in this study concerning bullying are confirmed by Chipps (2013) who suggested the consequences of bullying include distress, avoidance of work, which can make employees less visible and less engaged in the work environment, resulting in loss of productivity; and self-reported health effects, such as anxiety, depression, and interruptions to career paths.

There was discussion in the focus group concerning a disconnect between the varying levels of staff and management in these institutions and some efforts that were attempting to bridge the gap between senior leadership and front-line service staff. Two focus group participants discussed how their respective organizations tried to improve the disconnect between staff and the CEO level and engage leaders more with the patient care processes and with the front-line staff. As one participant commented, “It's a useful exercise for them (CEO) to know exactly what goes on in the hospital and the steps that a patient goes through”. To illustrate, one focus group participant told this story:

> I recall the CEO was travelling along the lines with a patient, through all the steps before this patient had a knee replacement. And actually came into a general x-ray room and waited behind the glass while the patient had x-rays taken and I thought that was great to see him go through all the steps. Where there's so many different steps for that patient to go through so I though that was a good thing (for the CEO to experience).

A disconnect between the varying levels of management and the perception that the senior leaders, and in some instances leadership at the department level, did not have an understanding of what was happening at ‘ground level’ resulted in the perception that leaders were making uninformed decisions that affect clinical areas significantly and subsequently patient care. Further, the perception expressed by focus group members was that leaders appeared to not have an understanding of the practice environment and that they were not consulting with the professionals that are working in these areas. This led into a new discussion about the qualifications of their direct leaders and how this may influence the effectiveness of communication and the level of engagement of senior leaders. It was implied that many facilities hire existing clinicians for leadership roles who have no formal leadership training or education. Conversely, some business professionals have also been hired for leadership roles. The business professionals have leadership education but lack health services experience and are out of touch with the profession and healthcare in general. It was suggested that if this was happening at the department director level, it was questioned if it was happening at the senior leadership levels and how leaders are selected. As an example, one focus group participant suggested,

> I think some management comes from, sort of, management training and they need to learn, a little bit about what's actually going on in the departments and what the different professions do but I also find that there's a lot of different leadership roles that are actually filled by clinicians. Like my manager was a radiation therapist working in the department before she became our manager. And, we have other roles (in the hospital) that are like that and often, they don't

> have any kind of management (leadership) background and training. They don't experience...anything (leadership experience) at least until they get into the role and then they might, you know, do some kind of training. But I wonder if that has an impact on it as well so you either have people that know that work but don't necessarily have the experience to lead.

There is very little to be found in the literature concerning qualifications of health services leaders in North America or abroad and performance shortcomings linked to these qualities. Further, data is inconsistent and spread across multiple business sectors, disciplines and cultures that have different needs based on their healthcare system and working demographics. At a more generic level, Messum, Wilkes and Jackson (2011) conducted a study on employability skills found in health services managers vacancy (various management levels) advertisements in Australia to assess what attributes organizations were looking for in their leaders. In their study, 100 health services management job advertisements were assessed and a total of 35 essential requirements (requested attributes) were identified. The most frequently listed skills were communication, prior experience, tertiary qualifications and knowledge of the healthcare system (Messum, Wilkes and Jackson, 2011). A report by The Department of Education, Science and Training (2002) in Australia cited the most commonly required employability skills are interpersonal and communication skills, academic qualifications, work experience, leadership, knowledge of industry, job commitment, attitude and team work. These findings are consistent with The Conference Board of Canada (n.d.) that also outlines general employability skills that persons need to enter, stay in, and progress in the work force. At a more distinct level, comparisons of cited

requirements by a selection of health management educational institutions in Australia, United States, United Kingdom and Canada found significant variation across the institutions assessed in each country however communication, leadership and knowledge of the healthcare system were cited as common to all, ironically, the Canadian data revealed leadership as its top requirement (Messum, Wilkes and Jackson, 2011). In terms of sustainability in an always-changing environment, Liang, Short and Brown (2006) suggested planning, evaluation and decision-making skills continue to be prevalent however other attributes such as leadership, change management, financial management and mentorship have become newer requirements. Scott (1995) at a more fundamental level suggested, although formal credentials and expertise may be a threshold leadership requirement, inter-personal qualities are more important. Conversely, Wells (2003) noted that job specific skills were necessary but not sufficient (on their own) for effective professional performance.

The literature appears to be consistent with the focus group participant's perceptions of their leaders in terms of their professional attributes, based on their skill sets and levels of education. The unilateral and highly decentralized nature of leadership education competencies and leadership needs of organizations appears to vary widely by geography and circumstances and the skill sets of leaders appears to be a mix of education, experience and inter-personal qualities that will vary based on the unique needs of each organization. How leaders were selected and on what basis cannot be determined here, however, the insight gained by the participants in this study may suggest further investigation in this area.

The focus group participants perceived there was not a solid criteria and

uncertainty for hiring leadership in the middle management category, such as department directors. One participant confirmed this by saying,

> The two places I've worked at it's the same thing: it's been a technologist that has just kind of fallen into the management role. It's not the case everywhere. Sometimes it could be...you can correct me...but more and more you can see somebody from the lab who will be the director for x-ray or and they were responsible for a number of clinical areas.

Another focus group participant added,

> I wonder if that's sort of a difference in whether the people that ultimately leading it are actually managers who may or may not know very much about the actual roles of the staff that they're managing. Or whether they're managers that are really you know front line that stepped into a management role and are learning as they go.

The group also discussed if the leaders, particularly middle management and directors they reported to, had any control over decisions that were being made or driven from the top. One focus group participant confirmed these feelings by saying,

> We'll have a team meeting and someone will have a great idea for you know changes that we could make and it almost always just gets lost in the shuffle because the person leading the meeting, sort of, says 'ya, that's a great idea' and maybe it ends up in the meeting minutes and it never goes anywhere because no one ends up taking ownership and the person running the meeting doesn't recognize that's the only way to make it, you know, move forward. And so it's

> gets very frustrating that you can't, you know, translate these ideas into actual action. It goes back to that idea that a lot of these kinds of middle managers don't have any real say either. So, they may or may not bring ideas further up the line but again they never seem to get anywhere which just leads people to say well, you know, 'why should I bother'?

Yih, Lee and Weiner (2012) confirm that middle management plays a vital role in facilitating successful change strategies by suggesting that middle managers influence healthcare innovation implementation by diffusing information, synthesizing information, mediating between strategy and day-to-day activities, and selling plans, from higher management levels to front-line staff. Middle managers may limit activities from progressing by speaking negatively about an intervention, withholding information and preventing the frontline staff from being engaged in the activities (Yih, Lee and Weiner, 2012). This philosophy is in-line with Senge's (1999) systems approach for successful implementation of change initiatives through the ongoing interaction of staff while sharing a common purpose, which in this context, occurs via the different levels of leadership through to the front line staff.

These findings help explain the role of middle managers and how they are a necessary component of organizational structure and leadership to help facilitate change interventions and how interventions may be derailed by not having an effective middle management structure in larger organizations. Different levels of management may exhibit different skill sets and require the skill sets of another level to help make informed decisions and build effective strategies prior to formalizing and implementing plans. As an example, senior level positions may not have any experience in a clinical

capacity and rely on middle managers for that insight.

In summary, overwhelmingly, participants indicated a strong desire to feel included in change events and the most significant attribute contributing to the perception of being included was communication. Participants expressed many meanings for “feeling included” in the change initiatives from being a part of the planning and implementation; being a part of a consultation process; to simply just being informed of a change plan and its implications before it happened. Many participants were not included in any of the decision-making, or consulted or informed regarding change processes or intentions for the proposed changes that were occurring at their facilities. In some cases participants felt that they were being informed and/or consulted about the changes after the decisions had already been made, making their contributions a formality and perceived as redundant.

Fundamentally people expressed the desire to feel acknowledged, respected and a part of something. Where these elements were evident, participants in this study were motivated, challenged and engaged in the change activities. Participants expressed a desire to see a forecast for a plan of action and have time to determine what that means for them. Participants described feelings of happiness, achievement, motivation to make a difference, increased work ethic, a desire to be at work and increased quality outcomes, despite added stress associated with the changes where acknowledgement and respect by the employer was evident.

Feeling disrespected led to a sense of fear, anger, disengagement, bullying, a growing resentment for the organization, and a lower overall job dissatisfaction. The participants who described a perceived lack of respect also described a direct

correlation to decreased job performance, increased absenteeism, poor staff morale and a potential negative effect on patient care and associated clinical outcomes.

It was perceived by the focus group participants that their leaders were out of touch with what was happening on the front line and did not have an understanding of the practice environment and as a result were making uninformed decisions for the organization at higher levels. There was also uncertainty expressed concerning the role of middle managers and their influence on decisions that were being driven from higher levels. The literature confirmed the most common professional attributes sought after in leaders and the critical role of middle managers to facilitate two-way communications between executive leaders and front-line staff.

Chapter VII: Conclusions

Going Full Circle

The exploratory nature of this study proposed a very open-ended approach for determining the perspectives of front-line MRTs involvement in major organizational changes. This study was the first of its kind involving MRTs and the descriptive data collected provided insight into the types of changes that were occurring, to what extent MRTs were involved in these changes, and the direct and indirect effects of organizational change on MRTs and their work environment.

Eight personal interviews and one focus group were completed and a total of 10 change experiences were described. Eight change experiences were described as organizational restructuring initiated at the macro level that evolved from hospital amalgamations, change of senior leadership, major renovations and change of mandate. There were two change experiences that were described as changes initiated at the micro level involving changes to department protocols and procedural practices based on a hospital renovation and new processes. Macro level changes described major organizational changes that were driven by the senior leadership team and related to global changes that affected the MRT practice environment in one way or another. Micro level changes were used to describe major organizational changes that were driven by the leadership team within the department itself.

The nature of the participants involvement in the planning and implementation of work related organizational change processes was varied and participant's perceptions of their roles in the change intervention varied significantly based on their perceptions of how the leaders communicated, engaged and respected them. These themes were consistent whether the perception of involvement in the change process was negative

or positive. Participants spoke about being presented with a plan before changes were carried out, being consulted with and provided with opportunities to provide their opinions, and being a part of the process of carrying out the approved changes. Expressed feelings (positive or negative) were directly linked to the experience of the transition involved in the change event and indirectly linked to the outcome of the change initiative. It was discovered that a perceived positive outcome for the change intervention could be linked to a positive or negative transition and a perceived negative outcome for the change intervention could be linked to a positive or negative transition. This was a significant finding because it tells us that a negative or positive perception for the change intervention can be independent of the outcome of the change intervention (good or bad).

A perceived smooth transition for the change intervention, based on a formalized plan, effective two way communication and engagement of staff, promoted positive feelings regardless of whether the change intervention caused personal detriment or not. Where these factors were absent, the feelings appeared to always be negative, however, these feelings were independent of the actual outcomes of the changes.

This study was remarkably consistent with the conceptual framework. Lewin (Cited in Gold, 1999) and Bridges (2009) proposed that there was a psychological process a person went through to accept or resist a change intervention relative to a previous routine and that successful change transitions required behavioural changes over a period of time through a natural psychological progression in those persons affected by the change event. Senge (2010) supported the ideas presented by Lewin and Bridges by suggesting that there needs to be a nurturing process over time (before,

during and after the changes) that embraces the concepts of engagement, intrinsic motivation, involvement and human interaction to support the evolution and sustainability of the changes, indirectly, in a dynamic environment. The Lewin, Bridges, and Senge change theories confirmed in this study why some change initiatives are successful and others are not. The concepts of intrinsic motivation and participant engagement had a profound impact on the change transition. Although, for the most part, from an organizational perspective, the change outcomes as intended inevitably did occur, at what cost to employees and to the organization?

Implications for the Future

Implications to the MRT practice environment were very well established by the participant's in this study. Absence or presence of a perception for the established themes of communication, engagement and respect felt by participants involved in the change process resulted in varying effects to the MRT practice environment. These included increased or decreased job satisfaction, staff retention, quality of work, morale, motivation, patient care, health outcomes to patients, stress, and success for the imposed changes. These effects could carry significant financial and professional risk to the organization long-term if they are not managed effectively. If leaders of an organization are aware of the psychological journey that each individual needs to go through before a change from an established routine is accepted, it can have a positive effect on how a change initiative is carried out and subsequently how the change is viewed by the affected individuals. Whether participants 'felt included' or 'not included' in their change initiatives had a major influence on whether or not they felt respected by their employers from a personal and professional perspective. Committing to a plan

where this psychological process is addressed could create a more positive environment that supports feelings of respect leading to feelings of empowerment and intrinsic motivation to be a part of, and accept, impending changes. Despite added stress associated with a significant change event - where a perceived acknowledgement and respect by the employer was evident, participants expressed feelings of happiness, achievement, motivation, increased work ethic, increased desire to be at work, and increased quality outcomes in their roles.

As healthcare organizations (particularly in the technology driven field of Medical Radiation Sciences) anticipate future trends, the concept of “change” will become an increasingly important influence on the maintenance of quality health services in times of limited resources. How change is managed will have an impact on quality, accessibility, efficiency and financial costs of health services delivery and sustainability of the healthcare system overall.

Findings from this study could lead to more focused research about how specific change transitions are managed and their effect on the MRT practice environment and healthcare resources; also, qualifications and perceived roles of leaders and how their leadership influences change and sustainability of change over time. Health outcomes of patients may be measured against various change initiatives to assess how they may differ as organizational changes are instituted, relative to a previous process. Studies could be launched to assess the direct and indirect financial costs to an organization and the public healthcare system based on the effects of organizational change at an institutional level.

Findings from these studies may lead to strategies for different ways of thinking about project planning and managing different change initiatives. Results may be generalizable to other populations experiencing similar change transitions and fiscal restraints.

References

Armenakis, A. A., Harris, S. G., & Mossholder, K. (1993). Creating organizational readiness for change. *Human Relations, 46*, 681-703.

Australian Chamber of Commerce and Industry and the Business Council of Australia. (2002). *Employability skills for the future.* Canberra, AUS: Department of Education, Science and Training.

Badea, L., & Pana, N. A. (2010). The role of empathy in developing the Leader's Emotional intelligence. *Theoretical and Applied Economics, 17*(2), 69-78.

Birken, S., Lee, D., & Weiner, B. (2012). Uncovering middle managers' role in healthcare innovation implementation. *Implementation Science, 7*(1), 28-39.

Bridges, W. (2009). *Managing transitions: Making the most of change* (3rd ed.). Cambridge, MA: Da Capo.

Cameron, K. S. (2008). Paradox in positive organizational change. *The Journal of Applied Behavioral Science, 44*(1), 7-24.

Canadian Association of Medical Radiation Technologists. (2006). CAMRT completes a supply and demand study of medical radiation technologists in Canada. *CAMRT News, 24*(4), 4.

Canadian Institute for Health Information. (2010). *Medical radiation technologists and their work environment.* Retrieved November 20, 2010, from http://secure.cihi.ca/cihiweb/products/MRT_Report_2010_final_EN_web.pdf

Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, Social Sciences and Humanities Research Council of Canada. (2010). *Tri-council policy statement: Ethical conduct for research involving humans.* Retrieved March 15, 2011, from http://www.pre.ethics.gc.ca/pdf/eng/tcps2/TCPS_2_FINAL_Web.pdf

Carolan, M. (2003). Reflexivity: A personal journey during data collection. *Nurse Researcher, 10*(3), 7.

Cleary, M., Hunt, G., Walter, G., & Robertson, M. (2009). Dealing with bullying in the workplace: Toward zero tolerance. *Journal of Psychosocial Nursing, 47*(12), 34-41.

Conference Board of Canada. (n.d.). Employability skills 2000+. Retrieved September, 6, 2014, from http://0-www.conferenceboard.ca.aupac.lib.athabascau.ca/Libraries/EDUC_PUBLIC/esp2000.sflb

Davies, D., & Dodd, J. (2002). Qualitative research and the question of rigor. *Qualitative Health Research, 12*(2), 279-280.

Dent, E. B., & Galloway-Goldberg, S. (1999). Challenging “Resistance to change”. *The Journal of Applied Behavioral Science, 35*(1), 25-41.

Denzin, N., & Lincoln, Y. S. (2005). *The sage handbook of qualitative research* (3rd ed.). Thousand Oaks, California: Sage.

Disch, J., Beilman, G., & Ingbar, D. (2001). Medical directors as partners in creating healthy work environments. *AACN Clinical Issues, 12*(3), 366-377.

Erwin, D. (2009). Changing organizational performance: Examining the change process. *Hospital Topics: Research and Perspectives on Healthcare, 87*(3), 28-40.

Ferris, P. (2004). A preliminary typology of organisational response to allega-tion of workplace bullying: See no evil, hear no evil, speak no evil. *British Journal of Guidance & Counselling, 32*(3), 389-395.

Francis, R. (2013). *Report of the mid staffordshire NHS foundation trust public inquiry executive summary.* London, UK: The Stationary Office.

Gold, M. (1999). *The complete social scientist: A Kurt Lewin reader*. Washington DC: American Psychological Association.

Goodwin, D., Pope, C., Mort, M., & Smith, A. (2003). Ethics and ethnography: An experiential account. *Qualitative Health Research, 13*(4), 567-577.

Greco, P., Laschinger, H., & Wong, C. (2006). Leader empowering behaviours, staff nurse empowerment and work engagement/burnout. *Canadian Journal of Nursing Leadership, 19*(4), 41-56.

Guba, E. G., & Lincoln, Y. S. (1981). *Effective evaluation: Improving the usefulness of evaluation results through responsive and naturalistic approaches*. San Francisco, CA: Jossey-Bass.

Henderson, A., Schoonbeek, S., & Auditore, A. (2013). Processes to engage and motivate staff. *Nursing Management, 20*(8), 18-25.

Hornung, S., & Rousseau, D. M. (2007). Active on the job--proactive in change: How autonomy at work contributes to employee support for organizational change. *Journal of Applied Behavioral Science, 43*(4), 401-426.

Human Resources and Social Development Canada. (2007). *Current and future labor market shortages in Canada.* Retrieved October 10, 2010, from http://www.hrsdc.gc.ca/en/publications_resources/research/categories/labour_market_e/sp_615_10_06/LA06-Shortages-29Jan07.pdf

Hutchinson, M., Jackson, D., Wilkes, L., & Vickers, M. H. (2008). A new model of bullying in the nursing workplace. *Advances in Nursing Science, 31*(2), 60-71.

Isabella, L. (1990). Evolving interpretations as change unfold: How managers construe key events. *Academy of Management Journal, 33*, 7-41.

Isern, J., & Pung, C. (2007). Harnessing energy to drive organizational change. *McKinsey Quarterly, 1*, 1-4.

Kotter, J. (1995). Leading change: Why transformation efforts fail. *Harvard Business Review, 73*(2), 59-67.

Kuokkanen, L., Suominen, T., Harkonen, E., Kukkurainen, M. L., & Doran, D. (2009). Effects of organizational change on work-related empowerment, employee satisfaction, and motivation. *Nurse Admin Q, 33*(2), 116-124.

Larkin, P. J., Dierckx de Casterle, B., & Schotsmans, P. (2008). A relational ethical dialogue with research committees. *Nursing Ethics, 15*(2), 234.

Laschinger, H., Leiter, M., Day, A., & Gilin, D. (2009). Workplace empowerment, incivility and burnout: Impact on staff nurse recruitment and retention outcomes. *Journal of Nursing Management, 17*(3), 302-311.

Laschinger, H., Wong, C., Cummings, G., & Grau, A. (2014). Resonant leadership and workplace empowerment: The value of positive organizational cultures in reducing workplace incivility. 2014, 32(1) 5-15. *Nursing Economics, 32*(1), 5-15.

Leedy, P., & Ormrod, J. (2005). *Practical research: Planning and design* (8th ed.). Upper Saddle River, NJ: Pearson.

Liang, Z., Short, S. D., & Brown, C. R. (2006). Senior health managers in the new era: Changing roles and competencies in the 1990s and the early 21st century. *The Journal of Health Administration Education, 23*(3), 281 -301.

Lines, R. (2005). The structure and function of attitudes toward organizational change. *Human Resource Development Review, 4*(1), 8-32.

Messum, D., Wilkes, L., & Jackson, D. (2011). Employability skills: Essential requirements in health manager vacancy advertisements. *Asia Pacific Journal of Health Management, 6*(2), 22-28.

Musselwhite, C., & Jones, R. (2010). *Dangerous opportunity: Making change work* (2nd ed.). USA: Chris Musselwhite.

Pellatt, G. (2003). Ethnography and reflexivity: Emotions and feelings in fieldwork. *Nurse Researcher, 10*(3), 31.

Polgar, S., & Thomas, S. (2000). *Introduction to research in the health sciences* (4th ed.). London, UK: Harcourt.

Pope, C., & Mays, N. (2006). *Qualitative research in health care* (3rd ed.). Malden, MA: Blackwell.

Reeves, S., & Lewin, S. (2004). Interprofessional collaboration in the hospital: Strategies and meanings. *Journal of Health Services Research & Policy, 9*(4), 218.

Rice, P. L., & Ezzy, D. (1999). *Qualitative research methods: A health focus*. Melbourne: Oxford University Press.

Richards, L., & Morse, J. M. (2007). *Readme first for a user's guide to qualitative methods* (2nd ed.). Thousand Oaks, CA: Sage.

Rosenstein, A. H., & O'Daniel, M. (2005). Disruptive behavior and clinical outcomes: Perceptions of nurses and physicians. *American Journal of Nursing, 105*(1), 54-64.

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health, 23*, 334-340.

Saumure, K., & Given, L. (2008). Data saturation. [Encyclopedia of Qualitative Research Methods] (pp. 195-196). Thousand Oaks, CA: Sage Publications.

Schein, E. (2004). *Organizational culture and leadership* (3rd ed.). San Francisco, CA: Jossey-Bass.

Scott, P. (1995). *The meanings of mass higher education*. Buckingham, UK: Open University Press and Society for Research into Higher Education.

Senge, P. (2010). *The fifth discipline: The art and practice of the learning organization.* New York, NY: Doubleday.

Senge, P., Kleiner, A., Roberts, C., Ross, R., Roth, G., & Smith, B. (1999). *The dance of change: A fifth discipline field book for mastering the challenges of learning organizations*. New York, NY: Doubleday.

Senge, P., Kleiner, A., Roberts, C., Ross, R., & Smith, B. (1994). *The fifth discipline field book, strategies and tools for building a learning organization*. New York, NY: Doubleday.

Sergeant, J., & Laws-Chapman, C. (2012). Creating a positive workplace culture. *Nursing Management, 18*(9), 14-19.

Sheehan, M., McCarthy, P., Barker, M., & Henderson, M. (2001). A model for assessing the impacts and costs of workplace bullying. *Standing Conference on Organizational Symbolism,* Dublin, Ireland.

Shrivers-Blackwell, S. L. (2004). Using role theory to examine determinants transformational and transactional leader behavior *Journal of Leadership and Organizational Studies, 10*(3), 41.

Smith, L., Andrusyszyn, M., & Laschinger, H. (2010). Effects of workplace incivility and empowerment on newly graduated nurses' organizational commitment. *Journal of Nursing Management, 18*(8), 1004-1015.

Sproat, S. B. (2001). Using organizational artifacts to influence change. *Journal of Nursing Administration, 31*, 524-526.

Taylor-Bianco, A., & Schermerhorn, J. J. (2006). Self-regulation, strategic leadership and paradox in organizational change. *Journal of Organizational Change Management, 19*(4), 457.

Tillott, S., Walsh, K., & Moxham, L. (2013). Encouraging engagement at work to improve retention. *Nursing Management, 19*(10), 27-31.

Trochim, W. M. K., & Donnelly, J. P. (2007). *The research methods knowledge base* (3rd ed.). Mason, OH: Thomson.

Trofino, J. (1997). The courage to change: Reshaping health care delivery. *Nursing Management, 28*(11), 50.

Verhaeghe, R., Vlerick, P., Gemmel, P., Van Maele, G., & DeBacker, G. (2006). Impact of recurrent changes in the work environment on nurses' psychological well-being and sickness absence. *Journal of Advanced Nursing, 56*(6), 646-656.

Wells, P. (2003). Accounting education: Have we heeded the calls for reform in NZ. *The 2003 AFAANZ Conference,* Auckland, New Zealand.

Wong, C., & Laschinger, H. (2013). Authentic leadership, performance, and job satisfaction: The mediating role of empowerment. *Journal of Advanced Nursing, 69*(4), 947-959.

Appendix A

Study Information and Consent Form

Dear Participant:

You have been selected along with several others to participate in a study to investigate how MRTs are involved in organizational change processes in acute care hospitals or Cancer Centers.

As a Medical Radiation Technologist (Radiological Technology, Nuclear Medicine or Magnetic Resonance) or Radiation Therapist, you have indicated that you have been a part of a major change process at your place of employment at one time or another during your career. The goal of this study is to obtain a better understanding about where significant change in the MRT environment is occurring, what that experience is/was like and how it affected the practice environment from the perspective of front-line practitioners. This data may provide insight into how and to what extent your involvement was before, during and after a change process, and how it affected you (professionally and personally). Findings from this study could provide evidence to support further investigation into effective leadership and change management strategies that impact areas such as resource utilization, staff retention, job satisfaction and quality of care.

Should you accept this consent to participate, you will be personally interviewed (one on one) and asked several open-ended questions pertaining to your experience involving an organizational change process that you have been a part of (or not). The interview may be face to face or by telephone and will be audio recorded for analysis; this activity will require 30 – 60 minutes of your time.

You may also be asked to participate in a focus group. This activity will consist of a small group of MRTs (who were also personally interviewed), participating in a face to face facilitated group discussion. The group will be asked several open-ended questions about their experience and encouraged to engage in any discussion that may arise. This activity will require 60 – 90 minutes of your time and your dialogue will be recorded for analysis in the study.

All discussion and individual responses will be kept completely confidential; participant names and organizations will not be used or identified in the study at any time. Any identifiers associated with the study will be identified by a code assigned by the Investigator and all identifying information included in these documents will be treated confidentially. Your participation in the personal interview or focus group is strictly voluntary and can be withdrawn at any time without consequence.

There will be no external costs incurred by the participants in this study. Expenses related to travel and meals associated with participation in the focus group will be reimbursed. Interview and focus group activities will be scheduled at mutually agreed upon times and in most cases, your schedule will be accommodated.

Please respond to this email to either accept or decline this invitation to be a participant in the study. Please be advised that by responding to this email, and indicating your acceptance to participate, you are acknowledging and consenting that you understand the nature of the study, will participate in 1 personal interview; 1 focus group and have the right at any point to withdraw your participation without prejudice. Should you decide to withdraw your participation at any time; data pertaining to your involvement in the study will be removed and destroyed.

If you accept this invitation, you are also required to complete the attached demographic information form. This form may be completed electronically and returned with your response of consent to participate in the study; or printed, completed by hand and submitted to the Investigator at the time of your personal interview.

If you have any questions or concerns, please contact me directly.

This study has been reviewed by the Athabasca University Research Ethics Board. Should you have any comments or concerns regarding your treatment as a participant in this study, please contact the Office of Research Ethics at 780-675-6718 or by e-mail to rebsec@athabascau.ca

Greg Toffner, Investigator

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Appendix B

Email for Recruitment of Participants

Invitation to Participate in a Research Study

Dear OAMRT Members:

Have you ever been part of a major organizational change at your place of employment now or in the past? Did this change affect you personally or your practice environment? If you answered “yes” to these questions then I want to hear about your experience! Some examples may be that new processes were introduced to your department based on the introduction of new technology or perhaps changes were introduced based on an organizational restructuring or amalgamation.

If you are interested in participating in a research study about how MRTs are involved in organizational change processes (or not) and the effect it has on the practice environment; meet the following criteria; and have a unique experience to share, please respond to this email. All information will be kept completely confidential. Those selected to participate in the study will be asked to participate in one personal interview and potentially one face to face focus group. You will be compensated for any travel and related expenses.

Do you meet the following criteria?

- I work as a full time clinical Medical Radiation Technologist (in one or more of the disciplines of Radiological Technology, Nuclear Medicine, Magnetic Resonance) or Radiation Therapy at an Acute Care Hospital or a Cancer Center in Ontario
- I have been a full time employee for one year or more

- I am a full practice member of the College of Medical Radiation Technologists and the Ontario Association of Medical Radiation Technologists
- I have been a part of a major organizational change at my past or current place of employment (either directly or indirectly) within the last 5 years
- I work in a front-line, clinical capacity at my place of employment
- I have an interest in this study
- I am willing to participate in one personal interview and one focus group

If you answered yes to ALL of the above criteria and are interested in participating in the study, please email me at orgchanges@gmail.com. Include in the email a brief description of your experience with an organizational change that occurred at your place of work.

I would like to extend my thanks to everyone who responded with an interest in the study. Please be advised that only those individuals who are selected to participate in the study will be contacted.

Thank-you for your time and consideration,

Greg Toffner, Investigator

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Appendix C

Demographic Questionnaire

Dear Participant:

Thank-you for agreeing to participate in the study “Perspectives of Medical Radiation Technologists Regarding Involvement in Planning and Execution of Work-Related Organizational Changes”. As agreed to in the “Study Information and Consent Form”, I require the following demographic information from you prior to proceeding with personal interviews. This information will be kept in confidence.

Please fill in ALL of the following fields and return as an attachment to the email of consent or print and submit a completed copy to the Investigator at the time of your personal interview.

Last name:	First name:
Sex: M F (bold or highlight)	Date of birth:
Address:	
Current area of practice and specialty:	
Length of time in your current position:	
Number of years practicing as a certified Medical Radiation Technologist:	
I am a full time employee: YES NO (bold or highlight)	
Your normal hours of work (Days, Nights, Evenings, Weekends, 8 or 12 hour shifts)	
Average number of hours worked per week:	

Thank-you,

Greg Toffner, Investigator

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Appendix D

Personal Interview Questions

Lead In statement:

You have indicated that you have been involved in a major organizational change process (refer to expression of interest and recap the participant's story)

Questions:

1. What was your role in planning of this change?

2. What was your role before during and after implementation of the change?

3. You suggested your level of involvement before, during and after implementation of the change, how did this make you feel?

4. Did you feel supported by your organizational leadership during the change initiative? Were you included in the planning and decision making in any way?

5. From your perspective, do you believe the outcome of the imposed changes were successful?

6. How do you believe the changes affected yourself and your MRT co-workers professionally and personally?

   Identifiers to look for:
   i. Were the changes successfully implemented?
   ii. Was job satisfaction, intrinsic motivation, stress levels, staff morale or job performance affected?
   iii. Was there any associated job attrition that could be attributed to the transition accompanying the intended change process?

These questions are subject to change at any time.

Appendix E

Focus Group Questions

Focus group questions will be derived from the major themes collected through the data analysis of the personal interviews. They will be used to generate open discussion among the group.

Possible Questions:

1. Do you think MRTs feel like they are included in major organizational decisions?
2. Do you think MRTs feel motivated and exhibit a desire to be a part of changes
3. Do you think MRTs have any influence over decisions that are made?
4. What role do you believe health professionals such as MRTs should play in the planning and implementation of a major change process?
5. What do you believe the role of the organizational leadership should be through a major change initiative?
6. From your perspective, how do you think proposed change initiatives can be achieved most effectively in your practice environment?

These questions are subject to change at any time.

Appendix F

Transcriptionist Confidentiality Agreement

Perspectives of Medical Radiation Technologists Regarding Involvement in Planning and Execution of Work-Related Organizational Changes

As the transcriptionist for the study 'Perspectives of Medical Radiation Technologists regarding their involvement in Planning and Execution of Work-Related Organizational Changes', I understand that I will be transcribing digitally recorded, confidential interview data. I understand that all possible precautions have been taken to protect the identity of the research participants; agree to keep all information strictly confidential; not to discuss information from the recordings with anyone other than the investigator; and to delete all recordings and transcriptions when asked to do so by the investigator.

By responding to this form electronically to Greg Toffner at profservices@oamrt.on.ca, I am confirming that I understand and in compliance with this agreement.

Appendix G

Research Ethics Board Approval Letter

MEMORANDUM

Athabasca University
Canada's Open University

DATE: July 21, 2011

TO: Greg Toffner

COPY: Dr. Beverley Getzlaf, (Supervisor) Assistant Professor,
Centre for Nursing and Health Studies
Janice Green, Secretary, Athabasca University Research Ethics Board
Dr. Simon Nuttgens, Chair, Athabasca University Research Ethics Board

FROM: Dr. Sherri Melrose, Chair, CNHS Research Ethics Review Committee

SUBJECT: **Ethics Proposal #CNHS_11_01_Toffner_G:** "Perspectives of Medical Radiation Technologists Regarding Involvement in Planning and Execution of Work-Related Organizational Change: An Exploratory Descriptive Study"

The Centre for Nursing & Health Studies (CNHS) Research Ethics Review Committee, acting under authority of the Athabasca University Research Ethics Board to provide an expedited process of review for minimal risk student researcher projects, has reviewed the above-noted proposal and supporting documentation.

I am pleased to advise that this project has been awarded interim **APPROVAL TO PROCEED**. **You may begin your research immediately.**

This approval of your application will be reported to the Athabasca University Research Ethics Board (REB) at their next monthly meeting. The REB retains the right to request further information, or to revoke the interim approval, at any time.

As implementation of the proposal progresses, if you need to make any significant changes or modifications, please forward this information immediately to the Centre for Nursing & Health Studies Research Ethics Review Committee via cnhsreb@athabascau.ca for further review.

If you have any questions, please do not hesitate to contact cnhsreb@athabascau.ca.

Centre for Nursing & Health Studies Research Ethics Review Committee
(A Sub-Committee of the Athabasca University Research Ethics Board)
1 University Drive, Athabasca, AB, Canada T9S 3A3
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