Paramedics in the Emergency Department

By

GLEN PERCHIE

A thesis submitted in partial fulfillment of
the requirements for the degree of

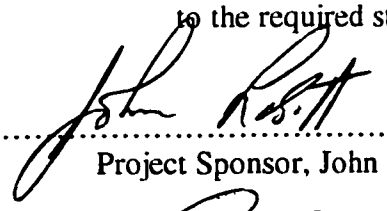
MASTER OF ARTS

In

LEADERSHIP AND TRAINING

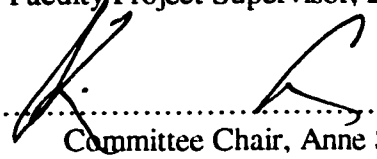
We accept this thesis as conforming

to the required standard



Project Sponsor, John Labatt, MSW

Faculty Project Supervisor, Elizabeth Cull, MA



Committee Chair, Anne Schultz M.Ed.

ROYAL ROADS UNIVERSITY
March 2003

Acknowledgements

To my wife Jennifer, who selflessly supported me to fulfill a dream and lovingly gave of herself to be all things to our children in my absence.

To Jessica, Rachael and Sarah who missed out on playing with Dad for two years without once complaining.

To the paramedics at Regina EMS who endured the longest health care strike in Saskatchewan history while I was completing this thesis. Their commitment to professionalism and patient safety during this trying time anchored my belief that paramedics will play a larger role in Canadian health care in the future.

To the physicians, nurses and paramedics at the Royal University Hospital emergency department and MD Ambulance, in Saskatoon. Their courage to think differently and work collaboratively is the inspiration for this research.

Finally, to my MALT classmates for teaching me the value of community. "Imagine, a community of Passioneers on a journey to being" (MALT 2001-1A, 2001).

Thank you

TABLE OF CONTENTS

CHAPTER ONE - STUDY BACKGROUND

Introduction

In many jurisdictions all over North America, paramedics have been successfully integrated into the emergency department (ED) of hospitals. In a report entitled: *EMT/Paramedics Working in the Emergency Department Survey* (Syndics Research Corporation, 1999), the researchers found that approximately twenty percent of US hospitals employed emergency medical technicians (EMTs) and/or paramedics in the emergency department. There are also hospitals in Canada, such as Saskatoon's Royal University Hospital and Medicine Hat's Regional Hospital, where paramedics are employed in the emergency department. The roles of these paramedics vary in scope from performing triage functions to practicing a full scope of Advanced Life Support, including administration of medications, advanced airway procedures and trauma care.

Paramedics are rich in clinical skills and knowledge and have proven themselves adaptable in many diverse environments. In the fall of 2000, the former Regina Health District's Home Care program was facing increased demands in the community and was having difficulty in meeting these demands, partially because of the nurse shortage. A proposal was developed in which paramedics would respond to Home Care clients' unscheduled requests for interventions at night, thus freeing up nursing staff to respond to the increased demand for scheduled care. The majority of unscheduled interventions tend to be mobility assistance, urinary catheter care and dressing changes. Paramedics have been responding to these requests free of charge for approximately two years now, with

great success and personal reports of patient satisfaction. Given the demonstrated adaptability of paramedics, it would seem that placing paramedics within the emergency department setting may offer an opportunity for them to add value to the health system by practicing their clinical skills and being an additional resource in providing patient care.

The Problem/Opportunity

The Regina Qu'Appelle Health Region continues to face challenges in ensuring adequate resources (human and financial) to meet the continuing needs of its clients. It is well recognized that Saskatchewan is experiencing a shortage of nurses and physicians (Boyd, Baxter, and Clippert, 2000; Saskatchewan Union of Nurses, 2001). In addition to nurse and physician shortages, the region is having difficulties retaining experienced paramedics. Paramedics find opportunities in other professions such as fire and police with higher pay and less back strain, as well as other Emergency Medical Services (EMS) organizations where they can participate in specialized clinical or rescue teams (Perchie, unpublished staffing survey, 2002).

Opportunities to utilize existing clinical health-practitioners in non-traditional roles and on multidisciplinary teams must be explored if health organizations are to be ensured long-term sustainability. Not only might this help to address specific shortages, but it may also be a key factor in increasing the work satisfaction and clinical expertise of clinicians.

Within the Regina Qu'Appelle Health Region, the question has been asked at different times, by different stakeholders, "Why don't we try placing paramedics in the emergency department to offset some of the workload?" Although this may well be a valid question, we have not really inquired as to how this could be accomplished without causing an all-out turf war between paramedics and nurses.

Healthcare has gone through many changes over the past ten years; some successful, some damaging. With any luck, we have learned from our mistakes that successful change requires encouraging the voices of the stakeholders to be heard. Yukl (2002) recommends building a broad coalition of support and allowing work units to implement change consistent with their application of the vision. In other words, the paramedics, nurses and physicians must be given the opportunity of sharing their opinions and concerns. The objective of this proposal was to learn, through a participative action-research process, from the collective voice of front-line paramedics, nurses and physicians at the Royal University Hospital (RUH) in the Saskatoon Health Region, who are today working in an emergency department employing paramedics. The purpose was to clarify some of the major challenges they have experienced and to learn if and how they have overcome them, by asking the question:

Can Paramedics complement the work of nurses and physicians within the Emergency Department setting?

Inherent to the question are the following sub-questions:

- What is the role of the paramedic within the emergency department at RUH?

At the RUH, what challenges were faced in establishing this practice and how were they overcome?

- How do the nurses and physicians at RUH view the concept of paramedics practicing in the emergency department?
- How does the paramedic's skill set and scope of practice provide value to the emergency department?

By examining what works and why at RUH, the goal was to develop recommendations for consideration by the Regina Qu'Appelle Health Region.

The Organization

The Regina Qu'Appelle Health Region is a newly formed Regional Health Authority, which came into being upon the proclamation of *The Regional Health Services Act* on August 1, 2002 (Regina Qu'Appelle Health Region, 2002a). The health authority (region) is an amalgamation of three former health districts: Regina, Touchwood-Qu'Appelle and Pipestone. It encompasses 26,663 square kilometers. This represents 4.10 percent of the total provincial land area (R. Derrick, Executive Director, Public Affairs, Regina Qu'Appelle Health Region, personal correspondence, January 6, 2003) and covers a population base of approximately 245,000 (Regina Qu'Appelle Health Region, 2002b). Since the formation of this new health region, a new organizational structure has seen the development of program areas (see Appendix A for Organizational Structure).

The health region utilizes an integrated care approach whereby services are not separated by geographical site, rather by program area. An example is the EMS, ER and Ambulatory Care program area. Although these programs are very diverse in nature and are offered at multiple sites, they all come under the direction of one Executive Director. Each has a distinct structure and role in the region, but they must work collaboratively to provide a seamless continuum of care.

The emergency departments of the two largest hospitals in the region, the Regina General Hospital and Pasqua Hospital, employ approximately 185 staff, including: physicians, registered nurses (RN), licensed practical nurses (LPN) and porters (Helen Grimm, ED Manager, Pasqua Hospital; Lois van der Velden, ED manager, Regina General Hospital, personal correspondence, March 2003). Combined, they see nearly 86,500 patients annually (Regina Health District, 2002). Both hospitals are designated tertiary care centres for southern Saskatchewan. The Regina General's emergency department is also the designated trauma centre and is the larger of the two departments.

The region directly operates Regina Emergency Medical Services, as opposed to the more common urban EMS model in Canada, whereby EMS systems are either municipal entities similar to police and fire departments or are corporations unto themselves. This program employs approximately ninety staff, including Emergency Medical Technicians (EMT), Advanced Emergency Medical Technicians (EMT-A), Paramedics (EMT-P) and Emergency Medical Dispatchers (EMD). The program

responds to approximately 16,400 calls for service annually (Regina Health District Emergency Medical Services, 2001).

The Ambulatory Care program operates out of the Regina General and Pasqua hospitals and covers such services as the eye centre, the Multiple Sclerosis (MS) Clinic, minor surgical procedures, wound care, and other outpatient services. This program employs approximately 35 staff and sees approximately 34,000 patients annually (Bernie Webster, manager Ambulatory care, personal correspondence, February 2003). Often, patients who arrive in the emergency department who do not require emergent care are appropriately diverted to Ambulatory Care.

The Regina Qu'Appelle Health Region covers all health services within its boundaries with the exception of private, non-affiliated healthcare organizations. The annual operating budget for the region is approximately $460 million (Regina Qu'Appelle Health Region, 2002b). The program area noted above is but a small portion of the region, however, this is the primary setting for the research. This brief description serves as a backdrop in which to situate the dynamics explored in later chapters.

CHAPTER TWO – LITERATURE REVIEW

Review of Organizational Documents

It is imperative that we begin to look at alternate models for delivery of care to patients. The Saskatchewan 2002-03 budget paper titled: *Meeting the Challenge for Saskatchewan People* (Saskatchewan Finance, 2002) clearly describes escalating health-care costs. It describes health-care spending as having increased by fifty percent since 1995-96, to 2.3 billion dollars or 41percent of all government program spending in the province. Despite the increase in government spending, the Regina Health District still faced a budgeted deficit of approximately twenty-nine million dollars in 1999-2000 (Regina Health District, 2001).

The Regina Qu'Appelle Health Region is facing an increasing challenge in recruiting and retaining health professionals. In their document entitled *Review of the Regina Health District*, Boyd, Baxter, and Clippert (2000) had the following to say:

> There is every indication that shortages in nursing and, indeed a number of health professional groups, will not ease in the next few years, but may even worsen. It is well recognized that Saskatchewan, (and more specifically, Regina and southern Saskatchewan) is particularly vulnerable within the national context (p. 21).

The Saskatchewan Union of Nurses (SUN) echoes this observation. They believe recruitment efforts across the province are less than successful (Saskatchewan Union of Nurses, 2001). In November 2001, SUN publicly stated that Saskatchewan was realizing a net loss of approximately forty-five nurses, monthly (ibid).

Physician shortages are another area of concern for the district. Bert Boyd et al. (2000) further recommended that the Regina Health District "Recognize that the current competitive environment, coupled with projected shortages of physicians in a number of specialties strongly suggests that the existing difficulties in recruiting and retaining physicians will be exacerbated in future years" (p.25). In a submission to the Saskatchewan Commission on Medicare (Fyke Commission), the Saskatchewan Medical Association (2001) observed that 54% of Saskatchewan's physicians are foreign-trained, leading to high turnover. They also state that Saskatchewan's physicians have the oldest average age of all the provinces, leading to shortages expected in this province before other provinces suffer the same fate. Although data from the Canadian Institute of Health Information does not support Saskatchewan physicians as being the oldest on average, in comparison with other provinces, it certainly agrees that Saskatchewan's physicians are on average, older than the Canadian mean. According to the Southam Medical Database, Canadian Institute for Health Information (2000), the average age of family medicine and specialist physicians combined in Canada is 47.5 years. The average age of Saskatchewan family medicine and specialist physicians is 47.9 years.

This shortage of health professionals is one of a number of contributing factors affecting the district's ability to handle increases in demand for health services. Bed closures are common, waiting-lists for surgery are growing and the system often becomes backlogged. The net result is overfilled Emergency Rooms and increased demands on community programs, as patients require increased levels of intervention and care outside the hospital setting (Duffy, 1999).

Review of Supporting Literature

Fundamental to this research are two key areas for investigation. The first key area relates to exploring published literature on organizations employing paramedics in the emergency department. This is an opportunity to see if there are any successful models or examples of best practices from which to draw new ideas. This was further investigated by reviewing what physicians, paramedics and nurses have to say about this topic. The second key area for investigation involves change and change models. Introducing paramedics into the emergency department would involve a change of roles, responsibilities and culture. By discovering what others have learned about change, new opportunities for success may become clear.

Dynamics and perspectives among paramedics, nurses and physicians in emergency departments employing paramedics

The concept of employing paramedics within the emergency department setting is not new. The literature reveals that paramedics have been working in emergency departments for over twenty years. Models exist which appear to be successful and sustainable. The scopes of practice vary from little more than an orderly, to an expanded scope of practice, including administration of medications, even suturing (Garza, 1990).

Providence Hospital in Southfield, a suburb of Detroit, has employed paramedics since 1980, (Minton, 1997). Gary Terreault, one of the first paramedics employed at Providence Hospital, explains that paramedics were initially hired to provide radio communication between paramedics in the field and emergency department staff (Minton, 1997). Over time, the paramedics utilized a limited scope of their skills to help out during heavy patient loads. Once the paramedics had proven their ability to function safely and effectively in the ED, nurses began asking for them to help deliver patient care. Their role has evolved to the level of providing what would be considered a full scope of practice for paramedics including initiating intravenous therapy, interpreting 12-lead electrocardiograms and administering narcotics and other medications. "Each team, handling up to ten patients at a time, comprises two nurses or a nurse and paramedic, and both team members perform all tasks necessary to stabilize and treat patients" (Minton, 1997, p.74).

Egleston Children's Hospital in Atlanta is another example of innovative use of paramedics to increase care to their patients. In the face of budget restraints and difficulty in recruiting nurses, the ED manager looked to paramedics in an effort to offset the workload. According to Robin Daily, RN, (American Health Consultants, 1995), the paramedics employed at Egleston have a scope of practice limited to the technical aspects of patient care (initiating intravenous therapy, administering a defined range of medications, immobilizing injuries, drawing blood, etc.), but they are also utilized to fill gaps when nurses call in sick and cannot be replaced by other nurses. Prior to starting in the ED, new paramedic hires must be certified in Pediatric Advanced Life Support and complete a week-long, competency-based orientation. Once in the ED, paramedics work under a nurse preceptor for six weeks. They participate in specialized pediatric continuing-education, including such areas as pediatric oncology, diabetes, meningitis and other specialty subjects outside the usual scope of paramedic training. At Egleston, paramedics are supervised by a registered nurse and are assigned to specific rooms. In speaking of the initiation of paramedics within this pediatric hospital, Michelle Myers, clinical nurse manager, has the following to say, "The first day, it was like, 'Oh my God, they're here.' Now [we] can't live without them" (American Health Consultants, 1995, p. 129).

In reviewing articles from nursing and EMS journals, one finds a plethora of opinions regarding the concept of paramedics functioning within the emergency department. These opinions vary widely from advocacy to absolute condemnation. The most polarized responses appear to come from the nursing and EMS professions. The

following is a glimpse of what can be found from the perspectives of physicians, paramedics and nurses:

- *Physicians:*

At this point, there appears to be no official position statement from physician associations specifically regarding paramedics working and functioning within the emergency department. The American College of Emergency Physicians (ACEP) is aware of the issue and has conducted a survey of hospitals employing paramedics within the emergency department (Syndics Research Corporation, 1999). This survey estimates that approximately 20% of US hospitals employ paramedics. The survey neither supports nor opposes paramedics functioning within the emergency department. The ACEP does support expanded roles for paramedics (ACEP, 1997) within specific guidelines; however, they are careful to ensure the support of all parties. "Attempts to expand the scope of paramedic practice without the support of all involved parties and adequate medical oversight are not in the best interest of good patient care" (ACEP, 1997, ¶ 1 subsection 7).

Dr. Peter Gianas, M.D. has worked in an emergency department with paramedics and favours working with them (Lewis, 1999). He believes they are well trained for the emergency department setting. This, combined with the experience in dealing with emergency situations in difficult settings, makes them an asset to the emergency department. At San Gabriel Medical Centre in California, Dr. W. Richard Bakuta, M.D., director of emergency medicine, sees value in having paramedics work in the emergency

department in between responding to calls (Page, 2000). He believes that they could be productive while improving their skills through the practical experience.

At Providence Hospital in Southfield, Dr. Robert E. Suter, DO, MHA, is the medical director of the department of emergency medicine. He believes the combination of paramedic and nursing skills enhances patient care (Minton, 1997). He describes paramedics as having the ability to assess situations fast and apply effective care using ingenuity and creativity, but he describes nurses as having "stronger backgrounds in the health sciences, diagnosis, pharmacology, people issues and long-term effects of care" (Minton, 1997, p. 74). He states that the question of whether or not paramedics can work within the emergency department is not about knowledge and skills, rather, local politics.

- *Paramedics:*

The National Registry of Emergency Medical Technicians in the United States has not published an official position statement regarding paramedics working in the emergency department; however, in a 2000 interview, then executive council member Jerry Johnston supported the concept (Page, 2000), his caveat being that the paramedics' responsibilities be clearly delineated and that they be allowed to function at their true scope of practice. The Paramedic Association of Canada also has no official position

statement on the subject, but is clearly in support in their submission to the *Romanow Commission*.

> Not only is the paramedic providing "street side" health care, but paramedics are successfully integrating their professional attributes into emergency departments, outpatient clinics and remote treatment centres. There are provinces that have developed the paramedic's clinical role to expanded scopes of clinical practice to compensate for the shortage of family physicians in rural settings. (Paramedic Association of Canada, 2002, p. 2).

According to Pat Lewis (1999), MA, BS, EMT-P, lieutenant for Gainesville Fire Rescue in Florida, paramedics believe that with orientation and some training (specifically, certain minor procedures, counseling and a greater knowledge of long term healing), they can function capably within the emergency department setting. Paramedics believe that if they can perform these same skills outside a hospital in considerably less than ideal circumstances, they can perform them within the ideal and controlled setting of an emergency department. That is not to say all paramedics want to work within the emergency department setting. Jim Paturas, director of EMS for Bridgeport, believes that paramedic feelings are mixed, and that while it may be a new challenge and an opportunity to be an integral part of the health care team, over time, many paramedics find the emergency department confining and miss the freedom of making their own decisions and functioning independently on the street (Garza, 1990). Don Mathisen, director of prehospital care at St. Luke's-Roosevelt in New York State found that when

the hospital chose to have paramedics work in the emergency department between calls, some paramedics were in favour, others opposed (Garza, 1990). According to Garza (1990), Mathisen and Arthur D. Romano, director of EMS for the joint hospital council of Bridgeport, Connecticut, share concerns about
covering-off shortages of physicians and nurses with paramedics because of a nationwide shortage of paramedics.

Registered Nurses:

Collectively, nurses appear to have the most to say concerning paramedics practicing within the emergency department. In the United States, the Emergency Nurses Association (ENA) has published a position statement entitled, *The Use of Non-Registered Nurse (Non-RN) Caregivers in Emergency Care.* The following is contained within the position statement:

> ENA believes that the performance of professional nursing activities by non-RN caregivers constitutes practicing nursing without a license and is not in the interest of quality care nor the health, safety, and welfare of the public.
>
> ENA believes that the registered professional nurse is responsible and accountable for emergency nursing practice. All non-RN caregivers involved in providing nursing care within the emergency care setting, shall be directly supervised by and responsible to professional emergency registered nurses. In no case does ENA advocate the use of non-RN caregivers to provide nursing care in place of emergency nurses. (Emergency Nurses Association, 2001, ¶ 5 and 6)

Further, ENA describes characteristics of the emergency nursing scope of practice as:

- Assessment, analysis, nursing diagnosis, planning, implementation of interventions, outcome identification, and evaluation of human responses of
- individuals in all age groups whose care is made more difficult by the limited access to past medical history and the episodic nature of their health care.
- Triage and prioritization.
- Emergency operations preparedness.
- Stabilization and resuscitation.
- Crisis intervention for unique patient populations, such as sexual assault survivors.
- Provision of care in uncontrolled or unpredictable environments.
- Consistency as much as possible across the continuum of care.

(Emergency Nurses Association, 1999, ¶14)

Thus, any emergency care provided by a paramedic within the emergency department would be considered by ENA as practicing nursing without a license. Judi Crume, executive director of the Alabama Board of Nursing concurs with this opinion:

> Assessing patients and performing triage are exclusively nursing or medical practice. They are not practices that should be performed by an EMT. We

> believe that people trained at the task level don't have the aggregate to assess the body systems (Ligon, 1993, p. 28).

It appears that this may be based more on opinion than on fact. Ruth Zwick, Director of Emergency Services at Providence Hospital in Detroit, Michigan states of paramedics, "Their assessment skills are excellent" (Minton, 1997, p. 74). Certainly, it is true that the time paramedics spend with patients is usually limited to the short term. Noel Holdsworth (1994) points out that paramedics follow a medical model whereby the patient's physical injury is isolated and treated. She compares this to the nursing model where a more holistic approach considers the patient's whole environment to ensure ongoing care is appropriate.

In Canada, the National Emergency Nurse's Affiliation Inc. (NENA) also believes that paramedics should stay out of the emergency department. "NENA believes that the paramedic has an important role in the emergency health care system. This role involves pre-hospital care and patient transport and does not include providing specialized care in the emergency department" (NENA, 1996, A-9-1).

For those who oppose the concept of paramedics functioning within the emergency department, there are some common themes noted in the literature. Encroachment and supplanting of nurses by paramedics plays a significant role in nurses' cause for concern (Danis, 1984; Ligon, 1993; Westra, 1983). In most jurisdictions,

paramedics are paid less than nurses (Garza, 1990; Curry, 1992). Thus, the paramedic may appear attractive based on cost alone. However, according to a national survey of hospitals conducted by a task force supported by the ENA which included 5410 emergency departments in the United States, Puerto Rico and the Virgin Islands, (Allerman, McKay and Novotny-Dinsdale, 1985), 89% of the respondents stated that no positions had been eliminated to hire EMT's[1].

Another area of concern voiced by nurses is fear of risk to patients and increased liability from having paramedics perform direct care in the emergency department (Curry, 1992; Garza, 1990; Ligon, 1993; Westra, 1983). Although significant emphasis is placed on this issue, there is a lack of evidence in the literature to support this claim. Phillip Bobo, MD, FACEP, state EMS medical director and chief of medical services as DCH Regional Medical Centre in Tuscaloosa Alabama states, "Nurses have seized the issue of quality care without having any proof that patient care suffers in the ED when an EMT or paramedic administers it." (Ligon, 1993, p. 29). He further asserts, "We've not had a complaint from a hospital or the Board of Nursing about the behaviour or action of a paramedic working in an emergency department, and this has been going on for 15 years" (ibid).

There is a notable paucity of information in the literature on clinical outcomes related to employing paramedics within the emergency department. However, this

[1] EMT denotes EMT-A (basic), EMT-I (Intermediate) and EMT-P (Paramedic)

information is not critical to the project. The scope of this project is purposely limited only to the dynamics between the emergency department physicians, nurses and paramedics in relation to the concept of employing paramedics within the department. Thus, only the major issues, real and perceived, are covered within the scope of this review.

Clearly, opinions regarding paramedics working within the emergency department are polarized. The majority of the authors recognized significant opposition to the concept as a significant challenge (American Health Consultants, 1995; Curry, 1992; Danis, 1984; Garza, 1990; Lewis, 1999; Ligon, 1993; Minton, 1997; Westra, 1983). Some authors (American Health Consultants, 1995; Minton, 1997) noted that given time and clearly defined roles, physicians, paramedics and nurses began to support this non-traditional model. Therefore, critical to success must be a comprehensive change process that appreciates the personal experience of those affected.

Change

The concept of adding another player to the emergency department front-line clinical care team is far more complicated than the obvious operational issues of defining roles, creating an orientation program and implementing the new members. The emergency department is, in reality, a community with certain shared assumptions, rituals

and ideals; therefore, this concept involves change at a very deep level – the organizational culture.

For those who follow the constructivist paradigm, reality is not necessarily an arbitrary external phenomenon. It is more socially constructed and informed by our understandings (Palys, 1997). A widely accepted theory of cognitive development can be attributed to the collective works of Jean Piaget in the early half of the twentieth century. Piaget introduced the idea that the human mind organizes concepts as what he termed separate *schemata*, (Wadsworth, 1989). Wadsworth describes schemata as akin to an index file where each index card represents a schema or concept. Through the processes of *assimilation* and *accommodation*, these schemata become enhanced and new schemata are added, based on feedback from the environment. In interpreting experiences, the mind tries to match the experience with a particular schema. If actions based on that particular schema achieve the expected feedback, the schema is reinforced. Through continual enhancement and additions of schemata, reality for the individual is created. In essence, the individual cognitively develops *Mental Models* through which he or she interprets reality (Mackeracher, 1996). "Our 'mental models' determine not only how we make sense of the world, but how we take action" (Senge, 1990, p. 175). McShane, (1998) calls mental models "...the screens through which we select information" (p. 149).

In taking the concept to the next level, one can begin to comprehend how reality is socially constructed and shared. O'Connor and McDermott, (1997) believe that as individuals interact and communicate with each other based on their personal mental

models, an interplay of new information gathering as well as reinforcing and balancing (refuting) feedback occurs between them. This interplay of observation, communication and feedback informs their mental models and individual realities emerge (Stevenson and Hamilton, 2001). This is not to say that the mental models within groups of people are Identical: mental models are developed through personal experience, which can never be replicated. Two people can witness one event and, based on their personal mental models, will interpret very different realities of the event (Senge, 1990). The point is that communities of people usually share certain tacit assumptions in common; this is referred to as culture.

Schein, (1999) states that cultural change means internal transformation amongst those affected, and it brings with it pain and resistance from having to unlearn what is "known" and learn something new. This process of unlearning and learning is stressful and anxiety-provoking, as it may bring into question our view of the world (Mackeracher, 1996).

Maurer (2000) sees resistance to change as having three levels:

- *Level one resistance* may be a result of misunderstanding, lack of information or conscious disagreement. This is resistance on an intellectual level.
- *Level two resistance* is an emotional form of resistance and may involve physiological reactions, (e.g. sweating, increased heart rate and blood pressure, etc.). These reactions may occur before the person is consciously aware of them.

- *Level three resistance* is about more than just the change itself; it is a case of people resisting the change agent (person representing the change) personally. They may even agree with the proposed change, but cannot overcome their resistance to the person.

According to Bridges (1991), the easy part of change is the external processes. The difficult and time-consuming part, which is often neglected by managers, is the internal transition. There are three separate phases to this internal transition:

- *Saying goodbye*: This phase requires letting go of what is known as reality. It is anxiety-provoking and uncomfortable. Without encouragement and support, many people will not let go. This phase is a leap into the unknown and into discomfort.
- *Shifting into Neutral*: This phase is full of confusion and more discomfort. Some will attempt to return to the previous state, others may rush ahead to some new situation. This phase takes significant time.
- *Moving Forward*: This is the new beginning. This phase requires people to act and be different.

Schein (1999) further asserts that the key motivator to transformative change lies in the deep realization that the current state will not allow the desired goal(s). This realization produces survival anxiety. This survival anxiety must be greater than the anxiety of learning and unlearning.

Kotter (1996) offers "The Eight Stage Process of Creating Major Change" (p. 21) in which he advocates:

1. Establishing a sense of urgency. This sense of urgency must be enough to create enough *survival anxiety* to overcome *learning anxiety*.
2. Creating a powerful guiding coalition. This includes getting active and ongoing support from key top-level managers and a large contingent of people within the organization who are committed to the change effort.
3. Developing a vision and strategy. This vision must inspire and be succinct so that it is clear across the organization. Strategies must be achievable.
4. Communicating the change vision. The vision must be communicated as much as possible through every medium available. This process must be ongoing and managers as well as the rest of the guiding coalition must model the change they want to see in the organization.
5. Empowering broad-based action. Obstacles must be removed: structures, processes and systems, which emasculate the change, need to be eliminated. Risk-taking and creativity consistent with the desired change must be encouraged.
6. Generating short-term wins. The change must be reinforced through actively ensuring that recognizable short-term wins are evident within six to eighteen months of commencing the change initiative. This includes visibly recognizing those who have contributed to the wins.
7. Consolidating gains and producing more change. This involves using the change momentum to continue to change systems, processes and structures inconsistent with the new vision. This is an opportunity to develop, promote and hire people who will

continue to champion the vision. This process is critical in that it actually helps power the change momentum.

8. Anchoring the new approaches in the culture. The new vision must become the norm. It must be rooted within the social behaviours and shared values. Connections between the new behaviours and the organization's overall success must be communicated and celebrated.

In looking at opportunities for change, Glenda Eoyang (1997) suggests looking at work units as fractals, in other words, recognizing how certain views, ideals and ways of doing things (culture) can be seen as common to the collective work unit as well as to the majority of individuals within that work unit. Similar work units may have similar collective culture. An example could be that an emergency department in Saskatoon may have a culture similar to an emergency department in Regina. The fractal nature is that if one can capture common traits that show up in the individuals working in a specific emergency department, these same traits would be evident collectively within that emergency department and they would be evident again amongst other emergency departments. The same would apply for EMS organizations. However, if one compared the culture between emergency departments and EMS organizations, there would be differences.

Eoyang (1997) believes that the greatest leverage for creating change lies at the boundary between organizational cultures. By exposing members of one organizational culture to members of another, exchange of information will take place. This information

will affect the actions, ideals and views of the members exposed to each other. Over time, this will inevitably (however minutely) affect the collective culture.

To increase the effectiveness of this process, the key is to find those who might be the most open to change.

> After you have evaluated the current fractal characteristics of your system, you will have an idea about which departments, groups or individuals are more likely to respond to change. When you wish to introduce a change, do it first with them. A little effort applied near a fractal boundary can facilitate change that would be impossible in another segment, even with unlimited resources (Eoyang, 1997, pp. 91-92).

Perhaps the issues raised here are applicable to the current ED situation in the Regina Qu'Appelle Health Region. If paramedics were introduced into an ED in the region, concerns about turf protection might lead to anxiety and fear. Could this anxiety and fear be at least partially attributable to the interplay of mental models? Are there opportunities at the boundary between the professions? If successful change must be embedded in organizational culture, what aspects of the ED and EMS culture must change? Can the Saskatoon experience shed any light on the opportunities here? Perhaps the answers to these questions lie with those emergency department staff in Saskatoon who have created and worked within an interdisciplinary team, including paramedics.

CHAPTER THREE – RESEARCH METHODOLOGY

Research Methods

The basis of this research was to explore and appreciate the relationship dynamics among physicians, nurses and paramedics, as well as the work environment of an emergency department utilizing a team consisting of this particular staff mix. Therefore, this qualitative work took the form of a naturalistic, interpretive inquiry. The participants themselves have the intimate knowledge of the dynamics through their personal experience of having to work together. To be successful, any recommendations from the research had to be derived from the input of these primary stakeholders. Of participative action research, Meyer (2000) states, "Its strength lies in its focus on generating solutions to practical problems and its ability to empower practitioners - getting them to engage with research and subsequent 'development' or implementation activities" (pp. 59-60). Hence, a participative action research style was followed, whereby the insights and recommendations were gleaned from the voices of these physicians, nurses and paramedics. As with most participative action research, themes interpreted from dialogue with these front line clinicians were brought back to them for correction or validation and refinement. This cyclical process continued until the participants were satisfied with the final result.

Data Gathering Tools

1. Literature Review

Before initiating the applied research, a comprehensive literature review was completed. As placing paramedics within the emergency department is a non-traditional practice requiring significant change from the usual staff complement, a critical domain of the literature review was "change" within the contexts of personal change and organizational change. The review also featured a domain focusing on the points of view of physicians, nurses and paramedics regarding the concept of paramedics working within the emergency department. From the literature review, themes were noted to help inform the questions for the applied research.

2. Focus Group

In an effort to ensure that no power dynamic existed between the researcher and the participants, it was decided that the applied research would occur outside Regina. As luck would have it, nearby Saskatoon had an ideal situation for the research. The Royal University Hospital in Saskatoon began employing paramedics within the emergency department in July, 2001. The short timeframe since inception was also considered beneficial to the research, as the change process would still be fresh in the minds of the staff members. As well, some of the staff would have clear memories of the emergency department prior to arrival of the paramedics.

Therefore, a focus group session, consisting of a stratified, purposive sampling of volunteers representing physicians, nurses and paramedics from the Royal University Hospital emergency department, was selected as the research tool. The sampling was stratified, because it was deemed critical that for this project to live up to the qualities of participative action research, the voices of each of these primary stakeholders must come through in the recommendations. The sampling was also purposive so that diverse opinions could be heard.

On December 9, 2002, a focus group session was held at Royal University Hospital for a duration of 2 ½ hours. (For focus group questions, please see Appendix B.) Both the participants and I took notes during the session, and the dialogue was recorded via cassette tape. Later, the recorded dialogue was transcribed into forty-three pages of notes.

3. Analysis and Interpretation

From the notes and transcription, themes began to emerge. Interestingly, many of these themes were consistent with the reviewed literature. These themes were brought back to the focus group participants for correction, validation and refinement. The following specific questions were asked of the focus group participants:

- Have I captured your thoughts accurately?
- Do you agree with the themes?
- Have I captured the important issues?
- Can you recognize your "voice" in the data and themes?

The study findings and recommendations were brought back to the participants in the same cyclical manner.

Study Conduct

1. Before initiating the applied research, a proposal was developed and submitted to the Vice President of Primary Care for the Regina Qu'Appelle Health Region. This allowed senior management of the region to conceptualize the research and its context, along with any of my own personal biases on behalf of the researcher; thus facilitating their ability to make an informed decision whether or not to support the research.
2. From the review of the literature, the focus group questions were developed. The questions were purposely open-ended and few in number so they might guide the focus group while allowing the dialogue to emerge without constraint.
3. The literature review revealed a considerable polarization of views concerning paramedics working within the emergency department. Some views were significantly charged with emotion, an attitude consistent with many of the opinions prevalent in Regina. Given this emotional charge and polarity of opinion and my present position as the executive director of the emergency departments and EMS, it was decided that the research could not ethically be completed in Regina. At this point, Royal University Hospital in Saskatoon was chosen as the preferred focus for the research.
4. A comprehensive Request Ethical Review for Research Involving Humans was

submitted to the Royal Roads University Ethics Board. This Review outlined:

- The proposed research
- The methodology
- The process
- The proposed participants
- The participant recruitment process
- The process for free and informed consent
- The risks and benefits
- Confidentiality and anonymity
- Feedback to participants
- Potential for conflict of interest; and
- The proposed focus group questions

The Board approved the request.

5. The emergency department manager at Royal University Hospital was contacted and the research proposal was submitted to the department, allowing them to make an informed decision as to whether or not to participate in the research. The manager was asked to approach two each of ED physicians, ED nurses and ED paramedics in order to ask for their participation in a focus group for the research. The Manager was asked to provide a purposive sampling of staff with diverse opinions, if possible. The proposal and focus group questions were available for them to read ahead of time.

The focus group session was conducted at Royal University Hospital. The group consisted of:

- 2 ED physicians
- 2 ED paramedics
- 4 ED nurses

A very small set of participant demographic data was collected, including:

- Formal education
- Certifications
- Profession
- Years in profession
- Years at RUH-ED
- Affiliations

6. Voice data was transcribed from tape to paper;
7. Themes were developed from transcriptions and notes;
8. Themes were brought back to focus group participants for correction, validation and refinement;
9. Study findings were developed from themes;
10. Findings were presented to the focus group participants for feedback;
11. Recommendations were developed from findings;
12. Recommendations were presented to the focus group participants for feedback;
13. Findings and recommendations became part of the report.

CHAPTER FOUR - RESEARCH STUDY RESULTS

Environment:

To appreciate the dynamics among the nurses, paramedics and physicians participating in the focus group work, a brief description of the environment in which they practice together is critical. The following is a brief summary of the evolution of the acceptance of paramedics into the emergency department at Saskatoon's Royal University Hospital.

Saskatoon's Royal University Hospital (RUH) emergency department is a busy urban emergency ward, providing initial stabilization and intervention for a gamut of medical, social and psychological complaints on a 24-hour basis. In addition, the department is part of a teaching hospital and is designated as central and northern Saskatchewan's tertiary receiving centre for major trauma, neurology, neurosurgery, pediatrics, invasive cardiology, obstetrics and psychiatry (Wendy Swenson, personal correspondence, February 6, 2003). The department sees approximately 45 to 46 thousand patients annually and employs 68 registered nurses, 10 physicians, 24 unit assistants, and maintains a minimum of one paramedic in the department on a 24-hour basis via contract with Saskatoon's MD Ambulance Care Ltd. (MD Ambulance) (ibid). This staffing model that includes paramedics in the emergency department practitioner team is new to the RUH emergency department and is the result of this dynamic team of non-traditional thinkers' approach to a nursing shortage of crisis proportion.

In 2000, the RUH emergency department experienced a substantial exodus of senior emergency nurses. This occurred at a time when there were simply not enough nurses available elsewhere with either emergency or critical care experience to back-fill the leaving nurses (Swenson, 2001). Thus, new graduates were hired in the department, creating a nursing staff mix of less than 50% with emergency or critical care experience (ibid). This led to increased responsibility and heavier workloads for the experienced nurses, resulting in concerns about patient safety (ibid). By spring, 2001, the problem had become a crisis. "The exodus has been so acute, the continuation of [emergency department] services at the RUH site has been threatened" (ibid, p. 4).

In light of concerns about patient safety and staff burnout, the department considered three options to ensure summer vacation for the staff (Swenson, 2001):

1. Close the RUH emergency department for one month. This would have a significant effect on the other areas of the hospital as well as on other emergency departments in Saskatoon, and would mean a substantial change in their operations. Addressing these issues would require a sizeable lead-time.
2. Restrict the public's access to the department, allowing access only to those patients who arrive via ambulance. Once again, this would affect other areas, requiring lead-time. In addition, because RUH is the designated referral centre for so many specialties, this option would not likely reduce the emergency department load enough to allow adequate vacation for the staff.

3. Pursue the use of alternate health practitioners to complement the nurses in the department. The staff was familiar with the role and skill-set of paramedics and MD Ambulance was willing to assist in the department staffing on an interim basis.

The only viable option at this point appeared to be the alternate health practitioner model. It was decided that RUH would bring paramedics from MD Ambulance into the emergency department for July and August 2001. Meetings were held with the staff to clarify the issues and explore collaborative models. Concerns arose regarding the scope of practice, responsibility, accountability and fears of paramedics replacing nurses. The nursing staff were by no means elated about the prospect of having paramedics come into the emergency department; however, given the current crisis, perhaps there was some merit in a defined short-term role, provided the intent was not to replace nursing lines with paramedics.

A working group of emergency department nurses reviewed the paramedic scope of practice and competencies in comparison with the emergency department processes. It was recommended that the paramedic be utilized in the resuscitation room, and a specific role was developed. Nursing role adjustments were also drafted to accommodate the paramedic role in the department. The new system was circulated to the staff for comment prior to implementation. A Charge Nurse position was formalized and the paramedic role clearly described the Charge Nurse's authority in the department and over

the paramedic. The paramedic was assigned to the resuscitation room and could only administer medications in this area (Swenson, 2001).

There was a group of nurses slated to complete orientation for the emergency department by July 1, 2001. This group consisted of nurses with varying backgrounds: some new grads, others with limited emergency or critical care experience. The paramedics were placed with this group and underwent the same orientation as the rest of the nurses (Wendy Swenson, personal correspondence, February 6, 2003).

On July 1, 2001, the new staffing model went into effect in the RUH emergency department. The nursing staff supported the paramedics in their new role and provided much needed clinical and process assistance. Eventually, the nursing staff was able to start using their vacation time. By the end of July, it had become apparent that restricting the paramedics' ability to administer medication to the bounds of the resuscitation room only was limiting and required expansion. With the support of the department nurses, this restriction was removed (Swenson, 2001).

At the end of the summer, the paramedics went back to their positions at MD Ambulance and the experience was debriefed. Although many challenges had been faced, the majority of those involved felt that patient care and safety had been increased and some of the workload had been taken off the nurses. New relationships had developed, and many of the paramedics expressed a desire to continue in this role. "The paramedic project was considered an unqualified success" (Swenson, 2001, p. 10).

Unfortunately, now that the paramedics were gone, the departmental pressures returned. The manager began receiving requests from some of the nursing staff for the reintroduction of the paramedics. There even were some threats of resignation from nursing staff, if the paramedics were not brought back (Wendy Swenson, personal correspondence, February 6, 2003).

In January 2002, the paramedics were brought back into the department on a long-term basis. The role for them continues to be refined and both the emergency department and MD Ambulance continue to realize previously unanticipated benefits of this relationship (Swenson, 2001).

Study Findings

The focus group work was an amazing experience. Here were representatives from the three professions this research has been centred around in one room, ready to share their experiences. Although their backgrounds were diverse, they shared in common the first-hand experience of working together in an emergency department that employs paramedics.

A potential pitfall of the method selected for this research was the possibility that some members of the focus group might not be willing to express views contrary to what appeared to be the majority position, or that certain dominant personalities might lead the outcomes (Palys, 1997). It became apparent within the first fifteen minutes that this would not likely be a problem. All members of this group were keen to interact and

share their views. There was an obvious collective desire in this group to share their experiences with the world.

Points of View:

A major objective for this research was to give voice to each of the three professions represented in the focus group by encouraging them to share their views from their professional and personal perspectives. The following discussion attempts to capture, as much as possible, the essence of each perspective.

- *Physicians:*

There were two physicians represented in the focus group session. One physician has worked in the RUH emergency department for approximately ten years. He has personally witnessed the evolution of this program from concept to implementation. He has also experienced the impact of the nursing shortage at RUH and has seen the effect on the remaining nurses as well as on the patients. He has also recognized the additional responsibility and stress that the senior emergency nurses have had to cope with as inexperienced nurses have replaced experienced nurses in the department. The other physician is new to the department; he has been there for just over four months. His experience of the project is interesting in that, although the project is relatively new, he had no idea when he first arrived that the concept of employing paramedics in the department was, in essence, still a pilot project. His only point of reference at RUH is under this new model.

Both of the physicians are supportive of and committed to this new model. In one physician's words, "In a critical situation, we assess and resuscitate as we are able and stabilize them until they can be transferred to more definitive care, and that is essentially what a paramedic does in the field." According to the physicians, the strength of the paramedics in the emergency department lies within their immediate assessment and initial resuscitation skills. The paramedics were brought in to ensure patient safety by lending these skills to the team in the absence of experienced critical care or emergency nurses.

The physicians have not found that having paramedics functioning on the team has caused them to carry more responsibility for increased oversight. They have found that the paramedic functions exceptionally well in cases where the patient requires immediate, acute intervention and this has been where they focus on utilizing the paramedic. In comparing the physician's responsibility prior to paramedics joining the team, the physicians noted that the number of junior, inexperienced nurses did increase their workload and responsibility, but the paramedic role has addressed most of this concern.

The physicians noted that the paramedics are not as comfortable with some of the non-acute interventions such as administering antibiotics. When possible, patients requiring this type of intervention are assigned a nurse. According to the physicians, considering the value the paramedics bring to the department, this is not a major

inconvenience, as the paramedics are well supported by the nurses. If the paramedics are not comfortable with a certain procedure, they will seek out assistance.

One physician commented on how this project has surpassed his expectations by creating an increased understanding and appreciation among the emergency department nurses and physicians and MD Ambulance staff. Both physicians had noticed how the hand-off is much smoother, and the report given to the nurses, more comprehensive when MD Ambulance staff bring patients into the department. The physicians also noted that they have more confidence in the paramedics functioning in the field and are more comfortable directing the paramedics to provide certain medical interventions when asked. The physicians are hopeful that this model will continue into the future.

- *Nurses:*

There were four registered nurses represented in the focus group. The hospital experience of these nurses ranges from 15 to 27 years. Specifically, their experience in the RUH emergency department ranges from 4 to 23 ½ years. Two are senior emergency nurses; one is the clinical nurse educator for the department and one is the nurse manager of the department.

The experience from this group is that the profession most affected in this project was nursing. The project was driven by the nursing shortage and the nursing staff had to adapt most to the change in order to accommodate the paramedic role. Given a perfect world, there is no doubt that the nurses in the focus group would prefer to have an

adequate number of experienced nurses to having the paramedics in the department. The nurses agreed that they have a common approach to patient care. They understand and are part of their own culture, and support furthering of the nursing profession. In addition, hospitals are traditionally staffed with nurses and many of the systems in place reflect nursing practices. This being said, the nurses interviewed are very supportive of this project. The nursing shortage has taken its toll on these caregivers and they recognize the need for support in the department.

One nurse indicated that initially, the concept of employing paramedics as part of the emergency department team was threatening to many of the nurses. Some viewed this as taking away nursing jobs. Others didn't know how to treat these newcomers. As another nurse stated, "We weren't really sure what they could and couldn't do. We didn't really want to boss them around because we didn't want to make them feel unwelcome." On top of all this internal change was pressure being exerted from outside agencies to stop this from happening. The National Emergency Nurses Association is clearly not in favour of this model. According to the nurses in the group, this was additional stress that these nurses did not need. Even fellow nurses from other hospitals in Saskatoon and across Saskatchewan were strongly opposed to this project. As one nurse put it, "It was the 'can't do' attitude of everybody around us that, to me, was the most disturbing." It was a very difficult time for the nurses in the department.

The nurses described the dilemma of ensuring safe and appropriate patient care with a decreasing level of experience in the department while contending with the fear of

change and invasion from another profession. Given their commitment to patient care, they lent their support to the paramedic role, provided nurses would not be replaced, but rather supported by the paramedics. The paramedic role they supported was limited to providing care in the resuscitation room. This was the area most new graduate nurses felt least comfortable with and it was a recognized area of the paramedic's expertise. One nurse explained how a charge nurse position was formalized at this time. This position became the critical central point to coordinate the activities in the department.

The nurses noted that in the first few weeks, it became evident that the paramedics were indeed providing a valuable role within the department. Having the resuscitation room covered off provided much relief for the senior nurses and allowed them to focus on other areas in the department. A critical factor at this point was the ability for nurses to take much needed vacation time. Within the first month of implementation of this new model, it became apparent to the nurses that there were times when the paramedic was not being utilized to capacity, so it was agreed that the charge nurse on duty could direct the paramedic to provide patient care in other areas of the department.

The nurses in the group supported the physician's observation that the paramedics' area of expertise is in rapid clinical assessment and resuscitation. They do not concur with some of the literature previously noted (Ligon, 1993), where some have stated that paramedics do not possess the aggregate knowledge to assess body systems. They did note that the paramedics do struggle with some of the non-acute interventions in

the department and lack the intimate knowledge of hospital systems, (for example, which pre-admission lab work tests are required for neurology patients versus cardiac patients or remembering to ask for repeat tests for patients who are held over in the department awaiting admission). However, they were also quick to point out that a new graduate nurse who has never worked in a hospital struggles with the same issues. The members of the focus group are confident that this is not a lack in the training, rather part of the normal learning curve to anyone new to the department. According to the nurses, the expected learning curve for a new graduate nurse to become proficient in the emergency department is somewhere between three and four years. The most senior paramedics have been working in the department for less than two years.

A resounding note from the focus group was the nurses' commitment to the team approach. They were strongly supportive of multidisciplinary teams. While there is no question that they miss the days of an all-RN staffing complement in the department, they have learned to adapt well to the new environment. They believe that the diverse backgrounds and training approaches between the professions lends to a synergism of knowledge and skills; thus, an increased capacity within the team. The nurses observed that generally, nurses possess a vast knowledge of holistic care and wide scope of practice, thus mentoring the paramedic in this approach. The paramedics support the new graduate nurses in developing assessment and resuscitation skills. In addition, the nurses noted that the paramedics' "street sense" adds value to the department. The paramedics are used to dealing with clients in a wide range of socio-economic situations. They

develop a rapport with clients who find the emergency department intimidating. As one nurse put it, "They walk the walk and talk the talk."

Now that the paramedics have become an integrated member of the team, barriers between the professions are eroding. One nurse stated:

> I can't imagine our department without them now, even though this is a pilot project. The main reason that we had brought them in was because of the senior/junior mix and that's going to be a problem for the rest of my working career, I think. We can see it happening again this summer. We've got several people planning to leave again this summer. There's that consistency of having somebody with [the paramedics'] knowledge and their experience. This is something that I'm always going to continue to rely on.

- *Paramedics:*

There were two paramedics represented in the focus group. One had seven years' experience as a paramedic, the other, nine years. They had worked in the RUH emergency department for twelve and nine months, respectively.

Although neither was involved in the start-up phase of this project, they were certainly aware of the challenges that had to be overcome to make this project successful. Their perception, from their interactions with more senior paramedics, was that this was a daunting task for the first paramedics joining the team. The environment is clearly different from the paramedic's traditional community setting. There was fear of intense

scrutiny of the paramedics' knowledge and skill. There were systems in place that were foreign to the paramedics and they knew that in some minds, they were treading on another profession's turf. Yet through all this, they felt supported by the nurses and physicians in the department.

When the two paramedics interviewed joined the emergency department team, they recognized that the majority of any previous barriers between the professions had eroded. The orientation process had been refined and it bridged them effectively, thus making them feel very comfortable as new members of the team.

The paramedics believe that they do provide value to the emergency department team through their assessment and resuscitation skills as well as their knowledge of what they coin as "street culture." However, they also believe that the opportunity to work beside physicians, nurses and other healthcare professionals on a daily basis has expanded their knowledge and refined their skills far more than they would have imagined. The volumes and ranges of patient complaints in the department keep their skills sharp in procedures that they do not often perform in EMS, (such as starting intravenous lines in pediatric patients, administering medications rarely given in an ambulance, and so forth).

In EMS, it is often difficult to follow up on patients' progress after dropping them off at the hospital. The paramedics observed that here, they can follow up on patients through the continuum of care. They have the opportunity to relate a patient's initial

presentation and the interventions they initiated to the patient's prognosis and outcome. They are interacting with the whole of the healthcare system from this department and it is enhancing their capacity as healthcare practitioners.

According to the members of the focus group, the paramedics' scope of practice in the emergency department is expanded from their out-of-hospital scope. They are administering medications, such as antibiotics, that are not required for the limited duration of an ambulance call. However, they also receive additional training and inservice just as a nurse would, before functioning at this level. The paramedics noted that they take this expanded scope very seriously. They acknowledge the trust placed in them by the physicians and nurses and treat this with the greatest respect. When asked if they would ever go beyond the approved scope, the answer was an explicit "No."

Although the paramedics were appreciative of the opportunity to work as team members in the emergency department, both admitted to missing "the street". Neither of the paramedics interviewed would like to stay in the department permanently. They miss the autonomy of EMS. They also feel "out-of-the-loop" from their peers at MD Ambulance. They like to hear about the "good calls" and keep up on the news of their fellow EMS practitioners. The supervisors at MD Ambulance now try to stop in to meet with the paramedics in the department on a daily basis, which is very much appreciated. The paramedics described the ideal arrangement as a 50/50 split between the department and EMS, with the caveat being that the first 8 to 12 months be full-time in the department to allow for the learning curve.

Recipe for Success:

As the focus group dialogue deepened and gained momentum, some overarching themes of success began to emerge. There was a consensus from the participants that these themes have played a critical role in the dynamics of the emergency department team through their transition. For the sake of maintaining a logical flow of information, these themes have been utilized as subheadings where possible.

Crisis as the Driver of Change:

The members of the focus group were quick to point out that this model was not developed to save money or to create efficiencies in an already functional department; the driving force behind this model was to address an imminent crisis. Had the department been functional, the idea of bringing in paramedics as team members would likely not have been considered, nor would it have been accepted by the front-line staff. The nurses emphasized that this was a case of ensuring patient safety and keeping the department open.

The manager and the educator of this department must be commended for their attention to managing a substantial change process. As will become apparent in the following sections, there are many commonalities between the literature on effective change management and how this project was approached. Once the crisis and options for addressing it had been identified and shared with the staff, opportunity for feedback was given. A broad coalition of support was garnered before any implementation actions were undertaken.

Communication and Collaboration:

Immediately obvious with this group was their mutual appreciation and respect for each other and each other's professions. Rather than viewing their situation as one profession encroaching on another's role, they have developed a system of mutual support. Key to this paradigm are a number of critical elements.

A point brought out in the focus group was that the staff of the department believes that it is critical for each member to be aware of and support the roles of both the paramedics and the nurses. The responsibility for imparting this information is taken very seriously by both the manager and the nursing educator. A colourful example of this commitment, given by the manager, concerned the initial development phase of this project. When the newly-developed roles were completed, the manager posted them where she knew each staff member would have an opportunity to read them. "We made a list of what everybody could do and posted it in the staff bathroom."

Active and open communication is emphasized. According to the nurses, front-line staff have been informed and consulted right from the initial proposal stages of this project. Opportunities to share personal views, fears and expectations have been and continue to be facilitated. Before actually placing paramedics onto the team, changes had to be made in the processes normally occurring in the department. Once again, the focus group reported that these changes were developed with staff input. An example was the newly formalized charge nurse position. As one nurse observed, "We brought the charge

nurse in at the same time the paramedics came into the department, and they sort of facilitated getting the paramedic into the situation where they were comfortable."

Not only has communication and collaboration been a critical factor of success for this project, it is also evolving and growing as a result of it. The energy and enthusiasm for the newly recreated relationship between MD Ambulance staff and the department was abundantly clear in the focus group. The members of the focus group unanimously believe that they have the most intimate and supportive relationship between an emergency department and ambulance service in all of Canada. They are beginning to know each other on a personal basis, and have developed a relationship of trust and mutual respect. The physicians' confidence in the assessment and skill of the paramedics in the field has increased. They are now more willing to enact protocols based solely on the paramedic's assessment and radio patch to the hospital. The nurses in the focus group noted how the paramedics in the field have become much more conscientious about how they prepare their patients prior to leaving them in the department,(i.e. they try to prepare the patient in a hospital gown as they are assessing them, rather than leaving them clothed, as they know they can save some time for the nurse in the emergency department if the patient is already in a gown).

Selection and Orientation:

Working in an emergency department is not the desire of every paramedic. The paramedics emphasized that it is voluntary for paramedics to join the team. Those who are keen to apply are selected based on their skill and knowledge as paramedics as well

as their communication skills and the ability to be team players. According to the focus group participants, this was absolutely critical in the selection of the first group of paramedics to join the emergency department team. The majority were involved in instruction or had backgrounds in a team-leading role.

Consistent with the collaborative and exclusionary approach exemplified by this team, according to the educator, the paramedics are oriented to the department along with new nurses. This helps to bring these new members into the team on an equal footing. Within the three-week orientation program (see Appendix C), the new staff works in mixed teams, giving them the opportunity to become acquainted with each other's knowledge and skill set. The paramedics affirmed their experience in coming out of their emergency department orientation process leaning towards their fellow nurse recruits for support in their new roles.

Role and Scope:

The focus group clearly emphasized that the initial role of the paramedic was clearly defined and agreed upon before any of the paramedics set foot into the department as part of the team. The nursing educator and the manager carefully scrutinized the paramedic skill-set with input from EMS managers at MD Ambulance. From this point, a first draft of the scope and role of the paramedic was developed. The group believes that having people with nursing backgrounds lead this process in itself helped lend credibility among the front-line nurses. The draft scope and role was shared with the front-line staff for feedback. The role was purposely small, confined to the resuscitation

room. It was also very clearly identified that the paramedics were not a replacement for nurses. No nurses would be laid off and the current nurse staffing lines at the time would be maintained. The group is convinced that these factors (having the paramedics' role minimized and clearly supernumerary) were critical in gaining support from the nurses and physicians.

The participants have seen the role and scope for the paramedics slowly expand, based on need and support from the rest of the department team. There is support from this latter group to continue the evolution, provided that it is based on need, is medically appropriate and is supported by the rest of the team and other governing bodies.

The focus group also recognized that people who are drawn to work in emergency services tend to prefer the critical care cases once they have the experience to be confident in their skills. They get satisfaction from intervening on challenging cases and making a positive difference in a patient's outcome. As one nurse stated, "These are the plum cases." Thus, as more nurses have gained experience in the department, there is need to ensure that all staff have the opportunity to be involved in the care for patients requiring critical interventions. As RUH receives a high volume of these cases, there is no problem ensuring that staff members have the opportunity to provide this type of care.

Challenges to Success:

Interestingly, the focus group members mentioned few challenges internally. The cultures between the professions have not been a significant issue. Through open

communication, they have been able to address most issues regarding internal team dynamics up front. One nurse observed that the most difficult challenge internally was dealing with personal biases and lack of understanding between the professions. Once they began working together within defined roles, these barriers quickly eroded. Of continuing concern for the group is the ongoing negativism around the project from healthcare professionals outside RUH. The participants admitted that although this is a daily challenge for the team, it also drives them collectively to make this project successful. There is nothing like being told you cannot do something as inspiration to do it well.

Collective View of the Project:

It is abundantly clear that this team is committed to the success of the project. They are proud of the fact that they are utilizing a non-traditional model and they enjoy the camaraderie they have created. When asked outright if paramedics add value to the department, the collective answer is "absolutely." They have recognized the value to the department and to the emergency system as a whole. The cooperative efforts of this team have torn down traditional boundaries between professions and increased the capacity of each. The physicians are more inclined to rely on the judgment of the paramedic in the field; the nurses are feeling more effective in providing appropriate care, and the paramedics have increased their knowledge of the healthcare system, refined their skills and enhanced their knowledge. They have truly learned to rely on one another as a team in providing care to their patients. When asked, "Given their situation, would they go through all this again, if afforded the choice?" The answer is unequivocally " Yes."

Study Conclusion

The RUH emergency department team has had to overcome dramatic challenges that have faced other healthcare organizations in Canada: limited resources, a shortage of health professionals in crisis proportion, and daring to try out a non-traditional model. Through this, they have emerged as a strong, dynamic and cohesive team with a greater capacity for providing patient care. There is little doubt that this project is successful. They have much to celebrate.

For this team, given their situation, the introduction of paramedics into the emergency department adds value. However, it must be recognized that there are many factors that have led to this success. One must look at the whole situation to see these factors.

- Reasons for introducing paramedics into the emergency department must be considered carefully. The project was driven by a crisis. Introducing paramedics to the team was intended purposely to address the shortage of experienced critical care/emergency nurses. Patient safety was at risk.
- Paramedics were introduced to support nurses, not replace them. The paramedics are supernumerary. The value of the paramedics lies in the synergy they create in relation to the physicians and nurses. Replacing nurses with paramedics would only increase the fear of job loss and decrease the support from the nurses.

- The scope and role of the paramedics must be well defined. In this case, it was to support initial assessment and resuscitation of unstable patients. The paramedics have proven effective in this role. This allowed the team to make the necessary changes in other roles to support the project.
- Not all paramedics are interested or well suited for this role. The role must be voluntary and the selection criteria are critical. The paramedics must be highly skilled and knowledgeable clinicians. Equally critical is their ability to communicate and function effectively in a foreign environment as team members. It must also be recognized that most paramedics enjoy the autonomy of working in the field.
- Orientation and bridging of knowledge is required. The combined orientation of the nurses and paramedics was seen as ideal. It afforded the sharing of knowledge and a building of mutual trust and respect up front.
- It appears that the learning curve for a paramedic (or new grad nurse) will occur over three to four years. It is imperative that the initial stint in the emergency department must be for a continuous eight to twelve months before allowing the paramedics to return to the field on a continual basis. It must also be recognized that paramedics are not used to the systems in place in the hospital setting. This is part of the normal learning curve.
- The other members of the team must support this model or else collaboration and support for it will not occur. Without the support of the physicians, nurses, and other members of the team, the paramedics would flounder in

their new roles. Team morale would likely suffer and barriers between the professions would widen.

- This model requires changes in the roles of other members of the team. The paramedics' area of excellence is in rapid assessment and resuscitation. The nurses bring a wider and more holistic care model to the department. Particularly in the initial stages of team development, the paramedics require support in providing holistic and non-acute patient care.
- Changes in the role of the paramedic require input and support from the whole team. As the paramedic role evolves, it affects all of the team members. To maintain cohesiveness within the team, there must be support for this change.
- The system as a whole is affected by this model. Bringing paramedics in changed the dynamics of the department. It also changed the dynamics between the department and the ambulance service. In this case, the result was an increased capacity to care for patients.

The introduction of paramedics into an emergency department creates a fundamental change in the system. Not only is there an immediate affect on the department, but also on other parts of the system interacting with the department. Before any attempt to implement this type of staffing model can begin, critical attention to these factors is vital. Failure to recognize and address each of these issues will undoubtedly affect the ultimate outcome of the project and may have a devastating effect on the team and ultimately, on patient care.

Study Recommendations

For an organization considering the implementation of paramedics into the emergency department, first and foremost there must be commitment from the front-line team to adopt such a model. Should such commitment exist, the experience at RUH offers a proven process. This study recommends the following critical steps to implement such a model:

- **Recommendation #1:** ***The operational plan must be created by front-line staff and communicated to all other departments interacting with the emergency department.***

  From the experience at RUH, it became evident that it is imperative for those most affected by the change to be involved in the creation of the model at every step. This includes the emergency department physicians, nurses, LPN's and clerks as well as the paramedics from EMS and educators from both EMS and the emergency departments, inclusive of their unions. Within this process, an opportunity for these people to share fears, concerns, opinions and needs must be facilitated. Before any implementation of the model, there must be consultation with those who regularly interact with the emergency department (for example, wards accepting patients from the department, specialists and residents, other clinicians and technologists and community programs).

- **Recommendation #2:** ***Ensure an adequate supply of paramedics.***

Currently, in light of the shortage of paramedics across Canada, it would stretch some systems considerably to peel paramedics off from the community and place them in the emergency departments. This may not present a long-term barrier to moving forward as it is likely that the new career diversity offered by such a project would be seen as an attraction to bring paramedics into the organization.

- **Recommendation #3:** ***Develop a clearly defined set of roles and processes.***

A well-defined role and description of the scope of a paramedic functioning on the emergency department teams would require development. Processes and roles of the other members of the teams within departments would also require review and possible revision, ensuring that the paramedics' role is supported. Not only must processes in the department be reviewed and modified, but also within EMS. Ways of ensuring that the paramedics are still in touch with their peers in the field must be guaranteed. Other departments interacting with the emergency department may also require a review of processes.

- **Recommendation #4:** ***Select the right paramedics for success.***

Not all paramedics are interested in working within the emergency department, nor are all paramedics suited for this environment. This assignment must be optional. Strict criteria relating to clinical knowledge and skills, communication skills and ability to work as a team member must be developed and utilized in selecting paramedics. Interview panels must have nurse managers and physicians represented.

Recommendation #5: ***Allow for a transition process.***

The initial implementation of this model will be stressful on the whole of the team. Rather than starting the project at the beginning, with the paramedics entering the emergency department, there must be an opportunity to bring closure to the old model. Of successful transition, Bridges (1991, p. 6) states, " People make the new beginning only if they have first made an ending and spent some time in the neutral zone" (the time in the change process spent between saying goodbye to old ways and moving forward to the new ways). Some form of celebration to bring the staff from the emergency department and EMS together to recognize the ending of the old model must occur.

- **Recommendation #6:** ***Create a comprehensive orientation and bridging program.***

A bridging and orientation process is critical to having the paramedics functioning effectively within the department. If possible, the orientation process should be inclusive of any new nurses coming to the department and should incorporate team building.

- **Recommendation #7:** ***Implement the model at one site.***

This model requires a substantial change from the traditional staffing composition in the emergency department. Managing this change process will take much effort on the manager's behalf. Selecting a single site will aid in keeping the project manageable. This recommendation would also allow for comparison to the

unaffected site - are there differences in recruitment, retention, patient outcomes, and so forth?

If possible, the recommended site would be an emergency department that is part of a tertiary care centre, as this would offer a higher volume of critical care patients. This volume of patients would help to ensure that the whole team continues to be exposed to high acuity cases, thus preventing competition.

- **Recommendation #8:** ***Ensure ongoing support for the team.***

The newly formed emergency department team must be supported when the members begin to work together. Regular feedback on what is working and what is not must be gathered from the team. This feedback must be acted on in short time frames so the team knows they are being supported.

These recommendations serve as a set of broad concepts to guide the implementation of paramedics into the emergency department. They have purposely not addressed such levels of detail as timelines, operational processes and scopes of practice. To do so would be contrary to Recommendation #1 above: *The operational plan must be created by front-line staff and communicated to all other departments interacting with the emergency department.* Innate to this study is the author's belief that the true wisdom and knowledge to make this a successful project lies within the department itself:

> To be precise, one cannot speak of leaders who *cause* organizations to achieve superlative performance, for no one can *cause* it to happen. Leaders can only

> recognize and modify conditions which prevent it; perceive and articulate a sense of community, a vision of the future, a body of principle to which people can become passionately committed, then encourage and enable them to discover and bring forth the extraordinary capabilities that lie trapped in everyone struggling to get out (Hock, 2000, p. 5).

In examining the dynamics of the emergency departments within the Regina Qu'Appelle Health Region, it is apparent that there may not be an appetite for this model from the front-line teams. Given these dynamics, Chapter Five will explore how this research may still be of benefit to the region.

CHAPTER FIVE – RESEARCH IMPLICATIONS

Organizational Implementation

From the study conclusions, it is clear that the introduction of paramedics into the emergency department has increased the capacity of emergency services as a whole in Saskatoon. However, RUH did not initially introduce paramedics into the emergency department to address efficiencies or to cut costs. Clearly, this would not have been supported by the physicians and nurses. This would imply that the physicians and nurses are not efficient in performing their roles, which is obviously not the case. It would also require that paramedics replace some current staffing lines in order to produce cost savings. Once again, this would not be acceptable to the current staff. The paramedics were accepted into the emergency department at RUH because there was benefit to the other team members, that being, relief from unmanageable workloads, addressing at-risk patients, allowing for desperately needed vacation time and, in fact, keeping the department open. There was benefit to the paramedics as this model offers career variety in a profession that has very little opportunity for diversity. But, the key benefit has turned out to be that there was and is a cost-benefit to the front-line staff affected at RUH.

The emergency departments in the Regina Qu'Appelle Health Region are not yet at the level of crisis that RUH has experienced. At this time, both emergency departments are maintaining full staffing lines (Helen Grimm, ED manager, Pasqua Hospital; Lois van der Velden, ED manager, Regina General Hospital, personal

correspondence, March 2003). I recognize that this could change at any time, placing the departments in this region at risk. However, at least in the interim, there is little support from the front-line emergency department staff for this model (ibid). There would have to be another avenue through which to gain this critical support from these nurses and physicians. Forcing this model on the front-line teams in the departments against their wishes could negatively affect staff morale and, ultimately, the tenuous status of recruitment and retention of nurses in these areas. This approach is not recommended.

Unfortunately, this reasoning seems to parallel the concept of throwing the baby out with the bathwater. There is no doubt that although the initial reason for implementing this model at RUH was to address the crisis at the time, there have been great unanticipated benefits to the system as a whole, for example, increased sharing of skill and knowledge across the professions, increased trust, and increased capacity in EMS. Yes, it would be a shame not to take advantage of these benefits and opportunities; however, it cannot be overemphasized that there must be a perceived benefit to the front-line staff if their support is to be gained. Failure to secure the support of a critical mass is a recipe for failure (Kotter, 1996).

Perhaps successful integration of paramedics into the emergency departments in Regina's case is not the objective. The opportunity here may be to focus on increasing the capacity of the emergency health services in Regina as a whole. Recognizing that the integrated model at RUH has led to a breaking down of barriers between MD Ambulance and the RUH emergency department and has also led to an increased transfer of

knowledge between physicians, nurses and paramedics, it is conceivable that there could be support for another form of integration that leads to the same result. The crux is that the physicians, nurses and paramedics accept that the benefits to integration outweigh the anxiety of learning new ways of providing service.

The desire for increased capacity through integration could very well be the impetus for developing a whole new model of emergency care team composition for the region. This new approach would concentrate on the emergency departments and EMS equally, moving the focus away from the department and toward the system in its entirety. Given the Saskatchewan healthcare system, it has been demonstrated that a paramedic can function and add value in the emergency department, but can the same be said of a nurse in an ambulance? Perhaps a fully integrated model whereby paramedics have a role in the emergency departments and nurses have a role in ambulances could achieve the same results of increased system capacity while creating equal opportunities for nurses and paramedics. It may well be that this model would be supported by the physicians, nurses and paramedics in Regina.

It must be emphasized that, as this research has demonstrated, there must be support from the front-line team if this is to be a successful model. Implementation cannot be recommended without first consulting the team. Should there be support generally for the concept, the recommendations set out in Chapter Four continue to be valid.

Future Research

This research has purposely focused on placing paramedics in the emergency department setting. It has demonstrated that in an emergency department employing paramedics, the front-line care providers (nurses, physicians and paramedics) believe that the paramedics do complement the work of nurses and physicians. It has also demonstrated that these health professionals can work in support of each other, creating a synergy that adds capacity to the emergency health care system as a whole. It is to be hoped that further research may serve to clarify further questions outside the scope of this project:

- Is there quantifiable evidence that this model positively or negatively impacts patient outcomes?
- Can paramedics add equal value in other areas of the health care system?
- Can nurses provide value by working in ambulances? Rather than waiting for a crisis to be the impetus for change, this may be the key to gaining support from nurses for paramedics in the emergency department. Would this increase the capacity of EMS and the emergency department by creating similar dynamics across the system as has been evidenced by the RUH and MD Ambulance experience?

These other areas of research will offer new and exciting opportunities for learning more about non-traditional team compositions. With any luck, this new knowledge will arm decision-makers with enough evidence to try out new multidisciplinary teams in a variety of program areas. Perhaps these new

multidisciplinary teams could enhance the capacity of programs and lead to the sustainability of the health care system.

CHAPTER SIX – LESSONS LEARNED

Research Project Lessons Learned

This research took place over a period of eight months. Seemingly, this would be ample time to gather both qualitative and quantitative data from a broad spectrum of subjects. However, this is also the author's first attempt at applied research; thus a narrow methodology, utilizing a single focus group composed a stratified, purposive sampling of physicians, nurses and paramedics from a single department was utilized. The purpose for choosing this methodology was to allow for representation from each of the identified professions, while ensuring that the data gathered was manageable for a first-time researcher.

Upon reflection, this methodology was a good choice in that it fulfilled the desire to hear the voices of the identified professions, and the resulting data was indeed manageable. The data was also comprehensive, as the focus-group members were very open and communicated well with each other. The members themselves, were moved into deep levels of dialogue as they focused on and appreciated each other's comments.

Although the author has a high level of confidence in these study findings from the focus group, it would be interesting to apply the findings in the form of a questionnaire across the whole department to gain a quantifiable perspective of consensus among the staff, in relation to the opinions of the focus group members. This might have increased the dependability of the study findings.

An important revelation was the effect of this research question on others not connected to the actual project. The choice of a controversial issue as a research topic brought with it the extra burden of confronting emotionally-charged criticism from those in strong opposition to the concept. To some, simply asking such a question is seen as provocative. This issue is worthy of contemplation before undertaking research on such a controversial or politically polarized topic; however, for me, the opportunity to explore this subject was worth the investment. Certainly, an appreciation that reality is not necessarily an arbitrary, external phenomenon and that everyone has the right to his or herown interpretation is critical to appreciating diverse points of view.

The experience of completing this project is in and of itself, the greatest opportunity for learning about conducting research. Through making mistakes, embracing the fear of failure and celebrating the completion of each step, and then reflecting on each part of the process, a new understanding emerges, creating an increased confidence in the researcher. Critical to this process are:

1. A research journal. This journal affords the researcher the ability to record challenges, successes and fears. Over time, through reflection, a pattern becomes evident: fear of failure, stumbling through a particular step, seeing success. By reflecting on this, the researcher recognizes that the fear at each new stage is normal and expected and that it will be eventually followed by success; and

2. A supportive faculty advisor who has "been there – done that" and gives valuable and insightful feedback. The faculty advisor played a critical role as coach and motivator in this project.

In summary, as with all learning, exploration into new areas of knowledge produces anxiety and stress in the researcher (Mackeracher, 1996). The secret is to embrace this anxiety as a method of staying focused on the process. This means being committed to allowing the research to guide the outcome. Vital to this commitment is ensuring that the actual research topic ignites passion in the researcher.

REFERENCES

Allerman, G., McKay, J., and Novotny-Dinsdale, V. (1985). Use of prehospital care providers in emergency departments: A national survey. *Journal of Emergency Nursing*, 11(1), 33-39.

American College of Emergency Physicians. (1997). Expanded roles of EMS personnel. In *ACEP Policy Statements*. Retrieved August 12, 2002, from http://www.acep.org/1,559,0.html

American Health Consultants. (1995). Pediatric Hospitals use paramedics to free nurses. *ED Management*, 7(11), 127-129.

Boyd, B., Baxter, E., and Clippert, L. (2000). *Regina Health District Review*. Prepared for the Saskatchewan Department of Health. Regina. Retrieved March 29, 2002, from http://www.health.gov.sk.ca/info_center_pub_rhdfrept.pdf

Bridges, W. (1991). *Managing transitions: Making the most of change.* Cambridge: Perseus Books.

Curry, J. L. (1992). Oil on troubled waters: Unlicensed assistive personnel in the emergency department. *Journal of Emergency Nursing,* 18(5), 428-431.

Danis, D. (1984). Paramedic practice setting issue: The legislative arena. *Journal of Emergency Nursing,* 10(2), 115-116.

Duffy, T. (April, 1999). Nursing shortage update 32. *District news.* Regina Health District Web Site. Retrieved April 13, 2002, from http://www.reginahealth.sk.ca/district_news/index.html

Emergency Nurses Association. (1999). In *Emergency nurses association scope of emergency nursing practice.* Retrieved August 12, 2002, from http://ena.org/pdf/ScopeEmNP.PDF

Emergency Nurses Association. (2001). The use of non-registered nurse (non-RN) caregivers in emergency care. In *Emergency nurses association position statements*. Retrieved August 12, 2002, from http://www.ena.org/about/position/non-rn.asp

Eoyang, G. H. (1997). *Coping with chaos: Seven simple tools.* Circle Pines, Minnesota: Lagumo.

Garza, M. A. (1990). Trading places: Paramedics in hospitals and nurses in the field. *Journal of Emergency Medical Services*, 15(2), 56-58, 60, 62-65.

Hock, D. (2000). The art of chaordic leadership. *Leader to Leader*, 15 (Winter). The Peter F. Drucker Foundation for Nonprofit Management website. Retrieved March 7, 2003 from: http://www.pfdf.org/leaderbooks/l2l/winter2000/hock.html

Holdsworth, N. (1994). Expanded scope paramedics: A nurse's perspective. *Journal of Emergency Medical Services,* 19(8), 92-93.

Kotter, J. P. (1996). *Leading Change.* Boston: Harvard Business School Press.

Lewis, P. (1999). The role of paramedics in the ED. *Emergency Medical Services Magazine,* 28(9), 53-54, 56-58.

Ligon, F. (1993). Showdown in Alabama: Nurses fight to ban EMTs and paramedics from working in the ED. *Emergency Medical Services Magazine,* 22(8), 26, 28-30.

Mackeracher, D. (1996). *Making sense of adult learning.* Toronto: Culture Concepts Inc.

Maurer, R. (2000). What blocks support? *Journal for Quality & Participation,* 23(3), 47.

McShane, S. (1998). *Canadian organizational behaviour* (3rd ed.). Toronto: McGraw-Hill Ryerson Ltd.

Meyer, J. (2000). Using qualitative methods in health-related action research. In Pope, C., and Mays, N. (Eds.). (2000). *Qualitative research in health care* (2nd ed.). London: BMJ Books.

Minton, E. (1997). Medics in the emergency room: A Michigan paramedic explains how it can work. *Journal of Emergency Medical Services*, 22(1), 70-72, 74-76.

National Emergency Nurses' Affiliation Inc. (1996). Role of the paramedic in the emergency department. *Position Statements, A-9-1.*

O'Connor, J., and McDermott, I. (1997). *The art of systems thinking: Essential skills for creativity and problem solving.* London: Thorsons.

Page, D. (2000). Paramedics - above and beyond. *Hospital and Health Networks,* 74(3), 30.

Palys, T. (1997). *Research decisions: Quantitative and qualitative perspectives* (2nd ed.). Toronto: Harcourt Canada Ltd.

Paramedic Association of Canada. (2002). *The need for quality health care by paramedics: Canada's front line of emergency medical services*. Paper presented at the meeting of the Submission to the Romanow Commission on the Future of Health care in Canada. Retrieved September 6, 2002 from http://www.paramedic.ca

Regina Health District (2001). *Regina Health District financial plan: A three year strategic plan for financial sustainability*

Regina Health District (2002). *Regina Health District annual report 2001-2002.* Regina

Regina Health District Emergency Medical Services (2001). *2000/2001 performance review*. Regina

Regina Qu'Appelle Health Region (2002a). It's Official! RHA #4 is created with proclamation of Bill 61. *Transitions,* (11). Retrieved December 7, 2002, from http://www.rehealth.ca/inside/publications/transitions/pdf_files/transitions_07august02.pdf

Regina Qu'Appelle Health Region. (2002b). *Regina Qu'Appelle Health Region*. Retrieved December 5, 2002, from http://www.rqhealth.ca

Saskatchewan Finance (2002). *Meeting the challenge for Saskatchewan people*. Government of Saskatchewan Web Site. Retrieved March 30, 2002, from http://www.gov.sk.ca/finance/budget/budget02/0203budgetbook.pdf

Saskatchewan Medical Association (2001). *Brief to the standing committee on health care.* Saskatchewan Medical Association Web Site. Retrieved April 5, 2002, from http://www.sma.sk.ca/communications/policy/Fyke_Commission_Response.pdf

Saskatchewan Union of Nurses. (2001, November 15). *Nurses Alberta bound, says SUN.* Retrieved March 29, 2002, from http://sun-nurses.sk.ca/media/2001/nov_16.html

Schein, E. (1999). *The corporate survival guide.* San Francisco: Jossey-Bass Inc.

Senge, P. (1990). *The fifth discipline: the art and practice of the learning organization.* New York: Doubleday.

Southam Medical Database, Canadian Institute for Health Information (2000). *Table 5: Average age of physicians by physician type and province/territory, Canada, 1996 and 2000.* Canadian Institute for Health Information Web Site. Retrieved April 5, 2002, from http://www.cihi.ca/medrls/09aug2001/table_5.shtml

Stevenson, B., and Hamilton, M. (2001). How does complexity inform community, how does community inform complexity? *Emergence,* 3(2), 57-77.

Swenson, W. (2001). *The paramedic project: Royal University Hospital.* Saskatoon: Saskatoon District Health.

Syndics Research Corporation (1999, July). *EMT/paramedics working in the emergency department survey* (Prepared for the American College of Emergency Physicians). Retrieved March 28, 2002 from http://www.acep.org/library/pdf/acep1210.pdf

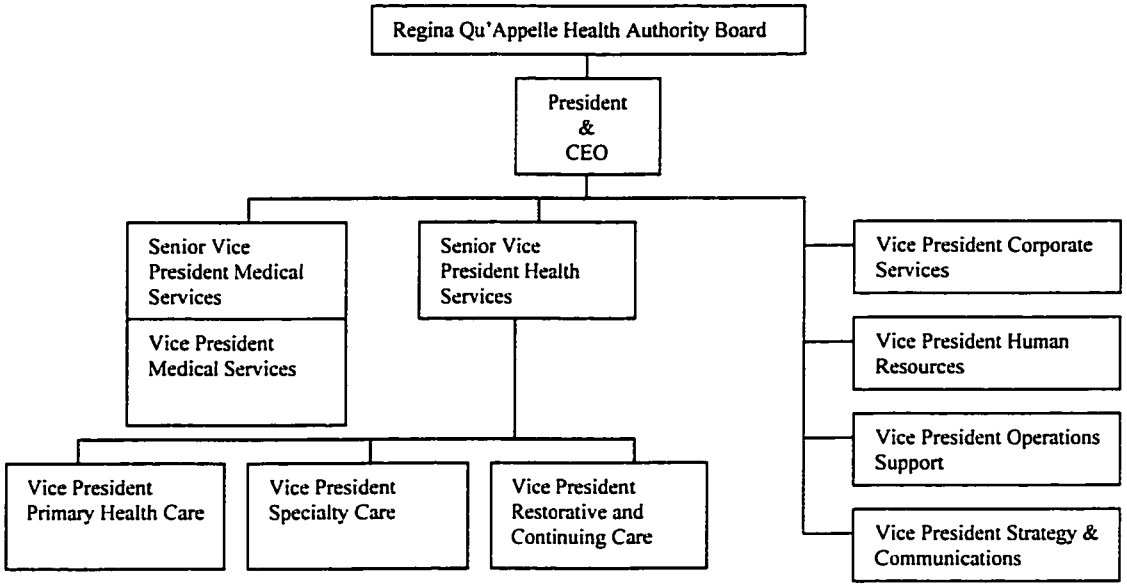
Wadsworth, B. J. (1989). *Piaget's theory of cognitive and affective development.* New York: Longman Inc.

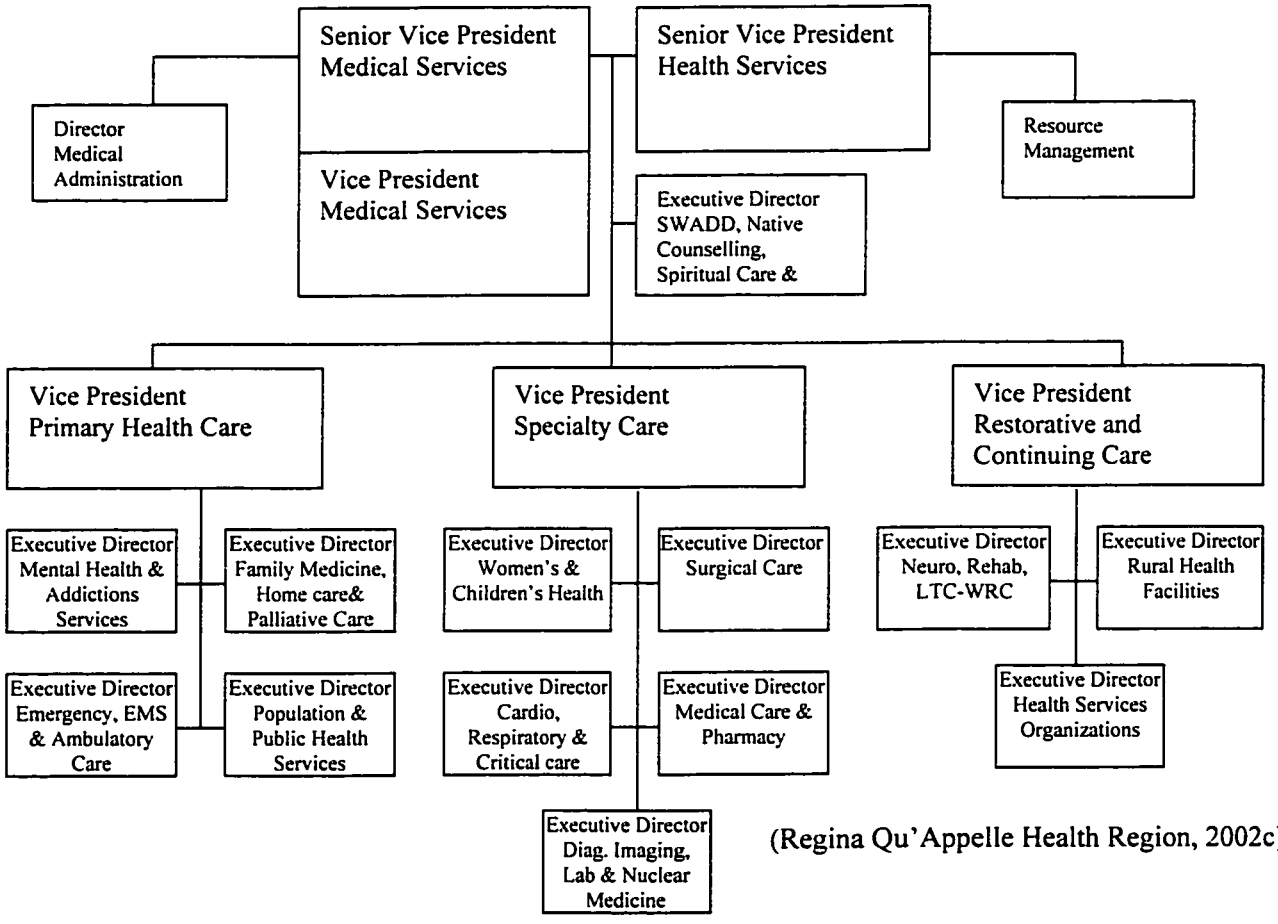
Westra, B. (1983). Prehospital care providers in the emergency department. *Journal of Emergency Nursing*, 9(5), 241-244.

Yukl, G. (2002). *Leadership in organizations* (5th ed.). Upper Saddle River, New Jersey: Prentice –Hall.

APPENDIX A

Regina Qu'Appelle Health Region
Health Services Organizational Chart





(Regina Qu'Appelle Health Region, 2002c)

APPENDIX B

FOCUS GROUP QUESTIONS

December 9, 2002

Royal University Hospital,
Saskatoon, Saskatchewan

1. **How would you describe this project to someone outside your hospital?**
    - What would you say was good about it?
    - What would you like to see changed?

2. **What factors contributed to the success of introducing paramedics into the ED?**
    - Was any particular thing ...particular person ... the key to success?

3. **What barriers did you have to overcome to achieve success, and how did you overcome them?**
    - Internal pressures
    - Culture
    - External/professional pressures

4. **What advice would you give to another hospital considering introducing paramedics into the ED? What would you recommend doing and not doing?**
    - What do you think is the best way to build support for such a project?

5. **Where would you like to see this project in the future?**

APPENDIX C

PARAMEDIC ORIENTATION 2002

APPROXIMATELY 3 WEEKS

		4	PRECEPTOR (BUDDY) SHIFTS – 12 HR
THEORY	DAY	1	UNIT SPECIFIC
	DAY	2	ASSESSMENT/DOCUMENTATION
	DAY	3	ECG 1 / 11 CARDIAC DRUGS
			DEFIBRILLATION/CARDIOVERSION
			PACING/ACLS/DEMO STATION
			- ART / CVP ICP
	DAY	4	INTRO TO 12 LEADS
			ACUTE CORONARY SYNDROMES
	DAY	5	PEDIATRICS
	DAY	6	SYSTEMS
	DAY	7	TRAUMA
	DAY	8	SYSTEMS / REVIEW
		64	HRS THEORY 48 HRS CLINICAL = 112 HOURS

LEARNING PACKAGES / CERTIFICATION

PACING	CHEST TUBES
DEFIBRILLATION	SUCTIONING
I.V. PUSH	N/G WITHOUT A GAG
CARE OF ETT	I.C.P.
CENTRAL VENOUS LINE	HEMODYNAMIC / ART / CVP
	ECG 1 / 11

S:\nursing office\pat\emerg\patti\paramedic orientation 2002

Used with permission of P. Simonar

APPENDIX D

Royal Roads University
Organizational Leadership and Learning Programs Division
MALT 2001-1A
Organizational Consulting Project

RESEARCH CONSENT FORM

This research project is part of the requirement for a Master of Arts in Leadership and Training (MALT). As such, the final project will be accessible by the public.

The student concerned is **Glen Perchie**. Mr. Perchie's credentials with Royal Roads University can be established by telephoning either Dr. Gerry Nixon, Dean of Royal Roads University Organizational Learning and Leadership Division, at (250) 391-2569 or Ms. Angella Wilson, Program Associate, MALT, at (250) 391-2589. Mr. Perchie is also the Executive Director of EMS, ER and Ambulatory Care for the Regina Qu'Appelle Health Region.

This document constitutes an agreement to take part in a research program, the objective of which is to inquire whether Paramedics can complement the work of nurses and physicians within the Emergency Department setting.

The research will consist of a number of open-ended discussion topics and is foreseen to last between 3 and 4 hours. If possible, this work will be completed over two separate days of approximately 1.5 to 2 hours each. The foreseen questions will refer to the roles, success, and challenges of implementing paramedics as members of the emergency department team. Your team's recommendations as to whether this should be investigated in other health regions, including Regina and if so, how this might be achieved, will also be asked.

Information will be recorded via audiotape and in hand-written format. Where appropriate, it will be summarized, in anonymous format, in the body of the final report. At no time will any specific comments be attributed to any individual unless specific agreement has been obtained beforehand. Due to the small size of the focus group, some themes may be identifiable to specific individuals representing the specific professions.

A copy of the final report will be housed at Royal Roads University.

Prospective research subjects are not compelled to take part in this research project. If an individual does elect to take part, she or he is free to withdraw at any time with no prejudice and any personal data will be removed if requested. Similarly, if employees or other individuals elect not to take part in this research project, this information will also be maintained in confidence.

By signing this letter, the individual gives free and informed consent to participating in this project and gives the researcher permission to use such information given for stated purpose of research.

Name: (Please Print): _____

Signed: _____

Date: _____