

**THE SOCIAL CONSTRUCTION OF INTENSIVE CARE NURSING, 1960-2002:
CANADIAN HISTORICAL PERSPECTIVES**

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ABSTRACT

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Intensive care units (ICUs) emerged across Canada during the early 1960s, significantly contributing to the image of Western hospitals as places of scientific advancement that predominated over much of the twentieth century. ICUs rapidly became both a resource intensive and expensive type of care as the number and size of units increased to accommodate diverse patient populations and treatment options. Nurses enabled the formation and growth of ICUs through their constant presence and skilled care. There has been limited research, however, regarding the historical development of Canadian ICUs, the relationships between nurses and other personnel in such units, how they developed an identity as ICU nurses, or how ICU nursing became a specialty practice.

Situated within the broader histories of hospitals, healthcare, and nursing, this study uses a social history approach to examine nurses' experiences within Canadian ICUs between 1960 and 2002. Berger and Luckmann's Social Construction of Reality provided a lens for analysis and interpretation of oral histories, photographs, professional literature of the time period under study, and both archival and organizational records. This thesis argues that ICU nurses' relationships with one another, in the context of a technologically complex environment, socially constructed their knowledge and skill acquisition, their socialization as ICU nurses, and the development of a specialized body of knowledge that ultimately led to formal recognition of ICU nursing as a specialty in Canada.

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“Good, better, best – never let it rest...until your good is better than your best!”

(Tim Duncan, adapted and attributed to James “Rodger” Meek, 1954 – 2012)

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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome (AIDS)
ANT	Actor Network Theory (ANT)
AKU	Acute Kidney Unit (AKU)
ABC	Airway, Breathing, Circulation (ABC)
AACN	American Association of Critical Care Nurses (AACN)
ANA	American Nurses Association (ANA)
ALS	Amyotrophic Lateral Sclerosis (ALS)
BCIT	British Columbia Institute of Technology (BCIT)
CACCN	Canadian Association of Critical Care Nurses (CACCN)
CNA	Canadian Nurses' Association (CNA)
CVP	Central Venous Pressure (CVP)
CEO	Chief Executive Officer (CEO)
CRRT	Continuous Renal Replacement Therapy (CRRT)
CGH	Cornwall General Hospital (CGH)
CCU	Coronary Care Unit (CCU)
ECG or EKG	Electrocardiogram (ECG or EKG)
ER	Emergency Room (ER)
HSC	Health Sciences Centre (HSC)
HIDA	Hospital Insurance and Diagnostic Act (HIDA)
HUP	Hospital of the University of Pennsylvania (HUP)
HIV	Human Immunodeficiency Virus (HIV)
IT	Information Technology (IT)
ICU	Intensive Care Unit (ICU)
ICP	Intracranial Pressure (ICP)
IV	Intravenous (IV)
KGH	Kingston General Hospital (KGH)
NSCCN	National Society of Critical Care Nurses (NSCCN)
NICU	Neonatal Intensive Care Unit (NICU)
OR	Operating Room (OR)
OCH	Ottawa Civic Hospital (OCH)
PICU	Pediatric Intensive Care Unit (PICU)
RT	Respiratory Technician/Therapist (RT)
SARS	Severe Acute Respiratory Syndrome (SARS)
SCOT	Social Construction of Technology (SCOT)
TD	Technological Determinism (TD)
VON	Victorian Order of Nurses (VON)
WHG	Winnipeg General Hospital (WHG)

INTRODUCTION

Intensive care units (ICUs) began to emerge across Canada in the early 1960s, significantly contributing to the image of Western hospitals as places of scientific advancement that prevailed over much of the twentieth century. ICUs rapidly became both a resource intensive and expensive type of care as the number and size of units increased to accommodate diverse patient populations and treatment. For example, ICU expenditures in the province of Ontario alone increased from \$475 million between 1999 to 2000, to \$662 million from 2003 to 2004.¹ Nurses constituted the largest body of healthcare providers in ICUs and yet, there has been very limited research regarding the historical development of Canadian ICUs, ICU nursing, or how nurses shaped care in ICUs. This study aims to explore the relationships between nurses and other personnel in such units, how they developed an identity as ICU nurses, how ICU nursing became a recognized specialty practice, and the implications of this historical research for the future of ICUs.²

RESEARCHER'S STANCE

The origin for this research study was two-fold. First, the idea stemmed from research that I conducted for my Master of Nursing Science thesis. That research was a phenomenological study that explored Intensive Care Unit (ICU) nurses' experience of caring for patients and families during the process of withdrawing life-sustaining treatment.³ In that study, a participant alluded to the changes that had taken place in critical care over her more than thirty years as an ICU nurse. She elaborated upon changing patient populations as well as the use of technology in ICUs and how it had also changed

significantly over time. I found myself curious about the historical development of ICUs and ICU nursing – what had changed and how? Secondly, as an ICU nurse in a medical-surgical Intensive Care Unit, I have always found myself intrigued by the work of my colleagues and how they became knowledgeable, skilled, compassionate, and committed ICU nurses. While inside the ICU itself, there is an assumed understanding of what ICU nurses do, what they know and how vital they are to patient care. Outside of the ICU, however, most of their experiences and stories go untold. Ultimately, this thesis provides a glimpse, and an interpretation of how ICU nursing in Canada developed.

As a critical care nurse, I acknowledge that I bring an insider perspective to many aspects of this thesis since I have practiced in critical care from 2003 as an ICU nurse and as a researcher. But I am also at times an outsider mainly because of the historical nature of this study and the chosen time frames. Building on my skills as a qualitative researcher, this study has presented me with opportunities to explore and understand new ways of collecting and analyzing data and new ways of knowing using historical methods. My chosen thesis supervisors have also provided me with guidance throughout this project and have given me balance and a critical perspective on my position as both an insider and outsider throughout the research process.

This study used a social history approach to examine the emergence of specialty nursing within Canadian Intensive Care Units from 1960 to 2002. In the tradition of social history, this study explored ICU nurses' work in relation to the social, economic, and political contexts of ICUs. It focused on the centrality of nurses' roles: work, work relationships, the development of specialty knowledge, and nurses' engagement with

technology. It revealed both continuity (fundamental elements of ICU nursing that have remained steadfast), as well as changes over time.

The Social Construction of Reality framework provided a lens for interpretation of how nurses' work (as front-line, rank and file workers) shaped, and was shaped by, various relationships that structured a new practice area within the discipline. Social construction is a process by which groups of people and organizations eventually come to an agreed upon understanding about what constitutes a particular context or an event – in this case, what constituted ICU nursing as a new specialty practice. All of the actors who have a stake in the process participate in various ways, at different times. It was not inevitable that ICUs developed the way that they did – people, their choices, their actions and their influence within the larger hospital/health care system, all contributed to how these units developed.

Social construction is an on-going process between everyone who is a player in a given situation. Acknowledging that ICU nursing was socially constructed doesn't necessarily imply that nurses intentionally set out to define a particular practice area. Rather, they participated in the process along with a multitude of other people and influences from within and outside of ICUs and hospital settings. Not everyone with a stake in the emerging specialty practice held equal power, and power shifted over time among players. Nurses found, however, that they were able to influence new practices in ICU care substantially. Their power extended into determining content and knowledge of ICU nursing and at later periods, into decisions about technology and ultimately “who” could be an ICU nurse.

ICU nursing became a legitimate nursing specialty in Canada and the nurses who practiced there developed a lasting identity as ICU nurses that defined their careers. The critical importance of ICU nurses' relationships with one another emerged as a dominant

theme in this research. I argue from a historical perspective that ICU nurses' relationships with one another, in the context of a technologically complex environment, were socially constructed by diverse influences. The social construction of ICU nursing included their knowledge development and skill acquisition, their socialization as ICU nurses, and the development of a specialized body of knowledge that eventually led to formal recognition of ICU nursing as a specialty in Canada.

The terms intensive care and critical care are often used interchangeably today. Julie Fairman and Joan Lynaugh indicate that while the term critical care is relatively new, the concept itself is not. Fairman and Lynaugh defined criteria for critical care as follows: “[t]he person who needs critical care must be physiologically unstable, at risk, or in danger of dying ... intensive care is usually given to the person in the expectation or hope (however slim) of recovery.”⁴ Critical care nursing has become an umbrella term for nurses working in areas like intensive care units, emergency departments, recovery rooms, and coronary care units.⁵ From a Canadian perspective, critical care was initially indexed as intensive care in the professional journal *Canadian Nurse*, until the late 1970s. My focus for this research is limited to nurses who worked in Intensive Care Units (including adult, neonatal, and pediatric ICUs). In discussions related to the development of the Canadian Association of Critical Care Nurses, and the Canadian Nurses' Association Certification Program, both terms are used as applicable to the contexts.

SCOPE AND OBJECTIVES OF THE STUDY

The period under study (1960-2002) is based on anecdotal and limited historical evidence suggesting that ICUs began to emerge in Canadian hospitals during the early

1960s.⁶ The research of American historians, Julie Fairman and Jacqueline Zalusus, provides useful starting points to begin exploring the nature of Canadian nurses' work in the ICU. Fairman provides evidence to suggest that in the United States of America, ICUs began to emerge in the early to mid-1950s (the lag in time between American and Canadian ICUs will require further study). Zalusus broadly suggests that American ICUs emerged in the years following the Second World War.⁷ From a Canadian perspective, according to Deborah Hamilton, an ICU opened at the Vancouver General Hospital in Vancouver, British Columbia in 1967.⁸ However, further research indicates that Canadian ICUs existed elsewhere at least as early as 1961.⁹ By 2002, ICU nurses, physicians, and other members of the health care team began to extend care beyond the physical boundaries of ICUs in the form of rapid response and emergency response teams that intervened with patients on the cusp of critical events in various hospital spaces and places.¹⁰ As such, 2002 is a useful end point for this study.

Four objectives guided this research:

1. To explore the nature of ICU nurses' work as it was situated within the larger health care system over the period 1960-2002;
2. To examine the nature of ICU nurses' work from 1960-2002;
3. To explore the relationships between and among ICU nurses, other health care providers, patients, and families in these units during the period;
4. To explore relationships between ICU nurses and technology.

HISTORIOGRAPHY

In order to better understand the context in which Canadian ICUs and subsequently ICU nursing developed, it is important to situate their development within broader historical fields. The history of Canadian ICU nursing intersects with the fields of hospital and Medicare history, the history of technology as related to nursing, the history of nursing in Canada and most specifically, within the developing history of ICUs and ICU nursing. These historical fields provided the social, political, and economic histories of the related time period, acknowledging that these contexts changed significantly over time and influenced the development of ICU nursing.

Hospital and Medicare History

The time frame from 1960 to 2002 encompasses three distinct periods in Canadian health care: pre-Medicare, the establishment of Medicare, and a later period of health care reform when Medicare came under attack. The years following the Second World War saw changing Canadian expectations with respect to health care as well as the formation of a social safety net, including Medicare. With the establishment of Medicare in 1968 the burden of health care costs was removed from the middle class but soon after, the fiscal resources associated with universal health care had an immediate impact on the provincial and federal governments. Strategies for cost containment and responsible management of health care dollars, while simultaneously maintaining a publically funded, not-for-profit system, became a hallmark of Canadian society.

Although ideas about close surveillance of critically ill patients had been around from the beginning of formal nurses' training in Canada (1874), it was not until the post-Second World War era that there was also a political will and the economic resources to fund

intensive care units, a desire by hospitals to have them as symbols of modern care, and a general public optimism in medical science's ability to prolong lives.¹¹ Hospital historians have documented the many reforms that took place in Canadian (and North American) hospitals in the early twentieth century that made them acceptable, even desirable, settings for the treatment of illnesses and injuries.¹² Reforms focused on changing the contemporary image of hospitals from their charitable mandate and care of the indigent, to houses of scientific advancement. James Wishart aptly showed that by the 1930s, hospital propaganda espoused images of hospitals as "shining examples of service, science and success" directed at providing care for all members of society.¹³ David and Rosemary Gagan paraphrased the *Vancouver Daily Province* in writing that hospitals had become the surgeon's workshop where an astonishing quantity and variety of once-fatal procedures were successfully performed daily. It solicited the patronage of all classes in society, advertising itself as a 'specialized hotel' for the scientific treatment of acute illness."¹⁴ Yet, as Wishart argued, class distinction was not completely eliminated and hospitals continued to shape "class inequality from both within and outside their walls."¹⁵ He illustrated that spaces were "constructed with the assumption that the needs, wants and rights of patients from differing class categories were fundamentally different."¹⁶ C. S. Blackwell, the President of the University of Toronto in 1930, stated that the "moneyed class" was naturally disinclined to "occupy a public ward" and that logically, "those who contributed more, ought to receive more and better service."¹⁷ However, ICUs would challenge this distinction, as both men and women and people of all classes would be cared for in one physical place.

Similar to other countries, the post-Second World War years in Canada were a time of relative prosperity.¹⁸ Rapid economic growth allowed for low unemployment rates and

despite escalating costs in food prices and consumer goods, working Canadians saw improvements in living standards and the 40-hour workweek became the new norm.¹⁹ Public perceptions regarding hospital care shifted from one where care in the home was equated with social respectability (thereby avoiding the need for care in a publically funded hospital), to social acceptance of hospital care which demarked “patients of means” who could afford to pay for such care.²⁰ Although there was relative economic prosperity, hospital costs had a particularly large impact on the middle class. As costs rose, the ability to pay hospital bills differentiated patients again, as the middle class struggled to afford hospital care but still preferred to pay for the privilege of “modern medical science” and social status rather than accept charitable hospital care with its lingering “Victorian stigma of poverty and dependence.”²¹

The strengthening wartime and post-war economy allowed Canadian politicians, under Prime Minister William Lyon Mackenzie King, to begin building the foundations of a universal and comprehensive health care insurance program as part of the new social safety net envisioned for the country. Under Canadian Confederation (1867), health care had been established as a provincial jurisdiction and for the most part, the provinces established independent policies on public health and the regulation of practitioners. The Rowell-Sirois Commission on Dominion-Provincial Relations appointed by the Mackenzie King government (1937) recommended that the government have control over unemployment insurance and pensions (the first social safety net programs initiated) and that ultimately, equalization payments be created to facilitate transfers of money from federal to provincial governments which would impact the distribution of funding to the provinces.²²

In the years following the Second World War historians also argue that a shift began to take place with regards to the public's perception of what constituted healthcare.

Historians Julie Fairman and Joan Lynaugh noted that the American public had a rising faith in the medical model's concept of cure, increasingly expecting treatment for previously untreatable chronic illness. The hospital itself transformed into a "commodity in a competitive environment" and a "temple of expensive accommodations and life-saving treatments."²³

Eugene Vayda and Raisa Deber noted that in the years following the Depression and the Second World War, both the federal and provincial governments were more introspective and focused on domestic affairs.²⁴ In 1948 the Canadian Parliament enacted the National Health Grants Program, marking the first time that the federal government distributed grants-in-aid to the provinces to support various healthcare services and hospital construction.²⁵ At the end of the 1950s, the Hospital Insurance and Diagnostic Act (HIDA) came into effect, which provided for a cost-sharing agreement between the provinces and the federal government to cover the cost of treatment in hospital; it was eventually in place across the country by 1961.

Following the enactment of the HIDA in 1961, there was increased public pressure to cover the prohibitive cost of medical care, although it was adamantly opposed by the Canadian Medical Association, who, fearing "intrusion on a private enterprise" and a negative impact on physician earnings, offered its own system of private insurance coverage.²⁶ The Hall Commission (1961) recommended that the federal government cost-share a universal medical-insurance program based on the recently established Saskatchewan

model.²⁷ By 1968 the Medical Care Act (popularly known as Medicare) was enacted and by 1971, universal, transportable, publicly funded medical care was available across Canada.

While Medicare had successfully removed financial barriers for the public it also positioned the hospital at the epicenter of health care – the most expensive means of delivering services.²⁸ As Vayda and Deber pointed out, between 1961 and 1971, the number of hospital beds increased drastically, at twice the rate of the population, and still hospital bed occupancy in this time period reached 80%.²⁹ However, hospitals now were placed on a relatively stable funding basis, which facilitated the decision to establish and maintain specialized care areas such as the ICUs. As a cardiac surgeon, Dr. Wilbert Keon recalled that his own return to Canada (from Harvard University) to establish the University of Ottawa Heart Institute was largely facilitated by Health Resource Allocation funds that had been made available to five Ontario medical schools in the late 1960s.³⁰ Keon was clear that he wanted to practice where patients' ability to pay for treatment procedures would not restrict access.³¹

The costs of providing healthcare services in hospitals became immediately evident as they steadily increased under Medicare. Vayda and Deber noted that the total healthcare expenditures increased from \$3.3 billion in 1965 to \$40 billion in 1985.³² Philip Jacobs and Thomas Noseworthy estimated that between 1969 and 1986 in Canada, ICU utilization grew by 4.8% annually. The ratios of ICU to non-ICU costs were approximately 3:1. ICU costs accounted for approximately 1.3 billion health care dollars in 1986 alone. ICUs and the care provided within them would be shaped and re-shaped by the tensions between societal expectations and the need for fiscal responsibility.³³ As universal healthcare became firmly entrenched as a main pillar and value in Canadian society, it continued to generate a variety

of fiscal and ethical debates that ebbed and flowed over the following decades concerning the concept of cure and who should/should not be treated in ICUs.

ICUs housed more technology and advanced medical care techniques than could be provided on traditional hospital wards. ICUs provided a space and place where the necessary resources (trained personnel and equipment) were readily available and where new techniques and procedures could be tried out, typically as a last resort to save lives in otherwise hopeless patient situations. While not all technologies used in ICUs were new, the environment quickly became known as one that was technologically complex and requiring additional nursing skills to work there.³⁴ ICUs became both expensive and resource intensive.

History of Technology Related to Nursing

Historical examinations of medical technology are useful to understand the development of ICUs and how technology is situated within ICU nursing practice. Defining technology is the first challenge. Ruth Cowan has suggested that the definition of what constitutes technology can become so increasingly large that it is difficult to determine what is not technology.³⁵ Wiebe Bijker, Thomas Hughes, and Trevor Pinch defined technology by describing three different levels of understanding.³⁶ The first level focuses on the specific machine or equipment; the second includes the various activities and procedural knowledge required to use the machines or equipment; and the third considers the specialized knowledge that develops related to its use.³⁷ Joel Howell drew on this perspective to explore the transformation of hospitals in the early twentieth century in the United States, expanding our understanding of what constituted “technology” for different time periods. He demonstrated that the simple availability of certain technologies did not automatically imply

their use in patient care but rather that the incorporation of technologies was linked to societal influences and expectations.³⁸ Using case examples, he examined how technology and its application changed between 1900 and 1925.³⁹ Clinical observation formed the basis of a physician's diagnosis in 1900, for example, but by 1925, physicians were incorporating laboratory data (like urinalysis) and imaging (like x-rays) into the formation of their diagnosis. Howell grouped technologies into hard (including urinalysis, x-ray, and blood counts) and soft (hospital organization, operating room design, and medical records), acknowledging that these technologies and their use in patient care were largely shaped by a host of social circumstances.

The perspective of technology provided by Bijker, Hughes, and Pinch is particularly useful for understanding ICU nursing because it extends the definition from focusing only on artifacts (such as mechanical ventilators) to viewing knowledge as technology (like the knowledge required to care for a patient on that mechanical ventilator). The growing body of historical accounts related to nursing and technology has helped to illuminate the various types of technologies used by nurses, even if, as Margarete Sandelowski suggested, nurses might not consider them technological tools.⁴⁰ Echoing the work of Howell, authors Alan Barnard and Sandelowski suggested that “[w]hat any technology is at any moment in time is increasingly understood to depend on the eye of the beholder, the hand of the user, and the technological systems that influence integration and use.”⁴¹

As historian Kathryn McPherson pointed out, most nurses worked outside hospitals in private duty until the 1940s. Those employed, for example, by the Victorian Order of Nurses (VON) or at outpost stations across the country, carried black bags containing items such as forceps, alcohol, and rubber gloves. She noted that where supplies were scarce,

nurses became expert at improvisation, *creating* the necessary medical supplies when the situation or need arose.⁴² Jayne Elliott argued that, with almost as many births taking place in women's homes as there were in the Red Cross outposts between 1922 and 1945, the nurses literally moved the outpost (and its associated equipment/technology) to the home with the help of the maternity kit, which contained necessary supplies including rubber sheets, sterile dressings, linens, and new baby clothes. These outpost nurses in attempting to recreate the hospital setting with the means that they had available, provided them with a certain sense of security and safety, despite being away from the outpost.⁴³

Cynthia Toman explicitly used blood transfusion as a case study to highlight the delegation of medical technology to nurses.⁴⁴ She concluded that the train disaster on 27 December 1942 in Almonte, Ontario, helped shape new nursing roles by increasing the visibility of and call for civilian use of blood transfusion, which at the same time provided nurses with opportunities to develop new knowledge and skills. Her work contributes to the literature, arguing that the need for a skilled nursing workforce to implement increasingly complicated medical technologies used in patient care, forced the hospitals to increasingly employ graduate nurses through the 1960s and 70s (replacing the predominantly student nurse workforce in hospitals during much of the twentieth century).⁴⁵

Julie Fairman, in her research related to ICUs, explored technology from various perspectives including those more commonly associated with the history of technology – most specifically technological systems. She argued that by incorporating perspectives from the history of technology, technology is no longer viewed as neutral and “can be seen as part of a political, social, and economic process, influenced by gender, and encompassing more than the individual nurse and a particular machine.”⁴⁶ She suggests that using other

perspectives to explore the nurse-technology relationship facilitates a more in-depth understanding of nurses not simply as users of technology but as “nurses [who] made choices about technology that deeply influenced patient care.” In analyzing the nurse practitioner movement of the 1950s and 1960s in the United States, Fairman also suggested that technological systems were gendered and predominantly viewed as masculine (meaning they were perceived as more “objective and technical” than “intuitive [and] empathetic”, attributes considered feminine).⁴⁷ She pointed out, however, that the agency of nurses helped to re-shape “traditional male knowledge domains” – a perspective that has often been dismissed by feminist historians.⁴⁸ The agency of ICU nurses, for example, demonstrated that they became experts regarding technology, its use in patient care and the knowledge required to safely integrate technology into ICU nursing practice.

Margarete Sandelowski furthered our understanding of the nature of the nurse-technology relationship by exploring how gender influenced technology in the context of American nursing.⁴⁹ Sandelowski explored how nurses have over time used technology to leverage themselves professionally and to move away from the “body work” (also referred to sociologically as “dirty work”) commonly associated with nursing.⁵⁰ She demonstrates the complexity that is inherent in analyzing technology itself as well as the role that context plays with regards to its use, and ultimately, to the agency of a technology. For example, Sandelowski explores the agency of fetal ultrasound – when unused it is simply a piece of equipment, when in use it becomes a diagnostic tool for physicians, and when expectant parents are part of the context it becomes an added dimension to parent-fetus bonding.⁵¹

Sandelowski identified several debates regarding nurses and technology in the post-World War II period particularly regarding “true” nursing (traditional, hands on care

including bathing and largely associated with women's work) and "technical" nursing (modernized, increasingly technological and scientifically driven).⁵² Nurses, she argues, used technology to leverage themselves professionally and in the eyes of the physician group as well. Part of the debate stemmed from a difficulty discerning what nursing "ought to be" and what nursing "was". She argues that in this era nurses moved from behind the screens of monitors to engage in a "hermeneutic practice in front of screens" where they would work in and amongst the technology as well as with patients.⁵³

Changes in technology as well as the complexity of patient care would impact both nursing education and nursing practice. Education and professional status, especially debates about professional versus technical nursing, would dominate over the latter part of the twentieth century.

Canadian Nursing History

Over the past twenty years the body of Canadian nursing history has grown substantially. It has evolved from relatively chronological historical accounts to complex analyses using multiple theoretical perspectives.⁵⁴ Kathryn McPherson, for example, studied the transformation of nursing in Canada from 1900 to 1990 using the concept of "generations" as a useful way of historically categorizing nurses. She explained that analyzing nurses' work in terms of generations facilitated the capture of specific political and economic conditions that characterized nurses' experiences within the health care system. Over the century, certain experiences and similarities helped distinguish one generation (or cohort) from the next.

The scope of this current study on ICUs spans the fourth and fifth generations of McPherson's generations of nurses and suggests a sixth.⁵⁵ The fourth generation (1942-

1968) experienced increasing demand for hospital services that created a corresponding need for nurses, while the fifth generation (1968-1990) worked in a society supported by Medicare and was influenced by the unionization of the profession. McPherson's work provides a useful starting point to explore the nature of nursing work in the years following and the idea of nursing generations can therefore be extended into the 1990s and beyond by exploring what nurses in that period held in common and what distinguished them as a cohort.

Several important aspects that have been explored by historians contribute specifically to the interpretation of the data in this study, namely nursing education in Canada, professionalization, and unionization. As historian Lynn Kirkwood suggests, "[t]raining schools for nurses emerged as a means of improving hospital organizations and increasing the quality of service to patients."⁵⁶ Over the course of the twentieth century, nursing education in Canada would undergo many changes, including the closing of training schools and the delivering of nursing education in community colleges and universities. The decision to make this transition in the delivery of nursing education was twofold – first, as a recommendation of the 1932 Weir Report and second, as a result of an increasingly acute patient population that was too complex to be cared for by a predominantly student nursing staff.⁵⁷

Although much of the nursing elite had been calling for changes to nurse education since the early 1900s, it was not until the 1960s that any substantial efforts were made. At that time, Dr. Helen K. Mussallem, executive director of the Canadian Nurses' Association (1963-1981), led two strategic studies on nursing education, challenging traditional ways of preparing nurses for practice. One study, *Spotlight on Nursing Education in Canada*,

questioned the educational preparation for nurses in Canada and recommended “that a program of accreditation for the schools of nursing be developed by the Canadian Nurses’ Association” as no formal means of evaluating nursing education were in place at that time.⁵⁸ The other study, *The Royal Commission on Health Services: Nursing Education in Canada*, generated a multitude of educational debates during the 1960s, especially debates on the two- and three-year hospital-based nursing programs versus university level education for nurses.⁵⁹

At least one university program in nursing had been established in Canada by 1918, yet debates regarding where nurses should be educated was an on-going issue throughout the twentieth century. As Kirkwood states: [w]ithin the university, nurses faced deep seated prejudices about female intellectual inferiority.”⁶⁰ While she acknowledges that this was also experienced by women in general, she added that “[n]ot only were nurses women, but they were perceived to be doing women’s ‘natural’ work, for which university education was not seen to be necessary.”⁶¹ Nursing education within the university setting was also linked with the professionalization movement within nursing. Kirkwood notes that by the 1960s, universities adopted the recommendation of the Royal Commission spearheaded by Mussallem and the move towards integrating nursing education into this setting was solidified. It would take until 2005 for all provinces (with the exception of Québec) to require degree status for entry to nursing practice.⁶²

By the mid-1900s, Canadian nurses were in the midst of a struggle to establish nursing as a profession and education played a part in this debate as well. Diana Mansell and Dianne Dodd drew on the work of Margaret Levi in highlighting what Levi had described as the criteria for a profession.⁶³ To gain professional status nurses required at

minimum a national professional association, a code of ethics, the requirement of an advanced degree (college or university), and the performance of full-time work.⁶⁴ Levi added that it was also necessary to demonstrate “nonsubstitutability in the work [nurses] do,” establishing nursing as having a distinct body of knowledge and work that could not be done by others.⁶⁵ Discussions regarding nursing as a profession were plentiful in *Canadian Nurse* publications, particularly in the 1960s. While nurses in Canada had already met several of the criteria that Levi suggested by the 1960s, they continued to struggle with nursing education (particularly with respect to nursing requiring a degree) and a distinct body of knowledge. With the achievement of the baccalaureate as the recognized standard for entry to practice, Canadian nurses had seemingly closed the loop of the professionalism debate. But ICU nurses, like other specialty areas within the profession, complicated the professionalization and education debates further by introducing the possibility of specialty practice knowledge and calling into question, where and how specialty practice nurses should be educated.

Unionization would also play a pivotal role in Canadian nursing history. Unionization impacted the structure of nursing’s professional associations and in some instances stratified the associations into three separate entities: professional associations, regulatory (licensing) bodies, and unions. In the year’s following the Second World War, nurses became increasingly vocal about their dissatisfaction with their work. Aside from their roles of providing direct patient care, nurses, as Richardson points out, also did a significant amount of non-nursing duties which included housekeeping (like cleaning furniture, doing laundry) as well as washing and testing out equipment. With changes in Canadian legislation that had taken place during the Second World War, employees could

have the option of union representation if they pursued it. Nurses, however, initially rejected unionization as it was in direct opposition to the altruistic nature of their work and their perceptions of being professionals. As Richardson states:

The spectre of nurses putting their needs ahead of their patients and possibly withholding services to enforce demands, unnerved many of them. The gendered nature of nursing also meant that hospital staff nurses espoused the values of womanhood held by society at large: patience, respect for authority, and above all, putting others' needs ahead of one's own.⁶⁶

Over the rest of the century, nurses tried other strategies to bargain with employers regarding their work conditions. Under the influence of Second Wave Feminism, women (including nurses) began to reject the perceptions of unionization and bargaining as unladylike and unethical.⁶⁷ Richardson points out that “unions appearing before the federal Royal Commission on the Status of Women in 1967 stressed married women's right to work, the need to accept two-income families, and women's right to better education” – all of which were key factors that would impact on nursing as long term employment for women, the ability to remain in practice long enough to develop specialty knowledge, and on their educational endeavours.⁶⁸ Richardson adds that:

The increasing unionization of women also reflected the ideals of the feminist movement and new family ideal, no longer based on adult women confined to the home as wives and mothers. Young women were demanding equal access to post-secondary education, but they also continued to marry and have children. The new dual income, shared parenting model was reflected in a conspicuous change in the Canadian nursing labour force. By 1990, married women comprised more than 70 percent of the nursing workforce whereas 30 years earlier, only one in four practising nurses was married.⁶⁹

Unionization would come to have both positive and negative effects of specialty practice in terms of benefits as well as the impact of seniority on ICU staffing during times of lay-offs and downsizing.

The history of ICU nursing in Canada intersects with these themes that have been highlighted regarding the broader context of nursing in Canada. Education beyond what could be provided in basic nursing training would become a requirement for ICU nurses. ICU nurses would also be impacted by unionization in both positive and negative ways. The professionalization of nurses would also flourish with the development of other professional nursing associations established through the development and acknowledgement of areas of specialty nursing practice. Specialty nursing practice would also help to situate nursing knowledge not only as a distinct body of knowledge but as a distinct body of knowledge that could be further stratified into other areas of specialty practice within the larger discipline. The development of ICU nursing would also challenge debates of nursing knowledge as women's knowledge while nurses shaped their roles in ways that challenged patriarchal relationships but did not eliminate them completely.

ICU and ICU Nursing History

Nursing historiography clearly demonstrates that, since at least the early 1900s, nurses re-located patients who needed special attention and watchful care in closer proximity to their working spaces (i.e. to the nursing station) to allow for better observation and timely intervention.⁷⁰ But prior to the formally structured and established ICU, Julie Fairman noted that critically ill patients were still often stumbled upon because neither the physical structure of the ward nor the ratio of patients to nurses allowed for prolonged direct observation of patients.⁷¹ The ICU partially addressed this problem by providing a defined

space for critically ill patients with concentrated nursing care, specialized equipment readily available, and a significantly reduced patient-to-nurse ratio.⁷² ICUs also facilitated the care of complicated post-operative surgical patients by providing a designated space for those patients requiring closer monitoring after recovery rooms closed for the day. Otherwise, those patients would have finished their recovery on the general wards.⁷³ Limited scholarship exists on the historical development of ICUs in Canada, and even less on nurses' work and the relationships they formed in ICUs, but six historical accounts provide a critical starting point as they offer both a conceptual and chronological basis for this study.

Mark Hilberman, in a chronological account of the origins of ICUs, emphasized that they created a space for specialized nurses and dedicated physicians to care for patients requiring intensive and technologically complex care.⁷⁴ Robert Bulander, in a social history of American ICUs from 1950 to 1965, argued that a mismatch between available graduate nursing labour and a growing demand for hospital services led hospital administrators to use the ICU and a specially trained nursing corps to care for the sickest patients in a concentrated area. Bulander noted that nurses would require both training and a certain type of personality to work in the ICU environment.⁷⁵ Julie Fairman and Joan Lynaugh explored the development of the ICU from the perspective of space and physical structure, arguing that new hospitals, with their increased popularity and increasing complexity of patient care, required new spaces (ICUs) and new nurses (specially trained nurses to work in ICU) to meet these demands.⁷⁶ Jacqueline Zalusus, on the other hand, focused on the frontline experiences of ICU nurses during the 1980s through oral histories. Zalusus explored ICU nursing in the United States from a broad perspective aiming to “explore the evolution and contemporary practice of critical care nursing from the perspective of the practicing nurse.”⁷⁷

In exploring the development of critical care in England, Cheryl Crocker explored the use of the terms intensive care and critical care. More specifically, Crocker elaborated on the contributions of nursing to this context of care and suggests that caring for patients grouped together was a “technological innovation in itself” and “what made it successful was the fact that nurses adapted and developed knowledge and skills to enable them to provide the detailed observation of critically ill patients with or without technological adjuncts.”⁷⁸ From a Canadian perspective, Deborah Hamilton explored the development of an ICU at the Vancouver General Hospital from the perspective of nurses’ experience at that particular hospital. Hamilton explored aspects of nursing education and nurses’ relationships with technology, and incorporated gender and place and space into her analysis.⁷⁹

While these historical studies explored the chronology of the development of ICUs, the physical space of ICUs, aspects of the nursing role (for example, working with specific medical technology such as the Swan Ganz catheter and with members of the health care team, namely physicians), as well as early ICU education and training, this thesis contributes a different perspective and explores in depth the socially constructed nature of ICU nurses’ work and knowledge development, including their encounters with technology, the social construction of ICU nursing as a recognized specialty practice in Canada, as well as the construction of ICU nursing as a lasting identity.

THEORETICAL CONSIDERATIONS

Although recent scholarship in nursing history readily acknowledges and utilizes social history approaches, thereby exploring the experiences of rank-and-file nurses, this was not always the case. Until the 1990s, nursing history as a whole was (and still is) relatively

invisible within the larger body of health care history.⁸⁰ While Veronica Strong-Boag acknowledges that traditional accounts such as that by Gibbon and Mathewson have provided a chronology of Canadian nursing history, the resultant accounts have been descriptive in nature and lacking in analysis.⁸¹ Since the 1990s historians of nursing have productively used multiple and varying theoretical and analytic lenses to examine nursing's past in Canada.⁸² Peter Twohig has suggested that the recent progress made in nursing history is attributable to the innovative approaches that have been taken.⁸³

The primary theoretical framework that informs this study is Berger and Luckmann's Social Construction of Reality. This theoretical perspective was incorporated for several reasons. First, this theory maintains that social relations and social context play a pivotal role in the construction of different realities. Second, it is useful in exploring aspects of social realities that become taken for granted by those who exist within them. And third, Berger and Luckmann's Social Construction of Reality provides a structural framework through which the emergence (or construction) of intensive care nursing (a reality) could be understood. Furthermore, this perspective facilitated the incorporation of other socially constructed concepts often used in social history, such as gender, to be threaded throughout as a means of providing an in-depth analysis of the social context in which ICU nurses worked and ultimately came to identify themselves as specialty nurses with specialized practice knowledge.

The Social Construction of Reality

In 1966 sociologists Peter L. Berger and Thomas Luckmann published *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. Berger and Luckmann built on prior theories specific to the sociology of knowledge and argued that both "reality"

and “knowledge” are socially and contextually bound, positing that “all human knowledge is developed, transmitted and maintained in social situations.”⁸⁴ Exploring and understanding a specific social reality and its embedded knowledge allows for an understanding of activities and practices that over time become taken for granted by those existing (and working) within the setting. For example, ICU nursing came to include shared language, meanings, experiences and practices that became invisible – part of everyday work in ICUs, but which had to be learned and mastered by new nurses to these units. The Social Construction of Reality theory is incorporated into this study as a way of interpreting a complex process through which ICU nursing developed over time, using the key concepts of objective reality (habitualization), subjective reality (which includes primary and secondary socialization), and institutionalization – a construction of the everyday life (or social reality) and ultimately, identity as an ICU nurse.

According to Berger and Luckmann, “[e]veryday life presents itself as a reality interpreted by [individuals] and subjectively meaningful to them as a coherent world.”⁸⁵ By virtue of being human, they posit that individuals exist in an “everyday life” shared with others which they come to know as familiar, normalized, and routine. Essentially, their experiences in a particular reality become taken for granted as just that – everyday life.⁸⁶ The shared meanings, experiences, and understandings, and order of a reality go unquestioned until individuals experience other realities where they acknowledge difference and lack of familiarity (acknowledging the possibilities of multiple and/or overlapping realities).

In this study, I refer to reality as a particular practice context that ultimately became known as the Intensive Care Unit. I focus on a particular social group within that context –

ICU nurses. While Berger and Luckmann suggest that a given “reality appears already objectified” and “constituted by an order of objects,” early ICU nurses did not necessarily enter into a reality that had a clearly defined order (routines and practices); shared meanings and understanding had yet to be developed. Specialized knowledge had yet to be differentiated from general nursing practice. They lack a common working language, shared practices, and order/structure which would define their work as a specialty practice area. While ICU nurses shared a common “nursing” reality based on training and initial practice with general nursing colleagues – they acknowledged their experiences in early ICUs as different from general nursing work. Over time, however, early nurses did develop shared experiences and a common language (which they both borrowed and created), ICU nursing knowledge and mutual understanding of the care in this environment. They ordered their new reality by identifying what they needed to know and how they would come to know it. Later ICU nurses entered into a relatively more structured and ordered reality, where successful socialization marked their acceptance into the emerging social group.

Berger and Luckmann theorize that an objective reality takes shape when members of a social group establish their day-to-day routines, and a semblance of order/structure is recognizable wherein “action[s] are repeated frequently and become cast into a pattern.”⁸⁷ They refer to this process as habituation. Habituated activities are shared and available to all members of the social group. The semblance of order and structure eventually becomes taken for granted as familiar and part of the “everyday life” of the ICU nurse. Yet, as many activities become routinized there are experiences which fall outside of the norm – such as when new patient populations, new treatments, and new policies and procedures arise. In these instances, ICU nurses have to re-evaluate their practices and establish new norms and

habitualized routines. At the same time, subjective experiences are also being constructed. Through trial and error early ICU nurses identified what was important in order to provide safe, quality care to patients and families. Later ICU nurses of the 1980s and 1990s, went through the stage of habitualization and added/expanded the routines and order of their units.

Berger and Luckmann suggest that while individuals are “born with a predisposition toward sociality,” they are not automatically members of particular societies.⁸⁸ Instead, individuals become members through processes of socialization both primary and secondary. Berger and Luckmann suggest that of the two types of socialization, primary is of the utmost importance. During primary socialization, individuals learn the language and skills necessary to understand the subjective, everyday dialogue of the group. Although individual ICU nurses had their own experiences, these experiences were often shared and had meaning to other members of the ICU nursing group, constituting a subjective reality. Nurses were introduced to a new practice environment and began to develop an understanding of their experiences through the establishment of relationships with other more experienced ICU nurses. Their understanding of what it meant to be an ICU nurse eventually became implicit (adopted as part of their role) and eventually taken for granted.

Secondary socialization requires “the acquisition of role-specific knowledge.”⁸⁹ It is the internalization of the ordered objective reality. During this part of the socialization process, individuals acquire the necessary understanding to function as members within the subgroup, and take on the roles inherent in being a member of the subgroup. They also develop a deeper understanding of their practice environment. Over time, the knowledge, skills and ability they have developed becomes transferable even when faced with unfamiliar patient and practice situations. As new nurses came into ICU these processes of primary and

secondary socialization were repeated. Experienced ICU nurses who changed units and hospitals throughout their careers also moved back and forth on this trajectory.

The social construction of reality is not a linear process that originates with the establishment of an objective reality (the structure and order) and culminates with the formation of the subjective reality (first-hand experiences, knowledge and skills) but rather, it is an iterative, back-and-forth process. Throughout this process, the formation of a particular identity happens through successful socialization to a group. Berger and Luckmann suggest that a particular identity can be maintained, modified, or reshaped, which implies that identity can change over time.⁹⁰ Through the development of ICU nurses' objective and subjective realities an overarching identity (particular characteristics, and role specific behaviours and language) began to emerge. Differences between general nursing practice as well as the practice environment itself situated ICU nursing as a specialized body of nursing knowledge and nursing practice. With the establishment of normalized routines, practices, and procedures, characteristics of nurses who would be successful in this type of nursing reality became more apparent. ICU nurses were easily able to identify with each other, but could also successfully interact with other social groups within ICUs such as physicians. Over time, ICU nursing identity would expand from identity at the level of individual nurses and ICUs to a national identity.

Berger and Luckmann note that institutionalization is grounded in a shared history and does not occur instantaneously.⁹¹ Institutionalization stems from the development of an objective reality and implies concrete practices and routines that have been well-established over time. Therefore, while the process of habitualization helped establish an objective identity – ICU nursing – a growing history of shared experiences, knowledge, and

understanding at unit levels was brought together with the formation of the Canadian Association of Critical Care Nurses (CACCN). The CACCN would play a pivotal role in the institutionalization of Canadian ICU nursing particularly with the establishment and institution of national standards of practice that would solidify what ICU nurses' objective realities would and should be. The institutionalization of practice standards would also link with the establishment of ICU nursing as a recognized nursing specialty through a formalized process of certification with the Canadian Nurses' Association.

The Intersection of Gender as an Analytical Concept

Social historians typically use one or more analytical concepts such as gender, class, race, ethnicity, and/or sexual orientation as lenses of interpretation of the data in order to clarify how events played out differently within a cohort of individuals.⁹² Not everyone experienced historical events in the same way, and often power (agency) was unequally distributed. The combined use of these analytical concepts allows the historian to explore and be conscious of the multiple socially constructed realities in which nurses have existed. From an epistemic point of view, these concepts open avenues for both innovative and provocative ways of knowing. In this thesis there are hints of gender that thread throughout the findings and discussion.

According to historian Joan Scott, gender is a category that is socially agreed upon or constructed, rather than an objective physiologic division between male and female.⁹³ For nursing, gender as a category of analysis moves beyond the description of nursing as a predominantly female profession. As McPherson explains, gender played out at multiple levels within the profession and nurses' work has to always be understood in relation to men's roles and the social construction of masculinity as well. For a significant part of the

twentieth century, nursing was dominated by “particular feminine paradigms and nursing educators labored to ensure that new recruits conformed to these codes of gender-specific behaviors.”⁹⁴ Nurses were expected to be subordinate and assume a “wifely position” with respect to male physicians, and a “motherly position” to patients and recipients of care (like families).⁹⁵ But aspects of this thesis challenge this once dominant perspective, and suggest that ICU nurses’ behaviours and actions were more reflective of attributes that historian Meryn Stuart identified in public health nurses who were forced to take on roles outside of their gendered training (femininity and subservience).⁹⁶ For example, nurses in this study disrupted the traditional perspective of technology as masculine and men’s work.

Using gender as an analytical lens for interpreting the findings from this study illuminates how gender shaped nursing knowledge, roles, and relationships with physicians, patients, families, and other members of the developing ICU. It calls into question whether or not ICU contexts offered greater flexibility between these actors as other historians have suggested.⁹⁷ The overarching framework of the Social Construction of Reality intersects with gender to suggest how the relationships between people and technologies within ICUs were shaped. Together these theoretical approaches enable a more complex and nuanced interpretation of the development of ICUs and ICU nursing work in the Canadian context.

METHODOLOGY

Within the discipline of history two dominant paradigms are readily identifiable: a traditional paradigm and a social history approach. The traditional paradigm comprises a history of politics and focuses on narratives of events concerned primarily with “the great deeds of great men.”⁹⁸ Traditional history relies almost solely on official documents and

records as primary sources, usually offering a single or limited explanation of events.⁹⁹

Historian Peter Burke contrasts the “new history” (or social history) as concerned with essentially “every human activity” and espousing a philosophical foundation which acknowledges a reality that is socially constructed and emphasizes history from below.¹⁰⁰

Historian John Tosh explains that social history emerged within historical discourse primarily within the past thirty years, and describes its focus as the history of everyday life at home and in the workplace as well as the community. Charles Tilly reminds us that social history in essence has two callings.¹⁰¹ The first calling is retrospective in nature, questioning “how the world we live in came into being” and subsequently how that “affected the everyday lives of ordinary people.”¹⁰² The second calling examines why certain choices won out over others and argues that “our sense of what is problematic in our contemporary world depends, in part, on a notion of what other shapes the world could have taken.”¹⁰³

Unlike the traditional historical approach, a social history approach embraces the use of more diverse types of primary sources. These sources include a wide range of textual and non-textual eye-witness accounts that may be commonplace, unofficial in nature, and created by rank-and-file persons as opposed to the use of only official documents and records. The study of nursing history is facilitated through the incorporation of multiple nontraditional primary sources since historians have noted that nurses have often left few traces of their past within the more traditional, formal documents preserved as important papers in archives.

Primary Sources

Primary sources are defined as first-hand, eye-witness accounts from the time period under study while secondary sources constitute interpretations of primary sources produced

by other researchers and therefore, second-hand accounts.¹⁰⁴ For this study, I analyzed four major types of primary sources: oral histories, documents and records held by public and private organizations, professional literature published during the study's time frame, and photographs.

Since ICU nurses have left few traces of their work in official records, oral history is an ideal method for documenting their experiences. Because these units emerged relatively recently, many early ICU nurses are still living and have memories of these early days as well as how ICUs have changed over time. Historical research of this nature requires purposive, key-informant sampling in order to satisfy the scope of the study (people in certain places, at specific times in history). Snowball sampling supplemented the recruitment of additional ICU nurses.¹⁰⁵ This sampling method allows the researcher to identify potential participants by relying on previous participants to suggest others with similar or different experiences (i.e. nurses who worked in a specific unit in 1960). This method generated a sample of nurses who worked in a variety of provinces and multiple ICUs across Canada. I conducted a total of twenty-five oral history interviews with frontline ICU nurses who practiced in these early units between the 1960s and 2002. These interviews averaged 75 minutes in length totaling over 1500 minutes of interview data. Interviews were conducted until there were recurring themes and redundancy noted in the data obtained. All of the oral histories were transcribed verbatim and verified for the accuracy of their content against the audio recording. All interviews were done face-to-face using a digital recording device. Analysis of the interview data was done using a thematic approach and corroborated throughout the analysis process with other primary and secondary sources. Ethics approval was received from the University of Ottawa Research Ethics Board

and was done in accordance with the 2nd Edition of the Tri-Council Policy: Ethical Conduct for Research Involving Humans (see appendices 1 through 7).¹⁰⁶

Demographic analysis of the interviewed nurses revealed key trends in basic nursing education, years of nursing experience prior to ICU, and additional educational preparation in critical care (see appendix 12). In total three men and 21 women (one woman was interviewed twice for two separate oral histories) participated in this study. Their experience in nursing ranged from 13 to 55 years while their experience specific to intensive care ranged from 4 to 42 years. The majority of participants initially graduated from hospital schools of nursing but others graduated from college and university schools of nursing. Some participants had completed graduate level education by the time of the interviews. Few had formal critical care nursing education (see appendix 12). In total, the participants had worked in forty-one different hospitals – predominantly in the province of Ontario (see appendix 13).

In addition, I used seven previously recorded interviews by others. Four interviews are located in the oral history collection established by the British Columbia History of Nursing Society and housed in the Helen Randall Library at the College of Registered Nurses of British Columbia. Three others were given to me from a project by Evelyn Kerr and Cynthia Toman that was conducted in 1995 relating to the development of the Cardiac Surgery Unit at the Ottawa Civic Hospital. While these interviews were not specific to the role/nature of ICU nurses' work, they provided valuable insight into nurses' education, the evolution of twelve hour shifts, relations with physicians in a specialty unit, and ICU nurses' identity, as well as aspects of patient care that included the use of medical technology.

My second set of primary sources included documents and records held by hospitals and organizations that were active in establishing early ICUs: the Health Sciences Centre in Winnipeg (formerly the Winnipeg General Hospital) with a large archival collection under the auspices of their alumnae association; and the Kingston General Hospital (KGH) Archive.¹⁰⁷ Additional ethics approval was required from the Queen's University Research Ethics Board for access to the Kingston General Hospital archives (see appendix 3). These collections proved to be rich in such archival records as hospital annual reports, meeting minutes, policies and procedures, as well as in educational materials related to the development of their ICUs and ICU training programs. I also found and used archival documents held privately by the Canadian Association of Critical Care Nurses. In using these sources, it was essential to maintain an awareness of the potentially subjective nature of these documents as primary sources. For example, meeting minutes reflect the perceptions of the recording person, they may have been edited, and there may be important omissions in these official records. In the case of archival records, it is possible that they are only partial accounts and are contingent on decisions about what someone decided to preserve or discard.

The third set of primary sources was comprised of contemporary Canadian published professional literature: the *Canadian Nurse* and the *Canadian Critical Care Nursing Journal* which later became *Dynamics: The Journal of the Canadian Association of Critical Care Nurses*. ICU nursing in Canada emerged within the broader experience of nursing in Canada. These two journals were among the first nursing and critical care journals to have been published in their respective times, and were widely read by practicing nurses across Canada. These journals were sampled systematically in order to provide for a broader perspective. For example, the *Canadian Nurse* is Canada's longest standing nursing

publication (since 1904) and provided social and political context while comparing and corroborating other primary sources.¹⁰⁸ In particular, the *Canadian Nurse* was hand-searched from 1960 to 1995. Following the year 1995, electronic access was available for the journal. Extensive review of the *Canadian Nurse* provided a valuable and contextually based analysis that was essential to the overall research. From a methodological perspective the *Canadian Nurse* helped me to avoid or at least be cognizant of present-mindedness.¹⁰⁹ As Toman and Thifault point out, “It is a common but misleading practice to treat historical material as though there are no differences between how people in the past understood their own experiences and how we understand similar issues in the present.”¹¹⁰

The fourth set of primary sources consisted of photos. While photographs may be useful memory aides, they are also key primary sources. Using photographs can help in creating a visual landscape of the time period and phenomenon being studied. While photographs were not used as memory aides in this study they were plentiful within the published professional literature and provided context and corroboration of sources. Several participants had kept remarkable photos from their ICU experiences. One participant provided a set of self-created education manuals.

Strengths and Limitations of Sources

Historical inquiry is concerned with historical awareness that refers to the historian’s attempt to interpret the past as it was – essentially “getting the story right” while avoiding the pitfall of universalizing historical experiences or attempting to create one truth where there are, in reality, multiple truths.¹¹¹ By understanding that the historical phenomena of interest existed within broader social, political and economic contexts, the historian must thoroughly examine and understand these broader structures. Historian Sam Wineburg notes

that while being curious about the past – “yearn[ing] to connect to the traditions and stories that have brought us to the present” – is a natural human inclination, the concept of historical thinking may be viewed in contrast as quite unnatural.¹¹² The “unnaturalness” of historical thinking stems from what Tosh describes as “getting the story right” – the elements of the inquiry that require evidence that is “tangible, verifiable, and open to scrutiny.”¹¹³ Tosh reminds us that the historian should remain in check, constantly aware of what he calls “present-mindedness.” This awareness is essential to the historian in that it prevents the overlay of present day context and language onto past events.¹¹⁴ In “getting the story right” historians are also tasked with considering the strength and limitations of the various primary sources that they have used.

Consideration of the strengths and limitations of each type of primary source used in historical studies is particularly important in terms of the verification process described by Oscar Handlin, as well as in ascertaining how each source might contribute to the overall study.¹¹⁵ Oral history interviews, for example, have strengths in making the invisible more visible but there are debates regarding memory (defined as the “capacity to store experience and then recall or retrieve it”) and recall commonly associated with oral history, particularly, as Paul Thompson noted, when participants are recalling events from the distant past.¹¹⁶ Thompson also suggests that perception and interpretation, regardless of time, are critical in how human beings create memory and that essentially, all memories are reconstructions of past events and it is the reconstruction of these events that substantiates the creation of long-term memory. In recognizing the subjective nature of memory and recall, and understanding that participants’ recall may not be entirely accurate, historians have several options.¹¹⁷ Researchers can acknowledge and accept the subjective nature of the account, use strategies

to help prompt recall (such as structured interview questions or other prompts including photographs), or evaluate the content of the interview in context of what is already known about the subject (which Handlin refers to as corroboration).¹¹⁸

Similarly, the oral history interviewer (researcher) brings to the interview his or her own subjective experiences, as does the interviewee.¹¹⁹ Linda Shopes argued that the oral history interview is a dialogue whereby both the interviewer and the narrator come with past experience that shapes both the questions and responses.¹²⁰ Scholars such as Thompson and Shopes have reminded oral historians that they must be keenly aware of the context of the inquiry.¹²¹ Interviewers need to structure interviews using words, in terms of terminology and jargon with which the participants would be familiar. In the case of the nature of nursing work in ICUs, relevant published literature from the time period under study (such as nursing and medical journals) helped to establish the vocabulary contemporary to the study period for use during the interview.

The strengths and limitations of the other primary sources incorporated for this study also need to be recognized. While documents and other archival sources provided valuable insight into various aspects of the development of ICUs, primary sources like meeting minutes and annual reports also require scrutiny. The creation of such sources is dependent on the writer – what was chosen to be included and what was omitted was often at the discretion of the creator and/or group. In depth, off-the-record conversations may not be included for the record. Beyond the original creation of the record, there is potential for limitations due to choices about what was chosen to be preserved, and what records or documents may have been discarded. Historians must consider “whose” perspectives are

represented as well as “whose” perspectives are missing from the accounts – acknowledging the possibility of other voices and perspectives.

Published professional literature contemporary to the period under study was used for the purpose of corroborating the findings of the oral history interviews within the broader Canadian nursing experience and history, as well as filling in gaps and adding perspectives not represented in the interviews or archival materials. It should be noted, however, that even published professional literature like the *Canadian Nurse* requires additional scrutiny. As Diana Mansell points out, “[the] *Canadian Nurse* and records of various professional associations have significant limitations.”¹²² Mansell points out that “research based on these sources alone would portray Canadian nurses as a homogeneous group of white, Anglo-Saxon, Protestant, middle-class women.”¹²³ Published articles were subject to the editor at the time and even the choice of what to publish and what not to publish was an intentional decision.

The fourth type of primary source was photographs from the period. Handlin reminds us to question the purpose for which a photo was taken – its provenance.¹²⁴ For this study, many personal photographs were used although only a few are contained in the thesis. These photos help to capture what nurses identified as important, from their own perspective. They often revealed unspoken aspects about what these ICU nurses felt was important and how they related to one another, to patients, and to technology.

The use of multiple types of primary sources corroborated the findings of this study and contributed to historical awareness. A variety of sources alongside multiple analytical perspectives allows for different interpretations to be concluded from the data in attempts to “get the story right.”

CHAPTER SUMMARIES

Chapter one explores Berger and Luckmann's concepts of objective and subjective realities to understand how ICU nurses acquired the requisite skills and knowledge that they needed in their everyday work. Early ICU nurses determined the initial structure of ICU nursing work. Their introduction to this environment marked the beginning of relational and contextually based experience. Close relationships that developed between ICU nurses became the foundation for education and learning through both informal and formal processes, and provided the basis of their subjective and objective realities. While this chapter demonstrates that ICU nurses' learning strategies paralleled trends in general nursing education, which included the establishment of orientations, in-service education, and preceptorship models, the relationships that formed between ICU nurses facilitated the use of these strategies for knowledge development and learning specific to the ICU environment.

Chapter two examines ICU nurses' relationships with technology from the perspective of the social construction of their objective reality. I suggest that technology was a primary link between the social construction of ICU nurses' subjective and objective realities – it partially determined nurses' work and daily routines and comprised a substantial portion of what nurses needed to learn about. Technology and nursing care were intricately linked as practices that became habituated and part of their everyday practice reality. I further suggest that as ICU nurses gained knowledge, skills, and experience, technology moved from the forefront of their work to the background where it became taken for granted as part of nursing practice. This chapter also discusses the limitations of technology in intensive care units and how by the 1980s, ICU nurses were more openly discussing larger social and ethical debates regarding the use of technology within the context of the ICU.

Chapter three focuses on the development of individual ICU nursing identities. Socialization and relations were key components in a lasting ICU identity formation. A strong social network was necessary in dealing with both the rewarding and challenging aspects of nursing care in this context. The data reveal that particular characteristics were associated with successful transitions from general nursing to ICU nursing and contributed to the development of ICU nursing teams. The nurse-physician relationship is also examined in this context of care. Both relations and nursing practice are explored in relation to the broader political and economic changes of the 1980s and 1990s.

Chapter four extends the concept of ICU nursing identity from that of individual identities to a national identity, and the institutionalization of a Canadian ICU specialty nursing practice. Over the forty-two years of this study, ICU nursing developed out of grassroots experiences embedded in the everyday practices and relationships that were created. By the late 1970s and early 1980s, critical care nurses across Canada were starting to unite as a critical mass, leading to the establishment of the Canadian Association of Critical Care Nurses. Alongside a professional will to eliminate any remnants of nursing knowledge as “women’s knowledge”, nursing education in general became firmly situated in institutes of higher learning (colleges and universities). The complexity and uniqueness of nursing knowledge was further supported through specialization trends that emerged in the 1970s.

The conclusion summarizes the findings of this thesis and identifies the key contributions that this study has made to both history and the discipline of nursing. Implications for nursing education and practice as well as areas for future research are suggested. Limitations of the study are identified and discussed.

Endnotes:

¹ Kira Leeb, Aleksandra Jokovic, Michaela Sandhu, and Greg Zinck, "Intensive Care in Canada," *Healthcare Quarterly* 9, no. 1 (2006): 33.

² Canadian ICU nursing history is currently represented by the work of Deborah Hamilton, "The Historical Development of Intensive Care Nursing at Vancouver General Hospital, 1960-1985," Master's thesis, University of British Columbia, 2010. Other historical work specific to ICU/Critical Care nursing history includes: Julie Fairman, "New Hospitals, New Nurses, New Spaces: The Development of Intensive Care Units, 1950-1965," PhD thesis, University of Pennsylvania, 1992; Julie Fairman, "Economically Practical and Critically Necessary: The Development of Intensive Care at Chestnut Hill Hospital," *Bulletin of the History of Medicine* 74 (2000): 80-106; Julie Fairman and Sarah Kagan, "Creating Critical Care: The Case of the Hospital of the University of Pennsylvania 1950-1965," *Advances in Nursing Science* 22, no. 1 (1999): 63-77; Julie Fairman and Joan Lynaugh, *Critical Care Nursing: A History* (Philadelphia: University of Pennsylvania Press, 1998); Jacqueline Zalusky, *Caring in Crises: An Oral History of Critical Care Nursing* (Philadelphia: University of Pennsylvania Press, 1995); Cheryl Crocker, "The Development of Critical Care in England," *Intensive and Critical Care Nursing* 23 (2007): 323-330; Robert Bulander, "'The Most Important Problem in the Hospital': Nursing in the Development of the Intensive Care Unit, 1950-1965," *Social History of Medicine* 23, no. 3 (2010): 621-638.

³ See Brandi Vanderspank, "The Experience of Intensive Care Nurses Caring for Patients for Whom Life Sustaining Treatment is being Withdrawn," Master's thesis, University of Ottawa, 2009. See also Brandi Vanderspank-Wright, Frances Fothergill Bourbonnais, Susan Brajtman, and Pierre Gagnon, "Caring for Patients and Families at End-of-Life: The Experience of Intensive Care Nurses Withdrawing Life-sustaining Treatment," *Dynamics: Journal of the Canadian Association of Critical Care Nurses Association* 22, no. 4 (2011): 31-35.

⁴ Fairman and Lynaugh, *Critical Care Nursing*, p. 3

⁵ See American Association of Critical Care Nurses, "About Critical Care Nursing," (no date); <http://www.aacn.org/wd/publishing/content/pressroom/aboutcriticalcarenursing.pcms>, accessed 18 October 2013.

⁶ Personal communication with Marion McKay, September 2009. See also Hamilton, "The Historical Development of Intensive Care Nursing."

⁷ Julie Fairman, "Economically Practical"; Fairman and Kagan, "Creating Critical Care"; Fairman and Lynaugh, *Critical Care Nursing*; Jacqueline Zalusky, *Caring in Crisis*.

⁸ Hamilton, "The Historical Development of Intensive Care Nursing."

⁹ See an advertisement for ICU nurses at KGH in *The Canadian Nurse* 57, no. 1 (Jan 1961): 92.

¹⁰ A. Aneman and M. Parr, "Medical Emergency Teams: A Role for Expanding Intensive Care?" *Acta Anaesthesiologica Scandinavica* 50, no.10 (2006): 1255-65. See also Canadian Patient Safety Institute, "Safer Health Care Now, Rapid Response Teams," (2012), <http://www.saferhealthcarenow.ca/EN/Interventions/RRT/Pages/default.aspx>, accessed 18 October 2013.

¹¹ Fairman and Lynaugh, *Critical Care Nursing*; Jacqueline Zalusus, *Caring in Crises*. For information regarding the Mack Training School that opened in 1874, see the Mack Alumni Association, "Our History," <http://www.mackalumni.org/our-history.html>, accessed 18 October 2013.

¹² See David Gagan, "For 'Patients of Moderate Means': The Transformation of Ontario's Public General Hospitals, 1880-1950," *Canadian Historical Review* 70, no.2 (1989): 151-179; Charles Rosenberg, *The Care of Strangers, The Rise of America's Hospital System* (Baltimore: Johns Hopkins University Press, 1987); Joel D. Howell, *Technology in the Hospital: Transforming Patient Care in the Early Twentieth Century* (Baltimore: Johns Hopkins University Press, 1995).

¹³ James M. Wishart, "Class Difference and the Reformation of Ontario Hospitals, 1900-1935: 'Make Every Effort to Satisfy the Tastes of the Well-to-Do,'" *Labour/Le Travail* 48, (Fall 2001): 3.

¹⁴ See David Gagan and Rosemary Gagan, "'Evil Reports' for 'Ignorant Minds'? Patient Experience and Public Confidence in the Emerging Modern Hospital: Vancouver General Hospital, 1912," *Canadian Bulletin of Medical History* 18 (2001): 349-367. Gagan and Gagan reference an article from the newspaper entitled "Patient Experience and Public Confidence in the Emerging Modern Hospital: Vancouver General Hospital, 1912," *Vancouver Daily Province*, 18 June 1912.

¹⁵ Wishart, "Class Difference," p. 1-26.

¹⁶ Wishart, "Class Difference," p. 6.

¹⁷ Wishart, "Class Difference," p. 32-33.

¹⁸ Veronica Strong-Boag, "Home Dreams: Women and the Suburban Experiment in Canada, 1945-60," *Canadian Historical Review* 4 (1991): 474.

¹⁹ R. Douglas Francis, Richard Jones, and Donald B. Smith, *Journeys: A History of Canada* (Toronto: Thomson Nelson, 2006). See especially chapter 20, "Economic Nirvana in Canada" and "The Age of the Consumer," p. 443-444.

²⁰ Gagan and Gagan, "For 'Patients of Moderate Means,'" p. 151-179.

²¹ Gagan and Gagan, "For 'Patients of Moderate Means,'" p. 152-153.

²² Francis, Jones, and Smith, *Journeys*, see chapter 19, “Canada in World War II,” p. 432.

²³ Fairman and Lynaugh, *Critical Care Nursing*, p. 22.

²⁴ Eugene Vayda and Raisa B. Deber, “The Canadian Health-Care System: A Developmental Overview,” in *Canadian Health Care and the State: A Century of Evolution*, ed. C. Naylor (Montreal and Kingston: McGill-Queens University Press, 1992), p. 125-140. Eugene Vayda and Raisa Deber are professors at the University of Toronto, Institute of Health Policy, Management and Evaluation. Eugene Vayda has published on the Canadian health care system, including on universal health insurance, since the late 1970s.

²⁵ Francis, Jones, and Smith, *Journeys*, chapter 20, “Toward a More Affluent Society: 1945-1960,” p. 450.

²⁶ See “Medical Opposition in 1960,” in *Making Medicare: The History of Health Care in Canada, 1914-2007*, Canadian Museum of Civilization Online Exhibit, <http://www.civilization.ca/cmc/exhibitions/hist/medicare/medic-5h03e.shtml>, accessed 17 October 2013.

²⁷ Vayda and Deber, “The Canadian Health-Care System,” p. 139.

²⁸ Vayda and Deber, “The Canadian Health-Care System,” p. 139.

²⁹ Eugene Vayda and Raisa B. Deber, “The Canadian Health Care System: An Overview,” *Social Science and Medicine* 18, no.3 (1984): 192.

³⁰ Evelyn Kerr and Cynthia Toman, interview with Dr. Wilbert Keon, recorded 14 March 1995, Ottawa. Private collection of Cynthia Toman. (Hereafter cited as interview with Keon).

³¹ Interview with Keon.

³² Vayda and Deber, “The Canadian Health Care System,” p. 142.

³³ Philip Jacobs and Thomas W. Noseworthy, “National Estimates of Intensive Care Utilization and Costs,” *Critical Care Medicine* 18, no 11 (1990):1282-1286. Also see, for example, J. Ivan Williams, “Hospital Nursing and the Demand for Change,” *The Canadian Nurse* 75, no.7 (1979): 39. Williams recognized that post-World War II “there [was] growing conviction in industrialized societies that health should be a guaranteed right and the resources should be organized and expanded to assure this.”

³⁴ Fairman and Lynaugh, *Critical Care Nursing*. See also Arlene W. Keeling, “Blurring the Boundaries between Medicine and Nursing: Coronary Care Nursing, circa the 1960s,” *Nursing History Review* 12 (2004): 139-164.

³⁵ Ruth Schwartz Cowan, *A Social History of American Technology* (New York: Oxford University Press, 1997), p. 2-3.

³⁶ See Wiebe E. Bijker, Thomas P. Hughes, and Trevor J. Pinch, *The Social Construction of Technological Systems: New Directions in the Social History of Technology* (Cambridge, Mass: MIT Press, 1989).

³⁷ See Bijker, Hughes, and Pinche, *The Social Construction of Technological Systems*. Also see Howell, *Technology in the Hospital*, and Cynthia Toman, "Crossing the Technological Line: Blood Transfusion and the Art and Science of Nursing, 1942-1990," Master's thesis, University of Ottawa, 1998.

³⁸ Howell, *Technology in the Hospital*.

³⁹ Howell, *Technology in the Hospital*.

⁴⁰ Margarete Sandelowski, "Troubling Distinctions: A Semiotics of the Nursing/Technology Relationship," *Nursing Inquiry* 6 (1999): 198-207.

⁴¹ Alan Barnard and Margarete Sandelowski, "Technology and Human Nursing Care: (Ir)Reconcilable or Invented Difference," *Journal of Advanced Nursing* 34, no. 3 (2001): 368.

⁴² Kathryn McPherson, *Bedside Matters: The Transformation of Canadian Nursing, 1900-1990* (Toronto and New York: Oxford University Press, 1996). See in particular the following chapters: "Rituals and Resistance" and "Nursing Classes."

⁴³ Jayne Elliott, "Blurring the Boundaries of Space: Shaping Nursing Lives at the Red Cross Outposts in Ontario, 1922-1945," *Canadian Bulletin of Medical History* 21, no. 2 (2004): 303-325.

⁴⁴ Cynthia Toman, "Almonte's Great Train Disaster: Shaping Nurses' Roles and the Civilian Use of Blood Transfusion," *Canadian Bulletin of Medical History* 21, no. 1 (2004): 145-159.

⁴⁵ Toman, "Almonte's Great Train Disaster."

⁴⁶ Julie Fairman, "Alternate Visions: The Nurse-Technology Relationship in the Context of the History of Technology," *Nursing History Review* 6 (1998): 131.

⁴⁷ Julie Fairman, "Virtual Power: Gendering the Nurse-Technology Relationship," *Nursing Inquiry* 6 (1999): 178-179.

⁴⁸ Fairman, "Virtual Power," p. 179.

⁴⁹ See Margarete Sandelowski, "(Ir)Reconcilable Differences? The Debate Concerning Nursing and Technology," *Image: Journal of Nursing Scholarship* 29, no. 2 (1997): 169-174; "Making the Best of Things': Technology in American Nursing, 1870-1940," *Nursing*

History Review 5 (1997): 3-22; "Venous Envy: The Post-World War II Debate over IV Nursing," *Advances in Nursing Science* 22, no. 1 (1999): 52-62; "Troubling Distinctions, 198-207; "The Physician's Eyes, American Nursing and the Diagnostic Revolution in Medicine," *Nursing History Review* 8 (2000): 3-38; "Thermometers & Telephones: A Century of Nursing and Technology," *American Journal of Nursing* 100, no. 10 (2000): 82-86.

⁵⁰ She notes that "body work is often considered dirty work and body workers (largely women), as dirty workers." See Sandelowski, *Devices & Desires: Gender, Technology, and American Nursing* (Chapel Hill: University of North Carolina Press, 2000), p. 10. Sandelowski references Zane Robinson Wolf, "Nurses' Work: The Sacred and the Profane," *Holistic Nursing Practice* 1, no. 1 (1986): 29-35, and Zane Robinson Wolf, *Nurses' Work: The Sacred and the Profane* (Philadelphia: University of Pennsylvania Press, 1988). Dirty work has also been described by author historians including Cynthia Toman. In her doctoral thesis Toman described dirty work differently, noting that nurses work could be described as such because of "its degree of inconvenience, its relative invisibility (and therefore lack of status), or its unsatisfying nature (as repetitive, exhausting, routinized, stressful, or physically dirty)." See Cynthia Toman, "'Officers and ladies': Canadian Nursing Sisters, women's work, and the Second World War" (Doctoral diss., University of Ottawa, 2003), p.229-230. See also Anselm Strauss, Shizuko Fagerhaugh, Barbara Suczek and Carolyn Wiener, eds. *Social Organization of Medical Work*. (Chicago: University of Chicago Press, 1985).

⁵¹ Sandelowski, *Devices and Desires*, p. 25-26.

⁵² See Sandelowski, *Devices and Desires*, p. 100-134.

⁵³ Sandelowski, *Devices and Desires*, p. 20.

⁵⁴ John Murray Gibbon and Mary S. Matthewson, *Three Centuries of Canadian Nursing* (Toronto: MacMillan, 1947); Christina Bates, Dianne Dodd, and Nicole Rousseau eds., *On All Frontiers: Four Centuries of Canadian Nursing* (Ottawa: University of Ottawa Press, 2005); Kathryn McPherson, *Bedside Matters*.

⁵⁵ McPherson, *Bedside Matters*. McPherson divides nurses in Canada into 5 generations. The first generation includes nurses who graduated between 1875-1899, the second, between 1900-1920, the third, between 1920-1941, the fourth, between 1942-1967, and the fifth, those who graduated after 1968.

⁵⁶ Lynn Kirkwood, "Enough but Not Too Much: Nursing Education in English Language Canada (1874-2000)," in *On All Frontiers*, p.183.

⁵⁷ Kirkwood, "Enough but Not Too Much," p. 189.

⁵⁸ Canadian Nurses' Association, *Spotlight on Nursing Education: The Report of the Pilot Project for the Evaluation of Schools of Nursing in Canada* (Ottawa: Canadian Nurses' Association, 1960), p. 91.

⁵⁹ Helen K. Mussallem, *Commission on Health Services: Nursing Education in Canada* (Canada, Queen's Printer, 1965).

⁶⁰ Kirkwood, "Enough but Not Too Much," p. 191.

⁶¹ Kirkwood, "Enough but Not Too Much," p. 192.

⁶² Kirkwood, "Enough but Not Too Much," p. 195.

⁶³ See Diana Mansell and Dianne Dodd, "Professionalism and Canadian Nursing," in *On All Frontiers*, p. 197-211. See also Margaret Levi, "Functional Redundancy and the Process of Professionalization: The Case of Registered Nurses in the United States," *Journal of Health Politics, Policy and Law* 5, no. 2 (1980): 333-353.

⁶⁴ Levi, "Functional Redundancy," p. 334.

⁶⁵ Levi, "Functional Redundancy," p. 334.

⁶⁶ Sharon Richardson, "Unionization of Canadian Nursing," in *On All Frontiers*, p. 214.

⁶⁷ Richardson, "Unionization of Canadian Nursing," p. 214.

⁶⁸ Richardson, "Unionization of Canadian Nursing," p. 217.

⁶⁹ Richardson, "Unionization of Canadian Nursing," p. 217-218.

⁷⁰ See Fairman and Lynaugh, *Critical Care Nursing*, p. 3-4. Fairman and Lynaugh reference the work of Louisa May Alcott and Florence Nightingale. See Louisa May Alcott, *Hospital Sketches* (Boston, James Redpath, 1863): 47; Florence Nightingale, *Notes on Hospitals*, 3rd ed. (New York: Longman, Green, Longman, Roberts, and Green, 1863), 89. See also Keeling, *Blurring the Boundaries*, p. 144.

⁷¹ Fairman and Lynaugh, *Critical Care Nursing*, p. 4, 9-10.

⁷² Fairman and Lynaugh, *Critical Care Nursing*, p. 15-17.

⁷³ Fairman and Lynaugh, *Critical Care Nursing*, p. 13.

⁷⁴ Mark Hilberman, "The Evolution of Intensive Care Units," *Critical Care Medicine* 3, no.4 (1975): 159-165.

⁷⁵ Bulander, "The Most Important Problem in the Hospital," p. 621-638.

⁷⁶ Fairman and Lynaugh, *Critical Care Nursing*. See also Fairman, "New Hospitals, New Nurses, New Spaces."

⁷⁷ Jacqueline Zalusus, *Caring in Crisis*, p. 13.

⁷⁸ Cheryl Crocker, "The Development of Critical Care in England," p. 323-330.

⁷⁹ Deborah Hamilton, "The Historical Development of Intensive Care Nursing."

⁸⁰ Cynthia Toman and Meryn Stuart, "Emerging Scholarship in Nursing History," *Canadian Bulletin of Medical History* 21, no. 2 (2004): 223-227.

⁸¹ John Murray Gibbon and Mary S. Mathewson, *Three Centuries of Canadian Nursing*, Toronto: MacMillan Company of Canada, 1947. Gibbon and Mathewson provide a chronology of nursing history in Canada from New France to World War II.

⁸² Toman and Stuart, "Emerging Scholarship in Nursing History"; Kathryn McPherson and Meryn Stuart, "Writing Nursing History in Canada: Issues and Approaches," *Canadian Bulletin of Medical History* 11 (1994): 3-22.

⁸³ Peter Twohig, "Recent Writing on Health Care History in Canada," *Scientia Canadensis: Journal of the History of Canadian Science, Technology and Medicine* 26 (2002): 7-28.

⁸⁴ Peter L. Berger and Thomas Luckmann, "Introduction," *The Social Construction of Reality: A Treatise on the Sociology of Knowledge*, e-book edition (New York: Open Road Integrated Media, 1966), 10 e-book.

⁸⁵ Peter L. Berger and Thomas Luckmann, *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*, (London: Penguin Books, 1966), p. 33.

⁸⁶ Berger and Luckmann, *The Social Construction of Reality*, p. 33.

⁸⁷ Berger and Luckmann, *The Social Construction of Reality*, B. Origins of Institutionalization p.2 of 55 e-book

⁸⁸ Berger and Luckmann, *The Social Construction of Reality*, A. Primary Socialization p. 2 of 33 e-book.

⁸⁹ Berger and Luckmann, *The Social Construction of Reality*, B. Secondary Socialization p. 3 of 34 e-book.

⁹⁰ Berger and Luckmann, *The Social Construction of Reality*, p. 194.

⁹¹ Berger and Luckmann, *The Social Construction of Reality*, p. 72

⁹² Joan Scott, "Women in the Making," in *Gender and the Politics of History* (Columbia University Press, 1999), p. 28-50; Scott, "Gender: A Useful Category of Analysis," in *Gender and the Politics of History*, p. 68-90; Peter Kolchin, "Whiteness Studies: The New History of Race in America," *Journal of American History* 89 (June 2002): 154-173; Dean

Care, David Gregory, John English, and Peri Venkatesh, "A Struggle for Equality: Resistance to Commissioning of Male Nurses in the Canadian Military, 1952-1967," *Canadian Journal of Nursing Research* 28, no. 1 (1996): 103-117; Gagan, "For 'Patients of Moderate Means,'" p. 151-179.

⁹³ Joan Scott, "Gender: A Useful Category of Analysis," p. 68-90.

⁹⁴ McPherson, *Bedside Matters*, p. 15.

⁹⁵ McPherson, *Bedside Matters*, p. 15.

⁹⁶ Meryn Stuart, "Shifting Professional Boundaries: Gender Conflict in Public Health, 1920-1925," in *Caring and Curing: Historical Perspectives on Women and Healing in Canada*, eds. Dianne Dodd and Deborah Gorham (Ottawa: University of Ottawa Press, 1994), p. 49-70.

⁹⁷ See for example Fairman and Lynaugh, *Critical Care Nursing*, p. 73-78.

⁹⁸ Peter Burke, "Overture: the New History, its Past and its Future" in *New Perspectives on Historical Writing*, ed. Peter Burke (Philadelphia: The Penn State University Press, 1991), p. 1-2.

⁹⁹ Primary sources include those first-hand accounts from the time period under study. Secondary sources are interpretations of primary sources. For definitions of primary and secondary sources see: Oscar Handlin, "Using Historical Sources," in *Clio's Craft: A Primer of Historical Methods*, ed. Terry Crowley (Toronto: Copp Clark, 1988), p. 25-41; William Kelleher Storey and Towser Jones, *Writing History: A Guide for Students* (Oxford: Oxford University Press, 2004); Peter Burke, "Overture: the New History, its Past and its Future," p. 1-2.

¹⁰⁰ Peter Burke, "Overture: the New History, its Past and its Future," p. 1-23.

¹⁰¹ John Tosh, *The Pursuit of History, Aims, Methods and New Directions in the Study of Modern History*, 4th edition, (Harlow, England: Pearson Longman, 2006). In particular see Chapter 5: "The Themes of Mainstream History," p. 131-132.

¹⁰² Charles Tilly, "Two Callings of Social History," *Theory and Society* 9, no. 5 (1980): 679-681.

¹⁰³ Tilly, "Two Callings of Social History," p. 679.

¹⁰⁴ Handlin, "Using Historical Sources"; Tosh, *The Pursuit of History*; Storey and Jones, *Writing History*.

¹⁰⁵ Denise F. Polit and Cheryl Tatano Beck, *Nursing Research: Principles and Methods*, 7th Edition (Philadelphia: Lippincott, Williams & Wilkins, 2004), p. 725, 732.

¹⁰⁶ Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada, Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans, December 2010. Available at: <http://www.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/Default/>, accessed 17 October 2013.

¹⁰⁷ Evidence suggests that these hospitals were among the first Canadian hospitals to open ICUs. Personal communication with Marion McKay, September 2009. See the advertisement for ICU nurses at Kingston General Hospital in *The Canadian Nurse* 57, no 1 (Jan 1961): 92. Both the Health Sciences Centre (formerly Winnipeg General Hospital) and the Kingston General Hospital have extensive nursing archives.

¹⁰⁸ Handlin, "Using Historical Sources."

¹⁰⁹ Tosh, *The Pursuit of History*, p. 189-192.

¹¹⁰ Cynthia Toman and Marie-Claude Thifault, "Historical Thinking and the Shaping of Nursing Identity," *Nursing History Review* 20 (2012): 191.

¹¹¹ Tosh, *The Pursuit of History*.

¹¹² Sam Wineburg, "Unnatural and Essential: The Nature of Historical Thinking," *Teaching History* 129, (2007): 6.

¹¹³ Wineburg, "Unnatural and Essential," p. 2.

¹¹⁴ Tosh, *The Pursuit of History*, p. 189-192.

¹¹⁵ Handlin, "Using Historical Sources."

¹¹⁶ Alice M. Hoffman and Howard S. Hoffman, "Memory Theory: Personal and Social," in *Handbook of Oral History*, eds. Thomas L. Charlton, Lois E. Myers and Rebecca Sharpless (Toronto: Altamira Press, 2006), p. 275; Paul Thompson, *The Voice of the Past: Oral History*, 3rd edition (Oxford: Oxford University Press, 2000), p. 130.

¹¹⁷ Valerie Raleigh Yow, *Recording Oral History: A Guide for the Humanities and Social Sciences*, 2nd Edition (Walnut Creek: Altamira Press, 2005).

¹¹⁸ Note that in this thesis photographs were not used as memory aids but are incorporated as primary sources. See Handlin, *Using Historical Sources*, p. 25-41.

¹¹⁹ Thompson, *The Voice of the Past*, p. 138-139.

¹²⁰ Linda Shopes, "What is Oral History?" Making Sense of Evidence, *History Matters: The U.S. Survey on the Web*, p. 2-3, <http://historymatters.gmu.edu/browse/makesense/>, accessed 17 October 2013.

¹²¹ See Thompson, *The Voice of the Past*; Donald A. Ritchie, *Doing Oral History: A Practical Guide* (Oxford: Oxford University Press, 2003). See also Shopes "What is Oral History?"

¹²² Diana Mansell, "Sources in Nursing Historical Research: A Thorny Methodological Problem," *Canadian Journal of Nursing Research* 27, no. 3 (1995): 85.

¹²³ Mansell, "Sources in Nursing Historical Research," p. 85.

¹²⁴ See Handlin, *Using Historical Sources*, p. 25-41.

CHAPTER ONE

THE DEVELOPMENT OF ICU NURSING KNOWLEDGE

The success of ICUs ultimately depended on the creation of a group of highly skilled nurses to provide care to critically ill patients and their families. Basic nurse training focused on a foundational set of skills and knowledge required for most entry level employment situations. However, ICUs would require additional skills and knowledge that were not necessarily acquired during basic training. For early ICU nurses in Canada there were limited numbers of textbooks and courses for formalized education. Early ICU nurses found themselves in an area of nursing practice where routines and expectations had yet to be established. They were thrust into a practice reality which had minimal structure. Over time and through their shared experiences at the bedside they determined what they needed to know and how they would learn. While they built upon previous nursing experiences (like general duty nursing on medical-surgical units or their days as students) they ultimately relied heavily on one another to learn and construct an objective reality. Early ICU nurses gradually acquired and shared a working language as well as specialized working knowledge. Over time, they shaped and re-shaped their subjective and objective realities, which included standardized unit practices, rituals, activities, and expectations. Together they arrived at a common understanding of what constituted ICU nursing, and how a new nurse would learn to work in the ICU. The process of primary and secondary socialization was very different for nurses coming into ICU later on.

In this chapter, I explore how early nurses and subsequent cohorts transformed themselves from general duty nurses into ICU nurses – how they acquired the requisite

specialized skills and knowledge needed for their everyday work and then solidified them – ultimately establishing an objective reality. Initially ICU nurses relied on each other’s experience and knowledge as well as other members of the health care team (namely physicians) in order to provide care to patients and families. Over time, formalized learning opportunities were structured based on the ICU nursing knowledge that was developed and identified as foundational for their practice. I also suggest that the relationships between nurses were pivotal to their transformation into ICU nurses. These relationships facilitated the development of specialized knowledge through both formal and informal educational processes, and ultimately, shaped a new practice area.

EARLY BEGINNINGS

As previously discussed, Canadians in the post-war period had new expectations regarding healthcare. In May of 1960, for example, Stanley Greenhill elaborated in the *Canadian Nurse* on changes taking place in Canadian society as a whole, noting that these changes were both numerous and had taken hold quickly.¹ While overall the health of Canadians had shown an improvement (due to better living conditions in general), Canadians were readily accessing the new insurance programs, filling available hospital beds, and “request[ing] bigger and better government subsidized health schemes.”² He pointed out that in the years that followed the Second World War, the composition of Canadian society had changed dramatically as the population had increased substantially, most notably from the baby boom births as well as post-war immigration (accounting for 30% of the growth), a rising life expectancy and decreasing death rates.³ Greenhill also made note of the changing pattern of disease that was commonly becoming more a sense of “dis-ease” (or generally

feeling unwell). In a similar vein, Bernard Blishen highlighted such aspects as population and immigration growth but also drew readers' attention to population shifts including urbanization, industrialization (in modern cities), more women at work, and specialization trends.⁴ According to census data, the majority of Canadians were living in rural areas until 1931. By 1961, however, 69 percent of the population were living in urban areas.⁵ Blishen argued that increased urbanization led to impersonal human contacts:

We interact with a multitude of people in a variety of situations in our daily lives. This interaction is regulated by policeman, traffic lights, bus drivers, sales clerks, and numerous others who keep us moving, take us from place to place, serve us goods and provide us with services in a regulated, impersonal fashion.⁶

As well, a significant and continually increasing number of women were entering the workforce. Many mothers of the baby boom generation had worked during the war, but paid work for middle- and upper-class women outside the home at that time was considered temporary (for the duration of the war), and most had resumed their traditional positions in the home after the war's end.⁷ However, their daughters were more apt to complete secondary school and pursue post-secondary education, entering the work force with the anticipation of long term employment and careers.⁸ In 1962, for example, 24 percent of the Canadian labor force consisted of women who, aside from nursing, worked as teachers, laboratory technicians, musicians, music teachers, social welfare workers, and librarians.⁹ Blishen highlighted the tension between the rewards of paid work alongside societal/familial expectations:

Success in this situation means monetary rewards and the praise and esteem of her professional peers. She views herself through their eyes; what she sees gives her satisfaction. Then she goes home to a family where she must present a completely different face. Instead of the impersonal efficiency of the office she must show love, tenderness and sentiment. If she does not succeed in presenting herself in this way she will incur the disapproval of the family and her self-image will suffer.¹⁰

The reformed image of the hospital that had preoccupied the early twentieth century had been successful in positioning hospitals as the primary place of care for the sick. Canadian historians like Cynthia Toman have argued that the proliferation of medical technology within hospitals was partially responsible for hospitals becoming a major place of employment for nurses during the 1950-60s.¹¹ She argues that nurses enabled this proliferation since “[p]hysicians generally introduced new technologies and were responsible for them until the volume of treatments increased or became burdensome to the medical staff” at which point the work was delegated to the nursing staff.¹² With a patient population that was becoming more complex and a proliferation of new and more technologically complex treatments, other solutions needed to be put in place for patients who were more critically ill as caring for these patients on the wards posed a significant risk to patient safety.

Early ICUs were often makeshift areas where wards or other large rooms were converted and subdivided into smaller spaces.¹³ Frances Fothergill Bourbonnais likened the early structure of ICUs to modern day Post-Anaesthetic Care Units (formerly known as recovery rooms) where patient care areas were partitioned off by curtains and offered relatively little privacy.¹⁴ She also noted that many of the ICUs where she worked at the beginning of her career were often removed from the rest of the hospital and often had little natural light making it difficult to distinguish night from day. Deborah Hamilton described the layout of the Vancouver Hospital ICU (1967) as follows:

The space used to create the ICU was actually an extension of the hospital’s underground tunnel system...the physical layout of the ICU was very small. It had a very low ceiling and windows that were at the ground level. The only source of natural light was a back door that opened out to a courtyard facing Heather

Street...The unit had space for 11 beds in total: one single room for isolation of burns, infectious diseases and later kidney transplant patients...A space was especially created for a ventilator on the side of the bed, near the patient's head, and a shelf at the head of the bed was designed to hold a heart monitor. Shelves were also built into the head of the bed to store supplies, and a cart containing supplies such as dressing gauze, suction and IV tubings was placed at the side of the stretcher for the nurses' convenience. Oxygen and wall suction were fitted into the wall at the head of each bedside, which was a revolutionary arrangement for the 1960s.¹⁵

Records of the Kingston General Hospital provide a glimpse into some of the initial discussions and decisions about the development of the ICU at Kingston, which as evidence from this study suggests was one of the first ICUs in Canada. By 1959, discussion had begun regarding the establishment of an Acute Treatment Area for surgical patients. According to the records of the Medical Conference Committee at the Kingston General Hospital:

On April 15th, 1959, a Committee consisting of Miss Miller, Dr. Bingham, Dr. Lynn, and Mr. MacIntyre met to discuss the advisability of instituting an Acute Treatment Area for surgical patients [at Kingston General Hospital]. The objectives of such a treatment area are: (1) To concentrate nursing and other skilled personnel so that patients who are acutely ill will not be scattered over the hospital. (2) To effect considerable savings in nursing personnel. It is difficult to estimate how many beds will be required, but if two or three cases per day requiring three or four days of treatment in a special area might be taken as a basis, then twelve acute surgical treatment beds would be required, this number of beds being distinct and separate from the post-anaesthetic room, which is fundamentally a recovery area and not an area in which treatment is being conducted on a long-term basis[...]The Nursing Staff will require to be adequate and on a twenty-four-hour basis, probably consisting of a graduate, a student, and a ward aid, together with an orderly, four such teams being available. A senior graduate with surgical experience should be in charge. Clearly, an Acute Treatment Area will be a very valuable source of training for young nurses, students, and indeed, [doctors].¹⁶

Over the course of that year the actual title of the treatment area changed several times and by year's end, it was called the Intensive Treatment Area. The actual physical location of the unit was up for debate, but the consensus seemed to be that the treatment area would be built in the north end of the Douglas II wing.¹⁷ This area would facilitate a physical layout reminiscent of a cul-de-sac where traffic could be minimal and other disturbances limited.¹⁸

In the 15 September 1959 minutes of the KGH Medical Conference Committee, Dr. Bingham also suggested that “a study should be made of the best means of using the available nurses at our disposal at the present time,” since he felt it advisable that the Intensive Treatment Area be opened as soon as possible.¹⁹ Following the meeting of the Medical Conference Committee, Dr. Bingham visited the Rhode Island Hospital to tour their unit for the treatment of seriously ill surgical patients. Following his trip, he wrote to the chair of the KGH Medical Conference Committee:

Dear Doctor Burr: On Saturday, October 3rd, 1959, I visited the Rhode Island Hospital at Providence, Rhode Island, for the purpose of visiting the area for the centralized treatment of seriously ill surgical patients. I was conducted around by Dr. Stevens, Senior Resident, and had a lengthy conversation with the Nursing Staff of the Unit. All with whom I came in contact spoke most enthusiastically about it. The nurses felt that it reduced, to a very substantial degree, the nursing stress in the general wards, eliminating a good deal of running about with intravenouses, Levine suction tubes, etc. They felt intensely interested in the area and there was a real esprit de corps and pride in their work. At the time in the Unit, two open heart cases were being treated, two lobectomies, a number of seriously ill gynaecological cases, and a number of major abdominal lesions; in addition, one neurosurgical case was being nursed and a very major accident case.”²⁰

In summary he noted the advantages of the unit to include expert care being available on a constant basis, and a decreased pressure on other areas of the hospital. Dr. Bingham remarked: “I feel that it would be an act of folly for us not to establish such a Unit in this hospital.”²¹

The Intensive Treatment Area was not actually established at KGH, however, until 1961 and by 1962 its name was officially changed to the Intensive Care Unit at Kingston General Hospital, the first such specialty unit in that particular hospital. Without sources to indicate outside recruitment of experienced ICU nurses to staff the unit, it is likely that many

of the first nurses had little to no previous experience or knowledge specific to intensive care.

According to the minutes of the KGH Medical Conference and Advisory Committee the potential patient population for the unit included:

Severe head injuries and neurosurgical conditions, such as cerebral tumour, aneurysm ... Cases that have undergone major thoracic, cardiovascular or abdominal surgery. Major gynaecological conditions. Patients with severe renal or hepatic insufficiency. Major orthopaedic conditions. Cases of acute coronary insufficiency. Cases with severe respiratory insufficiency...[and p]atients with tracheostomy requiring special care.²²

Thus, the primary occupants of the treatment area would be the hospital's most gravely ill patients. It was less clear, however, how specialized nursing care would be delivered – given the original suggestion of one graduate nurse, one student, one ward aide, and an orderly. Other hospitals like the Winnipeg General Hospital (WGH) were indicating the need for a Critically Ill Post-Operative Ward by 1961. It was suggested in the 1961 WGH Annual Report that staffing such a unit would require graduate nurses with additional post-graduate training (particularly with respect to surgical care) in addition to “the constant attendance of a doctor and probably the allocation of one surgical resident.”²³ However, an ICU did not open officially there until 1966. Other known openings of ICUs from this study include the Vancouver General Hospital in 1967, the Montreal General Hospital in 1968, the Hospital for Sick Children in 1968 and the Cornwall General Hospital in 1971.²⁴

TRANSFORMING NURSES INTO ICU NURSES

Evidence from the oral history interviews done for this study suggests that nearly all of the participants had some exposure to (but not necessarily practical, hands-on experience

with) the care of patients with complex medical and/or surgical needs during their basic training and subsequent practice experiences. But few had anticipated what their work in the ICU would entail, largely because these early nurses would be the ones to put in place the foundations of what ICU nursing in Canada would become.

Nurses who transferred from other hospital practice areas such as medical and surgical wards were readily aware that the move to ICU would be challenging, while nurses who entered ICU as new graduates often had few preconceptions of what the transition would entail. Some of them had opportunities to glimpse what an ICU was like while they were yet students. Frances Fothergill Bourbonnais, for example, recalled that while she was a student at the Montreal General Hospital in 1968, she had the opportunity to spend one week in their new Intensive Care Unit during her third year. She remarked that:

The ICU at the Montreal General had just opened in the winter of 1968. And there were a few of us, and I'm not sure how I was chosen, but there were a few of us chosen to go to the ICU ... and [as] soon as I got in there (and I mean the patients weren't as critical as they are today), but it was just the way the work was done and the patient contact, and you got to know the patients really well. And I thought... "this is for me. This is what I want."²⁵

Sharon Anderson recalled her transition to the ICU at the Cornwall General Hospital, noting that while she had worked on the surgical ward just outside of the ICU on the previous day, the step through the ICU doors inferred she was a nurse with advanced knowledge and skills.²⁶

Ruth Pollock, a graduate of the Ottawa Civic Hospital School of Nursing in 1969, recalled that the head nurses of both the ICU and the Coronary Care Unit (CCU) at the Hotel Dieu Hospital in Cornwall, Ontario, recruited potential candidates from the wards to staff these two units in 1970.²⁷ Pollock had been approached by Sister Annette Coderre in 1969

to work in the ICU but declined the offer. She felt that as a new graduate, she didn't have enough experience, stating "I mean, I just graduated. I couldn't go in the Intensive Care Unit" (suggesting that providing care in the unit required some accumulation of nursing experience beyond basic training).²⁸ In 1970, however, with the opening of the CCU, Pollock felt that she was ready "give it a shot!" She recalled that her entry into critical care "wasn't really a pull so much as a push."²⁹

Pollock's initial hesitation to begin working in ICU was likely based on the notion that specialized knowledge and skill related to the use of complex technological equipment was portrayed as a prerequisite to working in an ICU. For example, a newsletter from the Cornwall General Hospital (the Hotel Dieu's neighbor hospital in Cornwall, ON) described the unit this way, highlighting both the specialized knowledge and specialized equipment:

The General Hospital's new INTENSIVE AND CARDIAC CARE UNIT is a self contained ward, with eight single rooms. ... But even at a quick glance you will tell that something is special about this ward ... if you stand in the centre you can see into each bedroom ... machines will monitor the patients on the cardiac side of the unit ... [i]t all sounds very sophisticated, but why can't this be done on a general ward? After all, a monitor is a monitor wherever it may be ... *Don't forget, the type of patient under consideration is one for whom a crisis is likely. Crises are apt to happen suddenly. This means that special knowledge and special equipment must be there just as fast as possible [emphasis added].*³⁰

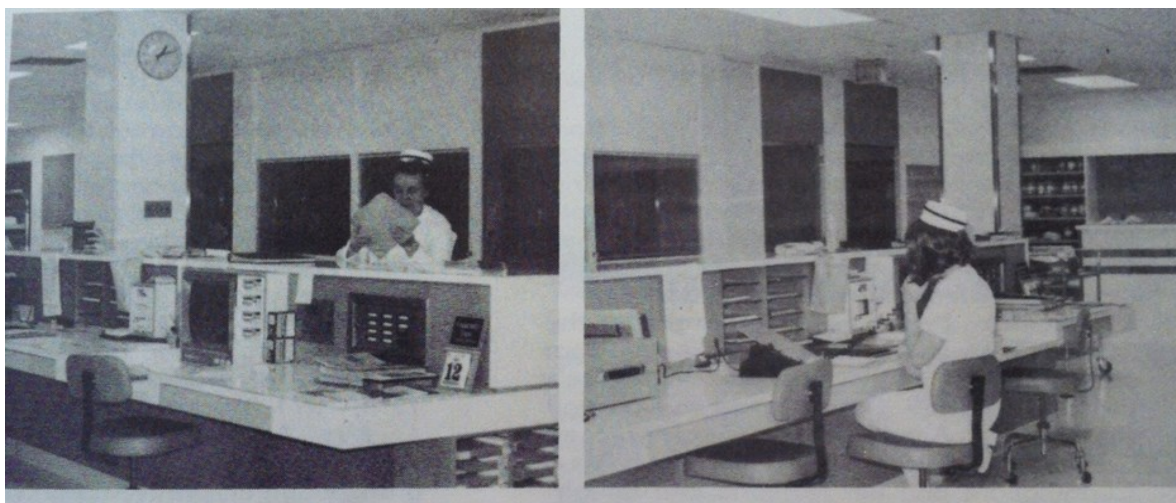


Image 1: Opening of the ICU at the Cornwall General Hospital. Used with permission of Cornwall Community Hospital.³¹

Early ICU nurses readily acknowledged needs for a more advanced understanding of anatomy, physiology, and treatment regimes. As Teresa Lee stated, “I loved the type of nursing. It just caught me. But I realized I didn’t have enough knowledge.”³² Nurses also understood the need to further their knowledge of various critical illnesses and treatments for the sake of patient safety and to plan their work. For example, the care of patients after thoracic surgery would require nurses to learn assessment skills like differentiating chest sounds as well as managing patients with chest tubes. But nurses in the 1960s and early 1970s had few Canadian opportunities for formal ICU/critical care education. Indeed, formal ICU educational programs depended on the experiences of the first ICU nurses to identify what the content of such programs should be. Thus, for early ICU nurses, learning and knowledge acquisition was largely self-driven. They described learning from each other and from practical hands-on experiences, relying heavily on each other and each other’s experiences and knowledge to augment their own. Primary sources indicate that relationships established with physicians also played a pivotal role in this learning.

Some nurses turned to opportunities that were available elsewhere such as in the United States. Robert Bulander pointed out that training opportunities were available in the U.S. between 1950 and 1965 and that by 1965, ICUs had been established there for over ten years.³³ Jean McIntosh, the first head nurse of the CCU at the Hotel Dieu, for example, had gone to Ann Arbor, Michigan, to take a course which, according to Ruth Pollock, was probably primarily focused on cardiology.³⁴ But upon her return:

she taught everybody else who worked in the unit then ... I sat down with Jean for some time and we'd spend our night ... working with strips and playing with strips ... once you knew your basics it's just playing with them and discussing and going back and forth. Then if a doctor would come in ... we'd say, 'Okay, what do you think? I think it's this. What you do you think?' And I can remember being so proud, well one night being not proud, being embarrassed because I had to call Dr. McPhee in the middle of the night and say, 'Dr. McPhee, I'm seeing something I don't like on the monitor. I don't know what it is but I don't like it and the patient's not doing well.' And it was V-Tach [ventricular tachycardia, a life threatening heart rhythm] but I couldn't recognize it ... but imagine working in a Coronary Care Unit and not being able to recognize V-Tach. I think that's terrible. I can remember being the only person in the hospital who knew how to take an EKG [electrocardiogram].³⁵

Maureen McBain, who also worked at the Hotel Dieu at that time, recalled that "all we knew was if there was a straight line [on the cardiac monitor] to call for help!"³⁶ Similarly, Teresa Lee recalled looking at the oscilloscope with another nurse, trying to recognize the cardiac rhythm from a book they had open, saying: "Do you think that's what it was?"³⁷

Therefore, as Frances Fothergill Bourbonnais and other nurses have suggested, much of their learning was self-driven during the 1960s-70s. Fothergill Bourbonnais described learning to read electrocardiograms (ECGs) on her own, facilitated by a reference text on reading ECGs. She recalled taking strips home and on days off practicing reading and interpreting the rhythms, stating that:

I just used the textbook on reading EKGs ... it was just a book on reading EKGs. It's still written today. It's the old Meltzer book ... it's been around since probably the late '60s. And so I just borrowed that out of the library and I kept a log and every time I had a patient they were – not all of them were monitored in those days, not like today, but I would take strips and then I'd take them home and then on my days off I [would] go through them and try to interpret them and whatnot. But that's how you did it because there was no class ... there was nothing in those days.³⁸

Learning about cardiac monitors and rhythms was one initial challenge. Learning to use new or different drugs and to manage patients with new procedures posed yet other challenges. As Roselyn Smith and Elaine Burt explained in a 1961 *Canadian Nurse* article:

New drugs are introduced, new treatments instituted, stimulating new ideas are constantly being introduced, occasionally with dramatic results, and the discussions which arise are not soon forgotten. Such an atmosphere tends to draw the type of nurse who is suited to this kind of work and the challenges offered to her give the kind of satisfaction which results in a secure and stable staff.³⁹

Likewise, changes in patient populations admitted to ICU altered nurses' work and comfort levels. As Frances Fothergill Bourbonnais recalled, it “change[d] the whole dynamic. You're looking after patients you're not comfortable with [be]cause you don't know their trajectory.”⁴⁰ When new procedures, such as the repair of abdominal aortic aneurysms (called triple a's by ICU staff) brought a new category of patients to the ICU, for example, there wasn't any formal training for nurses. Ruth Pollock remarked that when she needed to know more about what was happening to the patient, collegial relationships and dialogue between the nurses and physicians was a very important source of learning.⁴¹ They learned by questioning the surgeons as well as through observation and from working together in hands-on experiences. As Ruth Pollock recalled:

You know they'd start doing something like a Triple A, “Well what are you expecting from us as nurses other than just generally monitoring the patient?” ... like obviously we're monitoring to make sure his vital signs stay stable ... but what are we expecting with fluid? Like third spacing ... I'd never heard of it ... we're going

to be shoving fluids in, it's not going to be coming out. And then all of a sudden a few days later it's all going to come out. We learned that but we didn't know [it before] ... we learned by guess and by golly, from observation.⁴²

At Toronto's Hospital for Sick Children in the 1960s, Donnie Parks created her own strategies to help educate nurses with regards to the technology that was used in the Pediatric Intensive Care Unit. She put forth a tremendous effort to gather and disseminate literature for the Pediatric Intensive Care Unit (PICU) staff. She noted that in the 1960s, there was a very limited amount of educational material for pediatric ICU nurses, similar to adult ICU areas. Parks also recalled that it was not always feasible to teach nurses directly at the bedside because practice on a real patient was not always ideal or even acceptable to patients or their families. Therefore, she created the first simulated pediatric patient model at the Hospital for Sick Children. As Parks recalled:

There was no real literature on pediatric ICUs, so I had to kind of develop that myself for the unit. Also we didn't have any teaching equipment, and there was just so much that you could [do] with a real patient. So, somebody gave me a toddler size doll, and what I did, was drill holes in it and put tubes up and set it up so she was intubated and had a balloon for lungs and I was then able to teach them about intubation and ventilation. I say "she" because [the doll] was a girl ... I put in an arterial line and a catheter and an NG [nasogastric] feeding tube – as much as I could ... [I] put on [cardiac] monitoring leads. That [was] before they first built what they call the simulators [simulation mannekins].⁴³



Image 2: Mannequin created by Donnie Parks. Learning to draw arterial blood gases. Used with permission of Donnie Parks.⁴⁴

Parks used the doll to teach procedures as well as to certify staff, indicating that they had been examined and found competent to perform special procedures or “delegated acts”:

And I would do what we called then “special procedures,” the professional terminology – delegated acts. I would certify the staff each year for those. I could do it with this doll you see, because I managed to have a bag of red water attached that looked like blood and we took out blood from the arterial line so that they could actually do it on the doll rather than me having to worry about a patient you know. I was doing simulation in the late 60s and when I left [2002], that mannequin was still there and they were still using it. Now I think they have a better simulation lab that they are using for other services as well. But I did a lot of teaching from that mannequin. I found it really helpful to have it.⁴⁵



Image 3: Learning to do tracheotomy care at the Hospital for Sick Children. Used with permission of Donnie Parks.⁴⁶

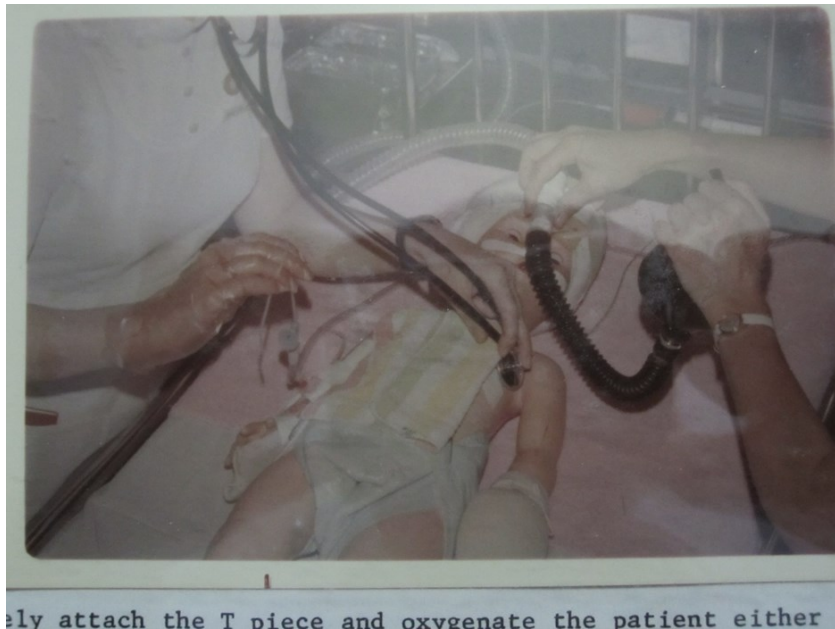


Image 4: Learning to provide supplemental oxygen. Used with permission of Donnie Parks.⁴⁷

With increasing numbers of nurses as well as agency staff being used in the PICU, she also felt a need to create a series of twelve manuals. The manuals focused on all aspects of nursing care in the PICU – from charting, to physical assessment, to policy and procedures. As Parks recalled:

I worked with nurses who came into the unit, and helped them with cardiac admissions, multiple trauma cases, kidney transplants, [and] burns ... People were hired and I started writing down what I kept on telling new staff. Because I kept saying the same thing over and over ... I figured I should start writing it down. So I started making manuals ... And I took my own pictures with the camera and I would go around the unit ... taking pictures of everything ... we were doing in the way of nursing care Then I would write it up about it in the manual... eventually I had a collection of about twenty-one sections ... I let the new staff borrow them and take them home and I would give them an assignment based on the material ... there was no official teaching program ... so that is how it kind of got started.⁴⁸

Parks provided this study with six of the twelve manuals she created. The manuals had six sections labeled A to F, which covered the organization of the ICU, parental visiting, medications, transferring patients to a ward, charting, requisitions, respiratory technology equipment, duodenal tube care and feedings, battery thermometer, instructions for the hypothermia machine, chest routine, tracheostomy care, and blood gases. Included in the manual were detailed instructions on how to perform procedures, the photos of the mannequin as well as other photos illustrating how to do these procedures.

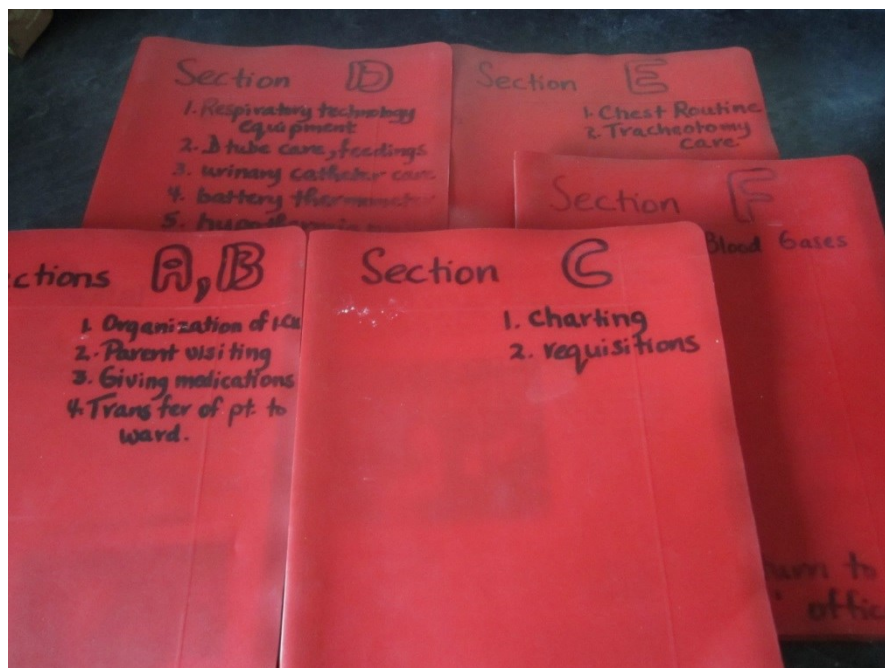


Image 5: Example of manuals created by Donnie Parks. Used with permission of Donnie Parks.⁴⁹

FORMALIZING THE LEARNING

As early ICU nurses began to solidify their developing specialized knowledge, they were able to structure learning in a more formalized way. As such, newer strategies emerged from earlier informal learning that was largely self-directed to formalized mechanisms including: orientations, in-service education, preceptorships, as well as conferences and courses – these strategies paralleled educational trends that were also emerging in general nursing education between the 1970s and 1980s.

Orientations: Hospitals and ICUs

Discussions began to surface in the *Canadian Nurse* during the 1960s regarding hospital orientations as new approaches for integrating new nursing staff. Hospitals could no longer rely predominantly on a student nurse workforce and were left with staffing shortages as the number and size of hospitals increased. They needed to hire graduate nurses

from different schools of nursing who were not necessarily familiar with an individual hospital's culture. In 1962, for example, F. Jean Buller and Stella McDonald justified the incorporation of hospital orientations by explaining that:

Orientation is not a new concept. Ever since the first man had a "job," he has worked for and with others. While the whole pattern of employment has changed through the years, people still experience fears and apprehension when placed in new situations, with new surroundings and new faces. With help and proper guidance, they can adjust to new position with a minimum of fear and earlier fulfillment of their full potential.⁵⁰

Evidence of the time was suggesting that orientation programs had a positive impact on employee satisfaction and that the more "quickly integrated into the hospital functions," the happier the new employee is, "and is able to provide the type of nursing care which directors of nursing appreciate."⁵¹ Buller and McDonald suggested that orientation should be planned around the learning needs of the individuals, and that the process should "shorten the time needed to fit nurses into new work; give information to help develop nurses' skills and patients' confidence; minimize confusion; foster the feeling of belonging to the institution and promote acceptance by the group."⁵²

During the early 1970s some participants in this study indicated that they had received hospital and/or unit level orientations while others had not. It would take until approximately the 1980s for hospital and unit orientations to become part of the standard process for newly hired nurses. Barb (Fryer) MacLean, who nursed during the 1970s, reported having had some orientation to the hospital as well as some ICU-specific training upon hire. MacLean recalled that at the Royal Victoria Hospital in Montreal, Québec, she completed a hospital-based course focused primarily on heart arrhythmias and pertinent cardiac medications.⁵³ Judy Rashotte remarked that, as a graduate of the "2 plus 1 program"

at the Hospital for Sick Children in Toronto, she underwent an extensive orientation when hired in 1972.⁵⁴ She had just completed her final student year (a concentrated clinical placement) in the Neonatal Intensive Care Unit and felt that she was starting over as a learner in the ICU:

So, when I was on orientation I literally went, I can remember sort of almost going back to square one again. We had classrooms, classroom hours or days and we would ... look after the kids ... we [had] people in the room always there, and our nurse educator was highly visible. I can remember really looking up to them, highly, highly, really expert ... it was a very ... well, well-laid out, well-defined, orientation ... You got a binder, a very thick binder; you got their policies and procedures; and again, it was at a time where there weren't a lot of critical care textbooks out there and so, you really did rely on the education material that you got from them. You couldn't go and pick up a textbook that talked about mechanical ventilation.⁵⁵

In Newfoundland, Sue Malone-Tucker also had an opportunity to complete a two-month clinical placement in ICU as part of the hospital-based nursing program at St. Clare's Mercy Hospital (1983). She recalled that the amount of clinical exposure that student nurses had during their training at St. Clare's led the hospital to hire new graduates straight into ICU at that time:

There was never hesitation to hire them ... because in my orientation group there [were] six of us and we were all newly graduated. And that's how they staffed the hospital. There was no hesitation to hire you in any specialty if you graduated from the school of nursing. And then you were given a really good orientation.⁵⁶

One orientation strategy was to assign new ICU nurses to the more stable patients and gradually expose them to increased complexity. Rashotte noted, for example, that newly hired nurses were not necessarily assigned to the sickest babies. As she reflected:

[It] was a large unit for that time, it's even larger now. But I can remember there being at least eight separate rooms and it was a graduated thing. So, you had your very critically ill babies that were on one side of the hall and they had usually about six to eight ventilated babies in them. There was also a surgical room that was less critically ill (they weren't ventilated). If they were ventilated, they were in the

ventilator rooms, whether they were medical or surgical. But then there was a surgical room where they graduated to, and then there were what were called ... feeding rooms or improving [rooms] and then, the babies would be discharged from there [to regular wards]. And they had their own admitting; they had their own x-ray rooms; they had everything. And so truly, when I was there, you started with the babies that were just about ready to go home.⁵⁷

In order to help alleviate some of the insecurity and uncertainties related to lack of experience and the complex technology, Riek van den Berg recalled that new ICU nurses were first assigned to patients in a smaller area in close proximity to the main ICU at the Ottawa Civic Hospital in the 1980s.⁵⁸ In this smaller and closer area patients were generally more stable or else chronically ventilated (that is, stable and relatively predictable). The practice enabled new ICU nurses to become familiar with their new environment, new work, and new nursing roles while having access to more experienced nurses nearby. This practice helped new nurses recognize and learn unit routines and become familiar with critical care nursing practices (essentially familiarizing themselves with a new objective reality). They were also able to learn, as van den Berg described it “the rhythm of the ICU.”⁵⁹ Although attempts to provide a gradual learning experience were made, van den Berg acknowledged that it was not always possible, especially taking into account the unpredictable nature of critical illness. She stated that:

Although people would talk about how you should stage them [new nurses] into the process you can’t stage the patient, and you can’t guarantee ... that you’ll have a patient supply so that you can put the nervous nurses with this level of patient for a few months so they get comfortable before you teach them more.⁶⁰

Judy Rashotte also pointed out that once team leaders and nursing peers agreed that you had acquired and demonstrated the necessary skills and knowledge to look after the most “well” (i.e. most stable) of the critically ill patients, you would be assigned to care for

the more unstable patients. She added, however, that new nurses were never left on their own because “there were always other nurses and so you were never alone and you always had someone to ask.”⁶¹ Frances Fothergill Bourbonnais (reflecting on ICUs in Kitchener and Toronto) recalled this graduated process as well, saying:

There were a couple of nurses in that unit who were excellent nurses and they were wonderful with families - wonderful bedside manner. And they helped me a lot in terms of, “I’ve got this problem with this patient, am I seeing this right here?” And they would come over and check things out with you and say, “let’s do this for now and in 15 minutes if it’s not better we’ll call.”... There weren’t huge numbers of them but there were some excellent nurses. Same as in Toronto, I can remember a couple of nurses that come to mind, that had been there long before I had, and they were very helpful. If you were in the middle of the night ... they would be there to help you and check things out, you could go to them and say “[am] I missing something here? Am I reading this right?”⁶²

These accounts of ICU nurses’ orientation experiences suggest that not only did orientation become a standard practice in units, but ICU nurses shaped the process and put their own mark on it. Secondary socialization marked ICU nurses’ ability to identify their learning needs and to shape their ICU nursing education accordingly. In particular they structured orientations according to priorities specific to patient care, including theoretical components where knowledge specific to body systems such as the cardiac and respiratory systems was either reviewed or taught at an enhanced level. Often theoretical components were integrated or combined into a clinical experience where new nurses were then buddied (or later preceptored) by experienced ICU nursing staff for periods of time that ranged from days to several weeks.

In-service Education

Whereas hospital orientation served to increase nurses’ comfort level and transition into new employment and practice settings, a second formalizing process consisted of

various types of in-service education typically about new procedures or equipment.⁶³

Initially, this strategy was largely directed at management training for nursing administrators, as Mona Callin noted in 1967.⁶⁴ Callin felt that while schools of nursing were adequately preparing bedside nurses they were not necessarily producing team leaders and managers – a change in the care delivery model that was popular at the time.⁶⁵ By 1969, the concept of in-service education had expanded to include the preparation of nurse educators but not general staff nurses. Shirley Post argued that “No professional nurse [referring to both educators and administrators] can function well or for long without continuing to learn. A nurse who graduated five years ago and has not studied in her field since is out of date.”⁶⁶ Eventually (by approximately the mid-1970s), in-service education was incorporated as a way to educate staff nurses on the wards and on specialty units where they worked.

While few nurses in this study had access to, or participated in, formal critical care courses, they recalled in-service education and workshops as commonly available for on-going learning. But in-service education could also be problematic, as Jayne Elliott reflected about her experience at Kingston General Hospital:

It was again nothing formal, no lectures, or [any]thing from them [physicians]. That was the problem. I mean we tried to have it in-serviced, it was good ... but as soon as you had a slot, date, or time to do it, you were floated right? People were floated out of the unit to help out with the rest of the hospital. So it was very seldom, if your unit was quiet, that you kept all the staff [in the unit]; or that you got somebody free to prepare an in-service for the rest of the team ... we were trying a couple of times but it was hopeless.⁶⁷

Interestingly, while Elliott highlights problems scheduling in-service education, nurses who participated in this study identified in-services as their main source of additional ICU nursing education. This was problematic for several reasons. As many of the

participants have noted, they readily acknowledged that education beyond their basic nursing training was imperative as technology changed and new medical treatments and procedures were put in place. There was always something new to learn in order to provide safe and quality patient care. While ICU nurses were clearly positioned as the primary care givers for patients and families at the frontline of care 24 hours a day, 7 days a week, their position at the bedside restricted the flexibility (that the physician group had) to leave the unit during the day. If continued education and learning was part and parcel to their role and to the delivery of safe patient care, nurses would have to find other ways to attend in-services and continuing education opportunities. If they couldn't do it while at the bedside, they would have to do it on their time off. Those who were able to take advantage of continuing education opportunities typically shared it with their ICU colleagues which furthered as well as strengthened the developing objective reality of the ICU.

Preceptorships

With the broader transition that had taken place regarding nursing education in Canada in the late 1960s and early 1970s, the shift from hospital training schools to colleges and universities contributed a need to incorporate other ways of educating nurses to ensure their knowledge and skills were adequate to care for an increasingly complex patient population. As previously noted by Lynn Kirkwood, prior to this larger change in nursing education, it had already become apparent within hospital training schools that junior students hadn't the necessary skills to care for more complex patients.⁶⁸ One of the major advantages of the hospital training schools had been the amount of time that student nurses spent at the bedside learning to care for patients. The shift away from this style of learning meant that newly trained nurses were spending considerably less time training in direct

clinical practice. By the late 1970s, there was a formal recognition of the gap between nursing education and practice. In order to bridge this gap, other innovative strategies to supplement nursing education and the attainment of adequate clinical experience were put in place – mainly in the form of preceptorship programs. The establishment of such programs, acknowledged the experience and knowledge of practicing nurses as well as their leadership and clinical teaching abilities.

In 1978, for example, the British Columbia Institute of Technology (BCIT) began a preceptorship project, aimed at successfully integrating new graduate nurses into nursing practice and bridging the gap between nursing education and practice.⁶⁹ As Joe Taylor and Pauline Zabowski explained, preceptorship, defined as an individualized form of clinical teaching where a student and nurse were paired together for mutual benefits, was successfully integrated into the BCIT program. While the student benefitted from working side by side with an experienced nurse, the nurse (or preceptor) identified the experience as educationally stimulating, and felt a sense of accomplishment through the sharing of nursing knowledge and an opportunity to sharpen his or her own skills and clinical thinking.⁷⁰ Preceptorship and mentorship models were being incorporated elsewhere as well. For example, peer mentorship emphasized junior and senior staff learning from each other.⁷¹

When a preceptorship model was implemented at the Sir Mortimer B. Davis Jewish General Hospital in Montreal, for example, nurses involved in preceptoring students developed leadership abilities and became agents of change.⁷² The program organizers at the Jewish General then expected preceptorship and peer education to become part of everyday practice. Nurse preceptors were recognized for their clinical knowledge and expertise, their

ability to organize and implement patient care while facilitating the student, and their communication skills – all while providing quality patient care.⁷³

Ultimately, preceptorship experiences took on two forms as described by the participants in this study – as a follow up to orientation upon hire or as part of nurses' basic education and training. Newly hired Sue Malone-Tucker, for example, pointed out that her orientation period (in the 1980s) was followed by a preceptorship period. Malone-Tucker recalled that the senior nurses were both “incredible” and had a “phenomenal” amount of clinical experience. She explained that because St. John's was a major referral center in Newfoundland, ICU nurses there gained a tremendous amount of skill and knowledge – particularly in the areas of trauma care and burns.⁷⁴

Interestingly, although preceptorship was an increasingly popular educational strategy in general nursing practice areas through the 1980s, learning in the ICU had always included at minimum, a pairing experience (a new nurse working alongside a more experienced nurse). ICU nurses referred to this learning frequently as the “buddy system.” At the Health Sciences Centre in Winnipeg, Manitoba, the role of the ICU nursing buddy was clearly defined and included assisting new nurses to integrate into the healthcare team and to act as a support person for them.⁷⁵ Thus, the “Buddy Package” that was created as part of the Health Sciences Centre Intensive Care Nursing Program [no date] was particularly useful for both partners. However, in other instances (where less formalized buddy experiences had been put in place), new nurses had the opportunity and security of learning from the experience of a variety of nurses, but there was less certainty that they were learning from the best and most experienced staff who were also able and willing to

teach them.⁷⁶ The highly structured nature of the Winnipeg buddy experience was similar to other newly developing preceptorship programs.

Preceptorships also took hold in the 1980s in educational institutions offering nursing programs. Frances Fothergill Bourbonnais who became a professor of nursing in 1979, described the development of a preceptorship program at the University of Ottawa. In this program, fourth-year students could complete their final clinical placement with a preceptor in areas of their interest, including the ICU at the Ottawa General Hospital:

And then in 1981, we developed a consolidation experience. And I, because of my background [as a critical care nurse], took a group of students. We organized it so that a group of students could go to Intensive Care. And at the time when we developed the consolidation experience, we knew that we had to have certain criteria [for student selection] ... And so I took a group of students to the [Ottawa] General site for their experience, and that was the first time that they were there for six weeks. I guess it was at the time, fulltime. And I did that, and then expanded [the options to include] the recovery room and the emergency department.⁷⁷

Fothergill Bourbonnais explained that she established specific criteria for students who wanted to go to ICU which set this preceptorship apart from other experiences available on general wards. The criteria included high academic standing and references from previous clinical instructors that indicated critical thinking and independence, among other traits. She also noted that the ICU consolidation experience was highly structured with specific objectives and that often these students were hired in ICU when graduated. Sharon Slivar remembered that during her consolidation practicum (preceptorship) on a medical unit at the Ottawa General Hospital in 1981, she cared for patients who had been transferred recently from the ICU to that medical unit. She vividly recalled the “paraphernalia around [the patient], the tubes and everything.”⁷⁸ As Slivar said:

I just felt it was “wow”... there was a moment of “yeah I’d like to do that”. Actually, I entered the room, I did what I had to do, and I just almost knew what I

needed to do. With very minimal assistance, even back then at that point, I went, “I’d like to do that.” I knew I wanted to stay on the floor a few years prior to going to ICU. I knew I wanted to do that because I knew it was a busy place. [I] took my time and I wanted to do the [critical care certificate courses] before. At that point, in my consolidation, that’s when I knew I wanted to do Critical Care. I always sort of knew, but that’s when I went “yep, I want to do this, I can do this, and so I’ll prepare.”⁷⁹

Mona Burrow recalled the importance of learning from senior nursing staff. She elaborated on the experience of learning to do patient teaching during her preceptorship experiences at the Hotel Dieu in Cornwall. She said that:

There were times that definitely we learned from the senior staff in terms of patient teaching. We had a great manager ... and even when I was doing my five weeks in ICU ... as a [student nurse] preceptorship, I would go out and tag along to listen to her talk to post [myocardial infarction] patients when she did the health teaching ... Ruth was wonderful to tag along with ... I’d sit and just listen to her in order to gain that understanding myself. I would just sit back and listen to her interact with the patients, and hear what she had to say about teaching. That was a great opportunity to learn ... so the next time, I was a little more comfortable when I went out ... You had to do patient teaching ... it was part of our role.⁸⁰

By the early 1980s, publications also emphasized the need for specific orientations and preceptorship experiences in critical care areas like the ICU. Andrea Neumark, Maureen Flaherty, and Francine Girard acknowledged that while much of the responsibility belonged to hospital nurse educators (as new nursing roles had been established), there continued to be a reliance on buddying new nurses with experienced staff members.⁸¹ By 1987, the American Association of Critical Care Nurses recommended the establishment of competency-based education in combination with a formal preceptorship program in order to address the need for orientation to specialty areas. The organization based the recommendation on the complexity of care as well as on the individualized needs of the nurses (who were being hired with a variety of experience levels). While it is unclear

whether more formalized competency-based preceptorship programs were established in Canadian ICUs during the time period of this study, the orientation programs for nurses to critical care areas were becoming lengthier and consistently based on a medical systems approach as well as how to care for patients at the bedside.

For many new ICU nurses, these structured orientations formed the foundation of their theoretical knowledge specific to ICU. As education and ICU nursing knowledge became increasingly structured, routine practices and required ICU nursing knowledge were more clearly identifiable and for certain an objective reality had been by this point established. Competencies (as mentioned above) were an indicator that the socially constructed ICU nursing reality was becoming increasingly institutionalized. However, as later chapters will demonstrate, other developments in Canadian ICU nursing history would provide clear markers of institutionalization of this specialized nursing practice.

Conferences and Courses

Primary sources suggest that ICU nurses took ownership of their own educational needs, at least partially due to the paucity of courses in Canada as well as the associated costs of time and travel to access American courses.⁸² At both the Winnipeg General Hospital (WGH) and the Ottawa Civic Hospital (OCH), ICU nurses organized and hosted intensive care conferences. In fact in 1969, the WGH Intensive Care Nursing Instructors gave the first Coronary Care Conference, which was attended by 34 nurses from 11 hospitals, and a Respiratory Care Conference attended by 52 nurses from 14 hospitals.⁸³ Frances Fothergill Bourbonnais recalled that by the early to mid-1980s, conferences hosted by the American Association of Critical Care Nurses and the newly formed Canadian Association of Critical Care Nurses provided good opportunities to learn:

What I did do was I would go to the conferences, the critical care conferences. I tried to get to those and they were wonderful in terms of just learning what other people were doing; they would have equipment companies there, and you could try out their equipment ... you were able to add to your knowledge.⁸⁴

In 1989, Riek van den Berg was formally acknowledged by Helen Weick, Chairman of the ICU Conference Planning Committee, for her contributions to the third annual ICU Conference (Advanced Respiratory Intensive Nursing Care) held on 20 April 1989 at the Ottawa Civic Hospital.⁸⁵ The conference was successful in attracting nurses from various centres across Ontario and Québec. Mona Burrows recalled that at the Hotel Dieu Hospital in Cornwall, she and fellow ICU nurses (along with the support of manager Ruth Pollock) actively fundraised to send their nurses to conferences.

Conferences provided opportunities to establish networks among other ICU nurses across Canada as well as for education. From a theoretical perspective, the growing interest in ICU nursing conferences suggests that ICU nurses were successful in both secondary socialization and constructing an objective ICU reality that extended beyond individual units. The conferences provided an avenue by which their knowledge, their experiences, and their discussions regarding their work were shared with a larger audience.

Increasingly, nurses sought more structured, formal means of both learning and sharing the specialized knowledge they were developing. The first formally structured hospital-based ICU nursing course was developed at the Winnipeg General Hospital in 1966, and its content was disseminated broadly across Canada as nurses returned to their home units following the completion of the program. The course also marked the opening of the Intensive Care Unit at the Winnipeg General Hospital (now the Winnipeg Health Sciences Centre). What was most unique to the opening of the ICU in Winnipeg was that the hospital,

recognizing a need to prepare nurses especially for its unit, simultaneously established the first officially recognized formal course on ICU nursing in Canada. The course, called the Intensive Care Nursing Program, attracted both local nurses and nurses from across Canada during its years of existence from 1966 to 2009. It is likely that this program, due to its early inception, served as a role model for the development of later ICU courses in other locations. It is also likely that this course became an alternative to American courses, which up until this point had been the only viable options for more formally structured intensive care education.

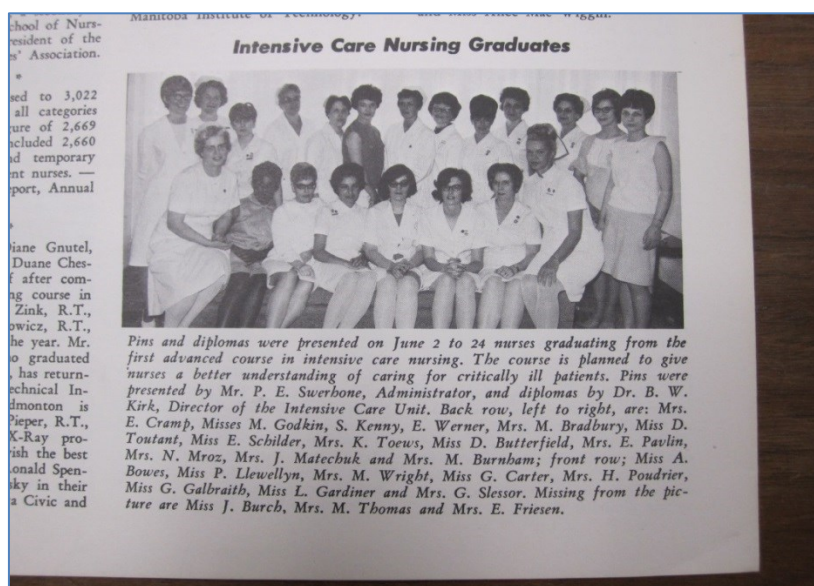


Image 6: First graduating class Intensive Care Nursing Program at the Winnipeg General Hospital. Used with permission of Health Sciences Centre Archives/Museum.⁸⁶

Miss Margaret Nugent was hired in July of 1967 as the Administrative Assistant responsible for Intensive Care Nursing Services as well as the Recovery Room and the Dialysis Unit at the Winnipeg General Hospital (WGH). Nugent arrived at Winnipeg equipped with a Master of Arts degree, teaching experience, and experience in various

administrative positions.⁸⁷ She was also charged with the responsibility of developing a post-basic training course in Intensive Care Nursing, which later became known as the Advanced Course in Intensive Care Nursing. Initially the course consisted of a six-month orientation period (the theoretical component) followed by an additional 100 plus hours of practical experience in the ICU and Recovery Room.⁸⁸

The Generator (the newsletter of the Winnipeg General Hospital at the time) celebrated and recognized the first graduating class of the advanced course in intensive care nursing. Of the nurses interviewed for this study, Alice Dyna, Brenda Stutsky, and Teresa Lee were all graduates of that Winnipeg course. Jayne Elliott took the Post Anesthetic Recovery course which was six months of the ICU course rather than the entire year. Dyna recalled that two nurses – Glynn Murray and Gail Slessor – were instrumental in the development of the course content. Dyna noted that completion of the course was a requirement in order to gain employment in either the medical or surgical ICU at the Winnipeg General Hospital. The four-week orientation (which Dyna remarked was “not heard of anywhere” at that time) included formal classes on cardiology and respirology as well as on the medical technology being used in the ICU (particularly cardiac monitors). After the four weeks, candidates had to successfully write an examination in order to move forward into the ICU itself for practical, hands-on experience.

As students progressed through the program, the classroom components focused primarily on the cardiovascular and respiratory systems, becoming more complex and shifting from normal physiology towards abnormal (which physicians taught). Clinical practice in the ICU was closely linked to the formal classroom education. As Dyna stated:

There was a great respect for nurses at the time by the physicians. It was a partnership. They knew they couldn't cover everything. There were interns and

residents around, because that was the time. But the nurses were there 24/7 and as a result, it was in their [physicians'] best interest to have the best nurses around. The physicians were going through too quickly [referring to clinical rotations through the ICU], unless it was a Fellow or something; they were going through too quickly to have any idea of how a ventilator works or whatnot.⁸⁹

Dyna also recalled that physicians took a great interest in the course, particularly anesthetist Dr. Joe Lee, who helped out with the respiratory component of the course. Students were expected to complete two assignments and ten drug studies.⁹⁰ Three of Dyna's drug studies were on atropine sulfate, theophylline, and nitroglycerine.⁹¹ Dyna eventually became one of the course teachers.

Brenda Stutsky recalled that in 1984, the main teachers, including Dyna, were "very experienced and incredible educators."⁹² Stutsky elaborated on the various learning experiences: formal classroom learning, laboratory components, and a buddy experience with nurses who had already been working in ICU for some time. According to her, towards the end of the course (within the last two months approximately), students became increasingly independent in the delivery of patient care, although their assigned buddy was always nearby for assistance and guidance when needed.

Teresa Lee who was working at the Curtis Memorial Hospital in St. Anthony, Newfoundland, around 1978, recalled that:

Having come from Ontario, I had not heard of it [the course]. But down east, many of my colleagues were familiar with it, and a girl I lived with from New Brunswick mentioned it to me. And then I explored it and wrote people and called out there and got an application form.⁹³

Lee felt that she had been providing safe care to patients at that time, but didn't have the necessary depth of knowledge regarding the various body systems and how they had an

impact on one another within the context of critical illness. The Winnipeg course would provide a connection between theory and practice that she hadn't yet acquired.

By the mid-1990s, Brenda Stutsky had become the Assistant Director for the ICU education program at Health Sciences Centre (previously WGH) and the hospital established an affiliation with the local university whereby students could earn university credits for completion of the course components. She recalled the credit structure as follows:

We had two theory courses, a lab course and a clinical course. And if I could remember it right, the credits were: the lab course was two university credits, the clinical course, probably three, and the other ones were three and four each.⁹⁴

As such, students in the program earned a substantial number of university credits for completing the ICU course, which was considered to be part of the “continuing education” stream. They could earn a total of twelve credits towards a baccalaureate university degree.

Over time, as Dyna recalled, the program gained popularity and became well known. Nurses from across Canada and as far away as Australia had participated in the program. Dyna suggested that the program was extremely influential and that graduates of the program often went back to their respective units, disseminating what they had learned in Winnipeg. It is unclear why the program closed in 2009; however, by this time, certificate programs affiliated with community colleges were well-established and Canadian ICU nurses had successfully fought for a national level specialty certification program.

Other evidence suggests that by the late 1960s and early 1970s, several other formal educational opportunities were in existence. For example, an advertisement in the May 1967 volume of the *Canadian Nurse* highlighted an eight-day course that was provided in January of 1967. The course was a collaborative effort of three hospitals in British Columbia – the Royal Jubilee, St. Joseph's and the Veterans' Hospital.⁹⁵ Beverly Brennan also indicated that

in 1972 she had received formal training in Halifax, Nova Scotia, specific to Neonatal ICU work. The latter was a one-year course that took place between the Grace Maternity Hospital and the Isaac Walton Killam Health Centre and focused on ventilators and high-risk diseases of neonates.⁹⁶ Later, in the 1970s and early 1980s, community colleges began to offer certificate programs for post-basic education specific to intensive care. Sharon Slivar reflected on her plans to pursue her critical care education in the early 1980s, noting that “I just wanted to get a few years on the floors and I did my Critical Care Course Certification at Algonquin [College].”⁹⁷ By the early 1990s the opportunities for critical care nursing education had flourished and were available across the country.⁹⁸

CHANGING AND EXPANDING ROLES

While the early ICU nurses relied primarily on one another as well as physicians to build ICU nursing practice knowledge, by the late 1970s and early 1980s, the landscape of ICU nursing education was changing both in terms of how nurses learned but also from whom they learned. Frances Fothergill Bourbonnais, Barb (Fryer) MacLean, and Ruth Pollock (amongst others), reflected that prior to the creation of formal educator roles within hospital nursing practice, head nurses (or unit managers) played a significant role in educating new ICU nurses. Head nurses had clinical skills, knowledge, and experience that positioned them as credible and valuable resources for their nursing staff. Fothergill Bourbonnais noted that:

The manager, I can remember in Kitchener at the time, and we would have these little sessions, informal sessions in the unit, and we’d sit around and the patients were behind us and we’d sit around like in a little huddle, and she would review [things] and maybe we were going to starting getting patients with a certain procedure or something, and she would go over that and explain. And in those days the equipment companies weren’t very involved. They later became much more

involved with nurses. But [managers] would see that as their role, and certainly every morning to see the patients ... they were very clinically involved and the same in Cornwall.⁹⁹

Similarly, at the Dartmouth General Hospital in Nova Scotia, Sue Eggleton recalled her manager teaching a course:

So I did clinical and ER [Emergency Room] in the hospital where I was working at. Plus I did clinical and ICU/CCU as well so it was nice. It was great to pull it all together so it was a good course, it really was. And actually the funny part was, it was taught by the manager of ICU.¹⁰⁰

Primary sources suggest that in some units, managers maintained a direct role in nurse education well into the mid-1980s and early 1990s while in other units, managers lost their direct involvement at the bedside. Mona Burrows recalled that their manager (circa 1985) ran week-long workshops twice a year focused on fundamental ICU skills, such as rhythm strip interpretation and reading 12 lead ECGs.¹⁰¹ In some units, managers even maintained a regular physical presence within the ICU but over time, managers were moved out of the unit and thus, their involvement as educators for direct nursing practice diminished.¹⁰² As the *Canadian Nurse* aptly shows, many new nursing roles were established and other roles were redefined between the 1960s and 1990s. The role of the unit manager became increasingly administrative, for example, which opened the door for the development of ICU nurse educator roles as well as clinical nurse specialists.

In October of 1970 Rosemary Prince Coombs, the first Clinical Nurse Specialist at the Ottawa Civic Hospital, described the basis for expanded nursing roles in particular active-care hospital nurses. According to Coombs, three justifications for expanded roles included the need for medical specialization, the better utilization of nursing's manpower, and the embracing of a multi-disciplinary approach to health care.¹⁰³ Medical specialization

was driving an increased demand for nursing specialization in a variety of areas including coronary care, intensive care, neurosurgery, and renal transplantation, to name but a few.¹⁰⁴ At this time, the Canadian Nurses Association recognized only two levels of nurses, distinguished by their educational level as the baccalaureate nurse and the diploma nurse. Coombs argued that distinguishing nurses entirely on their level of educational preparation was problematic, noting that “the educationally prepared [meaning university-prepared] nurses are not available, or are not attracted to the active care hospitals. Also, upward mobility [was] denied to nurses with clinical experience and demonstrated clinical expertise.”¹⁰⁵

The Kingston General Hospital did not have a nurse specialist specific to the ICU in the 1970s, but there was a cardiovascular nurse, Joyce Richardson, who had taken on the role of a nurse specialist. She played an integral role in consulting on patients in the ICU as well as educating the ICU nurses. Richardson had had previous experience in the Cardiac Surgery Unit, which was located in the main ICU at the Ottawa Civic Hospital, as well as in the cardiac unit and recovery room at Sudbury Memorial Hospital and the University of Alberta Hospital.¹⁰⁶ As Jayne Elliott recalled:

There was a cardiovascular nurse clinician. A woman. And I think it was actually relatively recently that these types of nurse clinicians had come in [referring to the mid-1970s]. She worked – because they were starting the open-heart program there, they used to do three open-hearts [surgeries] a week, (Monday, Wednesday, and Friday) and it would take one nurse up until two o’clock in the afternoon to set up for it. They’d get all the lines ready and then ... that’s when [the patients would] roll in around there. They do a lot more per day now. But she would work with the family. She worked with the physicians and the families, and then she’d come and work with the nurses. So she was actually a really good liaison person between families, patient, and physicians. And we were part of that loop too.¹⁰⁷

Other ICUs, for example, at the Hotel Dieu Hospital in Cornwall (a community hospital) did not have ICU nurse educators (circa 1980s). In this case again, nurses relied solely on each other. Mona Burrows reflected that:

We kind of looked after ourselves and several of us became proficient at a variety of things. We never had an educator. We learned from one another. With the new IT [Information Technology], all the new technology that was coming up, somebody, one of us would get really familiar with it, become like a super-user. That was sort of the buzz-word back then, that you were a “super-user.” Then they would train everybody else and be a resource.¹⁰⁸

Some study participants remarked on the changing role of the “Team Leader” or “Head Nurse” during this period. This role could be considered both a facilitator and a barrier in regards to communications between ICU nurses at the bedside and the larger ICU team (primarily physicians). For example, Mary Thornton recalled having to communicate changes in patients’ conditions through the Team Leader, rather than reporting them directly to the physician responsible for the patient. The Team Leader would, in turn, communicate with the physician and obtain the necessary direction for patient care, including medical orders. She recalled that although there may have been a certain level of autonomy, in that you could care for your own patient, there was actually limited communication directly with the physician.¹⁰⁹

However, with ICU nurses’ expanding knowledge and the ability to more accurately and succinctly communicate the needs of their patients, they increasingly communicated directly with the physician group and broader healthcare team. Alice Dyna recalled an experience of her sister (also an ICU nurse) in delivering her patient assessment report during routine rounds with the whole ICU team: “They [the physicians] weren’t listening in rounds [as] she was presenting. She just stopped. And all of sudden, they realized she

wasn't talking and they said, 'What's the matter?' She [said], 'I'll continue when you're ready to listen.'"¹¹⁰ Another nurse recalled giving report, a systematic, a head-to-toe assessment, to a physician group that was not accustomed to this style of nursing communication, stating she felt as if she "had two heads."¹¹¹

As ICU nursing in Canada matured and ICU nurses' voices grew stronger, advocating for a central role in patient rounds became part of the published professional literature. In 1989, Joyce Thomas, ICU Head Nurse at St. Boniface Hospital in Winnipeg, published on "The Changing Role of the I.C.U. Nurse in Medical Rounds":

We felt it necessary to implement a change in the nurse's traditional role from the bedside nurse that took the doctors plan and implemented it, to the bedside nurse that played an active role in the patient's plan to the point of being an important decision maker, co-ordinator of care, and patient advocate.¹¹²

Nurses took a more formalized position in patient care and delivered a "prioritized, concise and accurate nursing report" that "brought the complete health care team up to date" and was delivered in a "head-to-toe systems approach" with which physicians were familiar.¹¹³ In essence, nurses borrowed power from the physician group in a very strategic manner. In order to solidify their position regarding patient care, ICU nurses learned to incorporate medical jargon when communicating with physicians. By acknowledging important aspects of other realities (like the language of physicians) nurses were able to communicate with other team members in a way that was familiar to them. But, as Ruth Pollock had recalled, there still remained a hierarchical division between ICU nurses and physicians.

SUMMARY

The development of a body of ICU nursing knowledge helped to create the objective ICU nursing reality. Early ICU nurses built on general nursing knowledge and together figured out how to care for patients in ICU environments. Over time, the routines and practices they had developed became habitualized, enabling more formal approaches to becoming an ICU nurse. As orientations, in-service education, and preceptorships became common learning strategies within ICUs, they enabled ICU nurses to solidify a body of knowledge and skills which could then become formalized for socializing future nurses to ICUs. In the process, they constructed an objective reality known as ICU nursing. Some educational strategies incorporated into ICU nursing paralleled broader nursing education strategies, but because of the nature of shared experiential learning informal learning processes continued to have a significant impact on learning within the ICUs. Relationships and informal learning processes continued to play significant roles in how nurses learned, and how nurses would be socialized to the contexts of Canadian ICUs.

Endnotes:

¹ Stanley Greenhill, "Our Changing Society," *The Canadian Nurse* 56, no.5 (1960): 405 - 409.

² Greenhill, "Our Changing Society," p. 405.

³ Greenhill, "Our Changing Society," p. 405.

⁴ Bernard R. Blishen, "Social Changes in Canada," *The Canadian Nurse* 58, no.10 (1962): 887-895.

⁵ Blishen, "Social Changes," p. 889.

⁶ Blishen, "Social Changes," p. 889.

⁷ R. Douglas Francis, Richard Jones, and Donald B. Smith, *Journeys: A History of Canada* (Toronto: Thomson Nelson, 2006). See chapter 20, "Toward a More Affluent Society: 1945-1960," p. 454-457.

⁸ Francis, Jones, and Smith, *Journeys*, p. 454-457.

⁹ Blishen, "Social Changes," p. 890.

¹⁰ Blishen, "Social Changes," p. 894.

¹¹ Cynthia Toman, "'Body Work,' Medical Technology, and Hospital Nursing Practice," in *On All Frontiers: Four Centuries of Canadian Nursing*, eds. Christina Bates, Dianne Dodd, and Nicole Rousseau (Ottawa: University of Ottawa Press, 2005), p. 89-105. See also Toman, "'Body Work': Nurses and the Delegation of Medical Technology at the Ottawa Civic Hospital, 1947-1972," *Scientia Canadensis* 29, no 2 (2006): 155-175.

¹² Toman, "'Body Work' Medical Technology, and Hospital Nursing Practice," p. 97.

¹³ Julie Fairman and Joan Lynaugh, *Critical Care Nursing: A History* (Philadelphia: University of Pennsylvania Press, 1998).

¹⁴ Interview with Frances Fothergill Bourbonnais, audio recording, Ottawa, 30 September 2011. (Hereafter cited as interview with Fothergill Bourbonnais).

¹⁵ Deborah Hamilton, "The Historical Development of Intensive Care Nursing at Vancouver General Hospital, 1960-1985," Master's thesis, University of British Columbia, 2010, p. 44.

¹⁶ Minutes of Committee re Acute Treatment Area held on 15 April 1959, prepared by Dr. D. L. C. Bingham, F.R.C.S., Chairman of Committee on Acute Treatment Area, Box 2, Donald M. MacIntyre fonds, Kingston General Hospital (KGH) Archives.

¹⁷ Medical Conference Committee Minutes, 15 September 1959, P.3-Report from Dr. Bingham Re Intensive Treatment Area, Box 1, Medical Advisory Committee (MAC) fonds, KGH Archives. The construction work on the Douglas II Wing at KGH was highlighted in the 3 April 1962 issue of the *Whig Standard*, Kingston's primary news publication.

¹⁸ Minutes of Committee re Acute Treatment Area held on 15 April 1959, prepared by Dr. D. L. C. Bingham, F.R.C.S., Chairman of Committee on Acute Treatment Area, Box 2, Donald M. MacIntyre fonds, KGH Archives.

¹⁹ Medical Conference Committee Minutes, 15 September 1959, P.3-Report from Dr. Bingham Re Intensive Treatment Area, Box 1, MAC fonds, KGH Archives.

²⁰ Letter from Dr. D. L. C. Bingham to Dr. R. C. Burr, Chairman, Medical Conference Committee, 8 October 1959, re trip to Rhode Island Hospital, Providence Rhode Island, United States of America, Box 1, MAC fonds, KGH Archives.

²¹ Letter from Dr. D. L. C. Bingham to Dr. R. C. Burr, Chairman, Medical Conference Committee, 8 October 1959, re trip to Rhode Island Hospital, Providence Rhode Island, United States of America, Box 1, MAC fonds, KGH Archives.

²² THE INTENSIVE TREATMENT AREA Suggested Regulations, accepted by Medical Conference and Advisory Committee, 21 November 1961, Box 1, MAC fonds, KGH Archives.

²³ *Winnipeg General Hospital Annual Report 1961*, p. 106-107, Winnipeg General Hospital, Annual Report and Accounts, 1961, F4, S4, Box 11, Health Sciences Centre Archives/Museum.

²⁴ *The General Alert*, Vol. 3, no. 2, May 1971, p. 6-7. *The General Alert* was the newsletter of the Cornwall General Hospital, Cornwall, Ontario. Private collection of Sharon Anderson. See also Deborah Hamilton, "The Historical Development of Intensive Care Nursing at Vancouver General Hospital, 1960-1985," Master's thesis, University of British Columbia, 2010; Interview with Bourbonnais; Interview with Donalda "Donnie" Parks by author, audio recording, Toronto, 19 April 2013. (Hereafter cited as Interview with Parks.)

²⁵ Interview with Fothergill Bourbonnais.

²⁶ Interview with Sharon Anderson by author, audio recording, Ottawa, 23 January 2013. (Hereafter cited as Interview with Anderson).

²⁷ The ICU at the Hotel Dieu predated the CCU, which was established in 1970 (later these units would be combined into one). See Interview with Ruth Pollock by author, audio recording, Chrysler, Ont., 7 September 2011. (Hereafter cited as Interview with Pollock).

²⁸ Interview with Pollock.

²⁹ Interview with Pollock.

³⁰ *The General Alert*, Vol. 3, no. 2, May 1971, p. 6-7. (Newsletter of the Cornwall General Hospital).

³¹ *The General Alert*, Vol. 3 no.2, May 1971, p.6-7.

³² Interview with Teresa Lee by author, audio recording, Ottawa, 10 February 2012. (Hereafter cited as Interview with Lee).

³³ Robert Bulander, “‘The Most Important Problem in the Hospital’: Nursing in the Development of the Intensive Care Unit, 1950-1965,” *Social History of Medicine* 23, no. 3 (2009): 632. Bulander notes that training consisted of “anything from a day to two weeks of lectures, generally on management of particular post-operative conditions, haemorrhage, fluid imbalances and cardiac problems.” Here Bulander is referencing R. J. Lamb, “How to Plan Intensive Care,” *Modern Hospital* 91 (1958): 51-55.

³⁴ Personal communication with Ruth Pollock by author, 19 February 2013.

³⁵ Interview with Pollock.

³⁶ Interview with Maureen McBain by author, audio recording, Ottawa, 23 January 2013. (Hereafter cited as Interview with McBain).

³⁷ Interview with Lee.

³⁸ Interview with Fothergill Bourbonnais.

³⁹ Roselyn Smith and Elaine Burt, “Pediatric Intensive Care Units,” *The Canadian Nurse* 57, no. 9 (1961): 857.

⁴⁰ Interview with Fothergill Bourbonnais.

⁴¹ Interview with Pollock.

⁴² Interview with Pollock.

⁴³ Interview with Parks.

⁴⁴ Private Collection of Donalda “Donnie” Parks. Used with permission.

⁴⁵ Interview with Parks.

⁴⁶ Private Collection of Donalda “Donnie” Parks. Used with permission.

⁴⁷ Private Collection of Donalda “Donnie” Parks. Used with permission.

⁴⁸ Interview with Parks.

⁴⁹ Private Collection of Donalda “Donnie” Parks. Used with permission.

⁵⁰ F. Jean Buller and Stella M. McDonald, “Orientation,” *The Canadian Nurse* 58, no. 5 (1962): 417.

⁵¹ Buller and McDonald, “Orientation,” p. 417.

⁵² Buller and McDonald, “Orientation,” p. 418.

⁵³ Interview with Barb MacLean by author, audio recording, Kemptville, Ont., 3 August 2010. (Hereafter cited as Interview with MacLean 1).

⁵⁴ The “2 plus 1” program at the Hospital for Sick Children was one of several innovative programs that attempted to prepare nurses more efficiently for practice. It consisted of two years of formative nursing education followed by one year of concentrated clinical practice. See Lynn Kirkwood, “Enough but Not Too Much: Nursing Education in English Language Canada (1874-2000),” in *On All Frontiers: Four Centuries of Canadian Nursing*, eds. Christina Bates, Diana Dodd, and Nicole Rousseau (Ottawa: University of Ottawa Press, 2005), p. 189.

⁵⁵ Interview with Judy Rashotte by author, audio recording, Ottawa, 23 January 2012. (Hereafter cited as Interview with Rashotte).

⁵⁶ Interview with Sue Malone-Tucker by author, audio recording, Ottawa, 20 September 2011.

⁵⁷ Interview with Rashotte.

⁵⁸ Interview with Riek van den Berg by author, audio recording, Ottawa, 9 January 2012. (Hereafter cited as Interview with van den Berg).

⁵⁹ Interview with van den Berg.

⁶⁰ Interview with van den Berg.

⁶¹ Interview with Rashotte.

⁶² Interview with Fothergill Bourbonnais.

⁶³ For examples, see Buller and McDonald, “Orientation,” p. 417-418; Mona E. Callin, “Inservice Education,” *The Canadian Nurse* 63, no. 8 (1967): 32-34.

⁶⁴ Linked with the concept of in-service education was the concept of Micro-teaching. In November of 1969 an article was published in the *Canadian Nurse* by E. Jean M. Hill entitled “The minis have it!” In the article, Micro-teaching is defined and referenced to an

article published by J. Fortune, J. Cooper and D. Allen “The Stanford Summer Micro Teaching Clinic 1965” in *Teaching Methods and Materials* XVIII, no. 4, (Winter 1967). It refers to “a scaled-down teaching encounter ... to serve three purposes: 1. as preliminary experience and practice in teaching; 2. as a research vehicle to explore training effects under controlled conditions; and 3., as an inservice training instrument for experienced teachers.” See Jean M. Hill, “The Minis Have It!” *The Canadian Nurse* 65, no. 11 (1969): 44-45.

⁶⁵ Callin, “Inservice Education,” p. 32-34.

⁶⁶ Shirley Post, “Inservice for Teachers, Too?” *The Canadian Nurse* 65, no. 9 (1969): 29-30.

⁶⁷ Interview with Jayne Elliott by author, audio recording, Ottawa, 15 September 2011. (Hereafter cited as Interview with Elliott)

⁶⁸ Kirkwood, “Enough but Not Too Much: Nursing Education in English Language Canada (1874-2000),” p. 189.

⁶⁹ Joe Taylor and Pauline Zabowski, “Preceptorship is Alive and Well and Working at BCIT,” *The Canadian Nurse* 78, no.6 (1982): 19-22.

⁷⁰ Taylor and Zablowksi, “Precetorship is Alive and Well,” p. 22.

⁷¹ See also Matilda Bara, “The Staff Nurse as Leader,” *The Canadian Nurse* 83, no. 6 (1987): 32.

⁷² R. Parsons, J. MacLean, P. Butcher, and J. Shamian. “The Staff Nurse as Peer Educator – Preceptorship on the Unit,” *The Canadian Nurse* 81, no.7 (1985): 19-20.

⁷³ Kathryn Lewis, “What it Takes to Be a Preceptor,” *The Canadian Nurse* 82, no. 11 (1986): 18-19.

⁷⁴ Interview with Malone-Tucker.

⁷⁵ Health Sciences Centre - Intensive Care Nursing Program (ICNP), Guidelines for Buddying a Student in Phase I of the ICNP, HSC2011/3, Box 4, Health Sciences Centre Archives/Museum, nd.

⁷⁶ Molly A. Johantgen, “Orientation to the Critical Care Unit,” *Critical Care Nursing Clinics of North America* 13, no. 1 (2001): 131-136.

⁷⁷ Interview with Fothergill Bourbonnais.

⁷⁸ Interview with Sharon Slivar by author, audio recording, Ottawa, 15 September 2011. (Hereafter cited as Interview with Slivar).

⁷⁹ Interview with Slivar.

⁸⁰ Interview with Mona Burrows by author, audio recording, Cornwall, Ont., 31 August 2011. (Hereafter cited as Interview with Burrows).

⁸¹ Andrea I. Neumark, Maureen A. Flaherty, and Francine A. Girard, "Individualized Orientation in Critical Care," *Focus on Critical Care* 14, no. 5 (1987): 34-44.

⁸² For example, evidence from the oral history interview with Ruth Pollock suggested that Sister Codere had gone to Ann Arbor, Michigan, to take a course in Cardiology. The American Association of Cardiovascular Nurses, which officially became the American Association of Critical Care Nurses in 1971, had a primary mandate to support nursing education in critical care. See Julie Fairman and Joan Lynaugh, *Critical Care Nursing: A History*, (Philadelphia, University of Pennsylvania Press, 1998) p. 19.

⁸³ Winnipeg General Hospital, Annual Reports and Accounts, 1969, F4, S4, Health Sciences Centre Archives/Museum.

⁸⁴ Interview with Fothergill Bourbonnais.

⁸⁵ Letter from Helen Weick to Reika van den Berg, 8 May 1989, Intensive Care Unit, Ottawa Civic Hospital. See also *Pulse*, Monthly News from the Ottawa Civic Hospital, 12 May 1989, p.8. Private collection of Riek van den Berg.

⁸⁶ Winnipeg General Hospital, *The Generator*, (Summer 1967), F4, S3, Box 8, Health Sciences Centre Archives/Museum.

⁸⁷ Winnipeg General Hospital, *The Generator*, vol. 9, no.16 (October 1967), F4,S3, Health Sciences Centre Archives/Museum.

⁸⁸ Winnipeg General Hospital, Annual Reports and Accounts, 1967, F4, S4, Box 12, Health Sciences Centre Archives/Museum.

⁸⁹ Interview with Alice Dyna by author, audio recording, Winnipeg, 27 October 2011. (Hereafter cited as Interview with Dyna.)

⁹⁰ Interview with Dyna.

⁹¹ Alice Dyna, *Drug Study Guide*, 1970, HSC2011/3, Box 3, Health Sciences Centre Archives/Museum.

⁹² Interview with Dyna.

⁹³ Interview with Lee.

⁹⁴ Interview with Brenda Stutsky by author, audio recording, Winnipeg, 28 October 2011. (Hereafter cited as Interview with Stutsky.)

⁹⁵ "News: Intensive Care Nursing Course," *The Canadian Nurse* 63, no. 5 (1967): 17.

⁹⁶ Interview with Beverly Brennan with author, audio recording, Ottawa, 23 January 2013. (Hereafter cited as Interview with Brennan.)

⁹⁷ Interview with Slivar. Also of note is that Frances Fothergill Bourbonnais taught in the Critical Care Course at Algonquin College in Ottawa from 1976 to 1977.

⁹⁸ Canadian Association of Critical Care Nurses (CACCN), *Critical Care Nursing Specialty Designation Proposal*, (CACCN, 8 September 1993). The report identified all educational opportunities including certificate programs and courses across Canada. The majority of opportunities were available in the province of Ontario. There were no opportunities listed for the provinces of Prince Edward Island and Saskatchewan. This report was made available by the CACCN.

⁹⁹ Interview with Fothergill Bourbonnais.

¹⁰⁰ Interview with Sue Eggleton by author, audio recording, Ottawa, 28 September 2011. (Hereafter cited as Interview with Eggleton).

¹⁰¹ Interview with Mona Burrows, audio recording, Cornwall, Ont., 31 August 2011. (Hereafter cited as Interview with Burrows.)

¹⁰² Interview with Fothergill Bourbonnais. Interview with Slivar.

¹⁰³ Rosemary Prince Coombs, "Active-care Hospital Nurse Expands Her Role," *The Canadian Nurse* 66, no. 10 (1970): 23-29.

¹⁰⁴ The full list of areas of specialization identified by Coombs included: "cardiac surgery, coronary care, intensive care, neurosurgery, neurology, paraplegia, hemodialysis, burns, hyperbaric, respiratory, perinatal, gastrointestinal, renal transplantation, ophthalmology, otolaryngology, maternity, and pediatric units." See Coombs, "Active-care Hospital Nurse," p. 26.

¹⁰⁵ Coombs, "Active-care Hospital Nurse Expands Her Role," p. 26.

¹⁰⁶ Interview with Joyce Richardson by Evelyn Kerr and Cynthia Toman, audio recording, Ottawa, 10 March 1995. Private collection of Cynthia Toman.

¹⁰⁷ Interview with Elliott.

¹⁰⁸ Interview with Burrows.

¹⁰⁹ Interview with Mary Thornton by author, audio recording, Ottawa, 8 March 2012.

¹¹⁰ Interview with Dyna.

¹¹¹ Interview with Anonymous by author, audio recording, Ottawa, 19 September 2011. (Hereafter cited as Interview with Anonymous).

¹¹² Joyce Thomas, "The Changing Role of the I.C.U. Nurse in Medical Rounds," *Canadian Critical Care Nursing Journal* 6, no.1 (1989): 27.

¹¹³ Thomas, "The Changing Role of the I.C.U. Nurse," p. 27.

CHAPTER TWO

SITUATING TECHNOLOGY IN ICU NURSING PRACTICE

Technology was an integral part of ICU nursing reality (everyday world). It constituted an important aspect of ICU nurses' work that required additional knowledge and understanding within the context of patient care. The proliferation of technology was readily apparent in newly emerging ICUs. But, technology needed a constant presence to monitor, use, and interpret patient events and responses to treatment – and nurses were already positioned as skilled, knowledgeable workforce within other areas of the hospital. Their availability and willingness to take on new roles as ICU nurses enabled the increasing use of technology in patient care. Technology comprised a large proportion of what ICU nurses needed to learn about and therefore became a significant part of their objective reality, particularly in structuring daily routines and nursing practice.¹

Technology also generated contentious debates regarding the type of care that ICU nurses delivered such as how a humanized approach to care could be incorporated into such a technologically complex environment, and what level of nurse should deliver this care (technicians or professionals). Yet, technology in the ICU gradually moved to the background of ICU nurses' accounts rather than remaining in the foreground when they recalled experiences as new ICU nurses. Technology became a “taken for granted” aspect of ICU nurses' objective reality.

This chapter situates Canadian ICU nurses within the larger debates about technology and technological care. The stories told by nurses interviewed for this study provide insight and understanding of how ICU nurses integrated technology into their

clinical practice. I suggest that while ICUs became known as technologically complex environments, over time, ICU nurses shaped the place of technology and placed great emphasis on basic patient care, at the same time as humanizing technological care for patients and families. ICU nurses also negotiated their relationships with technology as newer responsibilities were added and or (sometimes reluctantly) given up.

Technology related to nurses and ICUs was dominating headlines in the *Canadian Nurse* by the late 1960s. The September 1961 issue focused specifically on ICUs and it appears to be the first major publication about ICUs written for the broader Canadian nursing audience. Pamela Poole, in an article entitled “Patients Come First,” highlighted that advances in both medical and surgical techniques required both constant and “intelligent observation” of patients. She also claimed that more complex patients and equipment required specially trained nurses and that ICUs were emerging as the designated place of care for these types of patients.² In addition to equipment, Poole included drugs such as peripherally administered intravenous vasoconstrictors as technologies that required round-the-clock care and constant observation.

Prior to the shift of nursing programs from hospitals to educational institutions during the early 1970s, students still made up a large portion of the bedside workforce.³ Patients that had respiratory insufficiency, for example, had previously been cared for throughout the hospital, scattered on various wards where nurses were often less familiar with the equipment and procedures required for their care. Mary Flett, Mary McInroy, and Elin Nimmo suggested that these types of patients were a driving force behind the development of ICUs.⁴ Proposed ICUs were to have a “specially trained” corps of nurses and physicians who could provide the necessary care for these patients. The authors further

suggested (in a deterministic fashion) that the equipment created the need for specialized nursing and medical care, and recommended that graduate nurses “must be trained to develop technical skills and keen powers of observation.”⁵ They emphasized that graduate nurses “must be especially alert to changes in the machines.”⁶

Roselyn Smith and Elaine Burt described some of the “special equipment” required in the ICUs:

Included in the special equipment kept in this unit are: thoracotomy and tracheotomy trays, and the necessary suturing materials; cut-down is a common procedure, and recovery room hemorrhage, though infrequent, must be anticipated; trays for tonsil and nasal packs, chest aspiration, catheterization and pressure dressings are kept at hand. Apart from the sterile trays, a surgical light is a must! A respirator, defibrillator and anesthetic machine should be close by. The unit should be provided with emergency lighting in case of power failure; if this is not possible, this special equipment should be of a type than [sic] can be battery controlled. Some drugs – stimulants, depressants, vasoconstrictors and vasodilators, coagulants and anticoagulants, sedatives, analgesics, etc., should be stocked on the unit.⁷

Various historical accounts have examined how nurses used a specific technology, the challenges they faced in relation to technology in practice, and their involvement in the process of implementing various technologies into practice.⁸ Historians of nursing have begun to incorporate theoretical frameworks from history of technology such as Technological Determinism (TD), Actor-Network Theory (ANT) and Social Construction of Technology (SCOT)) to analyze and interpret nurses’ experiences related to technology. Historian Julie Fairman built on the work of Thomas Hughes, David Noble, and David Hounshell in suggesting that nurses functioned within a large technological system, using the ICU as a prime example and expanding the nurse-technology relationship beyond that of simply nurse and machine.⁹ Analyzing ICU nurses as part of a technological system facilitates consideration of the contextual nature of the ICU and various relationships that

shaped work there. It also contests technological determinism arguments that suggest that nurses were mere users of technology without agency to shape and re-shape both work and knowledge in ICUs. Donnie Parks, reflecting on her experiences at the Hospital for Sick Children in Toronto, referred to this growing sense of agency, explaining that:

Early on I found, myself included, we were very much doctor directed. “Yes, sir. No, sir.” And we really had to work hard in those early years to gain their trust. So that you weren’t just doing what you were told and that maybe you had some ideas and thoughts and suggestions [regarding patient care].¹⁰

SHIFTING TECHNOLOGY TO THE BACKGROUND

In 1963 Mildred Montag suggested that “the functions and activities of nurses are changing and becoming more complex.”¹¹ She then proposed that the profession needed a second level of nurse, referred to as a technician, to help manage the demands. She defined the technician as “one who operates at a level somewhat below the professional but above the skilled worker.”¹² Montag’s definition of a technician reflected educational debates related to level of education and function and was problematic since nurses had considered themselves as professionals *and* as highly skilled workers.¹³ ICU nurses became highly visible examples in the ensuing debates on technicians, technology, and caring.

The etymological meaning of skill implies knowledge and / or understanding as well as a physical proficiency (the act of completing a skill).¹⁴ However, skills do not develop in isolation. They are socially constructed by “the relationship between (a) one kind of a task and another, (b) the supply and demand for people to carry out those tasks, and (c) the incumbents who fill the job and those who are excluded.”¹⁵ In the context of the ICU environment, nurses’ skills were contingent on technological demands, a restricted number of qualified people, and their constant presence at the bedside to perform them.

The various relationships within specific ICUs partially accounted for differences across ICU nurses' experiences. Swan-Ganz catheters, used for cardiac outputs and other hemodynamic measurements, provide a good example of how nurses' roles were contingent on the work culture within the particular ICU where they were employed. In some ICUs, nurses were taught and permitted to perform cardiac outputs and wedges but in others, nurses could only provide assistance and help with the setup of equipment while the physicians performed the outputs and the wedges.¹⁶

While some skills were handed down to nurses from physicians, the newness of the ICU settings and the lack of clearly established roles for both ICU nurses and physicians provided flexibility for entirely new skill sets to emerge. While some machines and equipment were not new to ICU nurses, they often required additional knowledge and skill to use them in new or different ways. For example, while nurses would have delivered oxygen to patients, ICU nurses would require the additional knowledge and skill of interpreting arterial blood gases, understanding the effects of mechanical ventilation on the patient and the different modes of delivery, and making the necessary changes on the mechanical ventilator (prior to the evolution of the role of respiratory technicians).

Over time, ICUs filled with an abundance of ever newer technologies for both direct and indirect patient care. Nitin Puri, Vinod Puri, and R. P. Dellinger provided a chronological account of the history of technology in the ICU that included technologies specific to invasive and non-invasive monitoring.¹⁷ They indicated that technologies, including central venous pressure monitoring, echocardiography, and cardiac catheterization, were in use from the 1950s onward, while others such as pulse oximetry and renal replacement therapies (such as hemodialysis) came into use during the 1970s and 1980s.¹⁸

Interestingly, a 1968 article in the *Canadian Nurse* claimed that technology was the key attraction for potential ICU nurses and the key reason they remained in ICUs, although the authors acknowledged that team work and the opportunity to acquire new knowledge were also important:

The nurse is attracted to the intensive care unit because of the excitement of its new technology and the challenge of unexplored knowledge, the panel agreed. She stays in the ICU twice as long as the general duty nurse remains in a ward, because she is stimulated by a sense of team work and the acquisition of new knowledge about the most up-to-date advances in technology.¹⁹

However, nurses in this study seldom focused on technology. As they gained knowledge, skills, and experience, I argue that they shifted technology from the foreground of their work to the background where it became a sometimes useful tool rather than the driving determinant of their work. Indeed, when ICU nurses in this study narrated their experiences, the technological aspects were conspicuously absent or minimized. They commented more on technology at the beginning of their careers than when talking about later experiences. Yvon Gagnier recalled one of his first patient experiences and the sense of immediacy and insecurity that was created by being new and unsure of oneself as well as the technology:

I remember my first patient, she was on telemetry and one of her leads fell off. And we thought, “oh, okay we have to get this on quick! We have to get a new lead and a new red dot and stick this on, right?” So we hurried up and changed it and ran back to the central monitor and said, “Okay, did we do it right?” It’s something so simple, but when you first step into the place you’re afraid to do something.²⁰

In reflecting back, Mike Langill referred to the technological focus as akin to an adrenaline rush commonly experienced by new ICU nurses who tend to respond to a crisis by losing sight of the patient going through the crisis:

You do get maybe some of the newer nurses who come in, and they're focused on the technology. We call it the "Fire Truck," right? They want to slide down the pole, and hop on the back of that truck, and [perform] CPR and shocking and all this other stuff. And as you've become more experienced, you're going to let the youngsters do that. I want to make contact with my patient.²¹

Alice Dyna also suggested that the degree of focus was related to the level of expertise as an ICU nurse:

The machinery is very important at the very beginning... Some people define themselves by the mastery of machinery and so they tend to continue to focus on it. But on the whole, there is this transition that people go through so when they become experts the machinery is secondary. You don't even think about suctioning a patient. You don't think about the blood pressure falling. You just instinctively look to see what the position of the patient's arm is. Have they changed? Is your monitor working? You don't go through it step by step, it's automatic.²²

In a similar manner, Ruth Pollock referred to technology as an "extension of the patient" while Sue Malone-Tucker went further, embedding technology as a part of the patient. She put it this way:

I think you have to make the technology part of the patient, And you know, that is part of the patient. The monitor and what's up there is your patient. That takes a while to internalize right? And you can look at your patient, who's been ventilated and looks perfectly okay but the monitor's telling you, "they're so not okay."²³

Yet, even experienced nurses like Judy Rashotte noted that whenever she moved into a new ICU context, she would briefly revert back to focus on the technology. As she said:

I think I was a pretty typical novice critical care nurse. Whenever I went to a new place, I immediately became focused on knowledge, skill, technology, you know. And it wasn't until after I became comfortable and I felt that I had some degree of competence in what I was doing that I began to see beyond the technology and to move to family centeredness etc.²⁴

Patients were typically admitted to ICUs with either immediate or potential life-threatening problems. They often required immediate, life-saving interventions and

throughout their stay, their status was typically changeable and often unpredictable. New nurses had to learn the technology, but also care for very unstable patients. As new nurses began to work in ICUs, seeing the patient amidst the equipment was often a difficult and daunting task. Physician Joseph Civetta proposed in 1981 that a change was essential in critical care environments in order to recruit and retain both nurses and medical professionals. He called for a “change [in] focus from technology, physiology, and pharmacology as the expression of our professional lives to an emphasis upon human resources – the impact of caring as a person for a person.”²⁵ As Frances Fothergill Bourbonnais recalled:

It was very easy for you to just get swallowed up with all this equipment and forget why you were there. Especially for new nurses you could just see that happening. And even maybe for some nurses that had been there for a while ... it just happened and you didn't really realize it. Whereas with other nurses with years of experience ... [were] outstanding nurses that were role models for other[s] ... It doesn't matter how much equipment you put around, [their] focus is always on this patient and their family; and they just rose above all of this. They learned that they could manage it; but they always knew who they were there for.²⁶

Similarly, Riek van den Berg recalled that, in working with new ICU nurses:

The other biggest thing for me was they couldn't see the patient. They got so absorbed in the equipment and the technology, that to convince them that this was a person, and the reason you were there was because as a nurse – you nurse a person ... And so when you'd say things like, “Well, part of what we do in the ICU is look after the person's personal needs the way they'd look after themselves ... You have to force yourself or you have to force someone else to look first at the person, and if you teach on the basis of equipment, it's much harder for the new nurse to pick up on the person.”²⁷

Van den Berg also cautioned that it was easy to risk what psychologists Levy and Watchel described as depersonalization – not recognizing the patient as an individual person.²⁸ As she explained, with experience came more humanizing approaches to patient care:

[If] they come in with shaved legs, we shave their legs. If they come in with a beard, we trim the beard. If they come in with a clean shaven face, we shave that ... When I'd go to a bedside to show a nurse something or an orientee something, I would talk to the patient. I[d] explain why I was there, and what I was doing. I would ask the patient how they were even if they were vented ... I would never use their bodies as a surface to put things on because they are not tables ... that's part of dehumanizing the person underneath.²⁹

Becoming acclimatized to the ICU required a corresponding level of

“desensitization” regarding the technology, according to Mike Langill:

[There's] a desensitization that occurs too ... maybe desensitization is not a good word for it. I think ... a good example of this is when you first start in ICU, you cannot get over the sounds, the noise ... there are alarms going off every minute and it's hard to pick through all of that and see your patient. Over a period of time, what happens is, you tend to de-climatize yourself to that and you start focusing on your patient. That's when that nurse has made that jump from being a basic practitioner to a critical care nurse. It's when you can weed out all the extraneous stuff and focus on the patient. That's when the big jump occurs, and when the realization occurs that intensive care isn't about necessarily ... all about the high tech. It's actually more about the basic stuff than anything else.³⁰

Sue Malone-Tucker spoke about “internalizing” specialty knowledge associated with the technology:

Until you experience, I think, a patient deteriorating in front of you, then you appreciate the warning signs. When you're new, you're in that position, they look okay to me, but your preceptor's going, “something's really wrong here.” And you're thinking, “I don't see anything really wrong.” And then they have to explain to you. The monitor's telling us [what's] really happening inside that patient.³¹

She recalled a situation in which she was a student's preceptor in Newfoundland:

[The student said] “You preceptored me ... I'll never forget one night ... we had a post-op cardiac surgery patient.” She said, “it was a 40-year-old woman, with a valve repair and [we] were sitting at the foot of the bed, just sitting there looking at the monitor and I was like watching you and you went, ‘I don't have a good feeling. I think we're going to have atrial fib soon. And that's not going to be good.’” And [the student] said she had it [atrial fibrillation] about 15 minutes later, and she said, “I remember looking at you, thinking ‘Oh my God! She's amazing!’” But it is making that link. That's the hardest link. People don't ... know that the monitor and the technology [are] also their patient ... And it's embedded in experience. It is.

You can simulate it but ... that real time experience is really the best thing, patient exposure in all situations ... as much as possible.³²

Experienced nurses with a vast amount of ICU nursing knowledge were able to nuance their experiences with technology in ways that newer nurses could not. While new ICU nurses were only beginning to understand the ICU reality (primary socialization), experienced nurses could guide them through that complex reality (secondary socialization). Through habituation and experience the technology, which at first was the focus, began to move to the background of ICU nurses' conscious awareness over time. For example, in contrast to the experience above, when Sue Malone-Tucker was a new ICU nurse herself, she recalled learning to do a 12 lead ECG (electrocardiogram):

I remember the first time I did the 12-lead ECG, I put the leads all on the wrong side of the chest, and I was just having sheer anxiety because the patient was unstable, and the mentors I had were ... fabulous about that. They never let me live it down either but they were fabulous about that because they knew all the stuff I was doing was totally appropriate. But I just totally missed left and right side.³³

The acquisition of knowledge and associated skills related to technology also included learning which technology was appropriate and when it was appropriate. Sue Malone-Tucker recalled both her inexperience and the guidance provided by a more experienced staff nurse in caring for a head injury patient:

There was another time I had a young guy with a head injury with extremely labile ICP [intracranial pressure]. They did a chest X-ray because he was desaturating and he had complete whiteout on one side [of his chest]. And I remember distinctly the resident coming back to me and say[ing], "We've got to do aggressive physio. We've got to get that lung [expanding]." And immediately I felt, "Yeah. That's what we've got to do, [and] went to do it." My mentor said, "Stop." The nurse who I was with said, "Stop. He has a labile ICP and the last thing he needs is aggressive chest physio. I'm sorry." And then the resident was like, "oh yeah." ... She brought everybody back. That was huge to me.³⁴

Once ICU nurses successfully moved technology to the background, they were able to re-focus on supportive basic care and on the needs of patients' families.

RETURNING TO BASICS

ICUs had quickly become known for the provision of medically and technologically complex care. However, with closer scrutiny, despite the fact that technology expanded with ever more expensive and invasive equipment and procedures, from a physiological perspective, little change had occurred regarding the fundamentals of patient care. Although some technology became sleeker to the eye and more compact with more buttons and higher quality graphics on computer screens, the physiological principles underlying the machine's purpose remained unchanged – oxygenation was oxygenation and cardiac output remained heart rate multiplied by stroke volume. From the perspective of nursing care, emphasis also returned to focus on the basics – like keen assessment skills and quality patient care (for example, proper mouth care).

One of the most common ICU technologies has been the mechanical ventilator. Early forms of mechanical ventilation included the iron lung, which worked by generating negative pressure ventilation based on the mechanics of normal breathing. Later on, patients were ventilated using positive pressure.³⁵ But during the polio epidemics, from the early 1900s until approximately the mid-1950s, the iron lung provided respiratory support to those suffering from polio-induced paralysis, and as Lynne Dunphy suggested, the iron lung, “demanded a highly expert level of professional nursing care. The inability to see the patient, the potential for skin breakdown, the difficulties with feeding, the potential for aspiration, and the problems related to excretion posed daunting challenges for all involved,” and nurses continuously monitored for these complications.³⁶ Dunphy highlighted the

technical skill required in caring for patients in the iron lung, noting that they required around the clock care and observation. In essence, the care of the patient in the iron lung required nurses to be knowledgeable, technically skilled, and to prioritize care with a focus on the maintenance of a patent airway. Similarly, the care provided to intubated patients on positive pressure ventilation systems common to all ICUs today required the same nursing skills. While Nitin Puri, Vinod Puri, and R.P. Dellinger chronicled the various types of ventilation modes that emerged and fell into obsolescence over time, the fundamentals – a patent airway and the physiological principles related to ventilation and oxygenation – remained a constant.³⁷

In another example, Sue Malone-Tucker noted that in spite of ever new equipment and changes in technique, many things have not changed in ICUs. As she stated:

We're still evolving with the evidence and it's true I always tell people, if you "get" [understand cardiac] rhythms, you got them for the rest of your life because nothing is changed since they first started doing them. The same with 12-lead [electrocardiograms], you know, there might be some other new things to pick up on or add ... but for the most part, the basic stuff hasn't changed.³⁸

In a similar manner, Mike Langill referred to neurological technologies as relatively unchanged:

Certainly some of the more invasive technologies, like in our neuro[logical] populations, nothing's changed in that population in at least 20 years. I mean some of the things we do, you know, [like] ICP [intracranial pressure] monitoring is the same. The hyperosmolar therapy ... I think we've had the advent of one new drug, which is hypertonic saline, but all of the oldies and goodies are still there. We can still manually hyperventilate [patients]. We still sedate patients ... You know we've always monitored blood pressure, we've always monitored CVP [central venous pressure] whether or not it's with a manometer or through a transducer. ICP monitoring – the waveform hasn't changed. Yet we've got – had three or four different types of monitoring systems. So the principles are always the same.³⁹

While many technologies remained relatively stable in spite of various design changes, some enjoyed enthusiastic use initially and then their use in clinical practice became increasingly variable. The prime example discussed in other historical accounts specific to ICUs is the use of the Swan-Ganz catheter.⁴⁰ Over time, this technology came in and went out of vogue. Swan-Ganz catheters, when used properly could accurately deliver hemodynamic measurements related to cardiac function but, they were also a particularly invasive and high risk procedure. Other methods of assessing cardiac output and the effectiveness of certain medications (like drugs that manipulate myocardial contractility) were also available and often posed less risk to patient safety.

Many of the participants spoke about a lessening reliance on equipment and devices. They frequently related situations where their own experienced observations (like keen physical assessment abilities) outweighed (or at least equaled) the knowledge they could obtain by technological means. Mary Thornton gave this example regarding central venous pressure (CVP) monitoring (a way of monitoring fluid status amongst other things):

And even now, there is all this technology that you use, like ... CVPs and our mean arterial [pressures], but there's still always the clinical observation. Are your [jugular venous pressures] up? Are you mottled? Are you warm? Are you well perfused? So you can have all the information and lab data you want, but you still clinically have to look at the patient and assess them. You can probably get much of the same information by just looking at them.⁴¹

The idea of coming back to basics, or what Sue Malone-Tucker referred to as the “softer issues,” was another common trend in the oral history interviews. She commented how:

ICUs have gone away from a lot of the highly invasive procedures ... to more minimally invasive [ones]; have re-addressed sleep, you know, just the simple things. The basic things are being re-addressed, whereas before we just relied on sedation and really relied on drugs ... We've evolved back into focusing on the person a bit

more and the softer issues, [like] ... mouth care ... We're starting to realize that we were doing a fair bit of harm with some of our interventions.⁴²

From the beginning of ICUs, there was a public perception that patient care in ICUs was dominated by a wide range of ever-changing technologies. Yet, ICU nurses themselves shifted the focus away from the technology in order to address the softer issues of care provision and relied increasingly on strong observation and assessment skills. ICU nurses also recognized that in certain circumstances technology and its use in patient care could pose more risk than benefit. ICU nurses like Frances Fothergill Bourbonnais noted that for nurses, keen assessment skills and nursing knowledge took centre stage and equipment was just that – equipment.⁴³ Ultimately ICU nurses, particularly nurse educators, became increasingly involved in decisions about the adoption of various technologies and often acted as gate keepers.

DECISIONS ABOUT TECHNOLOGY

Julie Fairman has aptly demonstrated from a historical perspective the consequences of nurses being left out of the decision-making process regarding technology and even the ICU environment itself. She found that when ICU nurses were left out of the decisions regarding the construction of the second generation ICU (Ravdin 6) at the Hospital of the University of Pennsylvania (HUP) in 1962, the resulting physical structure impeded nurses' ability to observe their patients.⁴⁴ Fairman concluded that the “move to a completely new space should have provided an opportunity for the hospital to maximize the lessons learned from 5th Special (the nickname given to the first ICU at HUP). But the principles of intensity of care and easy observation never made the transition to Ravdin 6.”⁴⁵ In 1965, however, nurses were consulted as part of the construction of the third generation ICU at

HUP. As Fairman stated, “Nurses have a stake in decisions about technology because they are so closely linked to the patient – who, in most cases, is the object of technology application.”⁴⁶

In retrospect, nurses’ involvement in the decision-making process in the purchasing and integration of new technology should have been considered essential. But during the early years, as Frances Fothergill Bourbonnais recalled, nurses were not involved. By the mid-1980s, however, authors like Gloria Joachim publically raised the issue about nurses’ lack of involvement in the decision-making process regarding technology. As Joachim pointed out:

Computers and other technological advances are dynamic forces rapidly and continuously changing the way nurses practice. But while nurses are taught to use many machines to monitor and care for patients, the technology has been brought in by others. Why have nurses remained outside the circle of technological decision making?⁴⁷

Joachim encouraged nurses to become involved and assume responsibility for the various technological advancements made in their respective area of employment – to not be simply passive users of technology.

As the end-users of the majority of ICU technology, nurses did gradually become part of these decisions. As Fothergill Bourbonnais explained, by the mid-1980s, nurses were questioning the impact of new technologies on the overall functioning of the ICU. A nurse might say, for example:

“Wait a minute here, before you can bring this in, the nursing staff have to know how to work this and we’re not going to do this ‘as we go along kind of thing.’” And they need in-services, et cetera. And then you started having nurses giving feedback on the equipment and that sort of thing. And they gradually ... moved to not only giving feedback, but then saying “this isn’t working well. We’ve had these pumps in the unit and there’s problems with these pumps, we’re not about to do this, this, and this.” And then they would go to the educator and they would get the equipment

people back. And then they [medical technology companies] started suddenly recognizing that nurses should be their focus because nurses are working with the equipment, not the physicians. And so the companies started to put their energies into nursing. And so they would come in and give an in-service and then they would respond to questions. And then they started increasingly taking a role in terms of the development of the nurses to work with this equipment. But that didn't happen until well into the -80s.⁴⁸

In a 1986 article by Gordan Guyatt et al., the authors suggested that it was no longer feasible for new technologies to be “integrated into clinical practice without a rigorous demonstration of their effectiveness of efficiency.”⁴⁹ They suggested that new equipment be subjected to both clinical and economic scrutiny before implementation and that criteria for evaluation include impact on the care provided, impact on patient outcomes, and cost benefit analysis. ICU nurses became extremely influential in this evaluation. Riek van den Berg became an ICU nurse educator and in that role, was involved in acquiring new equipment for her unit. She felt that it was particularly important for new equipment to be evaluated for patient safety. She recalled one situation where she served as the “patient” to test a new product herself, saying:

We worked really hard on developing procedures and protocols ... [to] keep patients safe ... We had the sales rep come and we tested [a product] and I was the guinea pig and it broke. So I was [in a] prone [position] ... if I hadn't been able to move my arm out of the way, it would have broken my arm. And then [the equipment] broke. So they can't turn me back, so I'm lying there with this metal around me, broke. Needless to say, we did not purchase that particular item.⁵⁰

As Mike Langill pointed out, over the years, it became an expectation that nurses be consulted prior to the acquisition of many, if not most, of the technologies that would be introduced to ICUs. He explained that:

They're the end users [of technology]. They're the main utilizers. And therefore, any time a new product or piece of equipment is vetted, it's vetted through nursing. That's exclusive of some specialty stuff like ventilators and things like that. Bedside

monitors, cardiac output monitors, arterial, things like that, they all go through nursing.⁵¹

As ICU nurses began to network at a national level through venues such as conferences and organizational newsletters, vendors marketing these new technologies began to recognize the value of nurses' endorsement for selling products to hospitals. Ruth Pollock recalled that after attending conferences, she and her fellow colleagues would return to work armed with additional knowledge regarding available technologies and would begin advocating for the purchase of them for their unit. Pollock recalled two very different conversations, years apart, with two different Hotel Dieu (Cornwall) Chief Executive Officers (CEOs):

Eventually we got monitors. We got IV pumps. In those early days when I was a staff nurse ... in the unit, there wasn't such a thing as an IV pump. And I can remember saying to Sister, who was the CEO of the hospital at that point, I had read in a magazine about this little thing that you could put on your IV line that would monitor the flow and you could set it to make it go faster or slower as opposed to your flow meter. And she said, "Ha! [We] don't need anything like that." And that is clear as anything in my head, her saying [that] ... The gentleman who followed her as CEO, was the first non-sister CEO of the hospital ever ... but he was really into technology ... not that he knew a whole lot about it ... But if you went to him and said, "You know, if we get this, it's going to help us so much with our work" he'd say, "You put the order in. I'll sign it and we'll find the money somewhere." He was a real supporter of doing things well.⁵²

As more technology came into use, ICU nurses proved adaptable to changes partially because the underlying knowledge and skills had already become part of their objective reality. Changes required that any new language, skills, procedures, or knowledge be developed and incorporated into that reality. Nurses modified daily routines and activities to accommodate new technology, building onto the basics of ICU nursing. As Judy Rashotte

suggested previously, however, even experienced nurses returned to a focus on the technology for a short term when they were put into a new situation.

SHIFTING ROLES

Over time, ICU nurses experienced significant changes with regards to the responsibility for, and ownership of, certain technologies. Two main examples from this study are the mechanical ventilator and continuous renal replacement therapies. During the early days, the responsibility for setting up and maintaining mechanical ventilators fell almost entirely to ICU nurses in this study. Later, the responsibility and roles were transferred to respiratory technicians or therapists. In contrast, the responsibility for continuous renal replacement therapies transferred from hemodialysis nurses to ICU nurses. Both “taking on” and “letting go” of technologies became contentious issues among the various personnel associated with ICUs.

Riek van den Berg recalled that her experience of letting go of the responsibility for mechanical ventilation did not happen graciously. The 1977 publication *Respiratory Nursing Care* (2nd edition), highlighted the central role of intensive care nurses in caring for patients with respiratory compromise. Their constant presence at the bedside made them a convenient, cost-effective care provider who already had the requisite knowledge and skills to care for patients with a variety of respiratory issues, including tracheostomies and mechanical ventilation.⁵³ The author, Jacqueline Wade, described the necessary equipment as: “volume-cycled and pressure-cycled ventilators ... instruments for gas analysis and instruments to measure simple tests of pulmonary function.”⁵⁴ Nurses were to be well-versed in cardiopulmonary care and “to be able to recognize life-threatening situations, such as an

obstructed airway or critical cardiac arrhythmia and be capable of crisis intervention.”⁵⁵

According to van den Berg, however, ICU nurses did much more than these technical tasks, as became apparent when respiratory technicians (RTs) challenged nurses in her ICU over the care of ventilated patients. She gave, as an example, the process of removing patients from a ventilator:

Weaning patients off ventilators. Again there was a huge scope in there for the nurse [in] decision-making. At that point, the RTs were not involved in that very much, they really focused only on making sure the ventilators were working properly and did not get involved in how to wean a patient off a ventilator in any way shape or form. So you, as the nurse, if it was time to starting weaning, there [were] some generalized approaches that we tended to use but it was up to you to sort of work within them. And so to advocate if you felt that patient needed a different approach.⁵⁶

Van den Berg explained further that, as “ventilators got more complex, there were more option[s] for ventilating a patient and the RTs got better educated. And so they [expanded] their scope of practice; they learned more about the game, the scope of practice, and they decided they wanted to work within their scope.”⁵⁷

Frances Fothergill Bourbonnais also noted that, initially, the scope of practice of respiratory therapists was very limited. She recalled the “res techs” being primarily responsible for cleaning the equipment and recording readings. Suctioning a patient was still the responsibility of the nurse: “they were not allowed to do that. It was always the nurse. They would set the equipment up initially but the nurse maintained it and maintained the patient on it.”⁵⁸ Similarly, a 1962 report specific to the Respiratory Insufficiency Unit at the Kingston General Hospital (which was located in close proximity to the Intensive Care Unit) made no reference to respiratory technicians. Instead the report highlighted that “[r]espiratory problems of this sort [mechanical assistance, chronic pulmonary disease,

barbiturate overdosage, tetanus, neurological disorders, accidents and postoperative chest cases] require the intimate blending of several medical and nursing skills.”⁵⁹

In 1977, Mr. D. Stone, the Supervisor of the Respiratory Technology Department at the Kingston General Hospital, submitted a proposed list of duties for the registered respiratory technologists to the ICU Committee for patient care.⁶⁰ The proposed duties included the set-up of ventilators, monitoring and recording ventilator parameters, changing respiratory circuits, and the general maintenance of the ventilators. Other duties, including “administering any medications which have been ordered to be nebulized through the ventilator” were proposed.⁶¹ Interestingly, if patients were found in cardiac arrest, the proposed responsibilities that included “maintenance of the airway” and “ventilation of the patient,” were stricken from the list by the ICU committee. Only “setting patient up on [the] ventilator following the arrest” remained.⁶² By January 1982, however, a revised list of proposed duties for respiratory technologists at KGH had expanded further to include the provision of education on mechanics of ventilators (delivered through in-services), suctioning patients, and assisting with transferring ventilated patients. In addition, the list proposed that:

...on orders of the physician, they should be able to ... make computations of the hemodynamic parameters [from Swan-Ganz catheters], as well as draw blood gases from the arterial line and perform the requisite blood gas determinations on the machine. They should be responsible for the airway equipment on Arrest Carts, and assist physicians [at cardiac] arrests [within the hospital].⁶³

While it is unclear which duties were actually approved by the committee in 1982, if any, the proposed duties related to Swan-Ganz catheters and performing cardiac outputs were stricken from the request.⁶⁴

With patient assessments and reports typically being organized in a head-to-toe systematic approach, the priorities related to patient care had traditionally been categorized and prioritized by airway, breathing, and circulation (or ABCs). RTs were well positioned to increase their responsibilities and take ownership of their own scope of practice and position in critical care units. With airway and breathing as the top two priorities (i.e. a patent airway and adequate oxygenation), the evolving RT skill set was aptly situated to assume priority in the management of patients with critical illness. Their enhanced scope of practice changed, however, the dynamics of the inter-professional ICU team. Van den Berg found that RTs began to align themselves with physicians and tried to exclude nurses. The latter was important because while nurses had gained entry into some aspects of decision-making in the ICU (like the testing out and purchasing of new equipment) physicians had the majority of the power. She explained that nurses had to “pull them [RTs] back [saying], ‘no that’s not how it happens ... it still has to be a team and you can’t take total responsibility because you’re not looking at the whole patient.’”⁶⁵ Van den Berg found that while some nurses were quite willing to let go of their central role in respiratory care, others (including herself) found it more difficult: “I never graciously let it go.”⁶⁶ Frances Fothergill Bourbonnais also questioned the change, saying that “I always had very mixed feelings about all of that at the time, I felt ‘why is this happening? Why are we allowing this to happen?’ ... I think what’s really interesting and I can’t explain ... why certain things [roles] get given away and other things get picked up.”⁶⁷

In contrast to letting go of roles in the care of ventilator-dependent patients, ICU nurses took on the responsibility for continuous renal replacement therapy (CRRT). Fothergill Bourbonnais recalled that with traditional dialysis, specially designated dialysis

nurses would come into the ICU, set up the equipment, administer the procedure, and then give a report to the ICU nurse. With CRRT, however, the scenario was different. Yvon Gagnier recalled that dialysis nurses stepped away and ICU nurses took over the primary responsibility for this technology. The change required a learning process for the ICU nurses and the procedures were complex and quite time consuming. According to him:

I mean you were familiar with the machine, with AKU [the Acute Kidney Unit], but when it came down to troubleshooting, I remember calling AKU and saying, ‘Listen this is what is going on. What do you guys suggest?’ Because it was so foreign. But the more we were doing it on our own then the more comfortable we would get. Like now, we do it with our eyes closed now.⁶⁸

Not only did technology make its way into ICUs but it also began to make its way out to the hospital wards where it began to shift the roles of general duty nurses. Articles published in the *Canadian Nurse* during 1973 and 1974 highlighted a transfer of both knowledge and skill from ICU nurses to floor nurses as techniques for physically assessing patients became a part of standard nursing practice.⁶⁹ The 1973 article entitled “Auscultation of the Chest – A Clinical Skill,” was authored by Gail Slessor, a graduate of the first class of the Intensive Care Nursing Program in Winnipeg. Once ICU nurses demonstrated their mastery of various technology and procedures, there was a push to routinize them and teach increased numbers of nurses. In some instances, technology followed the patient as they were transferred from the ICUs back to the wards. As Fothergill Bourbonnais recalled:

I think initially the technology came to the ICU and then it moved out to the ward as well. So when I started in Kitchener we had patients with chest tubes. They didn’t have patients with chest tubes on the floor; we had the patients ... and then when the chest tubes were removed, then the patient was transferred back to the floor but not until then ... But some of the technology has gradually crept out onto the floor, same as IV[intravenous] meds [medications]. We could give IV push meds when nobody else could ... The patients weren’t on the floor; well now, they are.⁷⁰

HUMANIZING THE TECHNOLOGY FOR PATIENTS AND FAMILIES

The provision of good, quality nursing care has always been a preoccupation of the nursing profession. Margaret-Isabel Gibson argued in 1962, for example, that despite the hectic pace of hospital nursing and a feeling of inadequate time, nurses should strive to keep the patient at the forefront and provide quality nursing care.⁷¹ Carol Anne Smith reiterated Virginia Henderson's claim that the role of the nurse was to "help the patient fulfill his basic needs" while linking nurses' job satisfaction to care delivery at the bedside.⁷² However, the proliferation of technology seemed to complicate the "caring" aspects of nursing. There was a general fear or "danger" of the patient "becoming 'lost' amidst tube and monitors."⁷³

During the late 1980s and early 1990s, for example, debates of "high tech" and "high touch" were pervasive, especially in the published professional literature specific to intensive care. As Burke and Fairman pointed out, "[w]hen technology becomes the focus, care is threatened; the patient may become overlooked in the procedure."⁷⁴ Other authors went further suggesting, "as the professions have been permeated by ST [science and technology] there has been a discernible inverse relationship between ST and caring...The more professions become immersed in the technological products of ST, the less they care about the recipients."⁷⁵ But the other sides of the argument were also presented and suggested that perhaps technology could actually increase nurses' ability to provide an idealized type of care. Ben Holmes, for example, suggested that innovations in technology could save nurses time by "helping them manage their time more effectively."⁷⁶ Mary Gregory pointed out that with regards to designing critical care units, "technology and a humanistic environment need not be diametrically opposed."⁷⁷

In 1987, for example, Karen Brown, President of the Canadian Association of Critical Care Nurses wrote the following:

The wonders of medical technology has brought us many life-sustaining, and life-saving devices; pacemakers, ventricular-assist devices, heart valves, artificial hearts, laser systems, fetal monitors, hemodialysis. Our practice in Critical Care is dominated by this incredibly sophisticated technology. Our patients, presenting with complex pathologies, cause us to rely on this technology. A reliance that is necessary to gather, record, and interpret large volumes of data needed to provide quality care Our high technology carried with it a price; economically and ethically.⁷⁸

Elaborating from an ethical perspective, Brown argued that “[w]e must retain humanism within this system of high technology” and centered on the debate of “high tech/high touch” coined by John Naisbitt (1984).⁷⁹ The premise of the debate was the need to focus on the spirituality and psyche of the patient in the healing process and not just his or her pathology.⁸⁰ Brown also referred to a publication by Joanne Disch in a 1983 issue of *Heart and Lung*, where she noted that “[t]he concept of high tech/high touch exemplifies critical care nursing since our challenge is to simultaneously utilize technology yet retain a focus on the individuality of the patient.”⁸¹ However, maintaining focus on the patient could be difficult, as Brown reminded readers what it was like to begin working in critical care:

We all remember what it was like when we first entered the “world of critical care nursing.” How easy it was to get caught up in the lines, machinery, and countless tasks that were necessary to care for our patients. It was easy to forget there was a human being attached.⁸²



Image 7: The ICU at Kingston General Hospital, circa 1970s. Used with permission of the Kingston General Hospital Archive.⁸³

Despite a developing body of literature suggesting a complicated relationship between nurses and technology, stories told by the participants in this study actually reveal that as nurses gained experience in ICUs they developed strategies to de-mystify and humanize the highly technological environment for their patients and families from very early on. ICU nurses recognized that the care they provided was also a shared experience with patients and families. Sharon Anderson recalled that while technology had a presence in the unit and was part of the care, her focus always remained on the patient. She recalled that:

I never separate[d] them [the patient and the technology]. I felt more responsible for that patient than I did with those numbers. I mean, the numbers are there, that's ok for the doctor to see, and you looked at them too and did things when you knew [there was a problem] ... But it's the patient. You know by looking at the patients ...how sick they are.⁸⁴

Early ICU nurses learned to humanize care, often through their own experiences. They were cognizant that intensive care (the treatments and experience in general) was a foreign “reality” or experience for patients and families. In humanizing the care, ICU nurses worked to demystify a complex environment for patients and families and to provide as positive an experience as possible in light of often grave and unpredictable circumstances. For example, Jayne Elliott used her own frightening first-time experience of giving a drug with terrible side effects, to subsequently prepare another patient and family for the reaction that she knew would happen. She referred to the latter experience as a particularly meaningful and rewarding moment in her ICU nursing career:

I have this one really great memory of [how] you can work with families. I don't know if you know of the drug Amphotericin B? ...The first time I'd given it, no one had told me and I'd read about [it] but I didn't really [know much about the drug] – I was as frightened as the patient was! And then – so the second time, I was more prepared. And I was able to tell the family exactly what was going to happen and the patient. “You're going to feel like hell for 20 minutes; you're going to shake. He's going to look blue, he's going to sweat.” I said, “Once all that's over, we'll bath him up and he'll be tired. You can stay but I'm just warning you. I mean, it's fine if you want to stay but ...” And it went just exactly like the way I'd said it would. And the family was so grateful. “If you hadn't told us, we would have been so frightened.” But just [to be] able to stay with him all the way through. And that's what I liked about ICU... when you could work with the families like that and be there and not be running all over looking after 20 other patients, in and out of the rooms. You could stand right there with [them].⁸⁵

Elliott's example demonstrates how, despite the technological aspects of care, ICU nurses learned to be present (physically and emotionally) for both patients and families. It also calls into question the existence of a dichotomy between technology and caring, suggesting the two were actually one in the same. Technology moved to the background only because the nurse had been socialized to the realities of ICU nursing, achieving a level of knowledge and comfort with the technological aspects of their roles that allowed patients

and families to move to the center of care. As Joyce Richardson put it, ICU care was beyond the “technical mirage [that was] in front of you.”⁸⁶

One of the more compelling stories that exemplified how technology became embedded in ICU care is the story of Kevin Keough. Although similar accommodation for long-term patients with less technological needs might be found on a hospital ward during the same period, the situation appeared sufficiently newsworthy that the hospital featured his story in an issue of its newsletter. In January 1971, nine-year-old Kevin Keough was paralyzed below the chin from an injury that occurred while he was watching a snowmobile race in Kildonon, Manitoba. Kevin was ultimately transferred to the ICU at the Winnipeg General Hospital and resided in that ICU for eleven years, making his experience there far from ordinary. According to the hospital newsletter, *The Generator*:

There’s a corner of the Intensive Care Unit that could double as a boy’s playroom. Colourful pennants hang on the wall, an aquarium of fish is atop a bedside cupboard, and games, toys and books are much in evidence. In the most prominent spot is an autographed football, bearing the names of the [Winnipeg] Blue Bombers. It’s a reflection of the sympathy and affection this is felt for 9-year-old Kevin Keough, by the staff of the ICU and by the entire community.⁸⁷



Image 8: Kevin Keough in the ICU at the WGH – A ‘homelike’ environment. Used with permission of the Health Sciences Centre Archives/Museum.⁸⁸

During his stay in ICU, Kevin required a tremendous amount of technologically competent care due to injuries that left him ventilator dependent and quadriplegic. Yet, nurses normalized his experience over the following eleven years as he essentially grew up in the ICU. Kevin’s room in the ICU was even adapted to ensure his safety, particularly with respect to his respiratory status:

Any deviation from the normal in the volume and rate of Kevin’s breathing triggers an alarm at the nursing station. Three monitors were built into a system, so that, should one fail, two are still functioning. A closed circuit television camera is focused on Kevin at all times, with the screen located at the central nursing station. The breath activated call [bell] consists of a flexible tube, with the open end near Kevin’s mouth. When Kevin blows into it, a buzzer sounds at the nursing station, and Kevin may speak to the nurse at the station through his telephone head set. A telephone line, installed with the co-operation of the Manitoba Telephone System, enables Kevin to make calls to his parents or others. The nurse dials for him, and switches his call to an outside line.⁸⁹

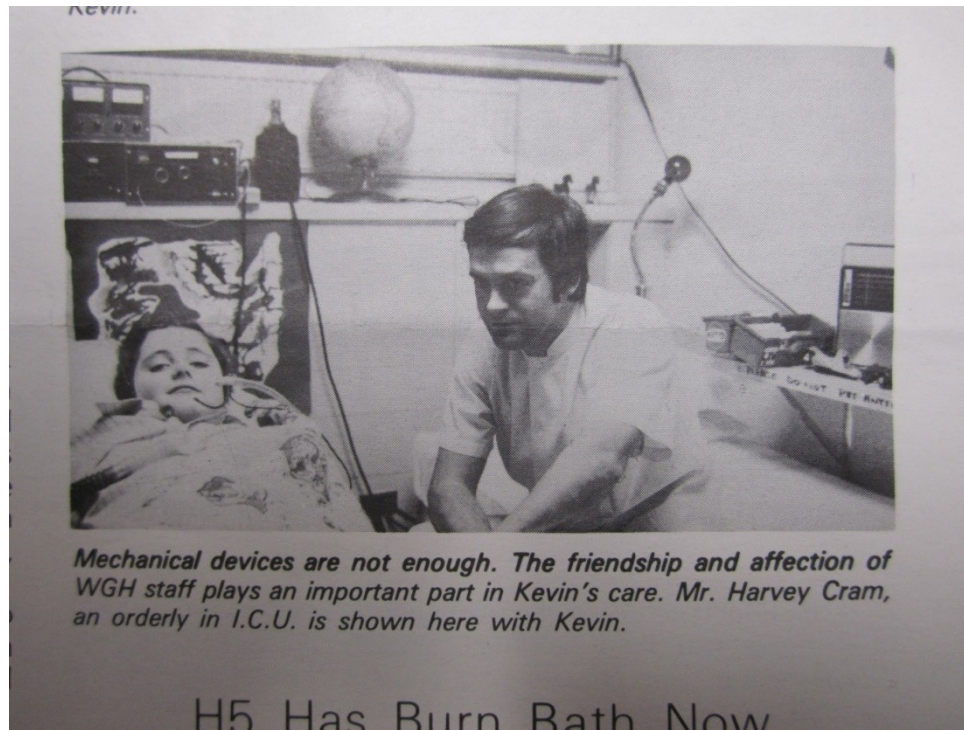


Image 9: Kevin Keough – “friendship and affection.” Used with permission of the Health Sciences Centre Archives/Museum.⁹⁰

In 1987 Kevin moved from the ICU into his own house where he resided until his death in 2006 at age 44.⁹¹ His story demonstrates how, amidst a technologically complex environment, his care providers who would have been primarily ICU nurses, created an environment that was less ICU and more home-like and gave him a life.

ETHICS AND THE LIMITATIONS OF TECHNOLOGY

In “Virtual Power”, Julie Fairman referred to the larger body of feminist literature concerning technology and health care, noting that nurses have largely been absent from these accounts. She stated that, “Nurses, the largest female profession in the healthcare arena and particularly integral to most healthcare technology, remain merely a footnote to this vibrant discussion.”⁹² Data from this study, however, has provided important first-hand accounts of how ICU nurses’ experiences and work intersected with technology – partially

filling the gap that Fairman recognized by making the nursing role and nurses' accounts more visible. While this chapter has suggested how nurses with experience were able to situate technology in their practice, it is also necessary to recognize that while technology is inextricably linked with ICUs and ICU nursing, there were limitations. In addition, broader social, political and economic influences intersected with ICU nurses' work in unexpected ways. Nurses working within this environment (nursing reality) were also faced with difficult situations. Part of their socialization and their experiences within this objective reality helped them question aspects of care delivery and to ultimately work through difficult situations.

In the 1980s, for example, as articles in the *Canadian Nurse* aptly suggest, there was a growing discussion of ethics in nursing practice. Technology and ICUs were often used as frequent exemplars of ethical and moral dilemmas. By 1980 the Canadian Nurses' Association had developed its own Code of Ethics.⁹³ While ethical situations/dilemmas have likely always been part and parcel to health care, there was limited dialogue regarding these aspects of nursing practice, until this point. Who to treat, when to treat, and when not to treat as well as the limits of technology were questions being asked on a daily basis, particularly in intensive care units where bed availability and other resources were limited, precious commodities at times. For example, in 1986, Nicola Sims-Jones eloquently described one such dilemma in the *Canadian Nurse*:

If we lived in a different time or a different place, nurses in the Neonatal Intensive Care Unit (NICU) would not need to deal with the complex ethical issues which they face today. In a less affluent or technologically advanced society than ours, the ethical issues which arise in the NICU directly related to the potential to save the lives of the very premature or defective infants would not exist. In an earlier era of nursing, a paper for nurses on the ethical issues in the NICU would not have encouraged nurses to resolve ethical issue for themselves. Up until quite recently,

nurses were not expected to act as moral agents in determining their own view of ethical issues.⁹⁴

In October 1988, Anne Davis reported on her study of ethical issues in the research section of the *Canadian Nurse*, which had analyzed ethical dilemmas either reported or experienced by RNs on a daily, weekly, and monthly basis. Davis found that ethical dilemmas stemmed either from nurses' own personal beliefs clashing with those of other members of the healthcare team (including other nurses), conflict between physicians and patients, or organizational restraints (i.e. budget restrictions), which interfered with what nurses perceived as being "necessary for good care."⁹⁵

Several years later, Janet Ericksen developed a resource guide called "Steps to Ethical Reasoning," based on decision-making techniques for nurses to use in deciding "which of two actions is more 'right'" with respect to ethical dilemmas and how they impacted on nursing care.⁹⁶ She highlighted that it was important for nurses to know their own values, the facts of the situation, their professional values and standards, the law, and to understand that there may be more than one philosophical perspective required when facing an ethical dilemma.⁹⁷ Erikson gave a practical example of a patient requiring admission to an Intensive Care Unit that was already filled to capacity, asking the question of who gets discharged to allow for the new admission.⁹⁸ This was a common situation faced by front-line nurses and physicians in acute and critical care environments.

HIV/AIDS, for example, had a significant impact on ICU nursing practice as nurses were confronted head on with related ethical dilemmas as well as the limitations of technology regarding the treatment of this new illness in the early to mid-1980s. Initially,

ICU nurses were seemingly more vulnerable to the transmission of this disease due to all the invasive technology and treatments. Sue Malone-Tucker put it this way:

What I found probably the biggest, kind of watershed moment was when I was working in Toronto [on the ICU float team] and nobody knew what HIV/AIDS was. There was no name like that yet. And the immense precautions that took place, and I distinctly remember that I was working in Toronto General and all of these meetings, you know, like these open forums, and they were trying to keep people updated on what it possibly could be. And what I found in Toronto, because I was part of their critical care pool, I was often called in to work [in the] thoracic unit, but would get there and be told, you're going to the infectious diseases floor because the nurses there don't want to take care of, they're afraid ... of the patients who have whatever this disease is ... I was there with a friend of mine as well and we were often called in, especially on weekends to take the assignments, which was fine ... it was interesting. There was a lot of fear. There was so much fear, in different areas ... and people didn't know. I mean, there wasn't a lot of evidence to guide. You know, nobody knew how it was being transmitted at that point ... because they really felt that it was a particular population. And there was a lot of prejudice here that came on to people. At that point they didn't realize that it was being transmitted through blood transfusion. It was more that this patient has it so everything on them, if I even go near them, I may contract the disease, because there was really no evidence really telling people how it was transmitted. So the big thing then was pretty much full body precautions, masks, visors, double gloves, gowns every time you went in the room. I think they were just making it [up] as they went along, like SARS [Severe Acute Respiratory Syndrome, in 2003]. They just, kind of, made it up as they went along. And I think they started to realize "ok, health care professionals are not dying or getting sick here. So we're talking a more intimate transmission"... but ... it definitely generated a lot of fear.⁹⁹

Similarly Alice Dyna (who was working at the Winnipeg Health Sciences Centre) vividly recalled an early experience (an ethical dilemma) and its impact on her nursing practice:

I remember a patient, one of our first AIDS patients and nobody would go into the cubicle, even though he was intubated and he was on isolation if you were going to be doing treatments. But nobody would go into the cubicle unless they were masked and gowned and whatever else with stuff. And I walked into the cubicle just to say hi and just to talk to him and stuff and he took out his writing board and on it he wrote, "Why aren't you all gowned up? Aren't you afraid of me?" I could have cried, like just thinking about it. What we had done to that poor young man? And there were people who refused to take care of him. There were people who refused to go in unless they were gowned, gloved.¹⁰⁰

As more became known about HIV/AIDS, hospitals had to revamp infection control policies and procedures to minimize exposure of both staff and other patients to bodily fluids capable of transmitting the disease. Karen Scholl, in a *Canadian Nurse* article, claimed that the foci of nursing care were two-fold: first, nursing support of the patient, and second, preventing spread of the disease. She emphasized that support of the patient had to reach beyond physical survival and control of infection to a more holistic understanding, since patients' sexual orientation, for example, might not have been known to family, friends, or co-workers. In addition, "because of the predominantly negative publicity that AIDS has received from the media, these patients may be ostracized by co-workers, friends or even family."¹⁰¹

Scholl also noted that nurses had an important role to play in educating the public regarding transmission and the precautions necessary to stop the spread of AIDS. Initial precautions for care included: posting a sign outside the patient's door, using gloves, and safely disposing of needles and other blood-contaminated equipment. Areas where contact with blood was unavoidable – namely emergency, critical care and the ORs – were identified as being at higher risk of transmission of HIV. With time, many of the fears expressed by nurses related to contracting the disease while caring for patients with AIDS were shown to be unfounded.

AIDS marked a radical transition in healthcare and healthcare practices, especially in ICUs. Karen Scholl wrote the first article published in 1983. At that time the primary causative agent, Human Immunodeficiency Virus (HIV), had yet to be identified, although it was suspected that transmission was viral in nature. According to Scholl:

AIDS is more than just a new disease. It's a syndrome with an unknown cause, no cure... and a killer. Because AIDS seems to be prevalent among homosexuals, it has

become not only a puzzle for scientists, who feel a cause must be found soon, but also the focus for various religious groups, who call it a “plague.”¹⁰²

By 1988, a report released by the Federal Centre for AIDS highlighted the distribution of AIDS cases – infected persons now included IV drug users, recipients of blood or blood products, and those engaging in heterosexual activity. The term Universal Precautions had made its way into the healthcare lingo and was no longer specific to the HIV/AIDS population.¹⁰³

While ethical dilemmas such as those experienced by Sue Malone-Tucker and Alice Dyna existed – the care of patients with HIV/AIDS aptly demonstrated the limitations of technology at that time. For nurses in ICU, caring for patients with AIDS posed a significant challenge as little could be done for them despite an arsenal of specialized knowledge, skill and technology. As Frances Fothergill Bourbonnais noted, these patients had a tremendous impact on the nurses in ICU themselves because the patients were young, gravely ill, and dying.¹⁰⁴ Because patients with HIV/AIDS were young and dying, they helped reshape ICU patient populations. No longer were young patients in ICU mainly those with traumatic injuries.

Another ethical issue arose during the 1980s-90s, regarding who could or should be treated in ICU. Elderly ICU patients, for example, were often admitted to ICUs with exacerbations of chronic illness and multiple medical co-morbidities that required extensive stays in the ICU setting. As Jayne Elliott recalled, “Sometimes we got older people in there that we thought shouldn’t be there... We disagreed with what the physician was doing in trying to prolong a life that no longer looked like it had a whole lot of quality to it.”¹⁰⁵ As Elliott noted, advanced age and multiple co-morbidities no longer constituted a restriction on

access to ICU care. In 1989 Sandra Kamenir, who warned that elderly care in ICU was expected to continue to rise, touched briefly on ethical concerns related to the elderly by stating that “[s]ome may feel that these resources are ‘wasted’ on someone who is elderly, confused, non-compliant, or who has multiple problems from which he may not ever recover, even with the best of care.”¹⁰⁶ She urged nurses to “confront their feelings about aging.”¹⁰⁷ Another nurse reflected on the appropriateness of care and treatment options that should or should not have been offered. She explained that:

As a society I think we’re just being chicken. I think we can’t sustain the current level of healthcare that we have. It’s almost like we’re just trying to ignore it. We’re not taking good care of people that have a good chance and have a chance of 5, 10, and 20 good years. Meanwhile somebody who maybe only has a year left, six months, we’re spending millions [of dollars]. Is it with their consent or just because they don’t know? What are the implications of all that? It’s both ends of the spectrum. In the earlier days [some women] would have a miscarriage. Now we’re saving all these really, really, really small babies. What kind of life are these children going to have? Why are we doing these things? I think that we’re not thinking. We’re just on a treadmill and we keep just speeding up and speeding up and speeding up, spending more and more money and we’re not really thinking about how do we really want to organize all this?¹⁰⁸

Mary Thornton raised the issue of increased acuity of illness. Both she and John van de Kamp commented on the increased number of beds in ICUs from, for example, the 12-bed unit in the ICU at the Ottawa Civic Hospital in the 1980s increased to over 30 beds, all at full capacity in 2009.¹⁰⁹ Public expectations for what constituted care drove the need to expand services and placed a constant demand for resources – including human resources like ICU nurses. Thornton also remarked that over time there had been pressure to increase the nurse-patient ratio as a strategy to reduce costs and deal with staffing shortages to accommodate for demands on resources elsewhere in the hospital. In an academic health sciences centre, the original ratio was intended to be one nurse per patient, but when patients

became “stable” and had been weaned off mechanical ventilators, the ratio of one nurse per two patients gradually became standard practice.¹¹⁰ In her words:

I think the patient population that you see now, and I think it’s in general, if you’re anywhere near “well,” you’re not in the hospital. So, the patients we had twenty years ago are the patients that you see on the floor now and the patients that we have in the Intensive Care Unit, would have been dead twenty years ago. The “sick” patients in the ICU ... they probably would have died twenty years ago ... So I think, yeah, in general, the whole hospital has changed. That you’re not keeping people in post-op for eight to ten days anymore; they’re gone. The ones that are left are the ones that really need to be here.¹¹¹

While deaths were not unusual in ICUs, the professional literature during the mid- to late 1990s began to focus on the experiences of ICU nurses who cared for patients and families during these difficult times, and included the associated moral and ethical debates. Canadian ICU nurses began to vocalize and write about their experiences and the inherent challenges in the *Canadian Critical Care Nursing Journal* and at conferences organized by the Canadian Association of Critical Care Nurses. For example, the keynote panel at the 1986 Dynamics of Critical Care conference held in Toronto focused on ethical dilemmas.¹¹² The 1987 conference focused on caring in a technologically complex environment and by 1988, the June issue of the *Canadian Critical Care Nursing Journal* highlighted “Moral Distress in Critical Care Nursing” an article authored by Patricia Rodney.¹¹³ In a previous study by the author, a participant reflected on technology in the ICU and questioned its appropriateness as follows:

it’s like a kid with a new toy, you know you play with the toy, you play with the toy and you play with the toy but you forget your homework, you forget your friends, you forget your chores, and that’s what I liken it to because we’ve been able to do things but we’ve never sat back and said is this appropriate? Should I be doing this, should we be offering these extensive treatments and huge surgeries just because we have them? Is it really appropriate?¹¹⁴

The major source of critical care nurses' moral distress related to technology was the prolongation of life in cases where recovery was either unlikely or impossible.¹¹⁵ In a 1990 grounded theory study by Edwina McConnell, she described ethical issues as one of the main themes resulting from her data analysis. The following are quotations she used in her article to describe these ethical issues: "doing too much for people," "war stories planted in their heads of patients we kept alive for months that God really should have taken," "kept around to suffer" and "what's the quality of their life going to be, and who's going to decide when you're going to take those [machines] away?"¹¹⁶

But death as a concept, the dying process, and the related nursing care necessary were not common topics in the *Canadian Nurse* until the late 1980s, when articles began to appear on the concept of brain death, the role of health care professionals in organ donation, and the care of families in crisis as a result of a patient with brain stem death – all aspects of care that ICU nurses experienced, perhaps more than other nurses. Nurses had to care for these families and explain what was happening in very difficult circumstances. Nurses themselves, for example, recognized that they required more education and knowledge on the transplant process and the care of these patients and their families.¹¹⁷ As nurse Margaret Borozny explained:

Recent advances in resuscitation techniques and organ transplant programs have had at least one major effect on our health care system today: nurses in critical care are increasingly required to provide physical care to brain dead patients ... people who might be called "beating heart cadavers."¹¹⁸

As Deborah Bisnaire, Janice Burden, and Lynda Monik wrote, "Historically, our concept of death – its definition and diagnosis – has undergone a dramatic evolution. The focus has shifted from respiration and heart beat and finally to brain stem function as the determinants of life and death."¹¹⁹ To complicate matters further, "Patients who have been

declared clinically brain dead do not look dead. Their skin remains warm to touch, monitors register heart function, and respirations can be observed...family members voice their disbelief. “How can he be dead when he’s still breathing?”¹²⁰ Results of a questionnaire given to seventy-five nurses at the Vancouver General Hospital and British Columbia Children’s Hospital indicated that nurses were uncertain of the criteria for the establishment of brain death and 91 percent of the respondents felt that “health care workers should not be obligated to use extraordinary means in “hopeless” cases.”¹²¹

In the 1990s, issues of death and dying shifted towards the ethics associated with euthanasia (actively promoting death in certain circumstances) as well as promoting quality of life. Of particular interest was the increasing focus on legal and ethical issues within the *Canadian Nurse*. A new regular section was created entitled “legal matters,” to present overviews on various issues from medication errors to the anatomy of a law suit trial. In January 1994, “Legal Matters” focused on euthanasia specifically.¹²² For example, in February of 1994 Sue Rodriguez, a patient diagnosed with amyotrophic lateral sclerosis (ALS) in early 1991, decided to take her own life with the assistance of an anonymous physician –after having her request denied by the Supreme Court of Canada on two separate occasions.¹²³ Heleen Van Weel offered readers this perspective on Rodriguez’s decision:

Sue Rodriguez countered [Robert] Latimer’s suggestion, arguing that society’s responsibility is to respect life. A society that respects life is not synonymous with a society that does not offer optimal palliative care to the terminally ill, nor is it synonymous with a society that does not understand suffering. Rather, a society that respects life must also respect the person whose life it is, for the person and her or his life are not two separate entities. Understanding and respecting a person implies that when an individual like Rodriguez requests euthanasia because her suffering has become unbearable and she wants to die with dignity, her wishes must be respected.¹²⁴

Nurses became more vocal about their experiences with the limits of technology. As technological limits were reached, other considerations came to the fore – such as death and dying as a result of the withdrawal of life sustaining technology. ICU nurses' like Judy Rashotte, studied for example, the grief experiences of pediatric ICU nurses. Rashotte's phenomenological research (1997) highlighted the experiential nature of how PICU nurses learned to manage their grief effectively.¹²⁵ By the year 2000, Daren Heyland and colleagues had evidence to support that 27% of deaths in Canadian teaching hospitals were as a direct result of withdrawal of life-sustaining technology in special care units like ICUs.¹²⁶ Nurses in this study like Yvon Gagnier, for example, eventually reshaped their perceptions of death and dying in the context of the ICU. Rather than viewing death as a failure, they reshaped and redefined success to include the provision of a peaceful, comfortable, and dignified death – not as failure to cure. As Gagnier reflected:

In the cases where you can't [make them better], I've come to learn that you, I look at it as, well, you know what, "we tried our damndest to get you better, we can't, there's nothing else we can offer but [give] you a comfortable death." And that they can have a peaceful death, a pain-free death with the family at the bedside, and just let them slip away that way. I find comfort in that as well. It's not so much a success story but it's still ... there's something.¹²⁷

SUMMARY

This chapter examined ICU nurses' relationships with technology and illustrates how technology was a main contributor to the formation of ICU nurses' objective reality. Technology was a key component of their environment and practice reality that needed to be learned and incorporated into patient care. Over time, ICU nurses shaped and re-shaped their relationship with technology particularly as they gained knowledge and experience. ICU nurses shifted technology into the background of their work and although it was still a

vitally important aspect of their work as well as a required skill set, this shift allowed them to focus on the basics of care and human needs. They sought to humanize care and to provide high-touch care in a high-tech environment. ICU nurses also found that they had to negotiate their roles related to technology and, to some degree, became gate keepers for newer technologies.

Endnotes:

¹ Peter L. Berger and Thomas Luckmann, *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*, (London: Penguin Books, 1966).

² Pamela E. Pool, "Patients Come First," *The Canadian Nurse* 57, no.9 (1961): 823-825.

³ Cynthia Toman, "'Body Work': Nurses and the Delegation of Medical Technology at the Ottawa Civic Hospital, 1947-1972," *Scientia Canadensis* 29, no. 2 (2006): 155-175.

⁴ Mary Ellen Flett, Mary McInroy, and Elizabeth Nimmo, "A Respiratory Unit," *The Canadian Nurse* 57, no. 9 (1961): 859-862.

⁵ Flett, McInroy, and Nimmo, "A Respiratory Unit," p. 859.

⁶ Flett, McInroy, and Nimmo, "A Respiratory Unit," p. 859.

⁷ Roselyn Smith and Elaine Burt, "Pediatric Intensive Care Units," *The Canadian Nurse* 57, no. 9 (1961): 856-858.

⁸ See, for examples, Kathleen G. Burke, "Trial and Negotiation in a Technological System: Case Study of the Swan-Ganz Catheter," in *History as Evidence: Nursing Interventions through Time*, eds. Patricia D'Antonio and Sandra Lewenson (New York: Spring Publishing Company, 2010), p. 139-152; Lynne M. Dunphy, "Tales of the Iron Lung," *Nursing History Review* 9 (2001): 3-33.

⁹ Julie Fairman, "Alternate Visions: The Nurse-Technology Relationship in the Context of the History of Technology," *Nursing History Review* 6 (1998): 129-146.

¹⁰ Interview with Donalda "Donnie" Parks by author, audio recording, Toronto, 19 April 2013. (Hereafter cited as Interview with Parks).

¹¹ Mildred L. Montag, "Technical Education in NURSING?" *The American Journal of Nursing* 63, no.5 (1963): 100.

¹² Montag, "Technical Education in NURSING," p. 101.

¹³ See Kathryn McPherson, *Bedside Matters: The Transformation of Canadian Nursing, 1900-1990* (Toronto and New York: Oxford University Press, 1996). Also see Diana Mansell and Dianne Dodd, "Professionalism and Canadian Nursing," in *On All Frontiers: Four Centuries of Canadian Nursing*, ed. Christina Bates (Ottawa, University of Ottawa Press, 2005), p. 197-211.

¹⁴ Paul Attewell, "What is Skill?" *Work and Occupations* 17, no.4 (1990): 422-448.

¹⁵ Attewell, "What is Skill?" p. 445.

¹⁶ See Deborah Hamilton, "The Historical Development of Intensive Care Nursing at Vancouver General Hospital, 1960-1985," Master's thesis, University of British Columbia, 2010, p. 117-126; Burke, "Trial and Negotiation in a Technological System," p. 139-152. See also Interview with Mona Burrows by author, audio recording, Cornwall, Ont., 31 August 2011. (Hereafter cited as Interview with Burrows); Interview with Mary Thornton by author, audio recording, Ottawa, 8 March 2012. (Hereafter cited as Interview with Thornton).

¹⁷ Nitin Puri, Vinod Puri, and R. P. Dellinger, "History of Technology in the Intensive Care Unit," *Critical Care Clinics* 25 (2009): 185-200.

¹⁸ Puri, Puri, and Dellinger, "History of Technology in the Intensive Care Unit," p. 185-191.

¹⁹ "ICUs Challenge to Nurses," *The Canadian Nurse* 64, no.6 (1968): 20-22.

²⁰ Interview with Yvon Gagnier by author, audio recording, Ottawa, 28 September 2011. (Hereafter cited as Interview with Gagnier).

²¹ Interview with Mike Langill by author, audio recording, Ottawa, 12 January 2012. (Hereafter cited as Interview with Langill).

²² Interview with Alice Dyna by author, audio recording, Winnipeg, 27 October 2011. (Hereafter cited as Interview with Dyna).

²³ Interview with Ruth Pollock by author, audio recording, Chrysler, Ont., 7 September 2011. (Hereafter cited as Interview with Pollock). Interview with Sue Malone-Tucker by author, audio recording, Ottawa, 20 September 2012. (Hereafter cited as Interview with Malone-Tucker).

²⁴ Interview with Judy Rashotte by author, audio recording, Ottawa, 23 January 2012. (Hereafter cited as Interview with Rashotte).

²⁵ Joseph M. Civetta, "Beyond Technology: Intensive Care in the 1980s," *Critical Care Medicine* 9, no.11 (1981): 763-767.

²⁶ Interview with Frances Fothergill Bourbonnais by author, audio recording, Ottawa, 30 September 2011. (Hereafter cited as Interview with Bourbonnais).

²⁷ Interview with Riek van den Berg by author, audio recording, Ottawa, 9 January 2012. (Hereafter cited as Interview with van den Berg).

²⁸ J. Levy and P. Watchel, "Depersonalization: An Effort at Clarification," *American Journal of Psychoanalysis* 39 (1978): 291-300.

²⁹ Interview with van den Berg.

³⁰ Interview with Langill.

³¹ Interview with Malone-Tucker.

³² Interview with Malone-Tucker.

³³ Interview with Malone-Tucker.

³⁴ Interview with Malone-Tucker.

³⁵ See Dunphy, "Tales of the Iron Lung," p. 3-33. See also Puri, Puri, and Dellinger, "History of Technology in the Intensive Care Unit," p. 185-200.

³⁶ Dunphy, "Tales of the Iron," p. 14.

³⁷ Puri, Puri, and Dellinger, "History of Technology in the Intensive Care Unit," p. 185-200.

³⁸ Interview with Malone-Tucker.

³⁹ Interview with Langill.

⁴⁰ Hamilton, "The Historical Development of Intensive Care Nursing," p. 117-126; Burke, "Trial and Negotiation in a Technological System," p. 139-152.

⁴¹ Interview with Thornton.

⁴² Interview with Malone-Tucker.

⁴³ Personal communication with Frances Fothergill Bourbonnais, 7 October 2013.

⁴⁴ Julie Fairman, "New Hospitals, New Nurses, New Spaces: The Development of Intensive Care Units, 1950-1965," PhD thesis, University of Pennsylvania, 1992, 156.

⁴⁵ Fairman, "New Hospitals, New Nurses, New Spaces," p.157.

⁴⁶ Fairman, "Alternate Visions," p. 135.

⁴⁷ Gloria Joachim, "Harnessing Technology," *The Canadian Nurse* 81, no.10 (1985): 15-16.

⁴⁸ Interview with Fothergill Bourbonnais.

⁴⁹ Gordan Guyatt, Michael Drummond, David Feeny, Peter Tugwell, Greg Stoddart, R. Brian Haynes, Kathryn Bennett and Roberta Labelle, "Guidelines for the Clinical and Economic Evaluation of Health Care Technologies," *Social Sciences and Medicine* 22, no.4 (1986): 393.

⁵⁰ Interview with van den Berg.

⁵¹ Interview with Langill.

⁵² Interview with Pollock.

⁵³ Jacqueline F. Wade, *Respiratory Nursing Care, Physiology and Technique*, 1977, 2nd Edition (St. Louis: Mosby, 1977).

⁵⁴ Wade, *Respiratory Nursing Care*, p. 95.

⁵⁵ Wade, *Respiratory Nursing Care*, p. 96.

⁵⁶ Interview with vanden Berg.

⁵⁷ Interview with vanden Berg.

⁵⁸ Interview with Fothergill Bourbonnais.

⁵⁹ Report on the Respiratory Insufficiency Unit to the Medical Conference Committee at the Kingston General Hospital, 2 February 1962, Box 2, Medical Advisory Committee (MAC) fonds, Kingston General Hospital (KGH) Archives.

⁶⁰ ICU Committee for patient care, "Registered Respiratory Technologist's Duties" report, submitted by Mr. D. Stone, Supervisor, Respiratory Technology Department, 18 July 1977, Box 25, MAC fonds, KGH Archives.

⁶¹ ICU Committee for patient care, "Registered Respiratory Technologist's Duties" report, submitted by Mr. D. Stone, Supervisor, Respiratory Technology Department, 18 July 1977, Box 25, MAC fonds, KGH Archives.

⁶² ICU Committee for patient care, "Registered Respiratory Technologist's Duties" report, submitted by Mr. D. Stone, Supervisor, Respiratory Technology Department, 18 July 1977, Box 25, MAC fonds, KGH Archives.

⁶³ Letter from S. F. G. Wren, M.D., to Dr. R. Matthew, Professor and Head, Department of Anesthesia, Hotel Dieu Hospital, 28 January 1982, re Duties of Respiratory Technologists. The proposed recommendations for the duties were established by Drs. Wren, Steve Shelley, and Stan Pietak, Box 26, MAC fonds, KGH Archives.

⁶⁴ Letter from S. F. G. Wren, M.D., to Dr. R. Matthew, Professor and Head, Department of Anesthesia, Hotel Dieu Hospital, 28 January 1982, re Duties of Respiratory Technologists. The proposed recommendations for the duties were established by Drs. Wren, Steve Shelley, and Stan Pietak, Box 26, MAC fonds, KGH Archives.

⁶⁵ Interview with van den Berg.

⁶⁶ Interview with van den Berg.

⁶⁷ Interview with Fothergill Bourbonnais.

⁶⁸ Interview with Gagnier.

⁶⁹ See Gail Slessor, "Auscultation of the Chest: A Clinical Skill," *The Canadian Nurse* 69, no. 4 (1973): 40-43 and Jean Fry and Basanti Majumder, "Basic Physical Assessment," *The Canadian Nurse* 71, no. 5 (1974): 17-22.

⁷⁰ Interview with Fothergill Bourbonnais.

⁷¹ Margaret-Isabel Gibson, "Put the Heart Back in Nursing," *The Canadian Nurse* 58, no. 6 (1962): 523-525.

⁷² Carol Anne Smith, "JOB SATISFACTION in Hospital Nursing," *The Canadian Nurse* 59, no. 2 (1963): 145. Smith refers to Virginia Henderson's *Basic Principles of Nursing Care*.

⁷³ Kathleen G. Burke and Julie Fairman, "The Patient Is Awake," *American Journal of Nursing* 100, no. 10 (2000): 78.

⁷⁴ Burke and Fairman, "The Patient is Awake," p. 79.

⁷⁵ Denise Lillian Hawthorne and Nancy Jane Yurkovich, "Science, Technology, Caring and the Professions: Are they Compatible?" *Journal of Advanced Nursing* 21 (1995): 1089. Here the authors are drawing on the work of P. Leonard, "Fatalism and the Discourse on Power: An Introductory Essay," in *Bureaucracy and Community*, eds. L. Davies and E. Shragge (Montreal: Black Rose Books, 1990), p. 9-23.

⁷⁶ Ben Holmes, "The Influence of Technology on Holistic Nursing," *Imprint* 37, no.3 (1990): 64.

⁷⁷ Mary M. Gregory, "On Humanizing the Critical Care Environment," *Critical Care Nursing Quarterly* 16, no. 3 (1993): 1.

⁷⁸ Karen Brown, "Our Appointed Time," *Canadian Critical Care Nursing Journal* 4, no.4 (1987): 4.

⁷⁹ Brown, "Our Appointed Time," p. 5.

⁸⁰ John Naisbitt, *Megatrends: Ten New Directions Transforming our Lives* 2nd Edition (New York, Warner Books, 1984), p. 30-31.

⁸¹ See Joanne Disch, "The Time is Now," *Heart and Lung* (1983): 31A-45A.

⁸² Brown, "Our Appointed Time," p. 5.

⁸³ KGH, BE, EQ, 28-1, KGH Archives. Photo used with permission.

⁸⁴ Interview with Sharon Anderson by author, audio recording, Ottawa, 23 January 2013. (Hereafter cited as Interview with Anderson.)

⁸⁵ Interview with Jayne Elliott by author, audio recording, Ottawa, 15 September 2011. (Hereafter cited as Interview with Elliott).

⁸⁶ Interview with Joyce Richardson by Evelyn Kerr and Cynthia Toman, tape recording, Ottawa, 10 March 1995. Personal collection of Cynthia Toman.

⁸⁷ Winnipeg General Hospital, *The Generator*, vol. 13, no.10 (November 1971), F4, S3, Box 8, Health Sciences Centre Archives/Museum.

⁸⁸ Winnipeg General Hospital, *The Generator*, vol. 14, no.12 (January 1973), F4, S3, Box 8, Health Sciences Centre Archives/Museum. Photograph used with permission.

⁸⁹ Winnipeg General Hospital, *The Generator*, vol. 14, no.12 (January 1973), F4, S3, Box 8, Health Sciences Centre Archives/Museum.

⁹⁰ Winnipeg General Hospital, *The Generator*, vol. 14, no.12 (January 1973), F4, S3, Box 8, Health Sciences Centre Archives/Museum. Photograph used with permission.

⁹¹ Health Sciences Centre, *Healing and Hope: A History of Health Sciences Centre Winnipeg* (Winnipeg: Health Sciences Centre Winnipeg, 2009), 125.

⁹² Julie Fairman, "Virtual Power: Gendering the Nurse Technology Relationship," *Nursing History Review* 6 (1999): 178.

⁹³ Canadian Nurses Association, *CNA Code of Ethics: An Ethical Basis for Nursing in Canada* (Ottawa, Canadian Nurses Association, 1980). In 1954, the Canadian Nurses' Association had adopted the International Council of Nurses code of ethics as its first officially designated code. Later in 1980, the organization developed its own code of ethics (published as *CNA Code of Ethics: An Ethical Basis for Nursing in Canada*) and subsequently revised it in 1985, 1991, 1997, and 2002.

⁹⁴ Nicola Sims-Jones, "Ethical Dilemmas in the NICU," *The Canadian Nurse* 82, no.4 (1986): 24-26.

⁹⁵ Anne J. Davis. "Ethical Dilemmas: A Survey," *The Canadian Nurse* 84, no. 9 (1988): 56-57.

⁹⁶ Janet Ericksen, "Steps to Ethical Reasoning," *The Canadian Nurse* 85, no. 8 (1989): 23-24.

⁹⁷ Ericksen, "Steps to Ethical Reasoning," p. 24.

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- ⁹⁸ Ericksen, "Steps to Ethical Reasoning," p. 23-24.
- ⁹⁹ Interview with Malone-Tucker.
- ¹⁰⁰ Interview with Dyna.
- ¹⁰¹ Karen Scholl, "Understanding AIDS," *The Canadian Nurse* 79, no.10 (1983):18.
- ¹⁰² Karen Scholl, "Understanding AIDS," p. 16-18.
- ¹⁰³ Ann Beaufoy, Irene Goldstone, and Rosemarie Riddell, "AIDS: What Nurses Need to Know: Part 1, HIV Disease and AIDS," *The Canadian Nurse* 84, no. 8 (1988): 16-22.
- ¹⁰⁴ Interview with Fothergill Bourbonnais.
- ¹⁰⁵ Interview with Elliott.
- ¹⁰⁶ Sandra Kamenir, "Are You Ready for that Elderly Patient?" *Canadian Critical Care Nursing Journal* 6, no. 4 (1989): 26.
- ¹⁰⁷ Kamenir, "Are You Ready for that Elderly Patient?" p. 26.
- ¹⁰⁸ Interview with Anonymous by author, audio recording, Ottawa, 19 September 2011. (Hereafter cited as Interview with Anonymous).
- ¹⁰⁹ Interview with Thornton; Interview with John van de Kamp by author, audio recording, Riverside, Ont., 30 January 2012, (hereafter cited as Interview with van de Kamp). Personal communication with Mike Langill, 24 July 2013.
- ¹¹⁰ Interview with Thornton.
- ¹¹¹ Interview with Thornton.
- ¹¹² Canadian Association of Critical Care Nurses, "Dynamics of Critical Care," *Canadian Critical Care Nursing Journal* 3, no. 3 (1986): 13. See "Wednesday, September 24, 1986 COMBINED PLENARY SESSIONS."
- ¹¹³ See Canadian Association of Critical Care Nurses, "Dynamics of Critical Care '87," *Canadian Critical Care Nursing Journal* 4, no. 2 (1987): 6-8; Patricia Rodney, "Moral Distress in Critical Care Nursing," *Canadian Critical Care Nursing Journal* 5, no. 2 (1988): 9-11.
- ¹¹⁴ Brandi Vanderspank, "The Experience of Intensive Care Nurses Caring for Patients for Whom Life Sustaining Treatment is being Withdrawn," Master's thesis, University of Ottawa, 2009, p. 69.

¹¹⁵ Rodney, "Moral Distress in Critical Care Nursing," p. 9-11.

¹¹⁶ Edwina A. McConnell, "The Impact Of Machines on the Work of Critical Care Nurses," *Critical Care Nursing Quarterly* 12, no. 4 (1990): 50-51.

¹¹⁷ Patricia Houlihan, "The Role of Health Professionals in Organ Donation," *The Canadian Nurse* 84, no.1 (1988): 21-22.

¹¹⁸ Margaret Borozny, "Brain Death and Critical Care Nurses," *The Canadian Nurse* 84, no.1 (1988): 24-27.

¹¹⁹ Deborah Bisnaire, Janice Burden, and Lynda Monik, "Brain Stem Death: Managing the Family in Crisis," *The Canadian Nurse* 84, no. 1(1988): 28-30.

¹²⁰ Bisnaire, Burden, and Monik, "Brain Stem Death: Managing the Family in Crisis," p. 29.

¹²¹ See Bisnaire, Burden, and Monik, "Brain Stem Death: Managing the Family in Crisis."

¹²² See Louise Sanchez-Sweatman, "Legal Matters: Euthanasia," *The Canadian Nurse* 90, no. 1 (1994): 51-52. This article also references the 30 September 1993 decision of the Supreme Court of Canada regarding the case of Sue Rodriguez, which ruled against Rodriguez, rendering the decision that Assisted Suicide was not supported by the Criminal Code of Canada although deciding that her rights under the Canadian Charter of Rights and Freedoms had been violated.

¹²³ See the CBC Online Archives at <http://www.cbc.ca/archives/categories/politics/rights-freedoms/sue-rodriguez-and-the-right-to-die-debate/topic-sue-rodriguez-and-the-right-to-die-debate.html>, accessed 18 October 2013.

¹²⁴ Heleen Van Weel, "Euthanasia: Mercy, Morals and Medicine," *The Canadian Nurse* 91, no.8 (1995): 35.

¹²⁵ Judy Rashotte, Frances Fothergill-Bourbonnais, and Marie Chamberlain, "Pediatric Intensive Care Nurses and Their Grief Experiences: A Phenomenological Study," *Heart & Lung: The Journal of Acute and Critical Care* 26, no. 5 (1997): 372-386.

¹²⁶ D. K. Heyland, J. V. Lavery, J. E. Tranmer, and S. J. Taylor, "Dying in Canada: Is it an Institutionalized, Technologically Supported Experience?" *Journal of Palliative Medicine* Supp16, (2000): S10-S16.

¹²⁷ Interview with Gagnier.

CHAPTER THREE

ICU NURSING – IMPORTANT STEPS TO A LASTING IDENTITY

The formation of identity (acquiring particular characteristics and role specific behaviors) is a process that is intricately linked to relations and social context. According to Berger and Luckmann's Social Construction of Reality theory, identities are "relatively stable elements of objective social reality" that crystallize over time and are "maintained, modified or even reshaped by social relationships."¹ As the establishment of an objective reality – the habitualized, routine practices of ICU nursing developed, other important factors also contributed to the social construction of ICU nursing in Canada. Once ICU nursing practice achieved a relatively stable structure, knowledge, and practices, new nurses had to be socialized into the unit. Again, early ICU nurses played a pivotal role in determining what attributes or characteristics were essential for trust and acceptance as a recognized member of the group. Certain characteristics and points of passage emerged that distinguished ICU nurses from their other nursing colleagues. This learned identity was based on an occupational role that was defined and then reinforced by the larger group of ICU nurses. Successful socialization and the development of both objective and subjective realities were necessary before a lasting ICU nursing identity could be developed.

In 2010, historian Patricia D'Antonio published a book entitled, *American Nursing: A History of Knowledge, Authority, and the Meaning of Work*, in which she incorporated identity as one aspect of her analysis. Rather than being fixed entities, she characterized identities "as sometimes situational and dependent on the context in which they are expressed and at other times serial and reflective of a sense of identification with several

other groups.”² This approach, she believed, allowed her to “more seriously consider nurses’ perspectives about the meaning of their own claims to knowledge and expertise.”³ In addition to Berger and Luckmann, D’Antonio provides a particular perspective for exploring how nurses came to self-identify specifically as ICU nurses engaged in a newly emerged practice area, and how that identity endured over time. It also allows for discussions regarding similarities and differences with general duty nurses. ICU nurses shared a general professional identity with their non-ICU nursing colleagues, but their ICU identity was particularly strong and enduring.

This chapter focuses on attributes that helped to distinguish an ICU nursing identity, beginning with primary and secondary socialization to the environment and culture of ICUs. ICU nurses developed strong social networks amongst themselves that provided a support system while also serving as a gateway for acceptance and integration into the unit. This was especially important when ICU nursing teams were impacted by broader social, political and economic contexts. This chapter explores which nurses were drawn to the ICU environment, the socialization and acceptance of new nurses by experienced ICU nurses as well as by physicians, and the challenges and the rewards associated with being an ICU nurse that either facilitated or impeded long-term ICU careers.

TESTING AND BEING TESTED IN THE ICU ENVIRONMENT

Nurses like Ruth Pollock pointed out that while she felt somewhat apprehensive about starting to work in ICU, she was “up for the task.”⁴ That task, however, was multifactorial. New-to-ICU nurses were tested in numerous ways – both their knowledge and their ability to work closely with other team members, and the ability to work under

enormous physical, mental, and emotional stress. In his 1959 letter to the Medical Conference Committee at KGH following his Rhode Island exploratory trip, Dr. Bingham remarked on nurses' enthusiasm, willingness to learn, and the sense of team work and camaraderie that he had observed in the ICU unit there.⁵ One of the participants in this study referred to the ICU as an "interesting place to go" that brought with it a higher level of complexity, an intellectual challenge, and a faster paced environment.⁶ But the interviews are also clear that the ICU environment was a satisfying work space partially because it enabled nurses to provide the type of holistic care that they had been taught to give. As France Fothergill Bourbonnais commented:

I think it [was]...the kind of environment that originally existed ... [that] shaped the type of personality of people who go work in that environment. When I go to ICU, I realize, (and it doesn't matter all these 40 years later), these people are very similar to myself. There is a certain ... love of medical knowledge in terms of pathophysiology and patient conditions ... When I had time as a staff nurse, I would sit and read through charts and [ask myself] "what happened here" and "was there a family history" and that sort of thing. So there was a love of the medical side of it, there was the time you could spend with the patients and get to know them really well (and their families) and talk to them about the patient's condition ... And the people that worked there were - they liked to work at a fast pace, they had a love of medical knowledge, they liked the one-on-one or one-on-two [assignment] with patients, and that you could give the kind of care that you wanted to give and what we're taught in training to give.⁷

While individual nurses were drawn to the ICU for diverse reasons, there was still a critical period of transition (or socialization) into the nursing team. As previously suggested, nurses' educational preparation for working in ICUs, including the technology they encountered there, were significant aspects of this process.

The majority of nurses who were attracted to ICUs made it through the socialization process; they had the tenacity and drive to learn what it took, and to settle in as ICU nurses for the longer term. Some would pass this test but others would not. Judy Rashotte, a head

nurse for nearly twenty years, reflected that those who found that ICU nursing was not a good fit for them often left quite quickly – usually within six months. However, she noted that of those who decided to try ICU nursing, it was only a very small percentage of nurses who left.⁸ The social context of ICU nursing was an important aspect in determining who stayed and who left. Mike Langill attributed “not feeling part of the team” as partially responsible for nurses’ decisions to leave the ICU setting, explaining that:

We have had nurses leave, at least by their accounts, on not feeling “part of the team.” And when I say not part of the team – it’s not part of the nursing team ... it does impact the nurses staying. I think to a certain degree, it’s a function of not only how the team is accepting of new staff and how much turnover there’s been, but also [about] the person as a human being. Like I said before ... we’re all different and there are different personalities. Some people find coming into the ICU especially into nursing, it could be a very exclusive club. It’s very hard to integrate into a Unit [where] there have been people working together for 10, 15, 25 years, and it’s hard to break into that circle. And I think that ... it’s like a kid starting a new school. I think for the most part, we’re pretty good at it but we have had nurses unfortunately leave over it.⁹

Successful socialization resulted in their integration into the ICU team while failure to achieve socialization typically resulted in nurses leaving the ICU environment. Mike Langill called socialization “one of the biggest hurdles”:

You can learn the skills; it’s socialization into the team that is actually one of the biggest hurdles ... there’s the “outside of the hospital” socialization [aspect], which are friendships that are started at work and obviously spill out into your real life, not your work life. And then there’s the “socialization within the team,” which is different ... so I think work socialization has to deal with being a valued member of the team. Also to be an accepted member of your team [meaning] that people will seek you out, they will support you. You’d like to think that support happens automatically but that’s not always the case. There is very much a period of acclimatization, not only for the nurse that’s coming into the Unit, but for the staff who are having that new person come into the team ... [but] it’s not like an initiation period or a hazing thing ... you had to prove yourself ... I think it’s based on their clinical performance. Before, you know, the nurse that asked a lot of questions and needed reassurance and support, “How do I do this?” and things like that. That nurse was seen as being, you know, “it’s too much work for me to deal with this nurse, I can’t deal with it.” Now... if you don’t see nurses asking questions, that’s when staff actually starts to scratch their heads, right?¹⁰

Participants in this study referred to “making it” as an ICU nurse, claiming that successful integration or socialization required development of several particular characteristics followed by important points of passage. Important characteristics included developing self-confidence and autonomy, earning the respect of colleagues, and becoming comfortable with one’s role.

Two of the more pronounced characteristics of an ICU nurse identity as suggested by the participants were self-confidence and autonomy – two characteristics that were inextricably linked. Nurses and physicians developed a different type of relationship, from the early days of ICUs that enabled ICU nurses to work more autonomously than was typical on general medical and surgical units. For one thing, as Sue Malone-Tucker explained:

We rel[ied] on a lot of verbal orders ... so your autonomy is, if you have a situation in front of you, that you know needs immediate action ... you’re not going to get a resident right away. You have other ICU nurses that will ... mobilize to come and assist. Lots of times we function on verbal orders, a lot of times [the medical team rely] on the ICU nurse telling the [night] resident ... “this is what we really need to do right now.” And they’ll just say, “okay go and do it” and it will get ordered later or it *should* get ordered later.”¹¹

The reliance on verbal orders was contingent first on nurses’ self-confidence in their acquired knowledge and skill as well as their ability to clearly and effectively articulate the needs of the patient to the physician in order to ensure the right course of action or treatment, and second, to carry out orders without physicians necessarily being physically present in the unit (as verbal orders were often given over the telephone). In units where standing orders existed (pre-established orders specific to certain conditions and treatment protocols) nurses were able to act even more autonomously – assessing patients and implementing the

appropriate standing orders. The autonomy afforded to ICU nurses put them in a privileged position as compared to their nursing colleagues on the medical and surgical wards.

Developing a sense of self-confidence and gaining autonomy in their role required that nurses become comfortable in their roles as ICU nurses. They had to learn to see beyond the immediate situation to longer-term care aspects, which ultimately gave them a different level of understanding about both usual and unusual events that happened within these units. John van de Kamp referred to this perspective as “being comfortable in your own skin.” He noted how one’s level of comfort impacted the care of patients and families, for example, in communicating difficult but necessary information to them:

You have to be comfortable in your own skin. You have to know that what you’re saying is the truth, [and] that for no other reason than your patient’s comfort, you are having this discussion. You have to ... have the maturity to be able to do it and you can’t be afraid of tears. If they need to cry, you’ve got a shoulder. You can’t be afraid of telling somebody something bad ... be confident in your own heart that this is in the best interest of the patient. And if you can do that, then you can talk to anybody, to any family... I don’t know, maybe it’s a trait, maybe it’s something inherent but I would get assignments strictly on that premise that I can deal with the family compassionately and talk to them and I’ve done it countless times as a [Care Facilitator] where I’ve had to go out to the family room and we’ve just gotten ... an admission and tell the family that I don’t think they’ll survive; and yes, occasionally I’m wrong and that’s a good thing.¹²

Achieving this level of comfort signified that a transition had occurred from a new nurse working in an ICU setting, to an identity as an ICU nurse.

There were at least three points of passage experienced during the transformation into ICU nurses. One point of passage included graduating to care for the “sickest of the sick” with the acknowledgement by nursing peers that you could provide that level of care. Judy Rashotte described her goal to care for of the sickest of critically ill children as a

“milestone” that would indicate when she had attained the necessary skill, knowledge, judgment, and trust of the ICU team. Her reason, as she said, was because:

I so desperately wanted to look after the cardiovascular kids because they were the epitome of the acutely ill child, the fragile child who if you weren't on top of things ... really challenged you in terms of your critical thinking, your ability to put all the systems together.¹³ , and having the ability to pass on your knowledge and expertise to new ICU nurses as a buddy or preceptor. Nurses who “made it” had a profound ability to be critical of their own decisions in light of the limitations often posed by critical care; they understood that they couldn't know everything about everything.

A second point of passage was marked by being asked to share your knowledge and expertise with new nurses in the ICU – as a buddy or a preceptor. Nurses like Alice Dyna and Donnie Parks noted that they knew they had “made it” when they were eventually assigned as buddies or preceptors for other nurses and students.



Image 10: Donnie Parks and new nurse (1974), drawing up Digoxin at the Hospital for Sick Children. Used with permission.

A third point of passage as ICU nurses was the development of a profound ability to be critical of their own decisions in light of the limitations often posed by critical care; they came to understand that they couldn't know everything about everything. These successful ICU nurses had the ability to be critical and self-reflective of their own practice. For example, Yvon Gagnier regretted a situation where a decision to intubate a patient made it impossible for a family to have a few precious minutes of communications before that patient's inevitable death.

I remember one case where we had a patient come in from the outside. He needed to be intubated ... the family followed him from Smith Falls or wherever. We called anesthesia "stat" to come and intubate him and they came in. They wanted to intubate him right there. "No" I said. "Well the family is in the waiting room, can we just let the family in so they can speak [with him]? If they have anything to tell each other before he gets this tube where he can't talk and won't be able to communicate?" "Well we were called stat so ..." And I said, "Fine, if you want to tube him now, tube him now, but the family is just outside." "Well, I don't have time [to wait]." So they went ahead and tubed him and then the family came in and by the time they came in, he was sedated and unresponsive ... and he ended up dying. That's where I said, "You know what? I should have just said, hold on two seconds. Yes, he needs to be intubated, but let him talk to his family." I mean I felt bad. I remember it to this day thinking I should have pushed and I should have.¹⁴

Becoming a successful ICU nurse also brought with it an acknowledgement and understanding that ICU care had limitations. ICU nurses acknowledged that it was acceptable to not know everything and that, in fact, it was impossible. Frances Fothergill Bourbonnais recalled the "fish-bowl" like environment that was inherent in ICUs – meaning everyone could see what you were doing and how you conducted yourself. John van de Kamp also commented on the highly visible nature of ICU nursing and what it took to be successful there:

If we can get past the "oh gee, I didn't know that" and not feel like you're looking like a fool, you'll do wonderful. Every day I say, "oh, I didn't know that" and ... it may be just be some stupid little thing, [like a] drug interaction that I didn't know or

I'd never come across before ... but you glean something if your mind is open, you glean something every day.¹⁵

Trust was a key component threaded throughout these experiences and transition points. ICU nurses learned to trust in themselves – their knowledge and skills, but they also learned to trust each other. Trust was the foundation of a cohesive and collaborative team. All new ICU nurses had to prove themselves before the rest of the staff placed trust in them. As Fothergill Bourbonnais reflected:

The trust is extremely important and in ICU ... it's so important because your patients are so sick. And they can't talk to you, (now most of them are ventilated), [so] ... I need to know who I am working with and ... know that if I go take a break for 10 minutes that my patients are safe with this person. And you don't develop that trust overnight. You have to work with people and there are people that you trust more than others, just like in any position.¹⁶

Based on the interviews, trust developed in ICUs through shared experiences and working together over time. As noted previously, ICU nurses tended to form relatively stable working teams and when there were changes (such as new nurses added to the unit), these team relationships had to be reshaped. It was unsettling not to know each other's strengths and weaknesses, and to be unsure about how the newly configured team would work together. As Mary Thornton pointed out:

I think people coming in to work in our environment as a new person can, probably find it very hard to integrate because until you've experienced some experiences with people, they may not always be so open-armed and welcoming to you until they test you. It's all about, "What do you know? Can I trust you to take care of my patient while I'm gone?" because if you don't feel that you can trust them (because they don't know), then you'll never go to break because you'll always feel like ... "I'm too afraid to leave my patient and I don't even think she can take care of her own."¹⁷

Trust and acceptance had a significant impact on ICU nurse retention. Some participants referred to ICU nursing as a "club" or distinct group of nurses. For example, Fothergill

Bourbonnais noted that “you were in an elevated position if you worked in that environment.”¹⁸ Jayne Elliott reflected that just the mere color of an ICU nurses’ uniform implied a sense of identity and belonging to the group. She pointed out that:

It just seems to be more interesting rather than saying you worked in medicine or something. I spent three months in medicine in Yellowknife and I couldn’t stand it ... I think, just because I have relatively good memories, of it as being sort of a confidence thing. It really was part of my identity even when I was going through the experience, it was. I mean, of course, you like to put your stethoscope around your neck when you go to the cafeteria right, so that sort of thing. And even at York Finch [hospital] ... the hospital gave the nurses uniforms ... and we wore yellow and that was the sign of the ICU, not pink like the labor and delivery ... so you got singled out that way too ... It’s been such an important part of our identity.¹⁹

ICU nurses who were successful would become part of a seemingly privileged group of nurses within the hospital system – a group that did not necessarily ascribe to traditional (submissive) behaviors and codes of conduct. Alice Dyna referred to one difference between general ward nurses and ICU nurses this way:

ICU nursing gave nurses a voice, where they [nurses] were silent on the ward ... But here you had a voice ... if you were shy to start off with, you became not so shy. If you were extremely assertive, you learnt to tone it down because you had to work as a team ... working in a collaborative model ... because you were never in isolation.²⁰

WORKING AS A NURSING TEAM

Most of the nurses interviewed for this study highlighted the importance of ICU personnel working together. The cohesiveness and strength of team work was a vital aspect of care and directly influenced ICU nurses growing identity. Several themes recurred throughout the interviews regarding these relationships: the importance of consistency in work team assignments, the importance of bedside interactions and role modeling, the ability to confront challenges and to learn from mistakes.

Consistency in the composition of the ICU nursing team (that is, working with the same nurses over time) fostered trust as well as professional and personal support, especially during times of crises. Riek van den Berg eloquently referred to teamwork and smooth functioning of the ICU as the “rhythm” of the unit.²¹ Yvon Gagnier expressed it this way:

Years ago ... you always worked with the same people. Depending on who was “on your team,” actually that’s what we called it then, on the team, working the same weekends and whatever ... you would work like a well-greased machine. You could put your hand out with your eyes closed and someone would throw in your hand what you needed without saying a word. That’s just getting to know who you’re on with, and how they work, and when you should step in, and when they’d prefer for you not to.²²

Working together and team building started as soon as a new nurse was introduced into the ICU. As Mary Thornton elaborated:

When I started at Toronto, we had, I think it was a six-week orientation where you learnt everything. You learnt how to read your rhythms from the basics ... I came from two years [on a] surgical floor. I knew nothing about critical care. So you’re learning everything. You learn your theory but mostly what you learn is who you’re working with; and if you have a really good bunch of people to work with, who are willing to teach you, then you learn. So that depends on who you’re buddied with. Some people are better teachers than others.²³

Thornton pointed out that, even with the availability of more formalized and structured orientation programs, the nurse-to-nurse interaction at the bedside remained a very important factor of learning as well as integrating into the ICU nursing team, because, as she explained, “you can learn all the theory you want ... I’m sure you know people who are really book smart but can’t apply it.”²⁴

[T]hey’re the ones [more experienced nurses] that help you learn how to do your critical thinking, [who] question what you’re doing, and make you think of what you’re doing, and [who] support you along the way in difficult situations, show you how to interact in different situations like you’re a guide ... It’s very difficult to come into some of the situations we have here, and deal with not only the critically ill patient and the family in crisis (their own personal crisis), and deal with that, with

your own emotions [as well as] their emotions too ... it's a learning thing, that you'll learn over many years.²⁵

ICU nurses also learned that working together in facing both positive and negative challenging situations was an important aspect of team work and developing a sense of trust in one another. Challenging situations often became shared experiences and stories about what could happen and how things could and did go wrong sometimes. These stories were told to one another as real-life examples of "what can happen if..." Jayne Elliott, for example, reflected on providing care to a patient with severe scoliosis:

We had no piped-in compressed air. And we had tanks, so those big tanks. You see the little oxygen tanks and the big-big ones that you had to roll on a trolley, up onto the bed, and you take a wrench, and somebody had to bag your [patient] while...you changed the tank. You need to match [it] and tighten it up. And then of course you had to watch [the gauge]. There were no alarms on them, so you had to just keep watching your gauge. But when you got experienced, you'd change, probably changed [before it was empty]... because you know you'd get busy and then... That happened to me – that first time I had...this woman, she had scoliosis, very bad scoliosis. She was intubated, and they didn't really want her intubated, but they had to, and she – last thing she said to me before she went to sleep was, "you'll look after me won't you?" And I said "yes I will." And the tank ran out. That compressed air tank. And so she stopped breathing. I found her blue. She was – she wasn't in cardiac arrest, but she was in, pretty well respiratory arrest, and I bagged [manually inflated the lungs with an oxygen filled, inflatable rubber bag] her. I got her back. I got her back but I never did it again.²⁶

Mary Thornton described the following scenario depicting how a negative experience (with an unreceptive colleague) impacted new nurses' experience with the ICU team, their self-confidence as well as their learning:

You've got to be able to have the confidence. And unfortunately, some people have bad experiences with that, right? They go to counsel somebody and they don't get a very warm and fuzzy response to it, or very helpful response. And that may handicap them the next time they really feel, "I think I need a second opinion." That's very tough. I think that is a big challenge when you're new. Even when you're not so new, [it can be] a new experience and you're not sure if you don't get a helpful response, it could really be a barrier for the next time right?²⁷

Judy Rashotte provided an example of how mistakes could offer yet another opportunity to learn and reiterated the importance of teamwork in this context. She suggested that knowing that mistakes happen made her more compassionate with her colleagues over her long career in ICUs:

Now, anytime I went to a new place, I would truly sweat buckets, I mean I would dream it for a year. I would rehash every shift and wonder what I'd forgotten, what mistake I had made, and I can remember making mistakes that I made, and you live with the guilt of that. But you learn from it and I hope every one of them made me a better nurse and made me more compassionate with my own colleagues and made me ever more conscious of why teamwork was so important.²⁸

Although Yvon Gagnier felt welcomed as a new ICU nurse, he also recalled feeling the presence of co-workers watching over his shoulders. But he came to welcome the watchful eyes, admitting that:

They need to know what your strengths and your weaknesses are, and whether you know what you're doing. When I did feel someone watching over my shoulders, it's like, well, they just want to know what I am doing and how I am doing it. I was comfortable with that.²⁹

Like Rashotte, Gagnier also reviewed shifts over and over again, worried that he had missed something while working. As he recounted:

I do remember going home and because of the patient acuity I guess, being afraid of, like even after having left work, being afraid of not having done something or having left something, some loose ends, or having done something wrong and I would go home with headaches, I remember. My mind would just go a mile a minute. I would rehash the days in my head thinking, okay "did I do that right? Did I do that? Will they tell me if I didn't?"³⁰

In a similar vein, Sue Malone-Tucker referred to "near misses" as a significant learning opportunity and how fellow ICU nurses played a part in this type of experience. She recalled times when more experienced nurses would stand back, "letting you make and, kind

of get to a near miss, almost make that mistake; and they stop you and ask you, ‘what are you doing?’ ... ‘I’m just getting you to be self-aware.’”³¹

Coming full circle, just as these nurses experienced the watchful eyes of their colleagues and learned from their shared experiences, they often carried on these traditions with the next generation of new nurses, and as Dyna stated, it became a “rite of passage”:

Somebody had taught *you*, so those that are coming up, you’re responsible for teaching *them* ... there wasn’t an automatic right that if you did not feel like teaching, (like having a student) that you could say, “I don’t want a student.” Some people basically looked at [taking] a student as a rite of passage: “I obviously have made it.”³²

Perhaps Rashotte summarized the significance of relationships between ICU nurses most cogently, in stating that:

I don’t think there was a day that I went in for a shift that I wasn’t glad that I was there and that I went home and felt like I’d made a difference. Even on the days where they were horrible shifts, just horrible. I can remember feeling a real sense of camaraderie and that I wouldn’t have ever been able to make it through without my team.³³

ICU NURSES AND PHYSICIANS – AN EXPANDING TEAM

However, ICU nurses and nursing teams did not exist in isolation, and the ability to work with other professional groups, particularly with physicians, was an important aspect of care delivery in the ICU. As Julie Fairman and Joan Lynaugh noted, nurses’ relationships with physicians were different in ICUs. Fairman and Lynaugh stated that

At first, nurses and physicians banded together ... Physicians taught the nurses physiology, pathophysiology, and how to read electrocardiographic rhythm strips and evaluate lab results. Nurses taught the physicians how the patients responded to treatment and what patient behavior to expect during the course of illness ... Mutual respect and collaboration between nurses and physicians in critical care involved adjustments and reconceptualizations on both sides.³⁴

In recalling his first surgical case at the Ottawa Civic Hospital in 1969, Dr. Wilbert Keon recalled his reliance on nurses and in particular, Rosemary Prince Coombs, who headed up the newly established cardiac surgical unit.

There were many people that thought the Dean of the medical school was right out of his mind in taking the chance he took with hiring me ... and giving me the responsibility he gave me at age thirty-three. I was second-guessing myself a bit. The first patient we did – we just finished the operation and he disrupted his aortic root and sprayed blood all over the OR [operating room]. We had to go back on the pump and repair it ... So when he came out, he was very “touch and go”. Nonetheless, they [the nurses] sort of hovered around him – Rosemary was there with her crowd. And they got him through it I always felt that probably the most vital thing for a patient was the nurses’ knowledge. So I wasn’t the kind of person that would come up to the bottom of the bed and say, “What’s the blood pressure, what’s the heart rate, what are the electrolytes, how high are the enzymes?” or this kind of thing. I would say, “How’s the patient? Or when I was alone, and at night when I would call in, I would say, “How is he?” and the nurse would say, “Well, I think he is out of the woods” or “I’m worried about this guy ...” *Because there was a thousand things there that the nurse was seeing and monitoring that she wasn’t reporting and charting ... just from their experience. And the patients were totally dependent on them, particularly in the early days* [emphasis added].³⁵

Initially, as in the rest of North America, ICUs were new spaces where physicians and nurses (and later others) had to learn to work closely together.³⁶ As Sharon Slivar recalled, “That’s such a memory ... the level of professionalism of the nurses ... and the respect from the physician group.”³⁷ Over time the ICU team evolved beyond physicians and nurses to include respiratory therapists, pharmacists, those working in spiritual care, physio and occupational therapists, clerks, housekeepers, personal care assistants, and numerous personnel from other consulting services. However, the nurses in this study placed an emphasis on the changes in relationships between ICU physicians and nurses. The complexity of patient care in the ICU had a tremendous impact on this particular relationship and necessitated frequent communication between the two groups.

As historian Margaret Sandelowski argued, nurses' continual presence at the bedside (twenty-four hours a day) meant that they became the eyes and ears of the physicians, especially in the ICUs.³⁸ With the development of Coronary Care Units in the 1960s (as some CCUs and ICUs were initially combined spaces) physicians like Lawrence E. Meltzer recognized that "nurses[s] would be the key to the system."³⁹ A different sort of relationship developed between ICU nurses and physicians than had previously been experienced in other care contexts of hospital medical and surgical wards. ICU nurses and physicians developed a mutual dependency (or inter-dependency) and a collegiality that was crucial to effective patient care. Riek van den Berg noted that patient care often required minute-by-minute decision making and that while physicians were typically readily available throughout the day and one physician available on nights in her particular unit, nurses were available constantly at the bedside.⁴⁰ They adopted the necessary medical and physiological jargon to effectively communicate patient status to physicians. They learned to interpret the multitude of numbers on various monitor screens and, in the process, mastered an entirely new language and body of knowledge.

Mutual respect and a developing sense of autonomy by ICU nurses were partially based on knowledge shared between nurses and physicians. As Ruth Pollock remarked:

We were much more – partnership's not the right word because it was always the physicians [first] and nurses [second] ... I think the physicians respected the nurses in the ICU. Because we, a) we tended to be (maybe more curious is not the right word) but we tended to be the ones who were asking the questions and trying to learn maybe, and reading more and just trying to be on top of stuff. On the [regular wards] they didn't have time; and I'm not saying that as a criticism of the people on the floor ... they didn't have the time to be digging into what's happening with this patient so much, because they had so many more [patients] to be looking after.

Pollock also recalled that it was more acceptable for ICU nurses to reflect, ask questions, and communicate directly with surgeons in order to understand the patient's situation and to know what to watch for and monitor. She suggested that ICU nurses then gained (through their inquisitive nature and genuine concern for patient care) a level of knowledge that earned increased respect from the physicians. Partnership was likely not the appropriate word, as Pollock mentioned, because there was still a level of hierarchy despite their interdependency.

And so once you had that level of respect, you still were very careful in the way you spoke with physicians, but there was more opportunity to make suggestions. "What would you think about ...?" Now you still didn't do it as an equal at all. You were still obviously down here [lower] somewhere. But more opportunity to at least open the door to discussion about going this way, versus that [way].⁴¹

In 1967, physician Leonard Stein coined the phrase "doctor-nurse game," referring to the "special" relationship between a doctor and a nurse and suggesting that there are few professions that would entail a relationship as intense as the one between these two players. Stein noted that nurses continually make suggestions to physicians; in doing so, however, the nurse must avoid "appearing insolent" and their interaction "must not violate the rules of the game."⁴² Two rules of the game required the nurse to avoid any open disagreement (to be avoided at all cost), and to "communicate her recommendations without appearing to be making a recommendation statement. The physician, in requesting a recommendation from the nurse, must do so without appearing to be asking for it."⁴³ Although ICU nurses had closer relationships and more opportunities to engage with physicians, as Pollock's example illustrates, they were still conscious of the "game," frequently prefacing suggestions with "what would you think about...?" Over time, ICU nurses would also begin to challenge that game as they gained a sense of confidence and autonomy in their role.

ICU physicians, like Lawrence Meltzer, for example, seemed to have held nurses in high regard. He noted that “If nurses are capable of performing these exacting tasks [referring to the ability to recognize life-threatening arrhythmias and respond accordingly] and assuming this degree of responsibility, the role of the nurse will be materially different than her present-day status.”⁴⁴ According to historian Keeling, Meltzer felt ICU nursing was “a separate, higher division within the nursing profession.”⁴⁵

Due to their constant presence within ICUs, nurses learned to know their patients inside and out – sometimes inverting the traditional power dynamics based on being current with their patients’ status. Physicians relied heavily on the nurses’ knowledge of the patient in order to make decisions regarding treatment plans. Frances Fothergill Bourbonnais remarked that physicians counted on the nurses’ ability to properly assess patients and to communicate what they had assessed – particularly when the physicians were away from the unit.⁴⁶ She stated that:

And then as more and more patients were admitted in, and they got sicker and sicker, the need for those assessment skills just escalated. And physicians became increasingly dependent on you for not only that assessment but the knowledge base that went with that assessment. Because if you didn’t have the knowledge base to put the dots together, you didn’t “get it”. You had to know what you were dealing with.⁴⁷

Mary Thornton agreed that it was the complexity of patient care that necessitated team work and collegiality between nurses and physicians:

Our patients are so complex that if you don’t work as a team, you’ll never accomplish anything because there’s too many things – you’re looking at the whole patient. You’re looking at everything, you’re looking at every body system there is, and you’re putting it all together to make this person well. So, I think the doctors rely on the nurses and the nurses rely on the doctors just as much to give and take information to apply to taking care of your patient’s changing status, which is always changing.⁴⁸

Jayne Elliott also remarked that physicians and residents respected nurses' knowledge, understanding, and ideas with regards to patient care. As new residents rotated through the ICU, Elliott recalled that, "You['d] get young residents coming in, (or new residents, not necessarily young). They're kind of feeling their way too and they would... rely on the other nurses who've been there for a while to show them the ropes."⁴⁹ She suggested that while nurses were readily involved in educating and learning from each other, they also played a role in teaching physicians (a reversal of early practices where physicians educated nurses). Similarly, Yvon Gagnier recalled how new residents in the ICU would rely on nurses, who had much more experience than they did:

I am thinking of even some of the residents that come into the unit. Oh, they're so thankful for your [experience] ... If you've been here for a number of years and you can kind of coach them through some procedures, or you give them some tips on, like even today, I said, 'My patient's off the CRRT [continuous renal replacement therapy] now, so his temperature is probably going to start climbing.' The resident goes, 'What do you mean?' I said, 'Well often you see that if they're on CRRT and that's kind of hiding a temp[erature] or a fever and when you stop the blood from going through this machine ...' He says 'Oh, okay.' So they value your knowledge from having been in here.⁵⁰

But residents, could be problematic, too, and had to learn to negotiate their own roles in relation to nurses. Mary Thornton referred to one such situation between nurses and medical residents in the ICU:

There's always, I think a clash between medicine residents (more than staff men) and nurses, especially in this ICU ... the nurses are very smart and they have a lot of experiences ... They're the advocates and they're very outspoken and very protective and they'll come on to a resident very hard if he [won't] give them what they [request] ... I think the staff men respect the nurses for what they do, who they are, and the knowledge they have and because they know you at a personal level ... they know that you've been doing this for a long time and you're there for the best interest of the patient If you're telling them something, it's important usually (depending on the experience of the nurse) ... they'll [tell] residents, "you should listen to what the nurses are saying because they're telling you what you need to know."⁵¹

Brenda Stutsky recalled how one physician would intentionally demonstrate to the residents the level of knowledge and skill of the ICU nurses.

There were some physicians; Dr. Kirk, Bryan Kirk, was the head of ICU when I first started. And he loved nurses ... because of all the formulas you had to memorize. So he knew that all the nurses used to know these formulas, but the new residents didn't right? So he'd say, 'Okay Brenda, how do you calculate this?' And you'd blurt it out. Or he'd ask the resident, and who wouldn't know, right? Ask the nurse, and the nurse would just blurt this all out, and he'd be like, "Oh." ... They really relied on the nurses for the whole assessment and plan, and just managing the patient, and knew that you could trust them because of their education and training and they would manage the patient very well, and when you need to call them ... they needed your help."⁵²

However, this close relationship and seemingly privileged position that ICU nurses held requires further examination. Despite their relatively privileged position, boundaries still existed. It is likely that these boundaries were also tested. For example, Teresa Lee recalled a time when she had received a verbal order (over the phone) to administer a medication by IV push. Without realizing that it was a "physician to administer only" medication, Lee administered the medication, which was outside of her scope of practice. When she discussed the incident with the physician, she was shocked to hear him acknowledge that he would not have "had her back" if something adverse had occurred, as she did not have the authority to administer that medication, despite the verbal order.⁵³

No amount of confidence, autonomy, trust, or good relationships shielded ICU nurses from public accountability and even scandal when things went wrong. Susan Nelles, a registered nurse employed by the Hospital for Sick Children in Toronto, was charged with the murders of four children in 1981, because of high digitalis levels found during autopsies after their deaths.⁵⁴ The Nelles' case, which became the subject of the Grange Commission inquiry, made national headlines well beyond the 1980s.⁵⁵ Nelles was ultimately exonerated;

however, the impact of the trial had lasting effects. Donnie Parks was a nurse at the Hospital for Sick Children at the time. As she recalled:

Well unfortunately a couple of babies did die in the ICU because they were sick; the ICU's were not directly involved. But this made the parents very suspicious that when a nurse would be giving a medication, say, directly IV, the parents would be "What are you giving? What are you doing? I don't think you should be giving that!" And that sort of thing you know. Very stressful. And that went on for almost three years. Having to deal with that ... And it's interesting [that] about two or three weeks before [the situation was known] ... I was asked by the director of nursing if I would go up to the cardiac floor and see [what was going on]. They seemed to be having troubles up there, you know? Babies were dying and they wanted me to set up a sort of program. They were thinking that it might have had to do with not knowing enough about post-op care. And I went up and met up with them and looked and talked with staff and so on ... We always had this naïve notion at Sick Kids, that it was a special place, and nurses had this feeling that if ever we got in trouble, everyone would back us up and doctors would be on our side. And it couldn't be further from the truth. Every man for himself. I think we grew up as a nursing profession [after this] and realized you got to take care of yourself. And that whole thing about being taken care of, and the paternalistic approach which was still about at Sick Kids, and the admiration of doctors and they would be on our side – went and never came back since.⁵⁶

Sue Malone-Tucker who worked as part of a critical care pool team in Toronto during the early 1980s felt the impact of the Nelles case directly. The seemingly infallible sense of "team" was fragmented as was the trust that kept teams together. As part of Malone-Tucker's role on the critical care pool team she floated between several ICUs in hospitals across Toronto. She admitted that because of the nature of floating from unit to unit, there was little opportunity for staff to really get to know one another – there was no sense of trust because as she recalled "nobody really knew you. They got to know you after a certain period of time. There was a high degree of suspicion though because of the Susan Nelles case ... That was the suspected digoxin toxicity at Sick Kids."⁵⁷ The high degree of suspicion and lack of trust made for very difficult and challenging work environments, as it had become as Donnie Parks suggested: "every man for himself."⁵⁸

SUPPORTING EACH OTHER THROUGH DIFFICULT SITUATIONS

Once new ICU nurses successfully navigated the socialization process and transitioned through various points of passage to be fully accepted as an ICU nurse, they still faced a number of hurdles many of which would directly challenge their identity and place within the ICU. Other challenges would lead them to question whether or not the ICU was the right place for them as nurses. Challenges were inherent in the type of work they did on a daily basis. Nurses were not immune to the complexity of care or the emotional toll that working in the intensive care environment would have on them. They had to decide, however, if the rewards outweighed the challenges and sometimes the negative experiences.

Disruptions to the Nursing Team

By the mid-1960s unionization and professionalization movements led to divisions within Canadian nursing. While nurses in general desired better working conditions and recognition for their contributions to patient care, many nurses perceived movements such as unionization and collective bargaining to be “at the very least unladylike, if not down right unethical.”⁵⁹ Some nurses in provinces like British Columbia and Québec were quick to unionize; however, others tried different approaches to negotiate with employers but with limited success. The moves towards unionization became stronger in the later part of the 1900s but it required significant restructuring of nursing regulatory bodies and professional bodies. In the province of Ontario, for example, this led to the need for three different associations, the Colleges of Nurses of Ontario as the regulatory/licensing body, the Registered Nurses’ Association of Ontario as the professional body and the Ontario Nurses’ Association as the union.⁶⁰ And although unionization had a positive impact on some aspects of nurses’ work (leading to innovative scheduling, establishing paid maternity leaves and

other important benefits) it would also have negative implications, not necessarily on the nursing profession as a whole but specifically on the ICU team.⁶¹

By the late 1980s and early 1990s, central topics of discussion in the *Canadian Nurse* had shifted towards health care reform, downsizing, and cost-effectiveness of care options in response to wider Canadian fiscal policies concerned with containing health care costs and moving towards balanced governmental budgets. Cut-backs and reform in healthcare in the late 1980s to mid-1990s had a severe impact on nurses as many were laid off or bumped into other practice areas based on criteria like seniority.⁶² Some articles in the *Canadian Nurse* offered innovative strategies for enjoying the search for new employment while others focused on preparing for job loss. The Nurses for Action (funded and supported by the Registered Nurses' Association of Ontario) group, for example, wrote for the *Canadian Nurse* and held workshops for nurses searching for employment to help them deal with practical issues including resume writing and entrepreneurship.⁶³ Lary Lindsay described strategies for financial preparedness and success as the reality of job loss imposed by cut-backs and staff layoff became a "frightening reality" for an increasing number of nurses.⁶⁴ Yet, amidst the looming cut-backs and job loss, one article suggested that nurses' hardiness would help them to persevere, while another focused on embracing the adventure inherent in a job search.⁶⁵ However, the place of nurses in the health care system was made clear when budgets needed to be cut and nurses were of the first to be let go.

Intensive Care Units were not exempt from the changes in Canadian nursing workforce patterns that occurred in the 1980s, 1990s and into the 2000s. In 1989, the *Canadian Nurse* highlighted a critical care nursing shortage at Winnipeg's St. Boniface Hospital. St. Boniface Hospital had seen "staff shortages and was experiencing a significant

drop in enrollment in its intensive care nursing program.”⁶⁶ A nursing steering committee which had been appointed to address the issue came up with several ideas for recruitment and retention: to institute pay differentials reflective of ICU nurses’ “increased knowledge, skills, education and responsibilities” as well as more flexible hours to facilitate a more balanced work-life experience and more time to pursue continuing education.”⁶⁷ Despite the work of the steering group, it was concluded that ebbs and flows in critical nursing staff would continue.

An already existing nursing shortage was compounded when, for example, fiscal and political constraints during the 1990s resulted in a rash of nursing lay-offs in many parts of Canada. In the Province of Ontario, for example, policy decisions of the Bob Rae (Premier from 1990-1995) government mandated a reduction in the provincial deficit. To achieve fiscal goals, he imposed mandatory unpaid days for Ontario’s estimated 900,000 public sector workers, including nurses. A political war erupted over the constraints of “Rae Days” (as the unpaid days came to be known) during a period when nursing unions were already engaged in lay-offs, bumping and protests due to hospitals’ efforts to contain costs by closing beds and downsizing services. Many nurses went to the United States where opportunity existed.⁶⁸

ICUs were not protected from the impact of downsizing and cuts.⁶⁹ Despite ICU nurses’ specialized knowledge and training, they were still subject to lay-offs and bumping processes related to union policies on seniority. At the Ottawa General Hospital, for example, the cohesiveness of established nursing teams was greatly disrupted as individuals were bumped out of ICU positions while others were bumped into the unit. Yvon Gagnier recalled that:

It was touch and go because some people that were bumping in were bumping somebody else out that you worked well with, you were friends with and they had to leave ... we had no say in the matter. You pretty much went to where they said you were going or where you [thought] you could work ... it's not something that was voluntary.⁷⁰

Forced changes impeded the socialization of both new and experienced ICU nurses, sometimes to the point of resentment and resistance to effective team work. Sue Malone-Tucker referred to hospitals' reliance on the federal and provincial governments for funding as generating uncertainties about services and staffing:

That would totally impact the type of programs you can offer or how many people you can hire ... but that is definitely a huge impact and it's hard for a team to experience someone who has to leave, who absolutely doesn't want to leave. And we've had that. We've had people who've come in because they have had seniority, and maybe didn't really want to [work] in ICU, but "I've come." But their coming bumps somebody who is already there.⁷¹

Building effective nursing teams was a complex process that developed over time. While unionization had benefited nurses (through improvements to work conditions, maternity leaves, vacation time and other benefits) it also had direct negative effects on staff nurses during times of downsizing and cutback. With unionization nurses were shifted about based solely on seniority (an accumulation of hours worked) and not based on knowledge, skill, experience or as a valued member of an established nursing team. Nurses were not simply interchangeable and/or replaceable – when teams were disrupted like they were with downsizing and layoffs. This had significant implications for nursing practice and for patient care. Effective nursing teams signified a group of nurses that worked well together, functioned as a unit, and had established levels of trust and confidence in each other's skills – it ultimately implied safe and quality patient care.

Nurses were forced to move on from the disruption caused by downsizing and had to turn their focus to recruitment and retention as nursing shortages re-emerged in the late 1990s-2000s in Canada – this was no easy task. Recruitment and retention continued to be a key focus for the Canadian Association of Critical Care Nurses. In 2000, other factors impacted the ICU nursing shortage which continued to grow. ICUs got bigger to accommodate, “the aging of the baby boomer[s]” other strategies needed to be put in place to grow “a pool of nurses with critical care education and experience.”⁷² As a manager, Judy Rashotte recalled the urgent need to find both experienced ICU nurses as well as nurses with an interest in pursuing employment in critical care.⁷³ Concerns of nursing shortages in Canadian ICUs were also raised again in 2001.⁷⁴ ICU administrators would have to dedicate a significant amount of time and money in the 2000s in recruiting and retaining nurses to ICU, however, because of their unionized status nothing would protect them from future downsizing, cutbacks and layoffs – the same scenario and level of fragmentation in nursing teams would occur yet again.

The Rewards of ICU Nursing

Nurses who were successful appeared to thrive in the ICU environment and often referred to the “privilege” of providing care to patients and families. As Sue Malone-Tucker put it, “It’s a real privilege to take care of people who are critically ill. Nobody wants to be critically ill. So you[‘ve] always got to be aware of the privilege you have.”⁷⁵ They also admitted to tremendous challenges that they had to learn to cope with in order to continue working in the ICU. In a previous qualitative study, for example, I interviewed a participant who compared her coping strategies in ICU to managing shoe boxes on a shelf. Metaphorically, the shoe boxes held memories and challenging experiences that were packed

away and left to pile up, not dealt with. But the shelf could only hold so many boxes until they started falling down and had to be dealt with.⁷⁶

Malone-Tucker referred to patients and events that remained in ICU nurses' memories for their entire careers, reflecting that while situations were often emotionally taxing, there needed to be an element of separation between nurses and their patients and families:

[I]t's a very unique situation that we find ourselves in. And you think a lot of the difficult things you do, or conversations you've had to have. And as difficult as it is, you have to remember that it's not yours it's theirs ... They're [the patients and families] the ones who are going to leave and we'll all have our own moments ourselves, but to do the best you can, whether it's ... facilitating recovery, facilitating a good death, facilitating a family and whatever they need to make it as positive as possible. I think every ICU nurse has certain scenarios or experiences that have touched them very deeply, and [that] they probably think about, if not every day, frequently. They just come back to them.⁷⁷

While nurses found the environment too stressful at times, they often remained in ICUs for long careers and coped partially by re-framing difficult situations as challenges and by focusing on the rewarding aspects. And sometimes, as John van de Kamp explained: "I think the rewards come from the challenges."⁷⁸ But the rewards were also linked to the social context of the ICU. While successful ICU nurses integrated into the nursing team – the nursing team also became an important source of support. Mary Thornton acknowledged that those outside of the ICU could not either fully understand or appreciate the experiences of staff who worked in the ICU – but other ICU nurses could. Successful socialization brought with it a support system built on shared knowledge, skills and experiences.

The interviews suggest that some ICU nurses tried to normalize and cope with traumatic experiences by isolating them and packing them away (like those metaphoric shoe boxes on shelves). Supportive nursing colleagues, however, checked on one another

following such experiences, providing a compassionate environment and a level of empathy that was difficult for those outside of the experience to understand. Susan M. Steffan described this environment as a place “where the drama of life events is portrayed with such intimacy, intensity, and human emotions.”⁷⁹ Mary Thornton contended that “the true reward you get yourself is when you can actually say – go home and say, ‘I did my best today. I did a job really well.’”⁸⁰ To mitigate the challenges, ICU nurses found ways to recognize the rewarding aspects of their work and found ways to have fun together which strengthened their bonds as ICU nurses.

Barb (Fryer) MacLean noted that nurses relied on each other to help “release stress.”⁸¹ The release of work stress took many forms – get-togethers after work, baby showers, bridal showers, and parties, among other activities. Jayne Elliott recalled that in the 1970s:

We used to have parties ... I’ve got a picture ... I scanned all my slides a while ago and [there’s a] picture of us sitting there, all the women with babies, all the nurses who had babies, they’re all infants and babies in arms, there’re about five or six of them ... and we had a ward clerk who was wonderful and we kept in touch – she kept in touch with a lot of us for many, many years after and she was like a mother. And all the stories she’d tell and the things that would happen and she’d keep that memory alive too. So a lot of us sort of kept in touch at Christmas time, many years afterwards.⁸²

Elliott also recalled “having” fun at the Kingston General Hospital – even if it involved activities that would have been frowned upon if more widely known at the time:

We had a good group of people to work with; I liked the team that we were with, [and] we had lots of fun. On nights, I mean ... you understand what the routine would be on night shifts, you just do what has to be done. But sometimes we would ... bring in Thanksgiving dinner for people. I’d cook turkey and I’d bring in mashed potatoes and carrots and everything and we’d spread it out on our towels. Imagine what the patients or poor people who couldn’t eat at all must have felt when they smelled all this food ... the patient’s beds were all around the outside and there was a

... square nursing station in the center and we would eat right there. We couldn't leave the patients; no, we always had to look [after] our own. We'd invite the residents down, anybody who was around ... [especially] our favorite cardiovascular ... surgical resident [if he was] floating around – we'd invite him down. We'd have to do it after the supervisor left though. It had to be [between] 1:30 [until] 4:00 ... before she got back in the morning ... It was very illegal ... So we did have lots of fun. But we worked together well and I think that was – that was what was important.⁸³

Sharon Anderson shared her collection of photos taken at the Cornwall General Hospital from 1972 to 1979 when she then left to work in the ICU at the Queensway Carleton Hospital in Ottawa. Sharon's photos depict the camaraderie amongst the ICU nursing group at the Cornwall General.



Image 11: Farewell party for “Fran” Fothergill Bourbonnais with colleagues from Cornwall General Hospital, August 1976. Used with permission of Sharon Anderson.⁸⁴

Yvon Gagnier, who began his ICU practice later (in the early 1980s), also recalled shared experiences that extended beyond the ICU and the support that was provided by fellow ICU nurses:

[I]t's mostly from one another. I think the fact that we work days and nights around the clock, we laugh together, cry together. You see each other's, what's the word – our soft spots, like some [patient] cases hit home more than others ... I mean we were more intimate than people that work in an office probably because we work in such a stressful situation where there's life and death and you laugh and you cry.⁸⁵

Furthermore, an anonymous participant reflected how:

there were team members with a lot of experience [along with] some of us [who] were newer. You tended to socialize outside of work for instance. If there were parties, you partied together, which isn't necessarily a good thing if you're all on the same team. I just remember feeling as if it was a fairly cohesive team, and that helped de-stress things. You could count on each other.⁸⁶

Not all of the nurses who participated in this study remained in ICUs. Yet, although they left ICU environments, they remained connected to ICU nursing peers. John van de Kamp, for example, reflected how he often returned to the ICU to reconnect with colleagues:

You need the support. There are people in ICU that I left eight years ago I still go back up and visit; we're friends outside. Where we bounce things off each other, where we talk about things. There are people who know your personal history and they are, they are your validation that what you're doing is right. There are times when they won't agree with you and there's times when I don't agree with them but we can discuss it without animosity, without worrying about I'm going to hurt your feelings or you're going to hurt my feelings. There are probably, no there's not so [many] of them left but there are probably 12 or 13 in ICU right now who I still respect and care for and would go to any lengths to help or to do whatever I can for them and it makes a big difference if you have that sort of support from your colleagues and you don't build that by burning bridges, you build it over a course of time by working with and essentially proving that you're worthy of their friendship.⁸⁷

Even in the most difficult of situations, in the background, nurses were there to check on each other and offer support. Mona Burrows, who worked at the Hotel Dieu in Cornwall, recalled that one of the challenges in working in a community hospital was the lack of separate ICUs for adults and children – and she found pediatric cases to be particularly challenging. Burrows recalled one such experience:

Any time there are pediatric codes [cardiac or respiratory arrests] it was always really tough. I can remember one we worked on...I defibrillated her about 36 times...We used all the epinephrine on our crash cart and got more, and defibrillated her many, many times. She didn't come back...Her mother was not around. Her mother had just gone to get her a new outfit down at Zellers to take her home. All I could hear in the background was...because I was focusing on what I was doing...I could hear stuff in the background, "Is the mother not back yet?"...It was the end of my shift, and the code was called off because there was no hope at this point...I loaded everything up. I was in such a hurry...I didn't really get why I was in such a hurry, but I had gone on auto-pilot and was in such a hurry to get the chart signed off. Because you had to make sure everything was signed off appropriately and put the rhythm strips on in the code sheet and make sure everything is back in the cart. Then I went back to the unit with the cart. It was around 6:30, and I had to tape report on a couple of patients. When I got back to the unit the nurse that was there with me said, "Are you okay..." I said, "Yes I'm fine. I've just got to [report] on these two patients"...Really I was on autopilot, not allowing myself to...settle in with everything that had gone on. I taped report; I got out of there in a hurry. I was trying to get out because I'd had previous codes where they were pediatric and the mom was around. I was on autopilot and...I realized I was on autopilot to get out of the hospital. I didn't want to run into that mom. She [the girl] was 11. I didn't have an 11-year-old at the time, but my kids were fairly close in age. Anyway, I drove home, and I got around the block from where I lived, and I felt the wheel on the car shaking. I thought, "Oh my god, this is strange, I got a flat tire?" I pulled over and I check the wheel, still not even thinking of what had gone on and not allowing it to sort of soak in and go through that. Back in the car, I went around the corner and I pulled in the driveway. Then my husband came out. He doesn't usually come out to greet me, but was standing on the step as I got home. I saw his face and I started to cry.⁸⁸

Burrows recalled saying to herself, "Ignore it, ignore it. Suppress it, suppress it. I'll be okay, I'll be okay." In the background of that story, however, is a colleague checking in on her even though she may not have been ready to acknowledge the traumatic situation she had just experienced – "When I got back to the unit, the nurse that was there with me said, 'Are you ok?'"

While work colleagues and times of fun were important team-building and stress-relieving factors (making long term ICU careers more satisfying), another significant source of satisfaction came from the responses of patients and patients' families. John van de Kamp

referred to written responses that he has kept over time, recalling them as rewards from his work:

The rewards are [that] I've got about 7, 8, 9 letters on my bulletin board from families, who have (after it was all over), realized how much easier I made it [during the deaths of their loved ones]. And that's selfish, that's just me, but I think everybody who does it gets the same feeling afterwards. Whether you get a letter or [not] – it's inside you, the reward of knowing that that family is at peace ... and that you did something to help that. And somebody else said, "how can you do it?" And especially our lay friends, people that don't work in the hospital ... I say "well, you know you look at somebody lying in a pool of blood and you think yuck, what a mess!" I think, "holy shit I've got to do something, he's bleeding"... So it's a different perspective of the situation and again I think that the challenges reap the rewards ... the reward is inside you, know[ing] that you have done everything that you could to make that nasty, nasty situation at least half palatable for somebody.⁸⁹

Receiving recognition from families (and patients) like van de Kamp described, were cherished moments for ICU nurses. Van de Kamp kept the letters even after many years. But because ICU was a middle ground between the wards and patient discharge – it was meant to be a short but intensive stay – and after a patient was discharged from ICU, nurses did not always know how they progressed or what happened to them. They seldom had the opportunity to follow a patient and family through to discharge.

SUMMARY

ICU nurses were socialized in an environment that was set apart from other areas in the hospital both as a physically defined space as well as one that required special knowledge and skills in which to work. This separation helped to foster characteristics of self-confidence and autonomy, as well as trust that became the foundation of ICU nursing teams and later respect from their physician colleagues. Points of passage marked the process of successful socialization. Self-identification as ICU nurses was not something that

happened at a defined moment but rather, it was a process that was constructed over time. ICU nursing identity was possible only after the early ICU nurses had established a recognized and relatively stable objective reality, commonly accepted and understood as ICU nursing. Individual ICU nurse identities formed through their subjective experiences/realities and were intricately linked to their social relationships – with each other and with other members of the ICU team. As a critical mass of ICU nurses developed within Canada, the shared experiences and strong bonds transcended individual identities and units to extend nationwide as a community of specialty practice nurses.

Endnotes:

¹ Peter L. Berger and Thomas Luckmann, *The Social Construction of Reality: A Treatise in the Sociology of Knowledge* (New York: Open Road Integrated Media, 1966). Kobo Edition e-book. See chapter 3, “Theories about Identity,” p. 1 and 5 of 25.

² Patrician D’Antonio, *American Nursing, A History of Knowledge, Authority, and the Meaning of Work* (Baltimore: The Johns Hopkins University Press, 2010), p. xiii.

³ D’Antonio, *American Nursing*, p. xiii.

⁴ Interview with Ruth Pollock by author, audio recording, Chrylser, Ont., 7 September 2011. (Hereafter cited as Interview with Pollock).

⁵ Letter from Dr. D. L. C. Bingham to Dr. R. C. Burr, Chairman, Medical Conference Committee, 8 October 1959, re trip to Rhode Island hospsital, Providence Rhode Island, United States of America, Box 1, Medical Advisory Committee (MAC) fonds, Kingston General Hospital (KGH) Archives.

⁶ Interview with Anonymous by author, audio recording, Ottawa, 19 September 2011. (Hereafter cited as Interview with Anonymous).

⁷ Interview with Frances Fothergill Bourbonnais by author, audio recording, Ottawa, 30 September 2011. (Hereafter cited as Interview with Fothergill Bourbonnais).

⁸ Interview with Judy Rashotte by author, audio recording, Ottawa, 23 January 2012. (Hereafter cited as Interview with Rashotte).

⁹ Interview with Mike Langill by author, audio recording, Ottawa, 12 January 2012. (Hereafter cited as Interview with Langill).

¹⁰ Interview with Langill.

¹¹ Interview with Sue Malone-Tucker by author, audio recording, Ottawa, 20 September 2011. (Hereafter cited as Interview with Malone-Tucker).

¹² Interview with John van de Kamp by author, audio recording, Riverside, Ont., 30 January 2012. (Hereafter cited as Interview with van de Kamp).

¹³ Interview with Rashotte.

¹⁴ Interview with Yvon Gagnier by author, audio recording, Ottawa, 28 September 2011. (Hereafter cited as Interview with Gagnier).

¹⁵ Interview with van de Kamp.

¹⁶ Interview with Fothergill Bourbonnais.

¹⁷ Interview with Mary Thornton by author, audio recording, Ottawa, 8 March 2012. (Hereafter cited as Interview with Thornton).

¹⁸ Interview with Fothergill Bourbonnais.

¹⁹ Interview with Jayne Elliott by author, audio recording, Ottawa, 15 September 2011. (Hereafter cited as Interview with Elliott).

²⁰ Interview with Alice Dyna by author, audio recording, Winnipeg, 27 October 2011. (Hereafter cited as Interview with Dyna).

²¹ Interview with Riek van den Berg by author, audio recording, Ottawa, 9 January 2012.

²² Interview with Gagnier.

²³ Interview with Thornton.

²⁴ Interview with Thornton.

²⁵ Interview with Thornton.

²⁶ Interview with Elliott.

²⁷ Interview with Malone-Tucker.

²⁸ Interview with Rashotte.

²⁹ Interview with Gagnier.

³⁰ Interview with Gagnier.

³¹ Interview with Malone-Tucker.

³² Interview with Dyna.

³³ Interview with Rashotte.

³⁴ Julie Fairman and Joan Lynaugh, *Critical Care Nursing: A History* (Philadelphia: University of Pennsylvania Press, 1998), p. 17-18.

³⁵ Interview with Dr. Wilbert Keon with Evelyn Kerr and Cynthia Toman, tape recording, Ottawa, 14 March 1995. Private collection of Cynthia Toman. (Hereafter cited as Interview with Keon).

³⁶ See Fairman and Lynaugh, *Critical Care Nursing*.

³⁷ Interview with Sharon Slivar by author, audio recording, Ottawa, 15 September 2011. (Hereafter cited as Interview with Slivar).

³⁸ Margarete Sandelowski, "The Physician's Eyes: American Nursing and the Diagnostic Revolution in Medicine," *Nursing History Review* 8, (2000): 3-38.

³⁹ Arlene W. Keeling, "Blurring the Boundaries Between Medicine and Nursing: Coronary Care Nursing, circa the 1960s," *Nursing History Review* 12 (2004): 147. Here Keeling is citing Dr. Lawrence Meltzer.

⁴⁰ Interview with van den Berg.

⁴¹ Interview with Pollock.

⁴² Leonard I Stein, "The Doctor-Nurse Game," *Archives of General Psychiatry* 16 (1967): 699.

⁴³ Stein, "The Doctor-Nurse Game," p. 699.

⁴⁴ Keeling, "Blurring the Boundaries Between Medicine and Nursing," p. 148.

⁴⁵ Keeling, "Blurring the Boundaries Between Medicine and Nursing," p. 148.

⁴⁶ Interview with Fothergill Bourbonnais.

⁴⁷ Interview with Fothergill Bourbonnais.

⁴⁸ Interview with Thornton.

⁴⁹ Interview with Elliott.

⁵⁰ Interview with Gagnier.

⁵¹ Interview with Thornton.

⁵² Interview with Brenda Stutsky by author, audio recording, Winnipeg, 26 October 2011. (Hereafter cited as Interview with Stutsky).

⁵³ Interview with Teresa Lee by author, audio recording, Ottawa, 12 February 2012. (Hereafter cited as Interview with Lee).

⁵⁴ http://en.wikipedia.org/wiki/Toronto_Hospital_Murders, accessed 18 October 2013.

⁵⁵ <http://www.theglobeandmail.com/report-on-business/the-alarmed-danger-in-the-nelles-ruling/article1075399/?page=2>, accessed 18 October 2013.

⁵⁶ Interview with Donald "Donnie" Parks by author, audio recording, Toronto, 19 April 2013. (Hereafter cited as Interview with Parks)

⁵⁷ Interview with Malone-Tucker.

⁵⁸ Interview with Parks.

⁵⁹ Sharon Richardson, "Unionization of Canadian Nursing," in *On All Frontiers: Four Centuries of Canadian Nursing*, eds. Christina Bates, Dianne Dodd, and Nicole Rousseau (Ottawa: University of Ottawa Press, 2005), p. 214.

⁶⁰ Sharon Richardson, "Unionization of Canadian Nursing," p. 218.

⁶¹ Sharon Richardson, "Unionization of Canadian Nursing," p. 217-218.

⁶² Judith A. Banning, "Editorial: Coming to Terms with Downsizing," *The Canadian Nurse* 88, no. 3 (1992): 3. See also Pauline Guerette, "The Future of Nurses' Work," *The Canadian Nurse* 88, no. 6 (1992): 12-14.

⁶³ Ruth E. Davidhizar, "Worklife: Ten Strategies to Get Work, or Keep It," *The Canadian Nurse* 92, no. 1 (1996): 49-50.

⁶⁴ Lary Lindsay, "Planning for Unemployment," *The Canadian Nurse* 91, no.4 (1994): 53.

⁶⁵ See Emily Bryant, "When the Going Gets Tough," *The Canadian Nurse* 90, no. 2 (1994): 36-39. See also Sandra Charette, "Embrace adventure in job search," *The Canadian Nurse* 93, no. 7 (1997): 10.

⁶⁶ "CNA Connections - Solving the Critical Care Nursing Shortage," *The Canadian Nurse* 85, no. 10 (1989): 10.

⁶⁷ "CNA Connections – Solving the Critical Care Nursing Shortage," p. 10, 13.

⁶⁸ See L.E. Rozovsky and F.A. Rozovsky, "Moving to the U.S.A.: The Implication and The Price You Might Have to Pay," *Canadian Critical Care Nursing Journal*, 4, no. 4 (1987): 14-16.

⁶⁹ Interview with Mona Burrows by author, story audio recording, Cornwall, Ont., 31 August 2011. (Hereafter cited as Interview with Burrows).

⁷⁰ Interview with Gagnier.

⁷¹ Interview with Malone-Tucker.

⁷² N. French, F. Harrington, D. Layton, J. Fulton, and F. Howarth, "Abstract: Response to Crisis: Recruitment, Education and Mentoring of Staff RNs for CCU/MICU," *Dynamics: The Official Journal of the Canadian Association of Critical Care Nurses* 11, no. 2 (2000): 33.

⁷³ Interview with Rashotte.

⁷⁴ C. Cuddy and D. Stephenson, "Nursing Retention and Recruitment: A Systematic Approach to Solving Nursing Shortages," *Dynamics: The Official Journal of the Canadian Association of Critical Care Nurses* 12, no.2 (2001): 398-39. See also L. Harris, L. Jussaume, E. Jutras, and L. Serrano, "A Flagship ICU: Flourishing during Difficult Times," *Dynamics: The Official Journal of the Canadian Association of Critical Care Nurses* 12, no. 2 (2001): 46-7. (Abstract submitted to 2001 CACCN Dynamics Conference.)

⁷⁵ Interview with Malone-Tucker.

⁷⁶ See Brandi Vanderspank, "The Experience of Intensive Care Nurses Caring for Patients for Whom Life Sustaining Treatment is being Withdrawn," Master's thesis, University of Ottawa, 2009.

⁷⁷ Interview with Malone-Tucker.

⁷⁸ Interview with van de Kamp.

⁷⁹ Susan M. Steffen. "Perceptions of Stress: 1800 Nurses Tell Their Stories," in *Living with Stress And Promoting Well-Being: A Handbook For Nurses*, eds. Karen E. Claus and June T. Bailey with Hans Selye (St. Louis: Mosby, 1980), p. 38.

⁸⁰ Interview with Thornton.

⁸¹ Interview with Barb MacLean by author, audio recording, Ottawa, 22 August 2011. (Hereafter cited as Interview with MacLean).

⁸² Interview with Elliott.

⁸³ Interview with Elliott.

⁸⁴ Private Collection of Sharon Anderson. Used with permission.

⁸⁵ Interview with Gagnier.

⁸⁶ Interview with Anonymous.

⁸⁷ Interview with van de Kamp.

⁸⁸ Interview with Burrows.

⁸⁹ Interview with van de Kamp.

CHAPTER FOUR

THE INSTITUTIONALIZATION OF ICU NURSING AT A NATIONAL LEVEL

Over time, the establishment of an ICU nursing identity that began at an individual level in units across Canada eventually broadened and extended to a national level.

Achieving the designation of a specialized area of nursing practice in Canada, however, was steeped in debate regarding specialization within broader Canadian nursing history as well as women's history and nursing as women's work. Here I suggest that the development of ICU nursing identities happened at both personal and organizational levels with the establishment of the Canadian Association of Critical Care Nurses (CACCN) and ultimately, the Canadian Nurses' Association Certification Program – both granting formal recognition of this practice area as a distinct body of knowledge. These achievements were the culmination of a process through which ICU nursing identity happened but they also marked another key transition in Canadian ICU nursing history – its institutionalization as a specialty practice. Individual identities became a collective identity by the early 1980s with the establishment of their specialty association – the Canadian Association of Critical Care Nurses (CACCN). The CACCN was pivotal in setting standards of practice for ICU nursing in Canada. Practice standards would later serve as part of the CACCN's application for recognition as a specialty through the Canadian Nurses' Association Specialty Certification Program.

Nursing work itself had been legitimized as socially acceptable women's work from the early 1900s onwards. Kathryn McPherson has suggested that nursing as a profession crossed certain boundaries of class and that it was socially acceptable for women from various backgrounds (including farming, blue collar workers, and the "well-to-do") to pursue nursing education and paid employment.¹ But as other authors like Lynn Kirkwood have

pointed out, the legitimization of nursing knowledge was more contentious. As nursing education was shaped and re-shaped over time, the larger issue was the gendered perception of nursing knowledge as women's knowledge. For example, Canadian nurses struggled for nearly a century to solidify nursing education in institutions of higher learning like universities.² Early supporters of nursing education moving towards baccalaureate degrees as entry to practice (like Dr. Helen Mussallem) fought against the grain and the gendered perception that nursing knowledge was no different than everyday women's knowledge embedded in a culture of caring, not science.³ Therefore, when the topic of discussion in nursing turned to specialization this was an even bigger battle – if nursing knowledge was simply caring, how could it in turn be stratified into areas of specialty practice?

In the 1950s and early 1960s it was neither permissible nor socially acceptable for women to continue to work after marriage and/or childbirth.⁴ But with a huge nursing shortage in Canada at that time and a rapidly expanding health care system, hospitals eventually began to encourage nurses to continue working after marriage. Young women of the post-war baby boom generation, under the influences of Second-Wave Feminism, were completing educational programs and entering the job market with expectations for productive careers.⁵ By the 1970s and 80s, double income families slowly became more the norm, partially to make ends meet and partially for upward mobility; nursing provided options not always available in other forms of employment – options to work both part-time and over-time. As Judy Rashotte reflected on this experience in the ICU:

If they decided to stay [in the ICU] for at least six months or more, then their reasons for leaving tended to be for these other external kinds of things like, "I'm having a baby. So I'm taking a mat[ernity] leave but then I'll come back ..." I began to see a change based [upon the idea] that women could work full time *and* have a family. So there was a change socially but there was an acceptance to women having children and still working, if they so desired ... I also began to see a change over

time between those who needed to work. I think as salaries improved in nursing, many nurses worked full time because economically it was good for them ... I would say since the late 1980s into the 1990s when [the] economy wasn't quite as good ... families were becoming two income earners and they needed to [be].⁶

Rashotte recalled that nurses would frequently pick up extra shifts and many seized the opportunity for fulltime employment when it became available, because of the added bonus of having employment benefits such as unemployment insurance, paid vacations, sick time, and dental care as examples (which were also direct sequelae of unionization).⁷ Rashotte also felt that women's return to work dispelled the idea that they were bad mothers if they worked – women could be good mothers and have careers at the same time.

Debates on Professionalism and Specialty Practice

Literature published in the *Canadian Nurse* during the 1960s showed quite clearly that at that time, there was a preoccupation with nursing's professional status. Authors like Marie Jahoda, for example, described a profession as follows:

The essence of a profession, then, is that it is an organization of an occupational group based on the application of special knowledge, which established its own rules and standards for the protection of the public and the professionals. Its emphasis is on the quality of performance rather than on the self-interest of its members. It comes about by voluntary collective action which is transformed into the tenets of the professional organization; these, in turn, become binding on the members.⁸

Throughout the remainder of the decade, other articles specific to nursing as a profession were published but towards the 1970s the topic of discussion began to shift towards expanding roles in nursing.

Many articles in the *Canadian Nurse* during the 1970s explored the expansion of nursing roles. Helen Mussallem wrote in September 1971 that, "Future historians of nursing will see this decade as one of tremendous enlargement in the scope and service of our

profession. In the past years we emerged from uncertainty and self-doubt about our role into an almost unprecedented degree of awareness and self-determination.”⁹ Mussallem elaborated by including informal results of a survey she had sent to fifty Canadian Nurses’ Association committee members, asking them to reflect on the changes they were seeing in nursing including the expanding role of the nurse. Her respondents identified expanding roles on all fronts – from coronary and critical care units to public health.¹⁰

Canadian nurses continued to question their professional identity through the 1970s, but with a growing confidence in their expanding roles. They became more vocal and spoke out from within unions about the challenges continually faced by hospital nurses.¹¹ In 1971, for example, Loretta C. Ford claimed that nursing was moving forward at an evolutionary pace in the context of a world that was “exploding in revolutionary ways.”¹² She highlighted increasing specialization, increased demands for service, increased cost of services -- all in the context of shortages of personnel.¹³ Ford noted that “Basically we have been involved in the process of social change – challenging territorialities, questioning the status quo, conditioning the public to expect more sophisticated and expert nursing care, shaking the foundations of unresponsive institutions in an effort to bring quality nursing care to people.”¹⁴ Author J. Ivan Williams went so far as to suggest that nurses were at the center of care delivery in hospitals and that they needed to be more assertive in decision-making processes.¹⁵

With the 1970s’ focus on specialization and the expanding role of the nurse, there were growing concerns about nurses becoming “junior doctors” and taking on highly technical roles. In 1974 Madeleine Blanchard, in the search for a definition of nursing practice, noted that a transfer of skills between medical practitioners and other categories of

healthcare workers (including nurses) had been taking place at a rapid rate.¹⁶ While contemporary debates regarding a definition of nursing tended to be more philosophical in nature, Blanchard pointed out that an overlap of skills and knowledge inherent in both medicine and nursing made a clear demarcation sometimes difficult; ultimately, the decision on whether a task/skill belonged to medicine or to nursing was based on who actually performed the action.¹⁷

The 1970s' literature abounded with new procedures, new and changing practice environments, and an expanding set of nursing skills. While it could easily be argued that nursing always encompassed a component of physical assessment, the *Canadian Nurse* published several articles related to expanded physical assessment skills. Fry and Majumdar, for example, justified the emphasis this way: "With her role broadening at a rapid pace, the nurse must begin to develop new skills and to incorporate these into her frame of reference. In addition, she must be able to carry out a systematic assessment that is both economical of her time and productive in the quantity and quality of data gathered."¹⁸

Nurses continued to challenge the status quo with increased assertiveness regarding their role and their practice during the 1980s. Marie Campbell claimed that more nursing autonomy and decision-making regarding their practice was necessary: "As individuals, we can decide what is acceptable nursing practice. We can identify what interferes with our own practice and speak out."¹⁹ Lynn Judd and Donna Ciliska noted that nurses needed to be involved from a broader perspective in healthcare planning, especially when taking into consideration that care delivery depended in large part on the nursing profession.²⁰ They suggested that nurses participate at many different levels, from attending parliamentary committees and lobbying, to ascertaining needs assessment at the local level. They argued

that nurses were recognized as “the largest group of health professionals with the most patient contact, [having] in-depth knowledge of health needs and, thus, can make valuable contributions to health care planning.”²¹

Past discussions specific to specialization in nursing and healthcare culminated in the early to mid-1980s. In 1986 Barbara Lane noted that specialization in nursing had moved beyond administration, supervision, and teaching (as it had been throughout most of the twentieth century) and became applicable in clinical nursing as well (particularly as new roles developed and nursing practice became more specialized).²² Lane reported that in 1982 an ad hoc committee of the Canadian Nurses Association had been tasked with exploring credentialing of nurses specific to areas of clinical expertise. Over the years, grass roots interests groups had developed around specific practice areas and grown significantly in number; some organized at the national level. The significance of clinical specialization was primarily two-fold – it marked a specialized level of knowledge and it provided for “a means of economic and status mobility for individuals practicing nursing.”²³ During the same year (1985), Virginia Lévesque provided an overview of sixteen years of the Canadian Nurses Association’s work regarding the development of a certification mechanism.²⁴ Certification had been identified as a 1984-1986 biennial priority of the association, and she highlighted an address given by then CNA president, Ginette Rodger, to the Canadian University Nursing Students Association. Rodger stated that 1985 would be the year that all of the pieces of the certification puzzle would come together. By October 1986, the certification process was finalized although actual specialty certification did not take place until 1991, with Neuroscience Nursing being the first specialty practice area recognized.²⁵ For intensive care nursing in Canada, the establishment of the Canadian

Association of Critical Care Nurses would play a pivotal role in acquiring CNA Certification in Critical care.

The Canadian Association of Critical Care Nurses

As ICU nursing knowledge disseminated across Canada (through mechanisms like the Winnipeg program, professional literature, and dedicated conferences), ICU nurses began to realize what they shared in common. Prior to 1975 Canadian ICU nurses relied to a great extent on the American Association of Critical Care Nurses (AACN), which had been established in 1969, and its educational mandate.²⁶ By the mid-1970s a national grassroots movement was taking place within Canada, resulting in the establishment of a Canadian Chapter of the American Association in Toronto in 1975. The Niagara Association of Critical Care Nurses formed in 1979, and others followed.

However, it would take nearly a decade for a critical mass to develop and move forward to create a national organization. At the Toronto chapter's executive meeting on April 20th, 1983, a decision was made to leave the AACN and form a Canadian association. Meeting minutes suggested that experience with the AACN had provided "structure, guidance, and credibility" to the fledgling Canadian group.²⁷ In a 1984 commentary in the *Canadian Critical Care Nursing Journal* the author claimed that the split from the AACN was prompted by "a need for autonomy and credibility for the Canadian Critical Care Nurse [group]. With full support and approval of the AACN, independence was declared in February 1983."²⁸ The Toronto Chapter grew to become the National Society of Critical Care Nurses with chapters in London, Windsor, and Vancouver.²⁹ Also in 1983, the Niagara Association changed its name to the Canadian Association of Critical Care Nurses, under

which new chapters formed in Niagara, Waterloo Regional, Hamilton, Ottawa, and Alberta.³⁰

In 1985, a merger of the National Society of Critical Care Nurses (NSCCN) and the Canadian Association of Critical Care Nurses marked the foundation of what is now referred to as the Canadian Association of Critical Care Nurses (CACCN). Kate Mahon suggested that the merger reflected a “true spirit of unity” in that the name was incorporated from the Welland CACCN and the official logo was that of the Toronto based NSCCN.³¹ Prior to the merger of these two groups, each had functioned individually and had distinct histories. The former NSCCN brought with it approximately 292 members, bringing the total CACCN membership to over 700 in 1984.³²

The formation of the CACCN provided opportunity to build on educational initiatives previously offered by the individual associations and chapters.³³ In 1984, for example, the NSCCN had sponsored a “Dynamics of Critical Care Conference” held September 26-28 in Toronto. It was advertised at a national level in the newly established *Canadian Journal of Critical Care Nursing*.³⁴ In the years following, the name Dynamics of Critical Care was retained for the annual conferences held by the CACCN.

The newly merged NSCCN and CACCN association published their collective objectives in the January 1985 issue of the *Canadian Critical Care Nursing Journal*, which focused on quality patient care, critical care nursing education and research, and the promotion of professional status, as well as ethical and political mandates. The newly formed association also proposed that critical care nursing be formally recognized as a specialty in Canada through the establishment of national standards and specialty certification.³⁵

From this point, critical care nursing in Canada began building a cohesive identity and speaking with one voice. Kate Mahon remarked that “this important historical event enabled nurses from across Canada to consolidate their efforts and begin to collectively work towards a shared vision as one unified body.”³⁶ Critical care nurses in Canada had a professional (and national) forum to share their experiences, educational initiatives and critical care nursing research that was being done in Canada could be published in a Canadian critical care journal. The CACCN and its journal *Dynamics: Journal of the Canadian Association of Critical Care Nurses* remains the only Canadian publication specific to critical care nursing.

In 1986 the CACCN began to discuss the development of standards for critical care nurses, which were defined as an “achievable level of performance relating to a criterion against which actual performance is measured.”³⁷ The established Standards Committee chaired by Marilyn Whiteley provided an avenue by which a committee of practitioners could begin to develop standards that were viewed as “credible and attainable by practitioners.”³⁸ In 1992 the CACCN published the first edition of its “Standards for Critical Care Nursing Practice,” which underwent subsequent revisions in 1997, 2004, and 2009. The 1992 Standards clearly claimed critical care nursing as

a profession which exists to care for clients who are experiencing life-threatening health crises. Nursing the critically ill client is continuous and intensive. Critical care nursing requires a careful decision-making process, founded upon a sound knowledge base and the ability to assess, intervene, and evaluate. Aided by sophisticated technology and advanced knowledge, critical care nurses aim to assist clients to achieve and maintain an optimum level of functioning or a peaceful death.³⁹

The publication of the “Standards for Critical Care Nursing Practice” would ultimately serve two important purposes in Canadian critical care nursing history. First,

regarding the social construction of ICU nursing, I suggest the establishment of these standards marked the institutionalization of ICU nursing in Canada. Years of history, shared experiences, developed specialty knowledge and clinical practice culminated in standards that would be disseminated nationally. The standards provided a structure and framework for what was expected of critical care nurses in Canada – subsequently informing what their objective realities looked like, the knowledge that was required, and the expectations for working with patients, families and each other within the ICU reality. And second, the “Standards for Critical Care Nursing Practice” would also become a crucial part of the CACCN’s application to the Canadian Nurses’ Association Specialty Certification Program.

Subsequent to the development of the “Standards for Critical Care Nursing Practice,” the CACCN in 1993, produced a 175-page proposal that was submitted to the Canadian Nurses’ Association (CNA) as part of the “Phase I” application for the “designation of critical care nursing as a specialty for certification.”⁴⁰ The proposal outlined in detail the aims and objectives of the association as well as provided evidence to support what appears to be seven criteria set by the CNA. These criteria required that a “specialty” have established standards; recurrent phenomena in practice; role descriptions for its practitioners; a body of nursing literature, education and research; the provision of care for a defined population; an “identified ... number of and distribution of registered nurses in the specialty;” and human resources to support phases II and III of the certification process. The CACCN identified a total of twelve main phenomena addressed by critical care nurses as well as nineteen recurring situations.⁴¹ These phenomena and recurring situations became the basis of the competencies (based on the “Standards of Critical Care Nursing Practice”) that would be required for the certification as a Critical Care Nurse.

The detail provided in the application to the Canadian Nurses' Association was immense. It included an extensive literature review for each phenomenon and a survey of all critical care nursing education programs across Canada. According to the document, a total of 120 individual programs and courses were available by 1993 – and while it is assumed that this detailed list was exhaustive, there are no references for programs or courses on Prince Edward Island or in Saskatchewan. Interestingly, the bulk of critical care nursing education at that time was offered in the province of Ontario. The report estimated that the number of critical care nurses practicing in Canada at that time was 22,300 with approximately 12% of that population practicing in pediatric and neonatal critical care.⁴²

By 2002, the CACCN had grown to a total membership of 1254 registered nurses across Canada. The Annual Report indicated a growth of 9 percent from the previous year. The CACCN attributed its growth in membership as a “reflect[ion of] the endeavors of CACCN and its members to continuously strive to achieve quality patient care.”⁴³ Yet, the number of nurses working in critical care compared with those who became CACCN members reflected that there was room for the association to continue to grow and expand. In 2006, the total number of critical care nurses in Canada was 18,146 (or 7.2% of the total nursing population in Canada).⁴⁴ Total CACCN membership for the same year was 1134 indicating that a significant growth in membership had not occurred over the years.⁴⁵

Over the course of the CACCN's existence it worked hard towards becoming the voice of critical care nursing in Canada. Through the Dynamics conferences as well as their evolving journal, pertinent Canadian critical care issues were being identified. An analysis, for example, of the topics of the yearly Dynamics conferences reflected the growth of the association as well as a strengthening voice of Canadian critical care nurses. Initially,

conference programs included many presentations from physicians rather than nurses (similar to the early years of the Winnipeg ICU nursing program). Over time, however, physician presence at these conferences (as presenters) diminished and ICU nurses, including those in formal leadership and educational roles as well as front line nurses, formed the body of presenters. From an initial focus on highly technical discussions, CACCN's focus expanded to highlight the broader ethical and societal issues that impacted critical care nurses. For example, critical care nurses began to discuss the toll that trying to provide care to patients and families had when little regard was given for their own emotional needs. As Patricia A. Gervaise and Theresa Howards wrote:

The nursing profession fosters certain expectations: nurses are to be technically proficient, interpersonally skilled, with the time and energy to provide for the emotional needs of patients. Nurses are to be involved and simultaneously remain objective. Nurses are to soothe and comfort while carrying out functions which may frighten patients and cause discomfort. Nurses are to be efficient administrators, dealing with mountains of paper work. Nurses are to put aside their own reaction, particularly unfavorable ones, their own problems, concerns, and needs in order to provide total patient care. While these may be goals to work towards, the problem becomes one of trying to be those things all of the time.⁴⁶

Through conferences and a national publication, front-line, rank and file nurses were provided the opportunity to voice their experiences in their individual ICUs. In 1994, for example, the association's dedication to advancing Canadian and critical care nursing knowledge in general was demonstrated by the association's attempt to encourage nurses to develop poster presentations from the grass roots level upwards. Colleen Elsner and Doreen Ouellet identified poster presentations as "less threatening to the presenter than speaking before a large audience. The presenter will find his or her confidence increasing as proficiency in articulating the work is achieved."⁴⁷ The authors also remarked that "personal contact with participants creates exceptional networking opportunities. The exchange of

knowledge with colleagues from various backgrounds can stimulate further ideas around the topic and enable meaningful, lasting ties to be established with other professionals.” The push for the voice of front-line staff and a sense of inclusivity, not elitism formed the foundation of the association.

The recognition that staff nurses were actively participating in nursing research was instrumental in closing debates regarding nursing research that had started in the 1960s. In 1966, for example, significant changes were made to the baccalaureate nursing program at the University of Toronto. Faculty felt that nurses in the program should be capable of promoting scholarship and research at both the graduate and undergraduate levels (with varying expectations related to the level of preparation of the nurse). At the undergraduate level, the consensus was that nurses had a working knowledge of research whereby they would be able to compose research questions and propose ways of answering their queries.⁴⁸ However, other authors disagreed with this research philosophy. Marjorie Hayes a graduate of the Cornwall General Hospital School of Nursing who later pursued graduate level education, for example, firmly wrote that “[n]ursing research is not every nurses’ business,” arguing that research roles were only appropriate for a very few nurses. She problematized nursing research as something more than questions and answers, and argued that “It is not ‘something’ inherent in every nurse.”⁴⁹ The Canadian Nurses Association, however, remained keen on promoting nursing research and devoted an entire section of its publication to highlighting research abstracts, and providing and promoting resources for nursing research.⁵⁰ Significantly, numerous published studies in the *Canadian Nurse* were based on research that had been conducted in intensive care units.⁵¹

The establishment of the *Canadian Critical Care Nursing Journal* provided another avenue for intensive care nurses to share their experiences and knowledge through publication. With the amount of publication that front-line ICU nurses participated in through the 1960s to 2000s, Marjorie Hayes' position was strongly refuted. The input of the CACCN and of front-line ICU nurses who comprised the association's membership (including their ability to appraise and incorporate research into their practice), would play a pivotal role in establishing specialty certification for critical care nurses in Canada.⁵²

The Canadian Nurses' Association Specialty Certification Program

From early on, archival sources claimed that nursing in the Intensive Treatment Area/Unit (later the ICU) would indeed require a special type of nursing knowledge and skill. In the 1976 *Nurses' Alumni Journal* of the Winnipeg General Hospital, ICU nursing was recognized as "an increasingly specialized branch of nursing" that requires both a "high degree of special education and general competence."⁵³ Discussions regarding the notion of nursing specialties and subsequent specialty certification appeared more frequently in the *Canadian Nurse* from the early 1970s onward and in the *Canadian Critical Care Nursing Journal* starting in 1985.

In 1985 Alice Baumgart, a professor and dean of the School of Nursing at Queen's University in Kingston, Ontario argued that the issue of specialization and certification in nursing was plagued by the rhetoric and "conventional wisdom, [that] a nurse is a nurse is a nurse."⁵⁴ Baumgart suggested that a starting point for analysis had to be the idea that nursing knowledge was considered "women's knowledge," meaning that it was "considered intuitive and natural, an extension of female qualities" and that "good nursing, for those who subscribe to conventional wisdom, is within the capabilities of any good woman with a little

training and experience.”⁵⁵ But, as she noted, by 1983 prominent nursing scholars like Ann Hamric and Judith Spross were challenging this rhetoric and readily supporting the concept of Clinical Nurse Specialists (although as noted previously, Clinical Nurse Specialists like Rosemary Coombs had been in practice since the 1970s).⁵⁶ Baumgart summarized what Hamric and Spross identified as driving forces supporting specialization in nursing including: “increasing educational preparation for nurses ... scientific and technological advances ... the growing body of nursing knowledge in all areas of patient care ...[and] the development of nursing frameworks that are distinct from but complementary to the medical model.”⁵⁷ In conclusion, Baumgart stated that

interest groups such as the Canadian Association of Critical Care Nurses have a significant role to play in encouraging the orderly evolution of these [certification/specialization] processes. However, timing and appreciation of the complexities and subtleties involved are critical if certification is to signify the “C” in Caring.⁵⁸

However, it was not yet clear exactly how certification would be done, by whom, or what the content examined would be. Local hospitals often offered their own educational programs but there was no recognized certification process whereby nurses could document their claim to have the necessary knowledge and skills to work in ICUs. This became a barrier to job mobility and potentially for hospital legal liability as well. Although health was a provincial mandate, nurses sought a national level of accreditation to enable transferability of their designation.⁵⁹

As previously noted, the CNA had begun to recognize two levels of nurses in 1970, based on educational preparation (diploma and degree). Clinical Nurse Specialist Rosemary Prince Coombs felt those levels to be problematic, because of the importance of clinical expertise that she felt nurses were capable of developing.⁶⁰ In 1982 CNA established an ad

hoc committee for the task of exploring the possibility of establishing credentials for specific areas of clinical expertise. The AACN had already established specialty certification for critical care nurses in 1975, and offered the first exam in 1976. Nurses who successfully completed that certification exam earned the right to use “CCRN” after their RN title.⁶¹ While anecdotal evidence suggests that Canadian ICU nurses who practiced in the US likely acquired certification via this route, the AACN does not have evidence to support this claim.⁶² In Canada, the 1984-86 CNA biennial priorities finally included the development of a certification mechanism. The certification program was finalized in 1986, but the first certification exam (for Neuroscience Nursing) did not take place until 1991 – the reasons for the delay are unclear.

In order to prepare certification exams, it was first necessary to develop competencies related to the specific specialty area. Competencies, as defined by the CNA, referred to the “knowledge, skills, judgment and attributes required of an RN to practice safely and ethically in a designated role and setting.”⁶³ The CACCN, in collaboration with a working group of critical care nurses from across the country, identified the initial competencies for certification in Critical Care. In 1993, the CACCN submitted the “Specialty Designation Proposal for Critical Care Nursing” to the CNA. It was intended to be “the basis to create a critical care certification exam.”⁶⁴ The initial exam blueprint was completed in 1994, and until the year 2000, included a pediatric component.⁶⁵ A separate pediatric exam was developed subsequently in 2003.⁶⁶

Over time the specific number of competencies varied; however, there has been little change to the basic categories upon which the competencies were developed. Much like the systems approach to a critical care nurses’ physical assessment techniques, the categories

were labeled as: neurological, cardiovascular, respiratory, gastrointestinal, renal, endocrine, immunology and hematology, musculoskeletal and integument, and psychosocial.⁶⁷ From the nine categories an average of 163 competencies in total were generated.⁶⁸

There is limited information available from the CNA related to the numbers of nurses who sought certification between 1994 and 2002. In the 1999 CACCN Annual General Meeting Minutes, Brenda Morgan, the Director of Certification for CACCN, noted that a total of 105 RNs certified in critical care that year, which brought the national total to 893. Morgan noted that 2000 would mark the first year in which re-certification was possible (as certification was valid for five years).⁶⁹ In 2002 the total number of Canadian registered nurses who had specialty certification in any area was 10,782. Out of these, 1,126 were in critical care (10.4 percent). The total number of critical care nurses with certification bears some scrutiny. For example, the total reflects only those nurses with current certification – it is not reflective of nurses who have obtained certification in the past and did not renew after the designated 5 year period lapsed (therefore, the cumulative number who have sought initial certification is unknown). Also the success of the critical care nursing certification program cannot be directly compared to statistics of the AACN. For example, a 2001 publication in *Critical Care Nurse* reported on survey results “based on the responses of approximately half of the association’s 65,000 AACN members.”⁷⁰ The results indicated that 69% had CCRN certification. Yet, in a 2008 publication on the U.S. nursing population, the definition of certification is not clear – specifically it is not necessarily reflective of the CCRN status but rather other types of certifications related to critical care like Advanced Cardiac Life Support.⁷¹ Furthermore, in section 2.10 which is specific to Certifications, it appears that of the 328,932 critical/intensive care nurses working in the hospital environment

that 58,320 report critical care certification (equaling approximately 18% since the hospital population is not reflective of the total critical care nursing population in the U.S.)⁷²

In the 1999-2004, “Blueprint for the Future: CACCN’s Strategic Plan,” CACCN identified certification as a priority.⁷³ Gwynne MacDonald, CACCN President in 1999, noted that the organization had initiated a letter-writing campaign calling for “institutional support and recognition of critical care nursing certification and recertification.”⁷⁴ Letters were sent to 190 hospital nurse managers across Canada.⁷⁵ Despite efforts by the CACCN, the number of nurses certified remained well below the actual number of critical care nurses practicing in Canada and this requires further exploration.

Certification prompted and facilitated the establishment of critical care nursing competencies that became recognized on a national level and provided the framework for specialty practice education in critical care across the country and were based on the 1992 “Standards of Critical Care Nursing Practice” developed by the CACCN. While certification could serve to make ICU nurses’ work more visible the low number of credentialed nurses suggests, however, that critical care nursing identity was not dependent on formal accreditation. As long as hospitals did not require the examination process (as this could possibly imply the hospital’s need to fund accreditation from a financial perspective), the majority of these nurses remained satisfied with their own self-identification as ICU nurses, as affirmed by the acceptance of their colleagues.

SUMMARY

This chapter has reflected the growth of an ICU nursing identity that stemmed from individual identities and later extended to a national identity with a designated speciality

certification. The professionalization of ICU nursing was situated within the broader Canadian nursing context that also struggled with achieving a professional status. The recognition of areas of specialty practice within nursing helped to distinguish nursing knowledge from women's knowledge. The presence of a national identity also extended from the subjective and objective realities that developed out of the early experiences of rank and file nurses in newly developing ICUs. Over time, their practice was institutionalized through recognized national standards that had developed out of ICU nursing history and the shared meaning, experiences, practices and knowledge of Canadian ICU nurses.

Endnotes:

¹ Kathryn McPherson, *Bedside Matters: The Transformation of Canadian Nursing, 1900-1990* (Toronto and New York: Oxford University Press, 1996).

² Lynn Kirkwood, "Enough but Not Too Much: Nursing Education in English Language Canada (1874-2000)," in *On All Frontiers: Four Centuries of Canadian Nursing*, eds. Christina Bates, Dianne Dodd, and Nicole Rousseau (Ottawa: University of Ottawa Press, 2005), p. 183-195.

³ Kirkwood, "Enough but Not Too Much."

⁴ Sharon Richardson, "Unionization of Canadian Nursing," in *On All Frontiers*, p. 217-218.

⁵ R. Douglas Francis, Richard Jones, and Donald B. Smith, "An Era of Changes: The 1960s," *Journeys: A History of Canada*. (Toronto: Thomson Nelson, 2006), p. 472-474.

⁶ Interview with Rashotte by author, audio recording, Ottawa, 23 January 2012. (Hereafter cited as Interview with Rashotte).

⁷ See for example, Sharon Richardson, "Unionization of Canadian Nursing."

⁸ Marie Jahoda, "Nursing as a Profession," *The Canadian Nurse* 57, no. 9 (1961): 827.

⁹ Helen K. Mussallem, "The Expanding Role: Where Do We Go From Here?" *The Canadian Nurse* 67, no. 9 (1971): 31-34.

¹⁰ See Jeanne Lemal Hurd, "Directional Signals for Nursing's Expanding Role," *The Canadian Nurse* 68, no. 1 (1972): 21-25. This article provides an example of nursing's expanding role in public health.

¹¹ See Bruce H. McColl, "RNs Belong at the Bargaining Table," *The Canadian Nurse* 70, no. 7 (1974): 15-16.

¹² Loretta C. Ford, "Nursing – Evolution or Revolution?" *The Canadian Nurse* 67, no. 1 (1971): 32.

¹³ Ford, "Nursing – Evolution or Revolution?" p. 32.

¹⁴ Ford, "Nursing – Evolution or Revolution?" p. 36.

¹⁵ J. Ivan Williams, "Hospital Nursing and the Demand for Change," *The Canadian Nurse* 66, no. 7 (1970): 38-42.

¹⁶ See Madeleine Bachand, "WANTED: a Definition of Nursing Practice," *The Canadian Nurse* 70, no. 5 (1974): 26-29.

¹⁷ See Catherine M. Morris, "Delusions that Trap Nurses...", *The Canadian Nurse* 69, no. 6 (1973): 37-40. "Delusion 1: Nurses are in general agreement about what nursing is. Nothing could be further from the truth than the above statement. If one asks nurses how they define nursing the responses are so varied that it would be truly remarkable for nurses who take positions at one end of the range to have any communication with nurses at the other end." p.37.

¹⁸ Jean Fry and Basanti Majumdar, "Basic Physical Assessment," *The Canadian Nurse* 71, no. 5 (1974): 17.

¹⁹ Marie Campbell, "Organizational Settings Define Nursing Let's Change the Definition," *The Canadian Nurse* 80, no. 9 (1984): 26-28.

²⁰ Lynn Judd and Donna Ciliska, "The Importance of Nursing Involvement in Health Care Planning," *The Canadian Nurse* 81, no.4 (1985): 25-27.

²¹ Judd and Ciliska, "The Importance of Nursing Involvement," p. 25.

²² Barbara Lane, "Specialization in Nursing: Some Canadian Issues," *The Canadian Nurse* 81, no.6 (1985): 24-25.

²³ Lane, "Specialization in Nursing," p. 24.

²⁴ Virginia Lévesque, "Specialization and Certification: A Review of CNA's activities," *The Canadian Nurse* 81, no. 6 (1985): 26-28.

²⁵ See Canadian Nurses Association Certification History retrieved from <http://www.nurseone.ca/Default.aspx?portlet=StaticHtmlViewerPortlet&stmd=False&plang=1&ptdi=582>, October 27, 2013. Certification in Critical Care was established in 1995.

²⁶ Fairman and Lynaugh, *Critical Care Nursing*, p. 18-20.

²⁷ Minutes of the Executive of the AACN, Toronto, 20 April 1983. See also Minutes of 23 February 1983 between the Toronto and Niagara CACCN. Archives of the Canadian Association of Critical Care Nurses.

²⁸ Marg Zanin, "The President's Message," *Canadian Critical Care Nursing Journal* 1, no.1 (1984): 4.

²⁹ Kate Mahon, "Question to the Board: What is the History of CACCN? A Short History of CACCN: Looking Back with Pride. Looking Forward with Passion!" *Dynamics The Official Journal of the Canadian Association of Critical Care Nurses* 19, no. 1 (2008): 6.

³⁰ Mahon, "Question to the Board," p. 6.

³¹ Mahon, "Question to the Board," p. 6.

³² Zanin, “The President’s Message,” p. 4.

³³ Minutes of the Executive of the AACN, Toronto, 7 April 1983. For example, minutes of the 7 April 1983 executive meeting suggested educational opportunities for “Continuous Slow Ultrafiltration” as well as “Lung Transplantation” and referred to a previous presentation by a Coroner.

³⁴ The official publication of the association would change names several times: *Canadian Critical Care Nursing Journal* (1984 to 1990); *The Official Journal of the Canadian Association of Critical Care Nurses* (1990 to 1999); *Dynamics: The Official Journal of the Canadian Association of Critical Care Nurses* (2000 to 2010); and *Dynamics: Journal of the Canadian Association of Critical Care Nurses* (2011 to the present). Personal communication with Christine Halfkenny-Zellas, Chief Operating Officer, Canadian Association of Critical Care Nurses, 12 August 2013.

³⁵ Mahon, “Question to the Board,” p. 6.

³⁶ Mahon, “Question to the Board,” p. 6.

³⁷ Marilyn Whiteley, “Developing National Standards for Critical Care Nurses,” *Canadian Critical Care Nursing Journal* 3, no.4 (1986): 7.

³⁸ Whitely, “Developing National Standards for Critical Care Nurses,” 7. See also Catherine A. Kidd, Marilyn Whiteley, and Kathleen Scherer, “Development of Canadian Critical Care Nursing Standards: Report of Phase I,” *Canadian Critical Care Nursing Journal* 4, no. 3 (1987): 8-12.

³⁹ Canadian Association of Critical Care Nurses, *Standards for Critical Care Nursing Practice: Canadian Association of Critical Care Nurses* (London: Canadian Association of Critical Care Nurses, 1992), p. 3.

⁴⁰ Canadian Association of Critical Care Nurses, *Critical Care Nursing Specialty Designation Proposal* (London: Canadian Association of Critical Care Nurses, 8 September 1993), p. 2.

⁴¹ Canadian Association of Critical Care Nurses, *Critical Care Nursing Specialty Designation Proposal*, p. 8-9.

⁴² Canadian Association of Critical Care Nurses, *Critical Care Nursing Specialty Designation Proposal*, p. 138.

⁴³ Canadian Association of Critical Care Nurses, *Annual Report 2002* (CACCN, 2002), p. 4.

⁴⁴ Canadian Nurses Association, *RN Workforce Profiles by Area of Responsibility Year 2006* (Ottawa: Canadian Nurses Association, June 2008).

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- ⁴⁵ Canadian Association of Critical Care Nurses, *2006 Annual Report* available at http://www.caccn.ca/files/caccn_annual_report06.pdf, accessed 18 October 2013.
- ⁴⁶ Patricia A. Gervaise and Theresa Howard, "Burn-out in Nursing: An Alternative Explanation and Two Solutions Considered," *Canadian Critical Care Nursing Journal* 1, no. 1 (1984): 33-34.
- ⁴⁷ Colleen Elsner and Doreen Ouellet, "Poster Presentations: Professional Information on a Personal Level," *Official Journal of the Canadian Association of Critical Care Nurses* 5, no. 3 (1994): 15.
- ⁴⁸ Kathleen King, "Research in a Basic Baccalaureate Program," *The Canadian Nurse* 68, no. 5 (1972): 21-23.
- ⁴⁹ Marjorie Hayes, "Nursing Research Is Not Every Nurse's Business," *The Canadian Nurse* 71, no. 10 (1974): 17.
- ⁵⁰ See, for example, Margaret L. Parkin, "Information Resources for Nursing Research," *The Canadian Nurse* 68, no.3 (1972): 40-43.
- ⁵¹ Various research abstracts were being published in *The Canadian Nurse* under "research abstracts." Some specific to Intensive Care Units are: B. Ann Hilton, "Quantity and Quality of Patients' Sleep and Sleep-Disturbing Factors in a Respiratory Intensive Care Unit," *The Canadian Nurse* 70, no. 8 (1974): 34; Harold C. Robinson, "Constant Care and the Smaller Ontario Community Hospital," *The Canadian Nurse* 71, no. 9 (1975): 52; Patricia Billie Nicholson, "A Study to Determine the Type and Frequency of Interruptions Sustained by Postcardiotomy Patients in an Intensive Care Unit," *The Canadian Nurse* 71, no. 4 (1975): 50.
- ⁵² For example, with the development of the Canadian Association of Critical Care Nurses, *Critical Care Nursing Specialty Designation Proposal* in September 1993, the CACCN had done an extensive review of the literature in order to generate the competencies that were put forth to the Canadian Nurses Association. Hundreds of articles were referenced as were available text books. This literature review also demonstrates the reliance that Canadian ICU nurses had on American journals, including those published by the American Association of Critical Care Nurses (*Heart and Lung* and *Critical Care Nurse*).
- ⁵³ Winnipeg General Hospital, Nurses' Alumni Journal, 1976, p. 46, F1, A2, S2, Health Sciences Archives/Museum.
- ⁵⁴ Alice J. Baumgart, "Certification – The 'C' in Caring," *Canadian Critical Care Nursing Journal* 2, no. 6 (1985): 11.
- ⁵⁵ Baumgart, "Certification – The 'C' in Caring," p. 11.

⁵⁶ Ann B. Hamric and Judith A. Spross, *The Clinical Nurse Specialist in Theory and Practice* (New York: Grune & Stratton, 1983).

⁵⁷ Baumgart, "Certification – The 'C' in Caring," p. 12.

⁵⁸ Baumgart, "Certification – The 'C' in Caring," p. 15.

⁵⁹ See also Joanne Scholdra, "Nurse Specialization in an Evolutionary Environment," *Canadian Critical Care Nursing Journal* 3, no. 2 (1986): 6-8; and Marilyn Porter, "Certification of Specialities in Nursing," *Canadian Critical Care Nursing Journal* 6, no. 4 (1989): 20-22.

⁶⁰ Rosemary Prince Coombs, "Active-care Hospital Nurse Expands Her Role," *The Canadian Nurse* 66, no. 10 (1970): 23-29.

⁶¹ History of AACN Certification Corporation retrieved from www.aacn.org?WD/Certification/Content?aboutus.content?menu=Certification, accessed January 29, 2013.

⁶² Personal communication with Kelli Lockhart, Certification Manager, AACN – Certification Corporation, 8 July 2013.

⁶³ Canadian Nurses Association, *Canadian Nurse Practitioner Core Competency Framework* (Ottawa: Canadian Nurses Association, 2005).

⁶⁴ Brenda Morgan, "Certification Update," *The Official Journal of the Canadian Association of Critical Care Nurses* 10, no.3 (1999): 10. Note that at the time of this publication Brenda Morgan was the Director of Certification on the Board of Directors of the CACCN.

⁶⁵ See Canadian Nurses Association, *Blueprint for the Critical Care Nursing Certification Examination* (Ottawa: Canadian Nurses Association, January 1994), available through Library and Archives Canada. See also *Annual General Meeting Minutes*, 1999, Brenda Morgan reporting as Certification director, Canadian Association of Critical Care Nurses, <http://www.caccn.ca/en/members/index.html>, (restricted to members only), accessed 18 October 2013.

⁶⁶ Canadian Association of Critical Care Nurses, *AGM Minutes*, 1999.

⁶⁷ See, for example, Canadian Nurses Association, *Critical Care (Adult) Nursing Certification Exam Prep Guide*, 2nd Edition (Ottawa: Canadian Nurses Association, 2005). A first edition of the Prep Guide was published by the Canadian Nurses Association in 2000.

⁶⁸ See Canadian Nurses Association, *Critical Care (Adult)*, p. 7. The current 2010 Blueprint/Exam Prep Guide is available through the Canadian Nurses Association.

⁶⁹ Canadian Association of Critical Care Nurses, *AGM Minutes*, 1999.

⁷⁰ Anonymous, “Who Are Critical Care Nurses?” *Critical Care Nurse* Supplement (February 2001): 9.

⁷¹ U.S. Department of Health and Human Services Health Resources and Services Administration, *The Registered Nurse Population, Findings from the 2008 National Sample Survey of Registered Nurses* (September 2010). See Section 2, p.13.

⁷² U.S. Department of Health and Human Services Health Resources and Services Administration, *The Registered Nurse Population, Findings from the 2008 National Sample Survey of Registered Nurses* (September 2010). See Section 3, p. 29.

⁷³ Gwynne MacDonald, “Blueprint for the Future: CACCN’s Strategic Plan,” *The Official Journal of the Canadian Association of Critical Care Nurses* 10, no.4 (1999): 4-5.

⁷⁴ MacDonald, “Blueprint for the Future: CACCN’s Strategic Plan,” p. 4.

⁷⁵ MacDonald, “Blueprint for the Future: CACCN’s Strategic Plan,” p. 4.

CHAPTER FIVE

CONCLUSION

Berger and Luckmann point out that both reality and knowledge are socially and contextually bound and posit that “all human knowledge is developed, transmitted and maintained in social situations.”¹ As such, Canadian ICUs and ICU nursing emerged during the early 1960s largely due to a convergence of enabling contexts. Among these were: hospitals that desired ICUs to enhance their public image, a political will and economic resources to fund them, a public optimism in medical sciences’ ability to prolong lives, a medical technology industry that relied on the continuous presence of skilled personnel at the bedside, and a readily available cohort of health care providers intent on remaining in long-term careers.

ICUs contributed significantly to the image of hospitals as places of scientific advancement that was perpetuated during the early twentieth century as ICUs transformed from makeshift spaces to large, and technologically complex care environments. Healthcare insurance reforms and the establishment of universal health care in Canada removed personal financial barriers for individuals and their families, enabling increased access to the ICU environment, which subsequently became both a resource intensive and expensive type of publicly funded care. Within Canadian nursing, issues of professionalization, education, and specialization dominated the literature between 1960 and 2002. ICU nurses were not isolated from these general trends, and indeed, along with other emerging specialties, pushed boundaries of hospitals, healthcare, and the nursing profession.

Over the 42 year period of this study, ICU nurses have been at the centre of care for patients and families in Canadian ICUs. Their presence at the bedside, the front line of care,

was constant. For these early nurses in particular, there were very few resources to guide them initially in caring for patients in these environments. There were few, if any, nurses with extensive ICU experience to act as role models and formalized courses and programs did not exist in Canada at first. The participants interviewed for this study each lived through experiences partially shaped by the specific contexts in which they practiced. Some started their practice during the 1960s while others became ICU nurses at later points in time. For each individual, however, the journey as an ICU nurse began with a steep learning curve that transformed them from general duty nurses to specialty trained nurses. Early ICU nurses relied on what text book knowledge they could find and on any additional knowledge they could acquire from nurses who, for example, went to the United States to take courses (such as Jean McDonald in Cornwall, Ontario). These early nurses began with what they knew from general practice and started to build a body of specialized knowledge and skills based on their clinical experiences. By sharing their experience and identifying gaps in what they already knew, ICU nurses began to create their own body of knowledge and over time used informal and formal learning opportunities to expand it.

Early ICU nurses in Canada carved an identity for themselves in a particularly unique situation – they were the first cohort to care for critically ill patients in a defined space that facilitated close observation and monitoring, significantly reduced nurse to patient ratios, and utilised increased technology both as treatment options and as additional assessment tools. They learned new medical interventions and cared for patients with less predictable outcomes due to the complexity of their illness. The ICU environment offered higher visibility of patients and staff activities due to open concept design. Relationships between nurses themselves and nurses and physicians were different than on general wards because

of the need to work cohesively as a team to ensure patient safety and optimal patient outcomes.

In this thesis, I have argued that relationships and the social context of ICUs were the key variables (especially nurses' relationships with one another) that enabled the social construction of ICU nursing. Relationships shaped their knowledge and skill acquisition, their integration into ICUs, the development of a specific identity, and the development of a specialized body of knowledge that ultimately led to formal recognition of a new specialty practice area in Canada. Although they accomplished this within the confines of a technologically complex environment, ICU nurses shaped their relationships with technology in such a way that, as they gained knowledge and experience, they shifted the focus on technology into the background – humanizing care in the process. As one participant, Judy Rashotte, pointed out:

I was always drawn to those nurses who seemed so at ease with all of that paraphernalia and it was background to them. And they were so loving and caring and communicative and therapeutic, engagement with their families and with their patients. They were the ones that had it all, that embraced technology in order to deliver safe care but it was background to who they were. Who they were – family centered, patient centered nurses, long before we ever used those terms.²

CONTRIBUTIONS TO NURSING AND HISTORY

This historical research contributes a more complex understanding of how ICU nursing developed, expanded, and ultimately formed a body of specialty nursing knowledge. Importantly, this thesis has contributed new knowledge about fundamental aspects of ICU nurses' experiences, their learning, their work, and identity formation. Oral history interviews provided first-hand accounts of ICU nurses' experiences and provided documented accounts of their life stories in the context of critical care. The process of

becoming an ICU nurse was grounded in hands-on clinical practice wherein nurses learned and continued to reshape the body of ICU nursing knowledge across time. With either minimal or no experience caring for critically ill patients and their families nurses in these early units learned at the bedside and “by gosh and by golly” as Ruth Pollock said.³ The identification of gaps in their knowledge stemmed directly from their clinical experiences – they learned how to care for critically ill patients by joining together and figuring out ‘how’ to do it. But knowledge development and skills acquisition remained constant challenges as patient populations changed, increased in complexity and newer technologies and procedures were instituted. Thus, this study demonstrates that knowledge creation is an on-going process, and is always subject to the multiple social contexts in which it develops.

This study has also contributed an unanticipated historical perspective to Patricia Benner’s seminal work, *From Novice to Expert*, which explored how knowledge is embedded in clinical practice. The context of this study predated Benner’s phenomenological research (using a Heideggarian approach) which explored the appraisal of events through descriptions provided (separately) by paired preceptors and newly graduated nurses in acute care settings including intensive care, by approximately twenty years.⁴ The stories told by the participants in this study support other theoretical assumptions such as Benner and Tanner’s concepts of “embodied intelligence” (where “the body ‘takes over’ a skill”) and “intuition” (where intuition is defined as “understanding without rationale”).⁵ The clinical examples illustrate the process of how nurses new to ICUs become expert nurses in one specialty area.⁶ Many of the stories told by the participants are representative of what Benner describes as paradigm cases. Benner suggests that “many paradigm cases are too complex to be transmitted through case examples or simulations, because it is the particular

interaction with the individual learner's prior knowledge that creates the experience.”⁷ The sharing of personal knowledge that takes place in these paradigm cases often represent “situations that [ultimately] altered [nurses'] approach to patient care.”⁸ These exchanges of knowledge and experience also reflect and support tacit knowledge as described by Polanyi.⁹

In the stories told by the participants, knowledge gained through experience is shared with each other and that experience and exchange of knowledge is not necessarily amenable to articulation. For example, in Sue Malone-Tucker's exchange with her student there are aspects of that story that really can't be explained and yet it was an important aspect of that student's learning experiences. Malone-Tucker noted that regardless of the informal and formal educational paths to becoming an ICU nurse, “you just cannot beat a really good clinical learning experience, with somebody you knew with a lot of experience [beside] you, kind of coaching you through it.”¹⁰ It was clinical experience that positioned them as experts who could focus on the bigger picture and deliver care that included the needs of patients and families as well as the support of one another – emphasizing the importance of both clinical practice and relationships. Sarah Handwerker, citing Benner, Sutphen, Leonard and Day, emphasizes that “rather than being taught knowledge and skills to perform nursing care, students must learn to ‘be’ nurses through powerful learning experiences. Nursing is not something that is simply done, but is rather an embodied state of being.”¹¹

Interestingly, Benner's model of “Novice to Expert” also links with Berger and Luckmann's Social Construction of Reality in that primary socialization and secondary socialization correspond with the task oriented nature of novice nurses and how they solidify their practice over time – becoming experts with a particular nursing identity, in this instance as ICU nurses. As their practice became habitualized and ICU identity crystallized, they

were achieving expert ICU nursing practice. Benner noted at the time of her research that “[n]urses have not been careful record keepers of their own clinical thinking.”¹² This study, however, contributes a historical perspective, and has contributed a historical record in the form of new data. Although Benner’s research explored past experiences, it did not specify historical contexts (including time, place and persons) as influencing variables on the process of becoming an expert.

This thesis has also contributed to the developing history of intensive/critical care by extending the historical research into the 21st century and contributing a broader Canadian perspective to the larger body of historiography. It has focused on relationships, knowledge development, identity, and an alternative perspective on nurses and technology – differing from and yet complementing previous historical work focused on other approaches. In addition, new data were created in the forms of oral history interviews. Previously unidentified archival sources as well as important documents from the Canadian Association of Critical Care Nurses that are still held privately to date were identified.

From the perspective of the history of technology, this thesis has suggested another way to view the relationship between nurses and technology. Nursing and technology are not dichotomous but rather, inter-related. Nurses in this study have demonstrated that being technologically competent is not only part of nursing care but also a part of expert nursing practice. The ability to shift technology to the background of their work does not signify a de-valuing of their skill but it is a hallmark of their expertise and how they are able to (over time) humanize the care provided in such a technologically complex environment. The latter challenges the view of ICU nurses as technology focused. Instead it portrays them as nurses providing expert nursing care within a specialized area of nursing practice, highlighting

former Dean of Yale University School of Nursing Donna Diers' claim in 1985 that "nursing is what is intensive in intensive care."¹³

CONTRIBUTIONS TO THE GENERATIONS OF CANADIAN NURSES

Historian Kathryn McPherson referred to the concept of nursing "generations" to differentiate between nurses formally trained during different time frames (and hence different contexts) in Canada. According to McPherson, the fifth generation of nurses was characterized by their experiences of care giving in a society supported by Medicare and influenced by social movements such as feminism and unionization. As defined by McPherson, all of the nurses interviewed for this thesis were part of this fifth generation of nurses. However, on closer examination, the participants actually comprised of 3 traditionally defined generations including the veterans, the baby boomers and the "X" generation – each with specific characteristics that help to distinguish them. The Second World War veterans born between 1925 and 1945 are generally characterized as "dedicated, hard-working [and] loyal." The baby boomers, born between 1943 and 1960, are characterized as "optimistic, productive [and] workaholic" while the Generation Xers born between 1961 and 1981 are characterized as "cynical, independent, [and] informal."¹⁴ Differences in generational characteristics alongside a nursing workforce that was being influenced by changes in educational preparation, and societal changes, in particular feminist movements which impacted women's place in the workforce, may suggest the need for at minimum a sixth generation.

The 2010 Workforce Profile of Registered Nurses in Canada published by the Canadian Nurses' Association identified that, at that point in time, there were four

traditionally defined generations (including a generation Y) working together. It is likely that generational differences brought forth different ideals about physician-nurse relationships, team work, job satisfaction, and upward mobility within the ICU environment. From the 1960s forward to 2002, as evidenced by the literature published in the *Canadian Nurse*, nursing in Canada was subject to several debates as well as political, social and economic changes. Nursing debates regarding specialization, education, and ethics were particularly dominant.

I propose that the fifth generation as defined by McPherson, branched quickly into a sixth generation of nurses and this was predominantly influenced by nursing education and the re-structuring of the nursing labour force. From the early 1970s in the majority of Canadian provinces – nursing education moved from hospital schools of nursing to community colleges and universities. The latter changed nursing education and hospital staffing patterns as a graduate workforce predominated and student labour subsided. While a reliance on traditional ways of learning and knowing still existed (i.e. clinical experiences for nursing students) it prompted the development of other methods of learning and knowledge acquisition to ground students in clinical practice – thus buddying and preceptorship programs have flourished. Another characteristic of this sixth generation is that while they have nursed in an era where universal health insurance became a coveted pillar of Canadian society – health care reform and ways to decrease health care expenditure are always on the political agenda. This generation has been subjected to the ebbs and flows of hospital restructuring, nursing shortages, lay-offs and downsizing. ICUs and ICU nurses' specialized skills have not precluded them from these health care trends.

THEORETICAL CONTRIBUTIONS

The social and relational contexts in which ICU nursing was situated, was best understood using Berger and Luckmann's Social Construction of Reality. There are a variety of theoretical approaches for studying the history of ICU nursing and each approach contributes importantly to a fuller understanding of the settings, the personnel, and the work that took place within these units. Berger and Luckmann's Social Construction of Reality, however, provided a particularly useful theoretical perspective for analyzing and interpreting the central findings in this study about the significance of relationships within ICUs and the significance of the larger social contexts. The key concepts of objective and subjective realities, helped to explain how nurses became ICU nurses – how they learned, developed knowledge and skills, situated technology, and ultimately self-identified as ICU nurses. The development of these objective and subjective realities are essentially atemporal (not necessarily occurring as a particular sequence of events but rather simultaneously and on-going) it emphasizes that the development of ICU nursing happened over time. Becoming an ICU nurse and assuming that identity also takes time and is learned through experience and working with other ICU nurses.

This study's original objectives did not include an exploration of ICU nurses' identity but Berger and Luckmann's theory added this element to the study. The concept of identity highlighted a process that originated in the subjective and objective realities of individual nurses and extended to the establishment and institutionalization of a specialty practice identity at a national level. However, Berger and Luckmann's theory is limited, in that their focus on identity is more specific to the establishment of a social group; it does not fully explain the embodiment of an identity on an individual level. Nor does it explain the intricacies of how identity is embodied or becomes a lasting identity (even after an

individual is no longer part of the social group, i.e. no longer working in ICU). For example, Chapter 3 illustrated characteristics of successfully integrated ICU nurses and particular points of passage that led to successful socialization within the group yet, what it means to “be” or “being” an ICU nurse requires further study from other theoretical perspectives. Further study would facilitate a clear delineation and understanding of the difference between a nurse who works in ICU and a nurse who identifies herself or himself first and foremost as an ICU nurse.

Berger and Luckmann’s Social Construction of Reality is not a theory specific to historical inquiry, but its use in this study has demonstrated that it is commensurate with a social history approach. Ontologically, it fits with the constructivist perspective that is consistent with social history tenets and is compatible with the historical perspective of change over time. The constructivist underpinnings of the theory suggest that with the incorporation of multiple primary sources, other realities and interpretations are possible and that what is represented in this thesis is simply one interpretation of the data.

IMPLICATIONS OF THE RESEARCH

The findings of this thesis have several important implications for nursing practice and education. Over time, as the ICU environment changed in terms of patient populations, technology, and treatment regimens, there was always a requirement to grow and acquire new knowledge and skills – often on a daily basis. The nurses’ stories revealed that no amount of theoretical, classroom or simulation education could replace learning at the bedside, partially due to the immediacy of care needs and the unpredictability of ICU patients. These are challenges for nursing educators who need to be innovative in bridging

the gap between theory and practice. The importance of strategies that have already been put in place such as preceptorships for senior students should not be minimized. Recent evidence has suggested that preceptorship experiences are important for two reasons – they provide a concentrated experience grounded in practice and they are important in socializing new nurses.¹⁵ Preceptorship experiences lay a foundation whereby senior students/new nurses learn to experience being part of a team while exposing new nurses to expert nursing practice. For nurses new to ICU, the exposure to expert nursing practice was particularly important because it taught them to see beyond the technology and technical aspects of their work, and that nursing work and knowledge were inseparable. More emphasis on socialization of nurses during preceptorships and orientation periods for new ICU nurses would facilitate the development of their comfort in their knowledge and skills and with the nursing team.

Aspects of what is experienced and therefore learned at the bedside are often intangible. Jayne Elliott's first experience of administering amphotericin B taught her what to expect the next time – not only did she learn about the administration of the medication, she learned to humanize this experience for the patient and his family and to minimize their fears making the entire experience more comfortable.¹⁶ Mona Burrows recalled watching Ruth Pollock teach patients and families about post myocardial infarction care – Burrows learned the finer aspects of patient teaching – not the theory in a text book but rather how theory combines with human experience and understanding.¹⁷ Sue Malone-Tucker's student was in awe of how she watched the monitor and predicted that her patient would soon convert to the cardiac arrhythmia, atrial fibrillation.¹⁸

This thesis has shown the importance of clinical experience at the bedside, which actually extends beyond that clinical experience and acquisition of knowledge, to include socialization into the ICU and development of an ICU nursing identity. Demonstrating one's knowledge and skills was an essential aspect of gaining the trust and acceptance of one's nursing peers. Becoming socialized into the larger nursing group, however, was essential. Those who failed to be socialized left quickly. Major components of socialization for new nurses included acquiring the respect and trust of colleagues, a sense of autonomy in their practice, and a sense of self-confidence and comfort in their ICU nursing role. Respect from colleagues and trust were essential for a cohesive team and contributed to what Riek van den Berg described as the "rhythm of the unit." New nurses were tested and it took a while for the watchful and critical eye of nursing peers to disappear –although looking out for one another never would. As such, it is important that both schools of nursing as well as health care institutions maintain a focus on the provision of adequate clinical exposure for students and new nurses in direct clinical practice – providing them ample opportunity to learn hands-on skills and regular exposure to nursing practice environments where they learn to integrate theoretical knowledge and develop nursing praxis.¹⁹

Another important finding of this thesis that has direct implications for nursing practice is the importance of team work. The social and relational nature of ICU nursing facilitated the establishment of a cohesive team that enabled knowledge development. Beatrice Kalish, Sallie Weaver and Eduardo Salas have suggested that "[t]he importance of effective teamwork in nursing and healthcare cannot be overemphasized."²⁰ Effective team work contributes to less stress, a higher quality of patient care, patient safety by virtue of less

errors and higher patient satisfaction.²¹ Nurses at the bedside do not work in isolation – they work within a complex network.

This thesis has demonstrated first, that nurses' relationships with one another are significant in establishing a cohesive team, trust, and mutual reliance on one another. But it also demonstrated the effects of disruption on nursing teams in ICUs. When, for example, nurses' like Yvon Gagnier described the effects of downsizing in the 1990s this greatly impacted the cohesiveness of the nursing team – the “rhythm of the unit” was disrupted. Building effective nursing teams is a process that develops over time. Integration of team members is based on many variables, in this instance, on knowledge, respect and trust. Thus nurses are not simply interchangeable and/or replaceable – when teams are disrupted such as with downsizing and layoffs this has significant implications for nursing practice and for patient care. Yet, with unionization (during times of downsizing), nurses can be reassigned to work/practice areas based solely on seniority rather than based on acquired knowledge, skill, experience or value as a member of an established nursing team. Therefore it is imperative that when decisions are made that will directly impact the structure and coherence of nursing teams – greater scrutiny by management and administration is necessary and that they be aware of the potential impacts that the disruption will have on patient care, patient safety and patient satisfaction.

One of the unique findings of this study was the sense of betrayal expressed by ICU nurses when the assumed close relationships within units broke down. Team work and perceived close relationships, especially with physicians and hospital administrators, did not always serve critical care nurses as they had anticipated. In their close working relationships, they assumed increasing autonomy in their work roles and relied on both physicians and

hospitals to back them up. They did not foresee that relationships would fracture and fail when legal liability became an issue. Interview participants spoke about being left to fend for themselves through stories like Teresa Lee's experience of administering the IV drug, Pavulon. They also spoke of work place tensions, lack of support, and being under suspicion themselves in relation to Susan Nelles' experiences with the Grange Commission as well as the Winnipeg nurses' experiences during the investigations for the Sinclair Report. Donnie Parks suggested that nurses at the Toronto Hospital for Sick Children "grew up" after the Nelles case while Nelles' career was heavily impacted in spite of the fact that she was eventually exonerated. ICU nurses in Winnipeg were tremendously let down when they brought forward their concerns regarding pediatric cardiac surgical cases at the Health Sciences Centre. Their concerns were ignored. In addition they questioned their own actions and wondered if they had done enough to bring their concerns to light.

This study suggests that ICU nurses have significant perspectives to contribute to decisions about hospital budgets, staffing of ICUs, technology, the appropriateness of ICU admissions and who should/should not be treated there. It illustrates the centrality of ICU nurses' perspectives in relation to larger social debates about complex medical and technological interventions, death and dying, and quality of life – what they can offer based on their everyday experiences in dealing directly with these issues. However, as the 2013 Canadian Association of Critical Care Nurses Dynamics conference title suggests ICU nurses are only beginning to "shatter the silence." As an excerpt from the conference brochure explains:

As critical care nurses we must unite our voices to speak with conviction to shatter the persistent silence surrounding the pivotal role we play in the care of critically ill patients and their families. The critical care nurse is the key coordinator of the complex minute by minute care each patient and family needs in the Intensive Care

Unit...ICU nurses draw on a vast scope of knowledge and scientific evidence, combining it with superb technical skills and organizational ability to ensure that each patient is provided with an accurate diagnosis and a plan of action...We must break through and shatter any barriers that silence our voices...No longer will the crucial role of critical care nurses be kept a well guarded secret.²²

This study has demonstrated that while ICU nurses felt they should speak up – they often did not. One example is Yvon Gagnier’s story which described his angst regarding the intubation of a patient when he felt it could be held off just briefly in order to give the patient and family a chance to talk. Despite ICU nurses having a “different” sort of relationship with physicians – there was still a hierarchy that existed. Despite the importance of ICU nurses’ input into patient care – they did not have the final decision making power. Strengthening this voice, however, is vital and the Canadian Association of Critical Care Nurses plays a crucial role in this aspect.

Recently their collective voice and national team afforded them a presence in front of the Supreme Court of Canada, in December of 2012. Their presence was an historical landmark for the CACCN as the association was given intervener status before the Supreme Court of Canada in order to provide critical care nurses’ perspective of decision making regarding end of life care. In a press release, the CACCN emphasized the unique position of critical care nurses as “closely engaged” in this issue, highlighting what they could and should be contributing to the discussions:

Critical Care nurses are healthcare providers who are closely engaged with families, patients and the healthcare team throughout their hospital stay including the end of life. As such, we are pleased that the Supreme Court of Canada has recognized the need to understand these complex issues from the unique perspective of critical care nurses.²³

It is clear, even from the stories reflected in this thesis, that working in the ICU environment was challenging and not everything was always ideal. It is likely, however, that

these nurses felt a sense of empowerment that might not have been felt in other nursing contexts. Involvement in associations like the CACCN provided front-line nurses ample opportunity to stay current regarding critical care nursing practice, to be part of the development of practice standards and competencies. Conferences like “Dynamics” provided an opportunity to share experiences, highlight challenges and collectively brainstorm ways of optimizing the critical care experiences for nurses themselves as well as for patients and families. With CACCN’s dedication to the establishment of critical care certification as part of the CNA Certification Program – national guidelines, competencies and standards of practice were developed that subsequently informed all critical care nursing education in Canada. A recent publication in the Operating Room Nurses Association of Canada Journal aptly describes the impact that certification has had on perioperative nurses. The authors remark that “certification demonstrates that an individual practitioner has maintained an acceptable, or perhaps more advanced level of qualifications, knowledge, and skills in a specialty practice area.”²⁴ Findings from their qualitative descriptive study identified “increased confidence and pride and feelings of accomplishment and satisfaction” in perioperative nurses.²⁵ Most importantly the authors have suggested that “[t]he relationship between such factors as increased knowledge, confidence and skill has potential to greatly influence positive patient outcomes.”²⁶

DIRECTIONS FOR FUTURE RESEARCH

Recognizing that nursing practice was not limited to the hospital domain, historians Jayne Elliott, Meryn Stuart and Cynthia Toman edited a collection that sought to “disrupt and de-centre assumptions about the relationship of nurses to hospitals and to the medical

profession” and thereby highlight the importance of place and space to understanding nursing history.²⁷ With respect to space, Elliott calls for a consideration of spaces not just as “containers within which human activities take place” but as “structure[s] and spatial organization[s]” with agency. The boundaries of what is specifically considered to be ICU nursing have become blurred over time and the American Association of Critical Care Nurses has acknowledged that critical care now extends into general wards, home-care and the community. This study has demonstrated that the boundaries of what constituted ICU nursing have seemingly always been porous as “ICU patients” and “ICU skills” made their way into general nursing care.

ICU nurses like Gail Slessor (a graduate of the Winnipeg General Hospital ICU Nursing Program) eagerly shared her ICU nursing knowledge with her non-ICU nursing colleagues. For example, in a 1973 article in the *Canadian Nurse*, Slessor, highlighted the importance of an accurate respiratory assessment and identified the auscultation of the chest as a clinical skill pertinent to nursing.²⁸ Slessor noted that nurses who had the ability to do an accurate chest assessment could identify early signs of respiratory distress with the hopes that this would help prevent more severe respiratory complications, and that chest assessment was a skill not only for special care nurses or physicians but all nurses working in clinical areas.²⁹ A 1976 article entitled “Head to Toe: A Straightforward Approach to Patient Assessment and Charting,” reiterated that “[i]t doesn’t much matter where a nurse works – methodical observation and evaluation of a patient’s state of health is as important in an outpatient department as it is in an intensive care unit” –suggesting that keen assessment skills were not restricted to nurses working in special care areas.³⁰ The latter helps to emphasize that while specialization was taking place and those areas such as the

ICU were highly visible examples, nurses in general were beginning to recognize themselves as knowledgeable workers and ready to expand their roles and skills. This thesis has also demonstrated that what was at one time a technology seen only in ICUs (like chest tubes and IV antibiotic therapy) often made its way into general nursing practice with time.

The analytical concepts of place and space are pivotal in exploring the expansion of critical care beyond the traditional boundaries of the ICU and could be used to examine the evolution of ICU nursing in, for example, the development of rapid response teams in Canada. The latter would extend the work that historian Julie Fairman has already done regarding ICUs as a new space. Furthermore, an exploration on ICUs specific to place and space could contribute an understanding of why ICU nurses who worked in ICUs separated by provinces across Canada told similar stories as did nurses who worked in adult, pediatric and neonatal ICUs. Further research into the differences and similarities between critical care in Canada as compared to the United States is merited, as it is with other developed countries as well. Also of interest is the dissemination of critical care knowledge in the information age – where social media and the World Wide Web make the sharing of knowledge almost instantaneous – how has this impacted critical care nursing?

Further research is necessary to explore in greater depth other analytical perspectives including a greater focus on gender and class. While aspects of gender have been glimpsed in this thesis, there is much room to expand this analysis, particularly with respect to nurses' voices. Using gender as an analytical lens for interpreting the findings from this study would illuminate how gender shaped roles and relationships with physicians, patients, families, and other members of the developing ICU. It would call into question whether or not ICU contexts offered greater flexibility between these actors as other historians have

suggested. Further exploration of nursing roles and relationships would contribute an understanding as to whether the newness of such roles contributed to a re-shaping of traditional nursing roles. Where ICU nurses had a voice, why was it overshadowed by other health care professionals like Respiratory Therapists (RT)? How and why did RTs align themselves with physicians in order to gain ownership over the mechanical ventilator – where was the nursing voice? Where was the nursing voice when other technology like Continuous Renal Replacement Therapy was taken on despite it being extremely time consuming and labour intensive?

Further research is also warranted to explore in greater depth the development of ICU nursing as a lasting identity. As previously mentioned, the use of other methodological perspectives such as Heideggerian phenomenology would provide greater insight into “being an ICU nurse.” Implications of this type of research would allow for a greater understanding of educational requirements and methods of learning and would also provide valuable information regarding recruitment and retention strategies for ICU nursing.

LIMITATIONS OF THE RESEARCH

The limitations of this research are primarily related to its sample. While the sample included ICU nurses who worked in at least nine Canadian provinces (and 41 individual hospitals), no nurses had worked in Prince Edward Island or the territories. Nurses from the province of Québec had been employed at the Royal Victoria Hospital and the Montreal General Hospital – both located in Montreal but primarily English speaking hospitals. Thus the sample reflects English speaking Canada. Further research would be required in order to understand critical care nursing from the perspective of northern nursing as well as the

Franco-Canadian experience. Finally, the sample consisted primarily of expert ICU nurses (due to the time frame studied) and it is not necessarily reflective of the experience of newer ICU nurses. Further research is necessary to explore this population and how new nurses perceive their ICU knowledge development, how they learn, their experiences related to technology, and how they gain their ICU nursing identity. Other missing voices are those nurses who did not “make it” or chose not to “make it” in ICUs. Their perspectives should be explored for a more balanced understanding of ICU nursing.

SUMMARY

This thesis has offered one perspective on how ICU nursing was socially constructed in Canada. It has provided a stepping stone for the continued study of this specialized group of nurses. The unique position of early ICU nurses provided the foundation of a body of nurses who continue to grow, develop and crystallize their specialty practice. Their history not only makes their work, relationships, and knowledge more visible but also informs health care administrators, educators, and policy makers for future decisions. Given the investment required to develop expert ICU nurses, findings from this study can help with recruiting and retaining them as well as learning to value their voices on important health care issues as experienced on the front lines of care.

Endnotes:

¹ Peter L. Berger and Thomas Luckmann, "Introduction," *The Social Construction of Reality: A Treatise in the Sociology of Knowledge* (New York: Open Road Integrated Media, 1966), Kobo Edition e-book, p. 10 of 66.

² Interview with Judy Rashotte by author, audio recording, Ottawa, 23 January 2012. (Hereafter cited as Interview with Rashotte).

³ Interview with Ruth Pollock by author, audio recording, Chrysler, Ont., 7 September 2011. (Hereafter cited as Interview with Pollock).

⁴ Patricia Benner, *From Novice to Expert: Excellence and Power in Clinical Nursing Practice* (Menlo Park, California: Addison-Wesley, 1984). See also Patricia Benner, "From Novice to Expert," *American Journal of Nursing* (March 1982): 402-407.

⁵ Patricia Benner and Christine Tanner, "Clinical Judgement: How Expert Nurses Use Intuition," *The American Journal of Nursing* 87, no. 1 (1987): 25, 23.

⁶ Benner and Tanner, "Clinical Judgement," p. 23-31.

⁷ Benner, *From Novice to Expert*, p. 9.

⁸ Benner, *From Novice to Expert*, p. 9.

⁹ M. Polanyi, *Personal Knowledge* (London: Routledge & Kegan Paul, 1958).

¹⁰ Interview with Sue Malone-Tucker by author, audio recording, Ottawa, 20 September 2011. (Hereafter cited as Interview with Malone-Tucker).

¹¹ Sarah M. Handwerker, "Transforming Nursing Education: A Review of Current Curricular Practice in Relation to Benner's Latest Work," *International Journal of Nursing Education Scholarship* 9, no. 1 (2012): 1. Handwerker is referring specifically to P. Benner, M. Sutphen, V. Leonard and L. Day, *Educating Nurses: A Call for Radical Transformation*. (Stanford, CA: Jossey-Bass, 2010).

¹² Benner, *From Novice to Expert*, p. 1.

¹³ Donna Diers, "Nursing: Implementing the Agenda for Social Change." Speech given at the 50th Anniversary symposium, "Nursing as a Force for Social Change," University of Pennsylvania School of Nursing, 20 September, 1985.

¹⁴ Laura S. Stokowski, "The 4-Generation Gap in Nursing," *Medscape*, 11 April 2013.

¹⁵ Sarah Farnell and Deborah Dawson, "'It's Not Like the Wards': Experiences of Nurses new to Critical Care: A Qualitative Study," *International Journal of Nursing Studies* 43 (2006): 319-331.

¹⁶ Interview with Jayne Elliott by author, audio recording, Ottawa, 15 September 2011. (Hereafter cited as Interview with Elliott).

¹⁷ Interview with Mona Burrows by author, audio recording, Cornwall, Ont., 31 August 2011. (Hereafter cited as Interview with Burrows).

¹⁸ Interview with Malone-Tucker.

¹⁹ Afaf Ibrahim Meleis, *Theoretical Nursing Development & Progress*, 4th Edition (Philadelphia: Lippincott, Williams & Wilkins, 2007), p. 36. Also see Barbara Bennett Jacobs, Joyce S. Fontana, Maryanne Hidalgo Kehoe, Colette Matarese, and Peggy Chin, “An emancipatory study of contemporary nursing practice,” *Nursing Outlook* 53, no. 1 (2005): 12.

²⁰ Beatrice J. Kalish, Sallie J. Weaver, and Eduardo Salas, “What Does Nursing Teamwork Look Like? A Qualitative Study,” *Journal of Nursing Care Quality* 24, no. 4 (2009): 298.

²¹ Kalisch, Weaver, and Salas, “What Does Teamwork Look Like?” p. 298.

²² Canadian Association of Critical Care Nurses, *Dynamics 2013 Conference Brochure*, p.2, <http://www.caccn.ca/en/pdfs/CACCN%20Dynamics%202013%204WEBv3.pdf>, accessed 18 October 2013.

²³ Canadian Association of Critical Care Nurses, Press Release, 7 December 2012, re being granted intervener status before the Supreme Court of Canada in the case of Mr. Hassan Rasouli v. Sunnybrook Health Sciences Centre, Dr. Brian Cuthbertson, and Dr. Gordon Rubenfield, [http://www.caccn.ca/en/pdfs/CACCN%20Press%20Release%20\(Supreme%20Court\)%20\(Doc%207,%202012\).pdf](http://www.caccn.ca/en/pdfs/CACCN%20Press%20Release%20(Supreme%20Court)%20(Doc%207,%202012).pdf), accessed 18 October 2013.

²⁴ Kathryn Schroeter, Michelle M. Byrne, Katharine A. Klink, Matthew Beier, and Natalie S. McAndrew, “The Impact of Certification on Certified Perioperative Nurses: A Qualitative Descriptive Survey,” *ORNAC Journal* 30, no. 3 (2012): 34.

²⁵ Schroeter et al, “The Impact of Certification on Certified Perioperative Nurses,” p. 45.

²⁶ Schroeter et al, “The Impact of Certification on Certified Perioperative Nurses,” p. 45.

²⁷ Jayne Elliott, Meryn Stuart, and Cynthia Toman, eds., “Introduction” in *Place and Practice in Canadian Nursing History* (Vancouver: UBC Press, 2008), p. 2.

²⁸ Gail Slessor, “Auscultation of the Chest: A Clinical Nursing Skill,” *The Canadian Nurse* 69, no. 4 (1973): 40-43. Of interest is that Gail Slessor was part of the first graduating class of the Intensive Care Nursing Program in Winnipeg (see chapter 2, p. 79).

²⁹ Slessor, "Auscultation of the Chest," p. 40.

³⁰ Lynda Ford, "Head to Toe: A Straightforward Approach to Patient Assessment and Charting," *The Canadian Nurse* 72, no. 9 (1976): 26-27.

Appendix 1: Ethics Approval University of Ottawa

File Number: H06-11-09

Date (mm/dd/yyyy): 07/19/2011



Université d'Ottawa **University of Ottawa**
 Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Ethics Approval Notice
Health Sciences and Science REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Cynthia	Toman	Health Sciences / Nursing	Supervisor
Frances	Fothergill-Bourbonnais	Health Sciences / Nursing	Co-Supervisor
Brandi	Vanderspank	Health Sciences / Nursing	Student Researcher

File Number: H06-11-09

Type of Project: PhD Thesis

Title: Intensive Care Nursing in Canada, 1960-2002: The Intersection of Technology, Nurses' Work and Relationships

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
07/19/2011	07/18/2012	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:

N/A

Appendix 2: Ethics Renewal University of Ottawa

File Number: H06-11-09

Date (mm/dd/yyyy): 07/12/2012



Université d'Ottawa **University of Ottawa**
 Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Ethics Approval Notice
Health Sciences and Science REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Cynthia	Toman	Health Sciences / Nursing	Supervisor
Frances	Fothergill-Bourbonnai	Health Sciences / Nursing	Co-Supervisor
Brandi	Vanderspank	Health Sciences / Nursing	Student Researcher

File Number: H06-11-09**Type of Project:** PhD Thesis**Title:** Intensive Care Nursing in Canada, 1960-2002: The Intersection of Technology, Nurses' Work and Relationships

Renewal Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
07/19/2012	07/18/2013	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:
 N/A

Appendix 3: Ethics Approval Queen's University (KGH Archive)



QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD-DELEGATED REVIEW

May 03, 2012

Mrs. Brandi Vanderspank
School of Kinesiology & Health Studies
Queen's University

Dear Mrs. Vanderspank

Study Title: PHE-125-12 Intensive Care Nursing in Canada 1960-2002: The Intersection of Technology, Nurses' Work and Relationships

File # 6006940

Co-Investigator: Dr. C. Toman

I am writing to acknowledge receipt of your recent ethics submission. We have examined the protocol for your project (as stated above) and consider it to be ethically acceptable. This approval is valid for one year from the date of the Chair's signature below. This approval will be reported to the Research Ethics Board. Please attend carefully to the following listing of ethics requirements you must fulfill over the course of your study:

Reporting of Amendments: If there are any changes to your study (e.g. consent, protocol, study procedures, etc.), you must submit an amendment to the Research Ethics Board for approval. Please use event form: HSREB Multi-Use Amendment/Full Board Renewal Form associated with your post review file # **6006940** in your Researcher Portal (https://eservices.queensu.ca/romeo_researcher/)

Reporting of Serious Adverse Events: Any unexpected serious adverse event occurring locally must be reported within 2 working days or earlier if required by the study sponsor. All other serious adverse events must be reported within 15 days after becoming aware of the information. Serious Adverse Event forms are located with your post-review file **6006940** in your Researcher Portal (https://eservices.queensu.ca/romeo_researcher/)

Reporting of Complaints: Any complaints made by participants or persons acting on behalf of participants must be reported to the Research Ethics Board within 7 days of becoming aware of the complaint. Note: All documents supplied to participants must have the contact information for the Research Ethics Board.

Annual Renewal: Prior to the expiration of your approval (which is one year from the date of the Chair's signature below), you will be reminded to submit your renewal form along with any new changes or amendments you wish to make to your study. If there have been no major changes to your protocol, your approval may be renewed for another year.

Yours sincerely,

Chair, Research Ethics Board
May 03, 2012

Investigators please note that if your trial is registered by the sponsor, you must take responsibility to ensure that the registration information is accurate and complete



QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD

The membership of this Research Ethics Board complies with the membership requirements for Research Ethics Boards and operates in compliance with the Tri-Council Policy Statement, Part C Division 5 of the Food and Drug Regulations, OHRP, and U.S. DHHS Code of Federal Regulations Title 45, Part 46 and carries out its functions in a manner consistent with Good Clinical Practices.

Federalwide Assurance Number: #FWA00004184, #IRB00001173

Current 2012 membership of the Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board:

Dr. A.F. Clark, Emeritus Professor, Department of Biochemistry, Faculty of Health Sciences, Queen's University (Chair)

Dr. H. Abdollah, Professor, Department of Medicine, Queen's University

Dr. R. Brison, Professor, Department of Emergency Medicine, Queen's University

Dr. M. Evans, Community Member

Dr. S. Horgan, Manager, Program Evaluation & Health Services Development, Geriatric Psychiatry Service, Providence Care, Mental Health Services, Assistant Professor, Department of Psychiatry

Ms. J. Hudacín, Community Member

Mr. D. McNaughton, Community Member

Ms. P. Newman, Pharmacist, Clinical Care Specialist and Clinical Lead, Quality and Safety, Pharmacy Services, Kingston General Hospital

Dr. W. Racz, Emeritus Professor, Department of Pharmacology & Toxicology, Queen's University

Ms. S. Rohland, Privacy Officer, ICES-Queen's Health Services Research Facility, Research Associate, Division of Cancer Care and Epidemiology, Queen's Cancer Research Institute

Dr. B. Simchison, Assistant Professor, Department of Anesthesiology and Perioperative Medicine, Queen's University

Dr. A.N. Singh, WHO Professor in Psychosomatic Medicine and Psychopharmacology
Professor of Psychiatry and Pharmacology, Chair and Head, Division of Psychopharmacology, Queen's University, Director & Chief of Psychiatry, Academic Unit, Quinte Health Care, Belleville General Hospital

Dr. E. Tsai, Associate Professor, Department of Paediatrics and Office of Bioethics, Queen's University

Dr. E. VanDenKerkhof, Professor, School of Nursing and Department of Anesthesiology and Perioperative Medicine, Queen's University

Appendix 4: Information Sheet, English



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de la santé
École des sciences
infirmières

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INFORMATION SHEET

Intensive Care Nursing in Canada, 1960-2002: The Intersection of Technology, Nurses' Work and Relationships

Subject: The work of Canadian Intensive Care Unit nurses from 1960-2002

This research study has been designed in partial fulfilment of the requirements of the Doctorate in nursing degree at the University of Ottawa. Drs. Cynthia Toman and Frances Fothergill-Bourbonnais are co-supervising this research study.

Brandi Vanderspank is investigating the nature of nurses' work who were employed in Intensive Care Units (ICU) across Canada from 1960-2002. You are invited to participate in this study as a registered nurse who was employed in a Canadian ICU during this time period. Your participation will consist of an oral history interview, approximately 1 to 1.5 hours in length which will be digitally recorded. The researcher may request an additional shorter interview to clarify or add further details related to your first interview. Rarely would there be need for a third short interview to follow up. You will be asked for permission to use quotes from your interview attributed to you by name, in presentations and publications that result from this research as commonly expected in history.

The potential benefits of participating in this study include the opportunity to share your story and experiences as ICU nurse. The information provided will also help to build the larger bodies of knowledge related to critical care nursing, nursing history, and Canadian history. Potential risks may include fatigue during the interview and/or uncomfortable memories you may recall. Opportunity for rest during the interview will be provided, if requested. You may choose the place, time, and length of the interviews. During the interviews, if you recall experiences which are distressing, you may stop the interview, change the subject matter or have any sensitive material removed from the transcribed interview and researcher's notes.

Participation is voluntary and you may withdraw from the study at any time. You may review the transcripts and delete any material that you do not wish revealed without penalty. Papers will be written and presentations given based on the findings of this study. You may choose to be quoted in material presented from this study.



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or you may specifically state on the consent form that you do not wish to be quoted. In that case, identifying material will be omitted and your information will be used anonymously.

Thank you for considering participation in this research. Your contributions are valuable and appreciated by the researcher. You may contact Brandi Vanderspank, Dr. Toman or Dr. Fothergill-Bourbonnais with questions about the study at the phone numbers or email addresses given below.

Brandi Vanderspank
School of Nursing, University of Ottawa

Dr. Cynthia Toman
School of Nursing, University of Ottawa

Dr. Frances Fothergill Bourbonnais
School of Nursing, University of Ottawa

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Appendix 5: Information Sheet, French



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FEUILLE D'INFORMATION

Soins infirmiers dans les soins intensifs au Canada, 1960-2002:
L'intersection de la technologie, le travail des infirmières et les
relations

Objet: Le travail des infirmières canadiennes aux soins intensifs de
1960-2002

Cette étude a été conçue pour satisfaire partiellement aux exigences
du doctorat en sciences infirmières à l'Université d'Ottawa. Drs.
Cynthia Toman et Frances Fothergill-Bourbonnais sont co-
superviseuses de cette étude.

Brandi Vanderspank étudie la nature du travail des infirmières qui
travaillaient dans les unités de soins intensifs (USI) à travers le
Canada de 1960 à 2002. Vous êtes invités à participer à cette étude
comme une infirmière qui était employée dans une unité de soins
intensifs au Canada pendant cette période. Votre participation
consistera en une entrevue orale d'histoire, d'environ 1 à 1,5 heures
en longueur qui sera enregistré électroniquement. Le chercheur peut
demander une entrevue complémentaire plus courte afin de clarifier
ou d'ajouter plus de détails liés à votre première entrevue. Rarement
il y aurait besoin d'une courte troisième entrevue afin d'assurer le
suivi. Il vous sera demandé la permission d'utiliser vos
commentaires de votre entrevue et votre nom dans les présentations
et les publications qui résultent de cette recherche, généralement
attendu en histoire.

Les avantages potentiels de participer à cette étude sont l'occasion
de partager votre histoire et vos expériences comme infirmière aux
soins intensifs. L'information fournira de plus amples connaissances
relatives aux soins infirmiers critiques, histoire des sciences
infirmières, et l'histoire du Canada. Les risques potentiels peuvent
inclure la fatigue pendant l'entrevue et / ou peut-être le rappel des
souvenirs désagréables. La possibilité de repos au cours de
l'entrevue sera fournie, sur demande. Vous pouvez choisir le lieu,
l'heure et la durée des entrevues. Au cours des entrevues, si vous
vous souvenez d'expériences qui sont pénibles, vous pouvez arrêter
l'interview, changer le sujet ou demander que tout matériel sensible
de l'entrevue soit enlevé des notes transcrites du chercheur.

Votre participation est volontaire et vous pouvez vous retirez de
l'étude à tout moment. Vous pouvez consulter les relevés de notes et
demander de supprimer tout matériel que vous ne souhaitez pas



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inclure sans pénalité. Des articles seront écrits et des présentations
donné baser sur les résultats de cette étude. Vous pouvez choisir
d'être cité dans le matériel présenté dans cette étude ou vous
pouvez précisément sur le formulaire de consentement que vous
ne souhaitez pas être cité. Dans ce cas, tout identification sera
supprimé et vos informations seront utilisées de façon anonyme.s

Merci de considérer votre participation à cette recherche. Votre
contribution est précieuse et appréciée par le chercheur. Vous
pouvez communiquer avec Brandi Vanderspank, M. Toman ou
M. Fothergill-Bourbonnais avec des questions sur l'étude aux
numéros de téléphone ou adresses courriel ci-dessous.

Brandi Vanderspank
École des sciences infirmières, Université d'Ottawa

Dre. Cynthia Toman
École des sciences infirmières, Université d'Ottawa

Dre Frances Fothergill Bourbonnais
École des sciences infirmières, Université d'Ottawa

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Appendix 6: Consent Form, English



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CONSENT FORM

**Intensive Care Nursing in Canada, 1960-2002:
The Intersection of Technology, Nurses' Work and
Relationships**

Researcher Names:

Brandi Vanderspank PhD(c)
University of Ottawa, School of Nursing

Dr. Cynthia Toman
University of Ottawa, School of Nursing

Dr. Frances Fothergill Bourbonnais
University of Ottawa, School of Nursing

Invitation to Participate: I understand that I have been invited to participate in this research study on the history of ICU nursing, conducted by Brandi Vanderspank (PhD student) and supervised by Drs. Cynthia Toman and Frances Fothergill-Bourbonnais.

Purpose of the Study: The purpose of the study is to explore the nature of Intensive Care nurses' work and how things changed from 1960-2002 in order to better inform present and future health care policies and decisions.

Participation: My participation will consist of a minimum of one audio-recorded, oral history interview, approximately one to 1.5 hours in length. If there are further questions or clarification, I may be contacted to arrange a second or third shorter interview. I can choose the place and time of the interview. I will be asked to complete a short demographic questionnaire about my education and career that will take approximately ten minutes to complete. Then I will be asked to share my experiences as an ICU nurse.

Risks: During the interview, I may feel fatigued or recall potentially painful emotions or memories. I understand that every effort will be made to minimize these risks, including the opportunity to rest. If I experience strong emotions, I may stop the interview at anytime, change the subject matter or have any sensitive material removed from the digital recording and researcher's notes.



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Benefits: My participation in this study will allow me to share my experiences as an ICU nurse and contribute to both nursing and historical knowledge.

Confidentiality and anonymity: I understand the importance in history of identifying me by name in presentations and publications that result from this research. I also understand that I may request to have my interview, in whole or in part, remain strictly confidential if I so choose. I have been provided the opportunity to decide whether or not the information I provide will remain confidential and anonymous. Your anonymity will be safeguarded by assigning a numerical code to your data.

_____ *I agree to be both taped and quoted using my natural name.*

_____ *I agree to be both taped and quoted anonymously.*

_____ *I agree to be taped but not quoted.*

Conservation of data: All data (digital recordings, paper and electronic copies of the researcher's notes, and transcribed interviews) will be kept securely, stored in password protected electronic files and a secured cabinet in the researcher's office until the end of this research study at which time the researcher will request the Centre for Oral History and Digital Storytelling at Concordia University to receive and preserve the taped interviews and transcripts for the historical record. If you choose not to have your interview submitted to the oral history archive at Concordia University, the interviews and transcripts will be destroyed five years after the thesis is completed. During the time period of the study, only the researchers named above will have access to the data.

_____ *I give consent for my interviews to be stored with the Centre for Oral History and Digital Storytelling at Concordia University.*

Compensation: No compensation will be provided.

Voluntary Participation: I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. If I choose to withdraw, all data gathered until the time of withdrawal will be returned to me, if the interview has already been transcribed. If the interview has not yet been transcribed the digital interview will be deleted by the researcher. I may request a copy of the digital file prior to its deletion.

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Acceptance: I, _____, agree to participate in the above research study conducted by Brandi Vanderspank of the School of Nursing, University of Ottawa and co-supervised by Drs. Cynthia Toman and Frances Fothergill-Bourbonnais, School of Nursing, University of Ottawa.

supervisors.

If I have any questions regarding the ethical conduct of this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5, or by telephone at (613) 562-5387, or by email: ethics@uottawa.ca

There are two copies of the consent form, one of which is mine to keep.

Participant's signature:

Date:

Researcher's signature:

Date:

Appendix 7: Consent Form, French



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FORMULAIRE DE CONSENTEMENT

**Soins infirmiers dans les soins intensifs au Canada, 1960-2002:
L'intersection de la technologie, le travail des infirmières et les
relations**

Noms des chercheurs:

Brandi Vanderspank doctorat (c)
Université d'Ottawa, École des sciences infirmières

Dre.Cynthia Toman
Université d'Ottawa, École des sciences infirmières

Dre Frances Fothergill Bourbonnais
Université d'Ottawa, École des sciences infirmières

Invitation à participer: Je comprends que je suis invité à participer à cette étude de recherche sur l'histoire des soins infirmiers aux soins intensifs, menée par Brandi Vanderspank (candidate au doctorat) et supervisé par les Drs. Cynthia Toman et Frances Fothergill-Bourbonnais.

But de l'étude: Le but de cette étude est d'explorer la nature du travail des infirmières qui travaillaient dans les unités de soins intensifs (USI) et comment les choses ont changé depuis 1960 à 2002 afin de mieux informer les politiques et les décisions de soins actuels et futurs.

Participation: Ma participation sera composée d'un minimum d'une entrevue d'histoire orale enregistrée, d'environ 1 à 1,5 heures. S'il y a des questions ou des précisions, je peux être contacté pour une deuxième entrevue ou même une troisième plus courte. Je peux choisir le lieu et l'heure de l'entrevue. Je vais être appelé à remplir un court questionnaire démographique sur ma formation et ma carrière qui prendra environ dix minutes à remplir. Ensuite, je vais être invité à partager mes expériences en tant qu'infirmière de l'USI.

Risques: Au cours de l'entrevue, je peux me sentir fatigué ou faire rappel d'émotions ou de souvenirs désagréables. Je comprends que tous les efforts seront faits pour minimiser ces risques, y compris la possibilité de me reposer. Si je ressens des émotions fortes, je peux cesser l'entrevue à tout moment, changer le sujet ou demander que tout matériel sensible de l'entrevue soit enlevé des notes transcrites du chercheur.

Avantages: Ma participation à cette étude me permettra de partager mes expériences en tant qu'infirmière de l'USI et de contribuer à la fois aux connaissances historiques et en soins infirmiers.



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Confidentialité et anonymat: Je comprends l'importance dans l'histoire que je sois identifié par nom dans les présentations et les publications qui résultent de cette recherche. En plus, je comprends que je peux demander que mon entrevue, tout ou en partie, reste strictement confidentielle si je le souhaite. J'ai été présenté l'occasion de décider si oui ou non les informations que je fournis demeurent confidentiels et anonymes. Un code numérique sera fourni pour vos données afin de préserver votre anonymat.

_____ Je suis d'accord d'être enregistré et cité en utilisant mon nom actuel.

_____ Je suis d'accord d'être enregistré et cité anonymement.

_____ Je suis d'accord d'être enregistré mais non cité

Conservation des données: Toutes les données (par enregistrements, en papier, les copies électroniques de notes du chercheur et les entrevues transcrites) seront conservés en lieu sûr, en fichiers électroniques avec mot de passe protégé et en armoire sécurisée dans le bureau du chercheur jusqu'à la fin de cette étude de recherche. Après l'étude le chercheur demandera aux archives de le centre d'histoire orale et de récits numérisés de l'université Concordia de recevoir et de préserver les entrevues enregistrées et la transcription de l'enregistrement historique. Si vous choisissez de ne pas soumettre votre histoire orale aux archives de l'université Concordia, les entrevues et les transcriptions seront détruites cinq ans après que la thèse soit terminée. Pendant l'étude seulement les chercheurs identifiés ci-haut auront accès aux données.

_____ Je consens que mon entrevue soit gardée dans le Centre d'histoire orale et de récits numérisés de l'Université Concordia.

Rémunération: Aucune compensation ne sera fournie.

Participation volontaire: je suis sous aucune obligation de participer et si je choisis de participer, je peux retirer de cette étude à tout moment et / ou refuser de répondre à toutes les questions, sans subir de conséquences négatives. Si je décide de me retirer toutes les données recueillies jusqu'au moment du retrait me seront retournées, si l'entrevue a déjà été transcrite. Si l'entrevue n'a pas encore été transcrite l'enregistrement sera supprimé par le chercheur. Je peux demander une copie de l'enregistrement avant sa suppression.



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Consentement: Je, _____, accepte de participer à l'étude de recherche ci-dessus menée par Brandi Vanderspank de l'École des sciences infirmières de l'Université d'Ottawa et co-dirigé par les docteurs Cynthia Toman et Frances Fothergill-Bourbonnais, École des sciences infirmières de l'Université d'Ottawa.

Si j'ai des questions au sujet de l'étude, je peux communiquer avec le chercheur ou ses supérieurs.

Si j'ai des questions concernant l'éthique de cette étude, je peux communiquer avec le bureau d'éthique et d'intégrité de la recherche de l'université d'Ottawa, Pavillon Tabaret, 550, rue Cumberland, pièce 154, Ottawa, ON K1N 6N5, ou par téléphone au (613) 562-5387, ou par courriel: ethique@uOttawa.ca

Il y a deux copies du formulaire de consentement, dont l'un est à moi pour garder.

Signature du participant:

Date:

Signature du chercheur:

Date:

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Appendix 8: Demographic Data Questionnaire, English

Participant's Name:

Participant's Address:

Participant's Telephone #:

of years as a Registered Nurse:

of years as a RN in Intensive Care:

of years of experience as RN when first started in Intensive Care:

Education in Nursing: (Please identify the school of nursing and year of graduation)

Hospital School of Nursing:

Diploma in Nursing:

Bachelor of Nursing / Bachelor of Science in Nursing:

Masters:

PhD:

Did you receive any additional formal or informal education? Yes / No (please circle)

If yes, please describe the formal/informal education:

Appendix 9: Questionnaire de données démographiques

Nom du participant :

Adresse du participant:

N ° de téléphone du participant:

Nombre d'années comme infirmière autorisée (IA):

Nombre d'années comme IA aux soins intensifs :

Nombre d'années d'expérience comme IA avant votre emploi aux soins intensifs :

Formation en soins infirmiers: (S'il vous plaît identifier les écoles d'infirmières et l'année d'obtention du diplôme)

Formation par école infirmière associé avec un hôpital :

Diplôme en soins infirmiers:

Baccalauréat en soins infirmiers / Baccalauréat de science en soins infirmiers:

Maîtrise:

Doctorat:

Avez-vous reçu une formation supplémentaire formelle ou informelle? Oui / Non (s'il vous plaît encrer la réponse)

Si oui, s'il vous plaît décrire l'éducation formelle / informelle:

Appendix 10: Semi-Structured Interview Questions, English

1. How did you become interested in being an Intensive Care Unit nurse?
2. What was a typical day like in the ICU in 1960, (1970, 1980, 1990)? (Adjust questions based on the years the participant worked in ICU)
3. What was an atypical day like in 1960, (1970, 1980, 1990)? (Adjust questions based on the years the participant worked in ICU)
4. What positive experiences did you have as an ICU nurse?
5. What negative or challenging experiences have you encountered as an ICU nurse?
6. Is there anything else you would like to add?

Appendix 11: Questions d'entrevue semi-structurées

1. Comment êtes vous devenue intéressée à être une infirmière dans l'unité des soins intensifs?
2. Décrivez une journée typique à l'USI, en 1960, (1970, 1980, 1990)? (Ajuster la question basée sur les années dans lesquelles le participant travaillait aux SI)
3. Décrivez une journée atypique en 1960, (1970, 1980, 1990)? (Ajuster la question basée sur les années dans lesquelles le participant travaillait aux SI)
4. Quelles expériences positives avez-vous eu comme infirmière aux soins intensifs?
5. Quelles sont les expériences négatives ou difficiles que avez-vous rencontré en tant qu'infirmière aux soins intensifs?
6. Avez-vous autre chose que vous voudriez ajouter?

Appendix 12: Participant Demographics

Participant's Name	Total # of years as Registered Nurse (RN)	Total # years as RN in ICU	# of years of nursing experience when starting in ICU	Nursing Education	Additional Education in Critical Care	Canadian Nurses' Association Critical Care Nursing Certification
Sharon Anderson	55	34	13	Ottawa Civic Hospital School of Nursing	In-services, Advanced Cardiac Life Support	
Beverly Brennan	35	8	8	Vanier School of Nursing	Neonatal ICU Course, Advanced Cardiac Life Support, Post-Anaesthesia Care Unit Course	
Mona Burrows	26	26	New Graduate	St. Lawrence College - Cornwall, University of Ottawa (BScN) University of Pheonix (MScN)	Algonquin Critical Care Course, Advanced Cardiac Life Support (Instructor)	Yes
Alice Dyna	42	42	New Graduate	Misericordia School of Nursing	Intensive Care Nursing Program – Winnipeg General Hospital, Continuing Education in Administration and Education	
Sue Eggleton	22	12	10	Foothills School of Nursing	Critical Care Course – Dartmouth General Hospital	

Participant's Name	Total # of years as Registered Nurse (RN)	Total # years as RN in ICU	# of years of nursing experience when starting in ICU	Nursing Education	Additional Education in Critical Care	Canadian Nurses' Association Critical Care Nursing Certification
Jayne Elliott	13	7	1	Atkinson School of Nursing – Toronto Western Hospital	Post-Anesthesia Room/Recovery Room Course – Winnipeg General Hospital	
Frances Fothergill Bourbonnais	45	5 + 35 (years ICU teaching)	1	Montreal General Hospital School of Nursing, University of Toronto (BScN) Dalhousie University (MScN) King's College London (PhD)	In-services, Regular conference attendance	
Yvon Gagnier	22	22	New Graduate	St. Clair College – Thomas Campus	In-services, Advanced Cardiac Life Support	
JoAnne Hurrell	37	3	2	St. Lawrence College – Cornwall, University of Ottawa (BScN)	Critical Care Course – St. Lawrence College, Advanced Cardiac Life Support	
Mike Langill	21	21	New Graduate	University of Ottawa (BScN)	In-services, Advanced Cardiac Life Support	

Participant's Name	Total # of years as Registered Nurse (RN)	Total # years as RN in ICU	# of years of nursing experience when starting in ICU	Nursing Education	Additional Education in Critical Care	Canadian Nurses' Association Critical Care Nursing Certification
Teresa M. Lee	34	4	3 months	McMaster University (BScN), Dalhousie University (MScN)	Intensive Care Nursing Program – Winnipeg General Hospital	
Barbara (Fryer) MacLean (2 separate oral history interviews)	38	38	New Graduate	Vanier CEGEP	ROCOM – Coronary Care Course, Advanced Cardiac Life Support	
Sue Malone-Tucker	29	29	New Graduate	St. Clare's Mercy Hospital, Dalhousie University (BScN)	In-services, Workshops, Advanced Cardiac Life Support	Yes
Maureen McBain	35	31	4	Hotel Dieu School of Nursing – Cornwall ON,	In-services	
Donalda (Donnie) Parks	42	25	1	Hospital for Sick Children School of Nursing		
Ruth Pollock	42	25	1	Ottawa Civic Hospital School of Nursing, University of Ottawa (BScN), University of Ottawa (MScN)	On the job training/education in Critical Care	

Participant's Name	Total # of years as Registered Nurse (RN)	Total # years as RN in ICU	# of years of nursing experience when starting in ICU	Nursing Education	Additional Education in Critical Care	Canadian Nurses' Association Critical Care Nursing Certification
Judy Rashotte	40	23	New Graduate	Hospital for Sick Children School of Nursing, Dalhousie University (BScN), University of Ottawa (MScN), University of Alberta (PhD)	Critical Care Courses – Algonquin College	
Sharon Slivar	30	27	2.5	Algonquin College, Université du Québec à Hull (BScN), University of Ottawa (Med)	Critical Care Course – Algonquin College	
Shelley Snider	32	32	3 months	Cornwall Regional School of Nursing	2 week orientation to Cardiac Care, Annual workshops in Critical Care, Advanced Cardiac Life Support (Provider and Instructor)	

Participant's Name	Total # of years as Registered Nurse (RN)	Total # years as RN in ICU	# of years of nursing experience when starting in ICU	Nursing Education	Additional Education in Critical Care	Canadian Nurses' Association Critical Care Nursing Certification
Brenda Stutsky	28	7 (at bedside), 17 (as Director of Education Program)	6 months	Misericordia General Hospital School of Nursing, University of Manitoba (BScN), University of Western Ontario (MScN), Nova Southeastern University (PhD)	Intensive Care Nursing Program – Winnipeg General Hospital	
Mary Thornton	31	29	2	Vanier College CEGEP Montreal	Critical Care Courses: Cardiology, Respiriology, Critical Care Certification – Humber College	Yes
Riek vandenBerg	34	18	4	University of Ottawa (BScN), University of Ottawa (MScN)	Formal ICU Orientation – Ottawa Civic Hospital, Workshops, Conferences	
John van de Kamp	30	22	2	St. Lawrence College – Cornwall	Critical Care Course, In-services	
Anonymous	36	10	2	Hamilton Civic Hospital School of Nursing, Humber College (Diploma)	6 month Coronary Care Course – Humber College, Advanced Cardiac Life Support	

Appendix 13: Hospitals Where Participants Worked, 1960-2002.

Province	Hospital Name	Town/City
British Columbia	Burnaby General Hospital	Burnaby
	Kelowna General Hospital	Kelowna
	St. Paul's Hospital	Vancouver
	University of British Columbia Hospital	Vancouver
	Vancouver General Hospital	Vancouver
Alberta	Victoria General Hospital	Victoria
	Barrhead General Hospital	Barrhead
Saskatchewan	University Hospital	Edmonton
Manitoba	St. Paul's Hospital	Saskatoon
Ontario	Seven Oaks General Hospital	Winnipeg
	St. Boniface General Hospital	Winnipeg
	Winnipeg General Hospital	Winnipeg
	Winnipeg Health Sciences Centre	Winnipeg
	Chatham General Hospital	Chatham
Quebec	Children's Hospital of Eastern Ontario	Ottawa
	Cornwall General Hospital	Cornwall
	Hospital for Sick Children	Toronto
	Hotel Dieu Hospital	Cornwall
	Kingston General Hospital	Kingston
	Kitchener-Waterloo Hospital	Kitchener-Waterloo
	Lake of the Woods Hospital	Kenora
	Mount Sinai Hospital	Toronto
	Northwestern General Hospital	Toronto
	Ottawa Civic Hospital	Ottawa
	Ottawa General Hospital	Ottawa
	Queensway Carleton Hospital	Ottawa
	Riverside Hospital of Ottawa	Ottawa
	St. Michael's Hospital	Toronto
	Sunnybrook Hospital	Toronto
	The Ottawa Hospital	Ottawa
	Toronto General Hospital	Toronto
	Women's College Hospital	Toronto
	York Finch Hospital	Toronto
Quebec	Montreal General Hospital	Montreal
	Royal Victoria Hospital	Montreal
New Brunswick	St. John Regional Hospital	St. John
Nova Scotia	Dartmouth General Hospital	Dartmouth
	Halifax Infirmary	Halifax
	Izaak Walton Killam Hospital for Children	Halifax
Newfoundland	Curtis Memorial Hospital	St. Anthony
	General Hospital Corporation	St. John's

BIBLIOGRAPHY

PRIMARY SOURCES

Oral History Interviews by Author

- Anonymous. Audiotaped interview by author. Ottawa, 19 September 2011.
- Anderson, Sharon. Audiotaped interview by author. Ottawa, 23 January 2013.
- Brennan, Beverly. Audiotaped interview by author. Ottawa, 23 January 2013.
- Burrows, Mona. Audiotaped interview by author. Cornwall, Ont., 31 August 2011.
- Dyna, Alice. Audiotaped interview by author. Winnipeg, 27 October 2011.
- Eggleton, Sue. Audiotaped interview by author. Ottawa, 28 September 2011.
- Elliott, Jayne. Audiotaped interview by author. Ottawa, 15 September 2011.
- Fothergill Bourbonnais, Frances. Audiotaped interview by author. Ottawa, 30 September 2011.
- Gagnier, Yvon. Audiotaped interview by author. Ottawa, 28 September 2011.
- Hurrell, JoAnne. Audiotaped interview by author. Cornwall, Ont., 21 January 2013.
- Langill, Mike. Audiotaped interview by author. Ottawa, 12 January 2012.
- Lee, Teresa. Audiotaped interview by author. Ottawa, 10 February 2012.
- Fryer MacLean, Barbara. Audiotaped interview by author. Kemptville, Ont., 3 August 2010; Ottawa, 22 August 2011.
- Malone-Tucker, Sue. Audiotaped interview by author. Ottawa, 20 September 2011.
- McBain, Maureen. Audiotaped interview by author. Ottawa, 23 January 2013.
- Parks, Donalda "Donnie". Audiotaped interview by author. Toronto, 19 April 2013.
- Pollock, Ruth. Audiotaped interview by author. Chrysler, Ont., 7 September 2011.
- Rashotte, Judy. Audiotaped interview by author. Ottawa, 23 January 2012.
- Slivar, Sharon. Audiotaped interview by author. Ottawa, 15 September 2011.
- Snider, Shelley. Audiotaped interview by author. Cornwall, Ont., 20 January 2012.
- Stutsky, Brenda. Audiotaped interview by author. Winnipeg, 26 October 2011.
- Thornton, Mary. Audiotaped interview by author. Ottawa, 8 March 2012.
- van de Kamp, John. Audiotaped interview by author. Riverside, Ont., 30 January 2012.
- van den Berg, Riek. Audiotaped interview by author. Ottawa, 9 January 2012.

Other Oral History Interviews

- Buckley, Connie. Autiotaped interview by Evelyn Kerr and Cynthia Toman. Ottawa, 10 March 1995.
- Keon, Dr. Wilbert. Audiotaped interview by Evelyn Kerr and Cynthia Toman. Ottawa, 14 March 1995.
- Richardson, Joyce. Audiotaped interview by Evelyn Kerr and Cynthia Toman. Ottawa, 10 March 1995.
- Barbara Louise Carroll, Barbara Louise. Oral history tape interview by B.C. History of Nursing Society, OH # 188.
- Lim, Clara (Kwan). Oral history tape interview by B.C. History of Nursing Society, OH #79.
- McPherson, Debra. Oral history tape interview by B.C. History of Nursing Society, OH #168.
- Staples, Sara (Sally). Oral history tape interview by B.C. History of Nursing Society, OH #169.

Personal Communications

- Personal Communication with Marion McKay, September 2009
- Personal Communication with Frances Fothergill Bourbonnais, May 2013.
- Personal Communication with Frances Fothergill Bourbonnais, 7 October 2013.
- Personal Communication with Ruth Pollock, February 2013.
- Personal Communication with Kelli Lockhart, Certification Manager, American Association of Critical Care Nurses – Certification Corporation, 8 July 2013.
- Personal Communication with Mike Langill, 24 July 2013.
- Personal communication with Christine Halfkenny-Zellas, Chief Operating Officer, Canadian Association of Critical Care Nurses, 12 August 2013.

Kingston General Hospital Archives

- KGH, BE, EQ, 28-1. Kingston General Hospital (KGH).
- Minutes of Committee re Acute Treatment Area held on 15 April 1959, prepared by Dr. D. L. C. Bingham, F.R.C.S., Chairman of Committee on Acute Treatment Area, Box 2, Donald M. MacIntyre fonds, Kingston General Hospital (KGH) Archives.
- Medical Conference Committee (MCC) Minutes, 15 September 1959, P.3 – Report from Dr. Bingham Re Intensive Treatment Area, Box 1, Medical Advisory Committee (MAC) fonds, KGH Archives.
- Letter from Dr. D. L. C Bingham to Dr. R. C. Burr, Chairman, Medical Conference Committee, 8 October 1959, re trip to Rhode Island Hospital, Providence Rhode Island, United States of America, Box 1, MAC fonds, KGH Archives.
- THE INTENSIVE TREATMENT AREA Suggested Regulations, accepted by Medical Conference and Advisory Committee, 21 November 1961, Box 1, MAC fonds, KGH Archives.
- Report on the Respiratory Insufficiency Unit to the MCC at the Kingston General Hospital, 2 February 1962, Box 2, MAC fonds, KGH Archives.

ICU Committee for patient care, “Registered Respiratory Technologist’s Duties” report, submitted by Mr. D. Stone, Supervisor, Respiratory Technology Department, 18 July 1977, Box 25, MAC fonds, KGH Archives.

Letter from S. F. G. Wren, M.D. to Dr. R. Matthew, Professor and Head, Department of Anesthesia, Hotel Dieu Hospital, 28 January 1982, re Duties of Respiratory Technologists, Box 26, MAC fonds, KGH Archives. The proposed recommendations for the duties were established by Drs. Wren, Steve Shelley, and Stan Pietak.

Winnipeg Health Sciences Centre

Winnipeg General Hospital, *Annual Reports and Accounts*, 1961, F4, S4, Box 11, Health Sciences Centre Archives/Museum

Winnipeg General Hospital, *Annual Reports and Accounts*, 1962, F4, S4, Box 11, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, *Annual Reports and Accounts*, 1964, F4, S4, Box 11, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, *Annual Reports and Accounts*, 1965, F4, S4, Box 12, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, *Annual Reports and Accounts*, 1966, F4, S4, Box 12, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, *Annual Reports and Accounts*, 1967, F4, S4, Box 12, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, *Annual Reports and Accounts*, 1968, F4, S4, Box 12, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, *Annual Reports and Accounts*, 1969, F4, S4, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, *The Generator*, Summer issue 1967, F4 S3, Box 8, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, *The Generator*, vol. 9, no.16 (October 1967), F4,S3, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, *The Generator*, vol. 11, no. 8, October 1969, F4 S3, Box 8, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, *The Generator*, vol. 13, no. 10, November 1971, F4 S3, Box 8, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, *The Generator*, vol. 14, no. 12, January 1973, F4 S3, Box 8, Health Sciences Centre Archives/Museum.

Winnipeg General Hospital, Nurses’ Alumni Journal, 1976, p. 46, F1, A2, S2, Health Sciences Archives/Museum.

Health Sciences Centre – Intensive Care Nursing Program, *Guidelines for Buddying a Student in Phase I of the I.C.N.P.*, HSC2011/3, Box 4, Health Sciences Centre Archives/Museum.

Alice Dyna, *Drug Study Guide*, 1970, HSC2011/3, Box 3, Health Sciences Centre Archives/Museum.

Healing and Hope: A History of Health Sciences Centre Winnipeg (Winnipeg: Health Sciences Centre Winnipeg, 2009).

Private Collections

Donnie “Donalda” Parks:

Red Booklets, Education Manuals.

Photographs used with permission: Image 2: Mannequin created by Donnie Parks. Learning to draw arterial blood gases.; Image 3: Learning to do tracheotomy care at the Hospital for Sick Children.; Image 4: Learning to provide supplemental oxygen.; Image 5: Example of manuals created by Donnie Parks.

Sharon Anderson:

The General Alert 3, no. 2, May 1971. (Image 1: Opening of the ICU at the Cornwall General Hospital. Used with permission from Cornwall Community Hospital.)

Image 11: Farewell party for “Fran” Fothergill Bourbonnais with colleagues from Cornwall General Hospital, August 1976. Used with permission.

Riek Van den Berg:

Letter from Helen Weick to Reik van den Berg, 8 May 1989.

Pulse, Monthly News from the Ottawa Civic Hospital, 12 May 1989, p.8.

Canadian Association of Critical Care Nurses:

Canadian Association of Critical Care Nurses. *Standards for Critical Care Nursing Practice Canadian Association of Critical Care Nurses*. London: Canadian Association of Critical Care Nurses, 1992. – Available at Library and Archives Canada.

Canadian Association of Critical Care Nurses. *Critical Care Nursing Specialty Designation Proposal*. London: Canadian Association of Critical Care Nurses, 8 September 1993.

Canadian Association of Critical Care Nurses. *Annual General Meeting Minutes 1999*. London: Canadian Association of Critical Care Nurses, 1999.
<http://www.caccn.ca/en/members/index.html>, (restricted to members only), accessed 18 October 2013.

Canadian Association of Critical Care Nurses. *Annual Report 2002*. London: Canadian Association of Critical Care Nurses, 2002.

Canadian Association of Critical Care Nurses, *2006 Annual Report*,
http://www.caccn.ca/files/caccn_annual_report06.pdf, accessed 18 October 2013

Minutes of the Meeting between Toronto and Niagara CACCN, 23 February 1983.

Minutes of the Executive of the AACN Toronto Chapter, 7 April 1983.

Minutes of the Executive of the AACN Toronto Chapter, 20 April 1983.

Canadian Association of Critical Care Nurses, Press Release, 7 December 2012, re being granted intervener status before the Supreme Court of Canada in the case of Mr. Hassan Rasouli v. Sunnybrook Health Sciences Centre, Dr. Brian Cuthbertson, and Dr. Gordon Rubenfield,
[http://www.caccn.ca/en/pdfs/CACCN%20Press%20Release%20\(Supreme%20Court\)%20\(Dec%207,%202012\).pdf](http://www.caccn.ca/en/pdfs/CACCN%20Press%20Release%20(Supreme%20Court)%20(Dec%207,%202012).pdf), accessed 18 October 2013.

Canadian Association of Critical Care Nurses, "Dynamics 2013 Conference Brochure," p.2,
<http://www.caccn.ca/en/pdfs/CACCN%20Dynamics%202013%204WEBv3.pdf>, accessed 18 October 2013.

Contemporary Professional Literature – The Canadian Nurse

Angus, Monica D. "Nursing Shortage: A Possible Solution." *The Canadian Nurse* 60, no. 6 (1964): 563-565.

Bachand, Madeleine. "WANTED: A Definition of Nursing Practice." *The Canadian Nurse* 70, no. 5 (1974): 26-29.

Banning, Judith A. "Coming to Terms with Downsizing." *The Canadian Nurse* 88, no. 3 (1992): 3.

Bara, Matilda. "The Staff Nurse as Leader." *The Canadian Nurse* 83, no. 6 (1987): 32.

Beaufoy, Ann, Irene Goldstone, and Rosemarie Riddell. "AIDS: What Nurses Need To Know. Part 1, HIV Disease and AIDS." *The Canadian Nurse* 84, no. 8 (1988): 16-22.

Bisnaire, Deborah, Janice Burden, and Lyndia Monik. "Brain Stem Death: Managing the Family in Crisis." *The Canadian Nurse* 84, no. 1 (1988): 28-30.

Blishen, Bernard R. "Social Changes in Canada." *The Canadian Nurse* 58, no. 10 (1962): 887-895.

Borozny, Margaret. "Brain Death and Critical Care Nurses." *The Canadian Nurse* 84, no.1 (1988): 24-27.

Bryant, Emily. "When the Going Gets Tough." *The Canadian Nurse* 90, no. 2 (1994): 36-39.

Buller, Jean F. and Stella M. McDonald. "Orientation." *The Canadian Nurse* 58, no. 5 (1962): 417-418.

Buzath, Joyce, Beth Lievaart, and Elaine Schow. "Political Action: Choice or Obligation?" *The Canadian Nurse* 88, no.2 (1992): 35-36.

Callin, Mona E. "Inservice Education." *The Canadian Nurse* 63, no. 8 (1967): 32-34.

Campbell, Marie. "Organizational Settings Define Nursing: Let's Change The Definition." *The Canadian Nurse* 80, no. 9 (1984): 26-28.

Charette, Sandra. "Embrace adventure in job search." *The Canadian Nurse* 93, no. 7 (1997): 10.

"CNA Connections: Solving the Critical Care Nursing Shortage." *The Canadian Nurse* 85, no. 10 (1989): 10-13.

Coombs, Rosemary Prince. "Active-care Hospital Nurse Expands Her Role." *The Canadian Nurse* 64, no. 10 (1970): 23-29.

Davidhizar, Ruth E. "Worklife: Ten Strategies To Get Work, Or Keep It." *The Canadian Nurse* 92, no. 1 (1996): 49-50.

Davis, Anne J. "Ethical Dilemmas: A Survey." *The Canadian Nurse* 84, no. 10 (1988): 56-57.

Ericksen, Janet. "Steps to Ethical Reasoning." *The Canadian Nurse* 85, no. 8 (1989): 23-24.

Flett, Mary Ellen, Mary McInroy, and Elizabeth Nimmo. "A Respiratory Unit." *The Canadian Nurse* 57, no. 9 (1961): 859-862.

- Ford, Loretta C. "Nursing – Evolution or Revolution?" *The Canadian Nurse* 67, no. 1 (1971): 32-37.
- Ford, Lynda. "Head to Toe: A Straightforward Approach to Patient Assessment and Charting." *The Canadian Nurse* 72, no. 9 (1976): 26-27.
- Friese, Penny and Elane Stefura. "Job Sharing: A Solution to the Personal Energy Crisis." *The Canadian Nurse* 79, no. 1 (1983): 20-23.
- Fry, Jean and Basanti Majumdar. "Basic Physical Assessment." *The Canadian Nurse* 71, no. 5 (1974): 17-22.
- Gibson, Margaret-Isabel. "Put the Heart Back in Nursing." *The Canadian Nurse* 58, no. 6 (1962): 523-525.
- Greenhill, Stanley. "Our Changing Society." *The Canadian Nurse* 56, no. 5 (1960): 405-409.
- Guerette, Pauline. "The Future of Nurses' Work." *The Canadian Nurse* 88, no. 6 (1992): 12-14.
- Hayes, Marjorie. "Nursing Research Is Not Every Nurse's Business." *The Canadian Nurse* 71, no. 10 (1974): 17-18.
- Hill, Jean M. "The Minis Have It!" *The Canadian Nurse* 65, no. 11 (1969): 44-45.
- Hilton, B. Ann. "Quantity and Quality of Patients' Sleep and Sleep-Disturbing Factors in a Respiratory Intensive Care Unit." *The Canadian Nurse* 70, no. 8 (1974): 34.
- Houlihan, Patricia. "The Role of Health Professionals in Organ Donation." *The Canadian Nurse* 84, no.1 (1988): 21-22.
- Hurd, Jeanne Lemal. "Directional Signals for Nursing's Expanding Role." *The Canadian Nurse* 68, no. 1 (1972): 21-25.
- "ICUs Challenge to Nurses." *The Canadian Nurse* 64, no.6 (1968): 20-22.

- Jahoda, Marie. "Nursing as a Profession." *The Canadian Nurse* 57, no. 9 (1961): 825-835.
- Jean Jenny. "The Nurse Clinician in Canada." *The Canadian Nurse* 64, no. 4 (1968): 30-31.
- Joachim, Gloria. "Harnessing Technology." *The Canadian Nurse* 81, no.10 (1985): 15-16.
- Judd, Lynn and Donna Ciliska, "The Importance of Nursing Involvement in Health Care Planning." *The Canadian Nurse* 81, no.4 (1985): 25-27.
- King, Kathleen. "Research in a Basic Baccalaureate Program." *The Canadian Nurse* 68, no. 5 (1972): 21-23.
- Lane, Barbara. "Specialization in Nursing: Some Canadian Issues." *The Canadian Nurse* 81, no. 6 (1985): 24-25.
- Lary, Lindsay. "Planning for Unemployment." *The Canadian Nurse* 91, no.4 (1994): 53.
- Lévesque, Virginia. "Specialization and Certification: A Review of CNA's Activities." *The Canadian Nurse* 81, no. 6 (1985): 26-28.
- Lewis, Kathryn. "What It Takes To Be A Preceptor." *The Canadian Nurse* 82, no. 11 (1986): 18-19.
- MacDonald, E. Mae. "Parents Participate in Care of Hospitalized Child." *The Canadian Nurse* 65, no.12 (1969): 37-39.
- MacLeod, A. Isobel. "The Crisis of Identity." *The Canadian Nurse* 61, no. 1 (1965): 17.
- MacLeod, A. Isobel. "Your Association's Position on Collective Bargaining for Nurses." *The Canadian Nurse* 62, no. 10 (1966): 29.
- McColl, Bruce H. "RNs Belong at the Bargaining Table." *The Canadian Nurse* 70, no. 7 (1974): 15-16.
- Meilicke, C. A. "Administration and the Changing Role of the Nurse." *The Canadian Nurse* 57, no. 11 (1961): 1051-1055.

- Morris, Catherine M. "Delusions that trap nurses ..." *The Canadian Nurse* 69, no. 6 (1973): 37-40.
- Mussallem, Helen K. "The Expanding Role: Where Do We Go From Here?" *The Canadian Nurse* 67, no. 9 (1971): 31-34
- "News: Challenging the Nurse's Work Schedule." *The Canadian Nurse* 86, no. 8 (1990): 10-11.
- "News: For Nurses' Sake." *The Canadian Nurse* 86, no. 9 (1990): 10-11.
- "News: Intensive Care Nursing Course." *The Canadian Nurse* 63, no. 5 (1967): 17.
- Nicholson, Billie Patricia. "A Study to Determine the Type and Frequency of Interruptions Sustained by Postcardiotomy Patients in an Intensive Care Unit." *The Canadian Nurse* 71, no. 4 (1975): 50.
- Parkin, Margaret L. "Information Resources for Nursing Research." *The Canadian Nurse* 68, no. 3 (1972): 40-43.
- Parsons, R., J. MacLean, P. Butcher, and J. Shamian. "The Staff Nurse as Peer Educator: Preceptorship on the Unit." *The Canadian Nurse* 81, no.7 (1985): 19-20.
- Poole, Pamela E. "Patients Come First." *The Canadian Nurse* 57, no. 9 (1961): 823-825.
- Post, Shirley. "Inservice for Teachers, Too?" *The Canadian Nurse* 65, no. 9 (1969): 29-30.
- Robinson, Harold C. "Constant Care and the Smaller Ontario Community Hospital." *The Canadian Nurse* 71, no. 9 (1975): 52.
- Rogers, Ruby and Wilma Ballantyne, "Basic Qualities of a Good Nurse." *The Canadian Nurse* 59, no. 10 (1963): 948-953.
- Sanchez-Sweatman, Louise. "Legal Matters: Euthanasia." *The Canadian Nurse* 91, no.1 (1994): 51-52.

- Saunders, Peggy. "A Family-Oriented Program for Students in Obstetrics." *The Canadian Nurse* 64, no. 1 (1968): 32-34.
- Scholl, Karen. "Understanding AIDS." *The Canadian Nurse* 79, no. 10 (1983): 16-18.
- Shaver, Joan. "High-Touch Nursing in a High Tech World." *The Canadian Nurse* 82, no. 5 (1986): 16-19.
- Sims-Jones, Nicola. "Ethical Dilemmas in the NICU." *The Canadian Nurse* 82, no.4 (1986): 24-26.
- Slessor, Gail. "Auscultation of the Chest: A Clinical Nursing Skill." *The Canadian Nurse* 69, no. 4 (1973): 40-43.
- Smith, Carol Anne. "Job Satisfaction in Hospital Nursing." *The Canadian Nurse* 59, no. 2 (1963): 147-155.
- Smith, Roselyn and Elaine Burt. "Pediatric Intensive Care Units." *The Canadian Nurse* 57, no. 9 (1961): 856-858.
- Sutherland, R.W. "Needed: Nurses Who Are Clinical Specialists." *The Canadian Nurse* 62, no. 9 (1966): 26-28.
- Taylor, Joe and Pauline Zabowski. "Preceptorship is Alive and Well and Working at BCIT." *The Canadian Nurse* 78, no.6 (1982): 19-22.
- Van Weel, Heleen. "Euthanasia: Mercy, Morals and Medicine." *The Canadian Nurse* 91, no.8 (1995): 35-40.
- Williams, J. Ivan. "Hospital Nursing and the Demand for Change." *The Canadian Nurse* 66, no. 7 (1970): 38-42.

Contemporary Professional Literature – Journals of the CACCN

Baumgart, Alice J. "Certification – the "C" in Caring." *Canadian Critical Care Nursing Journal* 2, no. 6 (1985): 10-15.

Brown, Karen "Our Appointed Time." *Canadian Critical Care Nursing Journal* 4, no. 4 (1987): 4-6.

Canadian Association of Critical Care Nurses. "Dynamics of Critical Care 1986." *Canadian Critical Care Nursing Journal* 3, no. 1 (1984): 14-16.

Canadian Association of Critical Care Nurses. "Dynamics of Critical Care '87." *Canadian Critical Care Nursing Journal* 4, no. 2 (1987): 6-8.

Carnevale, Franco. "Computers in Nursing." *Canadian Critical Care Nursing Journal* 3, no. 4 (1986): 22-26.

Cuddy C. and D. Stephenson. "Nursing Retention and Recruitment: A Systematic Approach to Solving Nursing Shortages." *Dynamics: The Official Journal of the Canadian Association of Critical Care Nurses* 12, no.2 (2001): 398-39.

Elsner, Colleen and Doreen Ouellet. "Poster Presentations: Professional Information on a Personal Level." *Official Journal of the Canadian Association of Critical Care Nurses* 5, no. 3 (1994): 15-17.

French, N., F. Harrington, D. Layton, J. Fulton, and F. Howarth. "Abstract: Response to Crisis: Recruitment, Education and Mentoring Of Staff RNs for CCU/MICU." *Dynamics: Official Journal of the Canadian Association of Critical Care Nurses* 11, no. 2 (2000): 33.

Gervaise Patricia A. and Theresa Howard, "Burn-out in Nursing: An Alternative Explanation And Two Solutions Considered." *Canadian Critical Care Nursing Journal* 1, no. 1 (1984): 32-36.

- Harris, L., L. Jussaume, E. Jutras and L. Serrano. "A Flagship ICU: Flourishing during Difficult Times." *Dynamics: The Official Journal of the Canadian Association of Critical Care Nurses* 12, no. 2 (2001): 46-7.
- Kamenir, Sandra. "Are You Ready For That Elderly Patient?" *Canadian Critical Care Nursing Journal* 6, no.4 (1989): 23-27.
- Kidd, Catherine A., Whiteley, Marilyn, and Kathleen Scherer. "Development of Canadian Critical Care Nursing Standards: Report of Phase I." *Canadian Critical Care Nursing Journal* 4, no. 3 (1987): 8-12.
- Leeder, Cheryl Jean. "Recruiting and Retaining Nursing Personnel." *Canadian Critical Care Nursing Journal* 2, no.5 (1985): 14-17.
- MacDonald, Gwynne. "Blueprint for the Future: CACCN's Strategic Plan." *The Official Journal of the Canadian Association of Critical Care Nurses* 10, no. 4 (1999): 4-5.
- Mahon, Kate. "Question to the Board: What is the History of CACCN?" *Dynamics The Official Journal of the Canadian Association of Critical Care Nurses* 19, no. 1 (2008): 6.
- McArthur, Irene. "The Early C.A.C.C.N. :A Legacy Of Professionalism for Canadian Critical Care Nurses." *The Canadian Critical Care Nursing Journal* 2, no.1 (1985): 5-6.
- Morgan, Brenda. "Certification Update." *The Official Journal of the Canadian Association of Critical Care Nurses* 10, no. 3 (1999): 10.
- Porter, Marilyn, "Certification of Specialities in Nursing." *Canadian Critical Care Nursing Journal* 6, no. 4 (1989): 20-22.

- Rankin, Nikki J. and William D. Rankin, "Nursing Recruitment: Application of a Corporate Perspective." *Canadian Critical Care Nursing Journal* 4, no.3 (1987): 5-7.
- Rodney, Patricia. "Moral Distress in Critical Care Nursing." *Canadian Critical Care Nursing Journal* 5, no. 2 (1988): 9-11.
- Rozovsky, L. E. and F. A. "Moving to the U.S.A.: The Implication and The Price You Might Have To Pay." *Canadian Critical Care Nursing Journal* 4, no. 4 (1987): 14-16.
- Scholdra, Joanne. "Nurse Specialization in an Evolutionary Environment." *Canadian Critical Care Nursing Journal* 3, no. 2 (1986): 6-8.
- Thomas, Joyce "The Changing Role of the I.C.U. Nurse in Medical Rounds." *Canadian Critical Care Nursing Journal* 6, no. 1 (1989): 27-30.
- Whitely, Marilyn. "Developing National Standards for Critical Care Nurses." *Canadian Critical Care Nursing Journal* 3, no. 4 (1986): 7.
- Zanin, Marg. "The President's Message." *Canadian Critical Care Nursing Journal* 1, no. 1 (1984): 4-5.

SECONDARY SOURCES

- Agnew, G. Harvey. *Canadian Hospitals, 1920 to 1970: A Dramatic Half Century*. Toronto: University of Toronto Press, 1974.
- Alcott, Louisa May. *Hospital Sketches*. Boston: James Redpath, 1863.
- Aneman, A. and M. Parr. "Medical Emergency Teams: A Role for Expanding Intensive Care?" *Acta Anaesthesiologica Scandinavica* 50, no. 10 (2006): 1255-1265.
- Anonymous. "Who Are Critical Care Nurses?" *Critical Care Nurse Supplement* (February 2001): 9-12.
- Attewell, Paul. "What is Skill?" *Work and Occupations* 17, no. 4 (1990): 422-448.

- Barnard, Alan and Margarete Sandelowski. "Technology and Human Nursing Care: (Ir)reconcilable or Invented Difference." *Journal of Advanced Nursing* 34, no. 3 (2001): 367-375.
- Bates, Christina, Dianne Dodd, and Nicole Rousseau eds. *On All Frontiers: Four Centuries of Canadian Nursing*. Ottawa: University of Ottawa Press, 2005.
- Bates, Christina. "Looking Closely: Material and Visual Approaches to the Nurses' Uniform." *Nursing History Review* 18, (2010): 167-188.
- Benner, Patricia. "From Novice to Expert." *American Journal of Nursing* (March 1982): 402-407.
- Benner, Patricia. *From Novice to Expert, Excellence and Power in Clinical Nursing Practice*. Menlo Park, California: Addison-Wesley, 1984.
- Benner, Patricia and Christine Tanner. "Clinical Judgement: How Expert Nurses Use Intuition." *The American Journal of Nursing* 87, no. 1 (1987): 23-31.
- Benner, P., M. Sutphen, V. Leonard, and L. Day, *Educating Nurses: A Call for Radical Transformation*. Standford, CA: Jossey-Bass, 2010.
- Bennett, Barbara Jacobs, Joyce S. Fontana, Maryanne Hidalgo Kehoe, Colette Matarese, and Peggy Chin. "An emancipatory study of contemporary nursing practice." *Nursing Outlook* 53, no. 1 (2005): 6-14.
- Berger, Peter L. and Thomas Luckmann. *The Social Construction of Reality: A Treatise on the Sociology of Knowledge*. New York: Open Road Integrated Media, 1966. Kobo Edition.
- Berger, Peter L. and Thomas Luckmann. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. London: Penguin Books, 1966.

- Bijker, Wiebe E., Thomas P. Hughes, and Trevor J. Pinch. *The Social Construction of Technological Systems: New Directions in the Social History of Technology*. Cambridge, Mass: MIT Press, 1989.
- Blagg, C. R. "Triage: Napoleon to the Present Day." *Journal of Nephrology* 17, (2004): 629-632.
- Bryden, P. E. "The Liberal Party and the Achievement of National Medicare." *Canadian Bulletin of Medical History* 29, no. 2 (2009): 315-322.
- Bulander, Robert. "'The Most Important Problem in the Hospital': Nursing in the Development of the Intensive Care Unit, 1950-1965." *Social History of Medicine* 23, no. 3 (2010): 621-638.
- Bunting, Sheila and Jacquelyn C. Campbell, "Feminism and Nursing: Historical Perspectives." *Advances in Nursing Science* 12, no.4 (1990): 11-24.
- Burke, Kathleen G. "Trial and Negotiation in a Technological System: Case Study of the Swan-Ganz Catheter." In *History as Evidence: Nursing Interventions through Time*. Edited by Patricia D'Antonio and Sandra Lewenson, 139-152. New York: Spring Publishing Company, 2010.
- Burke, Kathleen G. and Julie Fairman. "The Patient Is Awake." *American Journal of Nursing* 100, no. 10 (2000): 78-81.
- Burke, Peter. "Overture: the New History, its Past and its Future." In *New Perspectives on Historical Writing*. Edited by Peter Burke. 1-23. Philadelphia: The Penn State University Press, 1991.
- Callon, Michel. "Society in the Making: The Study of Technology as a Tool for Sociological Analysis." In *Shaping Technology/Building Society: Studies in Sociotechnical*

Change. Edited by Wiebe E. Bijker and John Law. 83-103. Cambridge Mass: MIT Press, 1992.

Canadian Institutes for Health Information. *National Health Expenditure Trends, 1975 to 2012*. Canada: Canadian Institutes of Health Information, 2012.

Canadian Nurses' Association. *Spotlight on Nursing Education: The Report of the Pilot Project for the Evaluation of Schools of Nursing in Canada*. Ottawa: Canadian Nurses' Association, 1960.

Canadian Nurses Association, *CNA Code of Ethics: An Ethical Basis for Nursing in Canada*. Ottawa, Canadian Nurses Association, 1980.

Canadian Nurses Association, *Blueprint for the Critical Care Nursing Examination*. Ottawa: Canadian Nurses Association, 1994.

Canadian Nurses Association, *Critical Care (Adult) Nursing Certification Exam Prep Guide*, 2nd Edition. Ottawa: Canadian Nurses' Association, 2005.

Canadian Nurses Association, *Canadian Nurse Practitioner Core Competency Framework*. Ottawa: Canadian Nurses Association, 2005.

Canadian Nurses Association, *RN Workforce Profiles by Area of Responsibility, Year 2006*, Ottawa: Canadian Nurses Association, June 2008.

Canadian Nurses Association. *Exam Blueprint and Specialty Competencies*. Ottawa: Canadian Nurses Association, 2010.

Canadian Nurses Association. *2010 Workforce Profile of Registered Nurses in Canada*. Ottawa: Canadian Nurses Association, November 2012.

Canadian Nurses Association and Canadian Association of Schools of Nursing. *Registered Nurses Education in Canada Statistics 2010-2011, Registered Nurse Workforce*,

- Canadian Production: Potential New Supply*. Ottawa: Canadian Nurses Association, November 2012.
- Care, Dean, David Gregory, John English, and Peri Venkatesh. "A Struggle for Equality: Resistance to Commissioning of Male Nurses in the Canadian Military, 1952-1967." *Canadian Journal of Nursing Research* 28, no. 1 (1996): 103-117.
- Carroll, William K. and Rennie Warburton. "Feminism, Class Consciousness and Household-Work Linkages among Registered Nurses in Victoria." *Labour/Le Travail* 24 (1989): 131-145.
- Civetta, Joseph. "Beyond Technology: Intensive care in the 1980s." *Critical Care Medicine* 9, no. 11 (1981): 763-767.
- Coburn, David. "The Development of Canadian Nursing: Professionalization and Proletarianization." *International Journal of Health Services* 18, no. 3 (1988): 43-456.
- Crocker, Cheryl. "The Development of Critical Care in England." *Intensive and Critical Care Medicine* 23, (2007): 323-330.
- D'Antonio, Patricia. *American Nursing: A History of Knowledge, Authority, and the Meaning of Work*. Baltimore: The Johns Hopkins University Press, 2010.
- Diers, Donna. "Nursing: Implementing the Agenda for Social Change." Speech given at the 50th Anniversary symposium, "Nursing as a Force for Social Change," University of Pennsylvania School of Nursing, 20 September, 1985.
- Disch, Joanne. "The Time is Now." *Heart and Lung* (1983): 31A-45A.
- Dodd, Dianne. "Nurses' Residences: Using the Built Environment as Evidence." *Nursing History Review* 9 (2001): 185-206.

Dunphy, Lynne M. "Tales of the Iron Lung." *Nursing History Review* 9 (2001): 3-33.

Elliot, Jayne. "Blurring the Boundaries of Space: Shaping Nursing Lives at the Red Cross Outposts in Ontario, 1922-1945." *Canadian Bulletin of Medical History* 21, no. 2 (2004): 303-325.

Elliott, Jayne, Cynthia Toman, and Meryn Stuart, eds. "Introduction." In *Place and Practice in Canadian Nursing History*. Edited by Jayne Elliott, Meryn Stuart, and Cynthia Toman. Vancouver: UBC Press, 2008.

Fairman, Julie. "New Hospitals, New Nurses, New Spaces: The Development of Intensive Care Units, 1950-1965." Doctoral thesis, University of Pennsylvania, 1992.

—. "Watchful Vigilance: Nursing Care, Technology and the Development of Intensive Care Units." *Nursing Research* 41, no.1 (1992): 56-60.

—. "Alternate Visions: The Nurse-Technology Relationship in the Context of the History of Technology." *Nursing History Review* 6 (1998): 129-146.

—. "Virtual Power: Gendering the Nurse-Technology Relationship." *Nursing Inquiry* 6 (1999): 178-186.

—. "Economically Practical and Critically Necessary: The Development of Intensive Care at Chestnut Hill Hospital." *Bulletin of the History of Medicine* 74 (2000): 80-106.

Fairman, Julie and Joan Lynaugh. *Critical Care Nursing: A History*. Philadelphia: University of Pennsylvania Press, 1998.

Fairman, Julie and Sarah Kagan. "Creating Critical Care: The Case of the Hospital of the University of Pennsylvania 1950-1965." *Advanced in Nursing Science* 22, no. 1, (1999): 63-77.

Farnell, Sarah and Deborah Dawson. "It's Not Like the Wards: Experiences of Nurses New to Critical Care: A Qualitative Study." *International Journal of Nursing Studies* 43 (2006): 319-331.

Fortune, J., J. Cooper, and D. Allen. "The Stanford Summer Micro Teaching Clinic 1965," *Teaching Methods and Materials* XVIII, no. 4 (1967).

Francis, R. Douglas, Richard Jones, and Donald B. Smith. *Journeys: A History of Canada*. Toronto: Thomson Nelson, 2006.

Gagan, David. "For 'Patients of Moderate Means': The Transformation of Ontario's Public General Hospitals, 1880-1950." *Canadian Historical Review* 70, no. 2 (1989): 151-179.

Gagan, David and Rosemary Gagan. "'Evil Reports' for 'Ignorant Minds'? Patient Experience and Public Confidence in the Emerging Modern Hospital: Vancouver General Hospital, 1912." *Canadian Bulletin of Medical History* 18 (2001): 349-367.

Gibbon, John Murray and Mary S. Mathewson. *Three Centuries of Canadian Nursing*. Toronto: MacMillan Company of Canada Limited, 1947.

Gregory, Mary M. "On Humanizing the Critical Care Environment." *Critical Care Nursing Quarterly* 16, no. 3 (1993): 1-6.

Guyatt, Gordon, Michael Drummond, David Feeny, Peter Tugwell, Greg Stoddart, R. Brian Haynes, Kathryn Bennett, and Roberta Labelle. "Guidelines for the Clinical and Economic Evaluation of Health Care Technologies." *Social Sciences and Medicine* 22, no. 4 (1986): 393-408.

Hamilton, Deborah. "The Historical Development of Intensive Care Nursing at Vancouver General Hospital, 1960-1985." Master's thesis, University of British Columbia, 2010.

Hamric, Ann B. and Judith A. Spross. *The Clinical Nurse Specialist in Theory and Practice*
New York: Grune & Stratton, 1983.

Handlin, Oscar "Using Historical Sources." In *Clio's Craft. A Primer of Historical Methods*.
Edited by Terry Crowley. 25-41. Toronto: Copp Clark, 1988.

Handwerker, Sarah M. "Transforming Nursing Education: A Review of Current Curricular
Practice in Relation to Benner's Latest Work." *International Journal of Nursing
Education Scholarship* 9, no. 1 (2012): 1-16.

Hawthorne, Denise Lillian and Nancy Jane Yurkovich. "Science, Technology, Caring and
the Professions: Are They Compatible?" *Journal of Advanced Nursing* 21 (1995):
1087-1091.

Heyland, D. K., J. V. Lavery, J. E. Tranmer, and S. J. Taylor. "Dying in Canada: Is It an
Institutionalized, Technologically Supported Experience?" *Journal of Palliative
Medicine*, Supp16 (2000): S10-S16.

Hilberman, Mark. "The Evolution of Intensive Care Units." *Critical Care Medicine* 3, no.4
(1975): 159-165.

Hoffman, Alice M. and Howard S. Hoffman. "Memory Theory: Personal and Social," In
Handbook of Oral History. Edited by Thomas L. Charlton, Lois E. Myers, and
Rebecca Sharpless, 33-54. Toronto: Altamira Press, 2006.

Holmes, Ben. "The Influence of Technology on Holistic Nursing." *Imprint* 37, no.3 (1990):
64-65.

Howell, Joel D. *Technology in the Hospital: Transforming Patient Care in the Early
Twentieth Century*. Baltimore: Johns Hopkins University Press, 1995.

- Jacobs, Philip and Thomas W. Noseworthy. "National Estimates of Intensive Care Utilization and Costs: Canada and the United States." *Critical Care Medicine* 18, no. 11 (1990): 1282-1286.
- Johantgen, Molly A. "Orientation to the Critical Care Unit." *Critical Care Nursing Clinics of North America* 13, no. 1 (2001): 131-136.
- Kalish, Beatrice J., Sallie J. Weaver, and Eduardo Salas. "What Does Nursing Teamwork Look Like? A Qualitative Study." *Journal of Nursing Care Quality* 24, no. 4 (2009): 298-307.
- Keeling, Arlene W. "Blurring the Boundaries Between Medicine and Nursing: Coronary Care Nursing, Circa the 1960s." *Nursing History Review* 12 (2004): 139-164.
- Kirkwood, Lynn. "Enough but Not Too Much: Nursing Education in English Language Canada (1874-2000). In *On All Frontiers: Four Centuries of Canadian Nursing*, Edited by Christina Bates, Dianne Dodd, and Nicole Rousseau, 183-195. Ottawa: University of Ottawa Press, 2005.
- Klein, Hans K. and Daniel Lee Kleinman. "The Social Construction of Technology: Structural Considerations." *Science Technology & Human Values* 27, no. 1 (2002): 28-52.
- Kolchin, Peter. "Whiteness Studies: The New History of Race in America." *Journal of American History* 89, (June 2002): 154-173.
- Lamb, R. J. "How to Plan Intensive Care." *Modern Hospital* 91, (1958): 51-55.
- Lawrence, Barbara. "Historical Perspective: Using the Past to Study the Present." *The Academy of Management Review* 9 (1984): 307-311.

Leeb, Kira, Aleksandra Jokovic, Michaela Sandhu, and Greg Zinck. "Intensive Care in Canada." *Healthcare Quarterly* 9, no.1 (2006): 32-33.

Leighow, Susan Rimby. *Nurses' Questions/Women's Questions: The Impact of the Demographic Revolution and Feminism on United States Working Women, 1946-1986*. New York: Peter Lang, 1996.

Leonard, P. "Fatalism and the Discourse on Power: An Introductory Essay." In *Bureaucracy and Community*. Edited by L. Davies and E. Shragge, 9-23. Montreal: Black Rose Books, 1990.

Levi, Margaret. "Functional Redundancy and the Process of Professionalization: The Case of Registered Nurses in the United States." *Journal of Health Politics, Policy and Law* 5, no. 2 (1980): 333-353.

Levinson, A.T., B. P. Casserly and M. M. Levy. "Reducing Mortality in Severe Sepsis and Septic Shock." *Seminars in Respiratory & Critical Care Medicine* 32, no. 2 (2011): 195-205.

Levy, J. and P. Watchel. "Depersonalization: An Effort at Clarification." *American Journal of Psychoanalysis* 39 (1978): 291-300.

MacKenzie, Donald and Judy Wajcman, eds. *The Social Shaping of Technology: How the Refrigerator Got Its Hum*. Milton Keynes: Open University Press, 1985.

Mansell, Diana. "Sources in Nursing Historical Research: A Thorny Methodological Problem." *Canadian Journal of Nursing Research* 27, no. 3 (1995): 83-86.

Mansell, Diana and Diane Dodd, "Professionalism and Canadian Nursing." In *On All Frontiers: Four Centuries of Canadian Nursing*. Edited by Christina Bates, Dianne Dodd, and Nicole Rousseau, 197-211. Ottawa: University of Ottawa Press, 2005.

McConnell, Edwina A. "The Impact of Machines on the Work of Critical Care Nurses."

Critical Care Nursing Quarterly 12, no. 4 (1990): 45-52.

McPherson, Kathryn. "Science and Technique: Nurses' Work in a Canadian Hospital, 1920-

1939. In *Caring and Curing: Historical Perspectives on Women and Healing in*

Canada. Edited by Dianne Dodd and Deborah Gorham, 71-101. Ottawa: University of Ottawa Press, 1994.

McPherson, Kathryn. *Bedside Matters: The Transformation of Canadian Nursing, 1900-*

1990. Toronto and New York: Oxford University Press, 1996.

McPherson, Kathryn and Meryn Stuart, "Writing Nursing History in Canada: Issues and

Approaches." *Canadian Bulletin of Medical History* 11 (1994): 3-22.

Meleis, Afaf Ibrahim. *Theoretical Nursing: Development & Progress*, 3rd edition.

Philadelphia, Lippincott Williams & Wilkins, 2005.

Meleis, Afaf Ibrahim. *Theoretical Nursing Development & Progress*, 4th edition.

Philadelphia: Lippincott, Williams & Wilkins, 2007.

Misa, Thomas J. "How Machines Make History, and How Historians (And Others) Help

Them to Do So." *Science, Technology, & Human Values* 13, no. 3/4 (Summer – Autumn, 1988): 308-331.

Mitchell, Glenn W. "A Brief History of Triage." *Disaster Medicine and Public Health*

Preparedness 2, Supp 1 (2008): S4-S7.

Montag, Mildred L. "Technical Education in NURSING?" *The American Journal of Nursing*

63, no. 5 (1963): 100-103.

Mussallem, Helen K. *Commission on Health Services: Nursing Education in Canada*.

Canada: Queen's Printer, 1965.

- Naisbitt, John. *Megatrends: Ten New Directions Transforming our Lives*. 2nd Edition. New York, Warner Books, 1984.
- Nightingale, Florence. *Notes on Hospitals*, 3rd edition. New York: Longman, Green, Longman, Roberts, and Green, 1863.
- Neumark, Andrea I., Maureen A. Flaherty and Francine A. Girard. "Individualized Orientation in Critical Care." *Focus on Critical Care* 14, no. 5 (1987): 34-44.
- Ostry, Aleck. "The Foundations of National Public Hospital Insurance." *Canadian Bulletin of Medical History* 29, no. 2 (2009): 261-281.
- Pinche, Trevor J. and Wiebe E. Bijker, "The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other." In *Shaping Technology/Building Society: Studies in Sociotechnical Change*, Edited by Wiebe E. Bijker and John Law, 19-50. Cambridge Mass: MIT Press, 1992.
- Polanyi, M. *Personal Knowledge*. London: Routledge & Kegan Paul, 1958.
- Polit, Denise F. and Cheryl Tatano Beck. *Nursing Research: Principles and Methods*, 7th Edition. Philadelphia: Lippincott, Williams & Wilkins, 2004.
- Puri, Nitin, Vinod Puri, and R. P. Dellinger, "History of Technology in the Intensive Care Unit." *Critical Care Clinics* 25 (2009): 185-200.
- Rashotte, Judy, Frances Fothergill-Bourbonnais, and Marie Chamberlain. "Pediatric Intensive Care Nurses and Their Grief Experiences: A Phenomenological Study." *Heart & Lung: The Journal of Acute and Critical Care* 26, no. 5 (1997): 372-386.
- Richardson, Sharon. "Unionization of Canadian Nursing." In *On All Frontiers: Four Centuries of Canadian Nursing*. Edited by Christina Bates, Dianne Dodd, and Nicole Rousseau, 213-223. Ottawa: University of Ottawa Press, 2005.

- Ritchie, Donald A. *Doing Oral History: A Practical Guide*. Oxford: Oxford University Press, 2003.
- Roberts, Joan I. and Thetis M. Group. *Feminism and Nursing: An Historical Perspective on Power, Status, and Political Activism in the Nursing Profession*. Westport, Connecticut: Praeger, 1995.
- Rosenburg, Charles. *The Care of Stranger: The Rise of America's Hospital System*. Baltimore: The Johns Hopkins University Press, 1987.
- Sandelowski, Margarete. "(Ir)Reconcilable Differences? The Debate Concerning Nursing and Technology." *Image: Journal of Nursing Scholarship* 29, no. 2 (1997): 169-174.
- . "Making the Best of Things: Technology in American Nursing." *Nursing History Review* 5 (1997): 3-22.
- . "Venous Envy: The Post-World War II Debate over IV Nursing." *Advances in Nursing Science* 22, no. 1 (1999): 52-62.
- . "Troubling Distinctions: A Semiotics of the Nursing/Technology Relationship." *Nursing Inquiry* 6 (1999): 198-207.
- . "The Physician's Eyes, American Nursing and the Diagnostic Revolution in Medicine." *Nursing History Review* 8 (2000): 3-38.
- . "Thermometers & Telephones: A Century of Nursing and Technology." *American Journal of Nursing* 100, no. 10 (2000): 82-86.
- . *Devices and Desires: Gender, Technology and American Nursing*. Chapel Hill, North Carolina: The University of North Carolina Press, 2000.

- Schroeter, Kathryn, Michelle M. Byrne, Katharine A. Klink, Matthew Beier, and Natalie S. McAndrew. "The Impact of Certification on Certified Perioperative Nurses: A Qualitative Descriptive Survey." *ORNAC Journal* 30, no. 3 (2012): 34-46.
- Schwartz Cowan, Ruth. *A Social History of American Technology*. New York, NY: Oxford University Press, 1997.
- Schwartz Cowan, Ruth. *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*. New York: Basic Books, 1983.
- Scott, Joan. *Gender and the Politics of History*. New York: Columbia University Press, 1999.
- Shalof, Tilda. *A Nurse's Story: Life, Death and In-Between in an Intensive Care Unit*. Toronto: McClelland and Stewart, 2004.
- Stein, Leonard I. "The Doctor-Nurse Game." *Archives of General Psychiatry* 16 (1967): 699-703.
- Storey, William Kelleher and Towser Jones. *Writing History: A Guide for Students*. Oxford: Oxford University Press, 2004.
- Strong-Boag, Veronica. "Home Dreams: Women and the Suburban Experiment in Canada, 1945-60." *Canadian Historical Review* 4 (1991): 471-504.
- Shopes, Linda. "What is Oral History?" In the *Making Sense of Evidence Series on History Matters: The U.S. Survey on the Web*, <http://historymatters.gmu.edu>, accessed 17 October 2013.
- Steffen, Susan M. "Perceptions of Stress: 1800 Nurses Tell Their Stories." In *Living with Stress and Promoting Well-Being: A Handbook for Nurses*. Edited by Karen E. Claus and June T. Bailey with Hans Selye, 38-58. St. Louis: Mosby, 1980.

Stokowski, Laura S. "The 4-Generation Gap in Nursing." *Medscape*, 11 April 2013.

Strauss, Anselm, Shizuko Fagerhaugh, Barbara Suczek and Carolyn Wiener, eds. *Social Organization of Medical Work*. Chicago: University of Chicago Press, 1985.

Stuart, Meryn. "Shifting Professional Boundaries: Gender Conflict in Public Health, 1920-1925." In *Caring and Curing: Historical Perspectives on Women and Healing in Canada*, Edited by Dianne Dodd and Deborah Gorham, 49-70. Ottawa: University of Ottawa Press, 1994.

Thompson, Paul. *The Voice of the Past Oral History*. 3rd edition. Oxford: Oxford University Press, 2000.

Tilly, Charles. "Two Callings of Social History." *Theory and Society* 9, no. 5 (Sept 1980): 679-681.

Toman, Cynthia. "Almonte's Great Train Disaster: Shaping Nurses' Roles and the Civilian Use of Blood Transfusion." *Canadian Bulletin of Medical History* 21, no. 1 (2004): 145-159.

—. "'Body Work,' Medical Technology, and Hospital Nursing Practice." In *On All Frontiers: Four Centuries of Canadian Nursing*. Edited by Christina Bates, Dianne Dodd, and Nicole Rousseau, 89-105. Ottawa: University of Ottawa Press, 2005.

—. "'Body Work': Nurses and the Delegation of Medical Technology at the Ottawa Civic Hospital, 1947-1972." *Scientia Canadensis: Canadian Journal of the History of Science, Technology and Medicine* 29, no. 2 (2006): 155-175.

—. "Crossing the Technological Line: Blood Transfusion and the Art and Science of Nursing, 1942-1990." Masters thesis, University of Ottawa, 1998.

- . “‘Officers and ladies’: Canadian Nursing Sisters, women’s work, and the Second World War.” Doctoral diss., University of Ottawa, 2003.
- Toman, Cynthia and Marie-Claude Thifault. “Historical Thinking and the Shaping of Nursing Identity.” *Nursing History Review* 20 (2012): 184-204.
- Toman, Cynthia and Meryn Stuart. “Emerging Scholarship in Nursing History.” *Canadian Bulletin of Medical History* 21, no. 2 (2004): 223-227.
- Tosh, John. *The Pursuit of History, Aims, Methods and New Directions in the Study of Modern History*. 4th edition. Harlow, England: Pearson Longman, 2006.
- Twohig, Peter. “Recent Writing on Health Care History in Canada.” *Scientia Canadensis: Canadian Journal of the History of Science, Technology and Medicine* 26 (2002): 7-28.
- U.S. Department of Health and Human Services Health Resources and Services Administration, *The Registered Nurse Population, Findings from the 2008 National Sample Survey of Registered Nurses* (September 2010).
- Vanderspank, Brandi. “The Experience of Intensive Care Nurses Caring for Patients for Whom Life Sustaining Treatment is Being Withdrawn.” Master’s thesis, University of Ottawa, 2009.
- Vanderspank-Wright, Brandi, Frances Fothergill Bourbonnais, Susan Brajtman, and Pierre Gagnon, “Caring for Patients and Families at End-Of-Life: The Experience of Intensive Care Nurses Withdrawing Life-Sustaining Treatment.” *Dynamics: The Journal of the Canadian Association of Critical Care Nurses* 22, no. 4 (2011): 31-35.

- Vayda, Eugene and Raisa B. Deber. "The Canadian Health-Care System: A Developmental Overview." In *Canadian Health Care and the State: A Century of Evolution*. Edited by C. Naylor, 125-140. Montreal and Kingston: McGill-Queens University Press, 1992.
- . "The Canadian Health-Care System: An Overview." *Social Science and Medicine* 18, no. 3 (1984): 191-197.
- Wade, Jacqueline F. *Respiratory Nursing Care, Physiology and Technique*, 2nd Edition. St. Louise: Mosby, 1977.
- Weir, G.M. *Survey of Nursing Education in Canada*. Toronto: University of Toronto, 1932.
- Wengert, J. W. "Jean Dominique Larrey (1766-1842): Surgeon of the Guard." *Military Medicine* 144 (1979): 414-417.
- Wetherall, Charles, Andrejs Plakans, and Barry Wellman. "Social Networks, Kinship and Community in Eastern Europe." *The Journal of Interdisciplinary History* 24, no. 4 (Spring 1994): 639-664.
- William-Jones, Bryn and Janice E. Graham. "Actor-Network Theory: A Tool to Support Ethical Analysis of Commercial Genetic Testing." *New Genetics and Society* 22, no. 3 (2003): 271-296.
- Wineburg, Sam. "Unnatural and Essential: The Nature of Historical Thinking." *Teaching History* 129, (2007): 6-11.
- Wishart, James M. "Class Difference and the Reformation of Ontario Public Hospitals, 1900-1935: 'Make Every Effort to Satisfy the Tastes of the Well-to-Do.'" *Labour/LeTravail* 48 (2001): 27-61.

Wolf, Zane Robinson. "Nurses' Work: The Sacred and the Profane." *Holistic Nursing Practice* 1, no. 1 (1986): 29-35

Wolf, Zane Robinson. *Nurses' Work: The Sacred and the Profane*. Philadelphia, University of Pennsylvania Press, 1988.

Yow, Valerie Raleigh. *Recording Oral History: A Guide for the Humanities and Social Science*, 2nd Edition. Walnut Creek: Altamira Press, 2005.

Zalumus, Jacqueline. *Caring in Crises: An Oral History of Critical Care Nursing*. Philadelphia, University of Pennsylvania Press, 1995.

Websites

American Association of Critical Care Nurses, "About Critical Care Nursing," (no date); <http://www.aacn.org/wd/publishing/content/pressroom/aboutcriticalcarenursing.pcms>, accessed 18 October 2013.

American Association of Critical Care Nurses. "History of AACN Certification Corporation," www.aacn.org?WD/Certification/Content?aboutus.content?menu=Certification, accessed 29 January 2013.

Canadian Association of Critical Care Nurses, *2006 Annual Report* available at http://www.caccn.ca/files/caccn_annual_report06.pdf, accessed 18 October 2013.

Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada, Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans, December 2010. Available at: <http://www.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/Default/>, accessed 17 October 2013.

Canadian Nurses Association Certification History retrieved from <http://www.nurseone.ca/Default.aspx?portlet=StaticHtmlViewerPortlet&stmd=False&plang=1&ptdi=582>, October 27, 2013.

Canadian Patient Safety Institute, "Safer Health Care Now, Rapid Response Teams," (2012), <http://www.saferhealthcarenow.ca/EN/Interventions/RRT/Pages/default.aspx>, accessed 18 October 2013.

CBC Online Archives at <http://www.cbc.ca/archives/categories/politics/rights-freedoms/sue-rodriquez-and-the-right-to-die-debate/topic-sue-rodriquez-and-the-right-to-die-debate.html>, accessed 18 October 2013

History of AACN Certification Corporation retrieved from www.aacn.org?WD/Certification/Content?aboutus.content?menu=Certification , accessed January 29, 2013.

http://en.wikipedia.org/wiki/Toronto_Hospital_Murders, accessed 18 October 2013.

<http://www.theglobeandmail.com/report-on-business/the-alarming-danger-in-the-nelles-ruling/article1075399/?page=2>, accessed 18 October 2013.

Linda Shopes, “What is Oral History?” Making Sense of Evidence, History Matters: The U.S. Survey on the Web, p. 2-3, <http://historymatters.gmu.edu/browse/makesense/>, accessed 17 October 2013.

“Medical Opposition in 1960,” in Making Medicare: The History of Health Care in Canada, 1914-2007, Canadian Museum of Civilization Online Exhibit, <http://www.civilization.ca/cmc/exhibitions/hist/medicare/medic-5h03e.shtml>, accessed 17 October 2013.

The Mack Alumni Association, “Our History,” <http://www.mackalumni.org/our-history.html>, accessed 18 October 2013.