THORACIC SURGERY AS A NURSING SPECIALTY:
PERCEPTIONS OF SENIOR NURSES AND SURGEONS OF SPECIALIST NURSING PRACTICE

by

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ABSTRACT

With the continual advances in medical technology and specialized procedures, surgical patients have increasingly complex and specific needs. The questions that surfaces are: 1) Do surgical nurses now require advanced knowledge and skills to meet the needs of the thoracic surgery patient population? 2) And if so, do nurses and surgeons perceive value in recognizing thoracic surgery as a specialty for nurses?

In this study, the perceptions of senior thoracic nurses and surgeons regarding nursing specialization were examined. Nurses’ and surgeons’ perceptions of what characterize a nursing specialty, if and why they consider thoracic surgery a nursing specialty, and what they identify as the outcomes and value of nursing specialization and related outcomes were also explored. An inductive approach was used, with data collected through a quantitative web-based questionnaire, using the 18-item Perceived Value of Certification Tool © (PVCT) as well as specific additional Likert scale and multiple-choice questions related to thoracic surgery.

Study findings revealed that thoracic nurses and surgeons value nurse certification for similar intrinsic and extrinsic reasons as nurses in other specialties and in other countries, identifying several intrinsic rewards, such as “enhances feelings of personal accomplishment,” “provided a professional challenge,” and “validates specialized knowledge,” as motivators for certification. Findings from this study also suggest that nurses and surgeons perceive that additional nursing education related to knowledge and skills is required to meet the care needs of the
thoracic surgery patient population, and improve the overall nursing care provided. Additionally, study results also suggested that nurses and surgeons believe that nursing specialty recognition may promote better patient outcomes. Finally, study findings demonstrated that thoracic nurses and surgeons believe that thoracic surgery should be formally recognized as a certified nursing specialty.
This research is based on the work conducted in the University of British Columbia’s School of Nursing by myself, Angela Marie Wilson. I was responsible for conducting, collecting, and analyzing the research data under the supervision of my thesis committee. The names of committee members as follows: Dr. Bernie Garrett, Dr. Victoria Bungay, & Sarah Derman. The following Health Authority collaborators distributed the survey invitations, consent information, and the online survey link to participants: Priscilla Messier (Vancouver Coastal Health), Melanie Skidmore (Fraser Health), Lindsay Wheelock (Island Health), and Paula Cyra (Interior Health).

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CHAPTER 1: INTRODUCTION OF PROBLEM

Introduction

Specialty practice is recognized across many health care professions such as nurses, physicians and surgeons, and allied health professionals. In Canada, a health profession’s national regulatory body is responsible for credentialing and promoting professional development.

The best-known example is probably in medicine, where the Royal College of Physicians and Surgeons of Canada, currently oversees the requirements for specialty education in 70 areas of medical practice. Within this framework, a specialty is defined as, “an area of medicine with a more focused or advanced scope that builds upon broad-based knowledge” (Royal College of Physicians and Surgeons of Canada, 2014, Subspecialties, para. 1). As an example, thoracic surgery represents a specialty within the practice of surgery that is concerned with diseases of the organs in the chest, including the chest wall, mediastinum, lungs, trachea, pleura, esophagus, stomach, and diaphragm (Royal College of Physicians and Surgeons of Canada, 2010). A thoracic surgeon is a graduate of medical school who completes a residency in general or cardiac surgery, followed by a two-year thoracic surgery program accredited by the Royal College of Physicians and Surgeon, after which, he or she writes a certification examination (Royal College of Physicians and Surgeons of Canada, 2013).

Thoracic surgeons practice with expert clinical knowledge and skills appropriate to thoracic surgery, which includes the foundational principles and
practice of surgery, as well more specific knowledge related to the anatomy, physiology, and diseases of the chest. These complex surgeries include thoracoscopy and mediastinoscopy, and chest wall, pulmonary, tracheal, esophageal, and gastric resections for various conditions and diseases, including cancers (Royal College of Physicians and Surgeons of Canada, 2010). A study completed by Kuo, Chang, and Wright (2001) in South Carolina hospitals, suggested that mortality was significantly lower for patients who underwent lung resection for cancer by a thoracic surgeon rather than a general surgeon. This leads one to wonder, if the populations undergoing these very particular surgical procedures benefit from specialized and expert surgeons, are they not complex patients who would in turn require and benefit from more focused and specialized surgical nursing care pre and post-operatively? Further questions also arise, such as: do nurses perceive thoracic surgery to be a specialized area of practice with specific knowledge and skill requirements? And, do surgeons themselves feel that their patient population requires specialized nursing care?

While there are many nurses who work in thoracic surgery centers across Canada providing care that may be different from basic surgical nursing or entry-to-practice standards, unlike the medical profession, thoracic surgery is not currently recognized by the Canadian Nurses Association (CNA) as a “certified” nursing specialty. The American Board of Nursing Specialties (ABNS) defines nursing specialty certification as the “formal recognition of specialized knowledge, skills, and experience demonstrated by the achievement of standards identified by a nursing specialty to promote optimal health outcomes” (2005, p. 1). The CNA
currently offers such certification in 20 specialties of nursing practice, including areas such as cardiovascular nursing, critical care nursing, orthopedic nursing, perioperative nursing, peri-anesthesia nursing, and medical-surgical nursing (CNA, 2014a). The increasing complexity of patients and their needs are continually creating new challenges for the nursing profession. Thus, in order to meet the needs of these complex patient populations, should the identification and development of nursing specialties be supported? Research in other areas of nursing suggests that specialty areas of nursing practice such as thoracic surgery may benefit from recognition, suggesting that certification not only signifies specialized knowledge, professional credibility and commitment (Allen, 2010), but may also be associated with patient satisfaction, better patient outcomes, and improved quality of care (Kendall-Gallagher, Aiken, Sloane, and Cimiotti, 2011).

**Background of Problem**

Nursing is a profession with a broad variation in knowledge and scope of practice. The CNA emphasizes that the ability of individual nurses to work to their full scope of practice is influenced by the settings in which they practice, the requirements of the employer, and the needs of their patients. There are many settings where additional education and training is required to care for specific patient populations, for example cardiac nursing, critical care nursing, and renal nursing (Dunn et al., 2000). While often difficult to characterize, nursing scope of practice is important as it, “is the base from which governing bodies prepare standards of practice, educational institutions prepare curricula, and employers
prepare job descriptions” (CNA, 2014b). Registered nurses are accountable for providing competent nursing care, which involves on-going professional development to ensure the maintenance and enhancement of the knowledge, skills, attitude and judgment required to meet the needs of patients in an evolving health-care system (CNA, 2014b). This process often includes continuing education programs and specialty certification.

While continuing education for nurses promotes ongoing safe, ethical and competent practice, it also offers nurses opportunities to pursue and achieve professional growth throughout their careers (CNA, 2014b). Specialty certification is growing in popularity, and there have been many studies showing the benefits and value of nursing specialization and certification. In 2003, the American Board of Nursing Specialties Research Committee completed a study that sought to validate nurses’ perceptions, values and behaviors related to specialty certification, using a web-based survey that included the 18-item Perceived Value of Certification Tool © (PVCT). Among the top perceived values, they found that specialty certification is perceived to enhance feelings of personal accomplishment, provide personal satisfaction and a professional challenge, enhance professional credibility, and provide evidence of professional commitment (American Board of Nursing Specialties, 2006).

In an article about specialization in nursing, Peplau (2003) argues that initially, the planning of specialization “is determined by avant-garde workers in a particular field who see or sense a great need to move—in depth—in a particular direction” (p. 4). While there is much evidence to support the benefit of nursing
specialization, in the process of initiating a nursing certification examination in Canada, and thus recognizing a new specialty, the demand first has to come from a national nursing group in submitting a proposal to the CNA. The intent of this proposal is to demonstrate the uniqueness of the practice through outlining nursing standards, role descriptions, and a body of literature, education and research (L. Vachon, personal communication, January 5, 2015). Consequently, does potential for this type of movement exist in the population of nurses working in thoracic surgery?

**Problem Statement**

With the continual advances in medical technology and specialized procedures, surgical patients have increasingly complex and specific needs. The question then arises; do surgical nurses now require advanced knowledge and skills to meet the needs of this specific patient population in the specialty of thoracic surgery? And if so, do nurses and surgeons perceive value in recognizing thoracic surgery as a specialty for nurses?

**Purpose**

The purpose for this study was to examine the perceptions of senior thoracic nurses and surgeons regarding nursing specialization. It explored what they perceive characterizes a nursing specialty, if they consider thoracic surgery as a nursing specialty, and what they identify as the outcomes and value of nursing specialization, both for nurses, and the thoracic surgery patient population.
Research Questions

The specific research questions that were addressed were:

(a) How do experienced thoracic nurses and surgeons perceive nursing specialization/certification?

(b) Do nurses and surgeons perceive nursing to require an advanced level of knowledge and skills to meet the needs of the thoracic surgery patient population?

(c) Do nurses and surgeons feel that thoracic surgery should be formally recognized as a nursing specialty?

Significance of Study

Exploration of these questions may reveal potential benefits of nursing specialty recognition to both nurses and patients, such as satisfaction, an increase in quality care, and lower rates of patient complications (Ferdon, 2009; Kendall-Gallagher, Aiken, Sloane, & Cimiotti, 2011). Results of this study may also have an impact for other surgical specialties and patient populations, by highlighting nursing specialties that move beyond the traditional “medical-surgical” nursing label.

Organization of Thesis

This thesis is compromised of six chapters. In chapter one, the introduction, background of problem, the problem statement, purpose, research question, and significance of the study have been addressed. Chapter two will consist of the literature review for the identified problem. Chapter three will address the
methodology that the research study follows and will explain the study design, sampling, data collection procedures, data analysis, ethical considerations, and study limitations. Chapter four will be comprised of the study findings. Chapter five discusses these findings, considers explanations for them, and relates the findings to existing literature. Lastly, chapter six will be the summary of the research, future implications and conclusions.

**Terminology**

*Certification:* The formal recognition of specialized knowledge, skills, and experience demonstrated by the achievement of standards identified by a nursing specialty to promote optimal health outcomes (American Board of Nursing Specialties, 2005).

*Specialization:* Specialization is a concentrated area of expert clinical practice with focused knowledge and competencies. The specialty area may be broadly or narrowly defined, well established or emerging (Fulton, 2005).

*Specialty:* A branch of medicine or nursing in which the professional is specifically qualified to practice by attending an advanced program of study, passing an examination given by an organization of the members of the specialty, or gaining experience by extensive practice in the specialty (Boss, 1989, p. 213).

*Thoracic Surgery:* A specialty within the practice of surgery that is concerned with diseases of the organs in the chest, including the chest wall, mediastinum, lungs, trachea, pleura, esophagus, stomach, and diaphragm (Royal College of Physicians and Surgeons of Canada, 2010).
CHAPTER 2: LITERATURE REVIEW

Introduction

In this chapter, the historical development of nursing specialties, the current definitions of specialty nursing with consideration to thoracic surgery, and certification from the perspectives of nursing regulatory bodies will be presented. The value of specialty certification will be then be discussed, as there is extensive research and literature identifying the benefits of nursing certification. Lastly, opposing viewpoints will be examined, although there is a lack of literature within the field of nursing regarding specialization.

A literature review was conducted, with the search limited to articles written in English during the time period of 2000–2014, using the combination of key words and phrases as follows: “nursing certification”, “specialty nursing”, “nurse specialization”, “nurse perception”, “nursing specialty development”, “thoracic surgery”, and “surgical nursing”. Two older key articles, arising in this literature, one from 1989, and another from 1945, were also found to have particular relevance to the historical development of nursing specialties. The database search engines used to do the literature review included: Cumulative Index of Nursing Allied Literature (CINHAL), Science Direct, OvidSP, ProQuest, and Pub Med. Numerous relevant articles and research studies where discovered, examined, and are presented in this review of literature.
Historical Development of Nursing Specialties

From the late 1800s to 1900, “private duty nursing”, might have been thought of as the first nursing specialty, with nurses providing dedicated, full-time care in a patient’s home (Boss, 1989). Military nursing may have been the next more evident specialty to emerge, and was arguably one of the most impactful. Through the early and mid 1900s, war and conflict introduced patients with far more complex health problems than previously seen, and advanced both medical and nursing knowledge and skill related to trauma care (Boss, 1989). The late 1900s subsequently brought advancements in technology that placed increased demand on nursing to learn and manage new skills and tools (Boss, 1989).

In Canada, in 1980, the Canadian Nurses Association began exploring the growing interest of nurses in the development of specialty certification, and in doing so, discovered that many Canadian nurses were seeking certification in the United States. Following the annual meeting of that year, the CNA board was directed to look at the possibility of developing examinations for certification in major nursing specialties, such as critical care, perioperative, and emergency nursing. In October of 1986, the CNA certification program was approved, following several years of consultations with national nursing groups, and in 1991, the CNA certified its first group of nurses in the specialty of neuroscience nursing (CNA, 2014a). Since then, more than 18,000 nurses have been certified across 20 different formally recognized specialties (CNA, 2014c). Although Canada is moving forward with specialty development, it still remains behind other countries such as the United
Development of specialty certification programs starts with a passionate group of nurses working in a particular niche, who may identify the benefits of having a recognized, defined area of practice. For example, in 2005, members of the American Society for Metabolic and Bariatric Surgery (ASMBS) voiced an interest in developing a specialty certification program for nurses caring for morbidly obese and bariatric surgical patients (Berger et al., 2010). The first step was to undertake a practice analysis study in order to identify and outline the knowledge and skills of the nurse working with morbidly obese and bariatric surgical patients. This study was performed using several methods, including interviews, focus groups, subject-matter expert meetings, and a survey of nurses practicing within the specialty. The group then created an initial draft of the domains (or major areas) of practice, skills performed, and knowledge required in the bariatric nursing specialty. The information gathered in this practice analysis formed the foundation for the development of the certification examination for the specialty of bariatric nursing, for which the first examination was administered in June 2007 (Berger et al.).

Canadian nurses face similar challenges in obtaining certifications, especially since there are relatively few options in Canada. For example, until 2006, certification in rehabilitation nursing was not available in Canada, thus many nurses were seeking certification in the United States (Leclerc, Holdway, Kettyle, Ball, & Keith, 2004). Writing an American examination presented challenges of its own to these Canadian nurses, who not only were required to pay lofty exam fees, but also
study and prepare for an exam that is based on American course content and 
American health legislation, which may not be relevant for Canadian nurses. To 
overcome this issue, a group of rehabilitation nurses from Ottawa formed a 
collaborative partnership called the Rehabilitation Nursing Network. Their primary 
objectives were to support and encourage nurses in the certification process; 
provide continuing education opportunities; and combine efforts to achieve 
Canadian rehabilitation certification. They conducted a study to examine nurses’ 
perceptions regarding the impact of rehabilitation certification on professional 
practice, which helped to drive the development of a certification examination and 
formal recognition for their specialty area (Leclerc et al.).

**Nursing Specialty Certification in Canada**

In order to become certified in one of the 20 currently CNA recognized 
specialties in Canada, the CNA outlines eligibility criteria. The applicant:

1. Must be a registered nurse with current Canadian registration, and 
2. Must have worked a minimum of 3,900 hours in their nursing specialty area 
   over the past five years (one full-time year is equivalent to 1950 hours). This 
   experience must be verified by a supervisor in the applicant’s specialty area 
   of practice. 
3. Must pass a CNA recognized specialty certification examination. 
   
   (CNA, 2015a).

   The certification examination is developed by expert representatives from 
the specialty’s national association, in collaboration with CNA approved testing
consultants who ensure the exams are valid and reliable. Exam content typically consists of the aptitudes of a fully competent practicing specialty nurse with at least two years of experience. Multiple-choice questions are aimed at three levels of cognitive ability: knowledge/comprehension, application, and critical thinking (CNA, 2014d). Therefore, it is expected that the specialty nurse with at least two years of experience will have a certain knowledge base and understanding of the principles of the given specialty, be able to apply this knowledge in the care of clients, and make decisions based on the interpretation of data to support the needs of clients (CNA, 2014d).

**Definition of a Nursing Specialty: Thoracic Surgery?**

One of the challenges in defining nursing specialization is recognizing that there are likely far more specialties in practice than those formally identified. The CNA recognizes 20 certified nursing specialties, but also acknowledges a network of 44 national associations in various specialized areas of nursing. The nursing specialties in this network “range widely from aboriginal health nurses to operating room nurses to occupational health nurses to legal nurse consultants” (CNA, 2014e).

Within health disciplines, a specialty can be described as:

A branch of medicine or nursing in which the professional is specifically qualified to practice by attending an advanced program of study, passing an examination given by an organization of the members of the specialty, or gaining experience by extensive practice in the specialty. (Boss, 1989, p. 213)
Therefore, a specialist nurse is an expert in his or her field, and possesses specialized skills, knowledge, and clinical judgment. Boss (1989), asserts that specialty nursing is characterized by two elements: the first being the needs of a particular patient population, and second, the clinical expertise (specialized knowledge and skill) necessary to meet those needs. While one could assume that certification is the “formal” recognition of a nursing specialty, these definitions offer a more realistic interpretation and highlight the idea that specialties are a result of complex patient populations requiring an enhanced level of nursing care.

So the question that surfaces is, does thoracic surgery fit as a nursing specialty? An article from the American Journal of Nursing, published back in 1945, suggests that thoracic surgery may have been a nursing specialty even 70 years ago:

Thoracic surgery requires specialized training, and the surgical nurse on the team must not only be an experienced surgical nurse but in addition must have a detailed knowledge of the technical features of this specialty… the ability to think quickly and to act deftly and accurately may spell the difference between success and disaster to the patient. (Brooks, 1945, p. 275)

Like other surgical specialties, the outcomes of thoracic surgery depend to a large degree on good post-operative care. Specific complications can occur very rapidly, and if not identified and treated immediately, contribute to significant morbidity and mortality (Myatt, 2006). Surgical complications of lung resection, for example, included pneumothorax, pulmonary collapse, and accidental puncture, damage, or contamination of the surgical site, with pulmonary complications including new-onset pulmonary insufficiency and respiratory arrest (Bach et al.,
Atrial fibrillation is a common complication after major noncardiac thoracic surgery and is associated with increases in the morbidity and length of hospital stay associated with these procedures (Passman et al., 2005). Swisher et al. (2000) also highlights that the esophagectomy is also one of the most complex surgical procedures performed and therefore has the potential for high morbidity and mortality rates.

Given the potential for complications in the thoracic patient population, there is a fair amount of research to suggest that specialized surgical centers demonstrate lower morbidity and mortality. A common explanation for this trend is that physicians and nurses become more effective in providing care by gaining experience and expertise as volumes increase (Farley & Ozminskowski, 1992). In a study by Kuo, Chang, and Wright (2001) it was found that patients undergoing surgery for lung resection in hospitals performing a high volume of these procedures were associated with a 2-day decrease in median length of stay (p < 0.001) and a 3.7-fold decrease in hospital mortality (9.2% vs 2.5%; p < 0.001) compared to lower volume hospitals. A similar study by Swisher et al. (2000) found that hospitals performing a high volume of esophagectomies versus hospitals with a low volume, showed a tendency toward decreased complications (55% versus 68%, p = .06), and decreased length of stay (14.7 days versus 17.7 days, p = .006). One theory used to explain these differences is the obvious ‘practice makes perfect’ concept. This theory proposes that surgeons performing a particular procedure on a regular basis become more proficient in that procedure, a concept that is demonstrated in a systematic review of 22 studies consisting of 172, 173 patient
outcomes. Specialist surgeons had significantly better overall outcomes than general surgeons performing the same procedure, with a lower mortality rate in 92 percent of studies, a shorter hospital stay all studies, and fewer complication rates in 14 of 17 studies (Chowdhury, Dagash, & Pierro, 2007). So while this evidence exists to show that mortality rates are reduced for specific surgeons who perform more of these specialized procedures, another component is the improved perioperative care that comes with the experience of the team.

The study by Kuo, Chang, and Wright (2001) suggested that in addition to the experience of individual surgeons, surgical specialization has been demonstrated to improve surgical outcomes because both quality and outcomes are also influenced by the knowledge, skill, and experience of the whole surgical team. Hospitals performing a high volumes of specific surgical procedures such as lung resections, provides an opportunity for a small number of surgeons, anesthesiologists, intensivists, and nursing staff to gain expertise through experience in both performing and managing this specific complex operation. This increased experience can result in early detection and standardized treatment of complications (Kuo, Chang, & Wright). According to a survey by the Canadian Association of Thoracic Surgeons, almost all major thoracic centers in Canada (83%) have a geographic thoracic unit with patients centralized in a ward with dedicated nursing and physiotherapists (Darling et al., 2004). One might wonder if surgeons then expect and appreciate the additional specialized knowledge and skill of thoracic nurses, and to what extent they also perceive thoracic surgery to be a nursing specialty not unlike their own.
While thoracic surgery has known implications to cardiac and lung function, nurses must also consider its effects on pain, activity, nutrition, and lifestyle. Managing pain after thoracic surgery can be challenging due to the nature of the surgical procedures, as the muscles of the chest wall are separated and intercostal nerves are often damaged (Cox, Cousins, Smith, Marwick, & Gullberg, 2007). Thoracic epidural analgesia for thoracic surgery is often considered ideal, in addition to a multimodal approach of opioids, acetaminophen, NSAIDs, and gabapentin (Davies & Rozario, 2014). Thoracic nurses require the appropriate knowledge and skill to effectively manage pain in the postoperative period.

In turn, good pain control post-operatively is key to promoting deep breathing and coughing, as well as mobilization, both important for the thoracic surgery patient in order to promote lung expansion, expel secretions, and prevent pneumonia (Magereson & Riley, 2008). Postoperative pneumonia resulting in respiratory failure continues to be a leading cause of mortality, morbidity, and prolonged hospital stay after thoracic surgery (Allan, Donahue, & Garrity, 2009). A patient’s ability to clear pulmonary secretions following thoracic surgery is a key indicator in a thoracic patient’s postoperative recovery. The thoracic nurse’s role in the postoperative prevention of pneumonia is crucial, and includes encouragement of frequent deep breathing and coughing exercises, incentive spirometry, and ensuring ambulation at least 3 times a day in the first 48 hours (Allan, Donahue, & Garrity). Maintaining fluid balance in the thoracic patient is also critical to preventing fluid overload and pulmonary edema post-operatively (Myatt). Nursing skills specific to the thoracic surgery patient population may include exceptional
skill in the auscultation of chest sounds, the interpretation of cardiac rhythms and interventions, and the assessment and care of chest tubes and drainage devices.

Pre and post-operative patient education is important with the thoracic surgery population, as the surgery or the disease process itself may have implications to lifestyle such as activity restrictions, smoking cessation, and nutritional considerations. Thoracic patients commonly have experienced weight loss due to disease progression, and require advanced nutritional support and education (Magereson & Riley). Thoracic surgery encompasses a diverse range of procedures for a variety of conditions that have a enormous impact on the life of a patient, and in developing knowledge and skills in management of these conditions, the nurse plays a vital role in the treatment and care of the thoracic surgical patient (Myatt, 2006).

**Value of Specialty Certification in Nursing**

Although licensure and registration are granted for meeting minimum professional requirements, certification denotes a more advanced level of knowledge and practice (Byrne, Valentine, & Carter, 2004). The position of the Canadian Nurses Association is that nursing certification is a “tangible distinction” that verifies knowledge and skill levels in a specialty, and that this credential indicates to patients, employers, and the public, that you are qualified, competent, and current in a specialty area of nursing practice. The CNA asserts that by preparing for the rigorous certification exam, a specialty nurse ensures their specialized knowledge and skill level is current and comprehensive, and that by
renewing the certification every five years, continuous learning and competence is maintained (CNA, 2014f).

Nurses’ attitudes and perceptions related to specialty certification have been studied for many years. In 2003, the U.S. based Competency and Credentialing Institute (CCI), who represent certified perioperative nurses, stated that certification was valued because it “validated specialized knowledge, indicated professional growth, indicated attainment of a practice standard, provided evidence of professional commitment, provided a professional challenge, and enhances professional credibility” (Allen, 2010, p. 28). In their research around specialty certification, CCI developed the Perceived Value of Certification Tool® (PVCT). Using this tool, the value of certification is demonstrated through intrinsic and extrinsic rewards. Intrinsic rewards are personal incentives which include accountability, clinical competence, confidence in clinical abilities, and professional growth, where as extrinsic rewards consist of external motivators such as consumer confidence, employer recognition, nursing peer recognition, and recognition from other health care professionals (Byrne, Valentine, & Cater, 2004).

This type of research has been replicated across many different nursing specialties over the last 12 years, as well as by the American Board of Nursing Specialties (ABNS) with similar results (Allen, 2010). A 2011 study by Straka et al. (2014) involving the pediatric nursing population, demonstrated that nursing certification promotes professional growth, a level of clinical competence, and professional credibility. Results of this study revealed that the perceived value of certification, professional development, and level of clinical competence are higher
among certified pediatric nurses. By expanding the use of the PVCT to include a study sample of 20 different nursing specialties, Niebuhr & Biel (2007) determined that the value statements resonate with a variety of nurses regardless of specialty area, work role, or certification status.

In terms of clinical knowledge and competence, a study by Coleman, Coon, Copeland, Kennedy, and McNatt (2009) compared certified and noncertified oncology nurses in their knowledge of symptom management for pain and chemotherapy induced nausea and vomiting, patient satisfaction, and nurse satisfaction, in order to determine the effect of certification in oncology nursing on those nursing-sensitive outcomes. The results of this study provided some support to their hypothesis, that certification improves patient care quality, as the positive effects on the nurses’ knowledge of symptom management, was related to the nurse being certified in oncology nursing and attending more hours of continuing education (Coleman et al., 2009).

Kendall-Gallagher, Aiken, Sloane, and Cimiotti (2011) found that the specialty certification of nurses was associated with lower mortality and failure to rescue in general surgery patients. Their study looked at risk-adjusted outcome data for general, orthopedic, and vascular surgery patients ($n = 1,283,241$) in 652 hospitals in California, Florida, New Jersey, and Pennsylvania, and linked outcomes with nurse survey data ($n = 28,598$). The researchers found that within a hospital, for each 10% increase in baccalaureate and certified baccalaureate staff nurses, respectively, the odds of inpatient 30-day mortality and failure to rescue decreased by 6% and 2%, respectively (Kendall-Gallagher et al.). They concluded that specialty certification is
associated with better patient outcomes and “the investment in baccalaureate-educated workforce and specialty certification has the potential to improve the quality of care” (Kendall-Gallagher et al., p. 188).

With growing evidence that demonstrates the relationship between educational preparation for nurses and patient outcomes, in Canada, baccalaureate education is required for basic entry to practice as a registered nurse (Canadian Association of Schools of Nursing, 2011). Pursuing specialty certification beyond entry-to-practice requirements promotes continuing education and professional development (CNA, 2014f). The CNA further describes other extrinsic benefits of certification such as more job opportunities, as some employers list certification as a preferred qualification, career advancement and increased responsibilities, and formal recognition in the workplace (CNA, 2014f). Moreover, Miller and Boyle (2008) suggest that there are several other extrinsic advantages of nursing specialization, which include the development of nurse experts who serve as peer supports for bedside nurses, help educate patients, and bring expertise to quality improvement activities, while also showing improvements in nurse and patient satisfaction, and nurse retention. A study by Ferdon (2009) supports this idea, demonstrating that nurses value specialization and certification through findings of a perceived increase in quality care, personal satisfaction, accomplishment, and autonomy. Nurse respondents in this study “overwhelmingly agreed at 93.3%” that certification improves patient outcomes (Ferdon, p. 17).
Barriers to Specialty Certification

While there is a large amount of evidence to support specialization through certification, there is some literature to suggest it is not without drawbacks. In a study by Byrne et al. (2004) using the PVCT, the most frequently reported barriers to certification for nurses were the costs related to taking the exam and maintaining certification, lack of institutional support and reward, lack of time to prepare for the exam, and lack of study resources. They also explored nurses who had previously been certified but let their credentials lapse, and found the following reasons for not renewing: lack of recognition, lack of compensation, cost of renewal fee, lack of time for continuing education, and personal circumstances.

In a study with 1748 medical/surgical nurse respondents, Haskins, Hnatiuk, and Yoder (2011) surveyed the barriers to certification, and indicated the top barriers were cost of the examination, discomfort with the test-taking process, and lack of institutional reward. Nurses who were certified and did not maintain their certification listed the fee for renewal as the primary cause for non-renewal, with leaving the specialty area ranked second among barriers. The lowest rated barrier for both certification and recertification was lack of access to continuing education. Interestingly, Haskins, Hnatiuk, and Yoder also posed a question regarding what type of incentives provided by employers would promote certification, and found that the top three incentives were: reimbursement for exam fees, listing of certification credentials on name tags and/or business cards, and advancement on the nursing clinical/career ladder.
In 2010, there were 287,344 registered nurses in Canada, with 16,260 of those holding valid CNA certification in a specialty area of practice, a number that represents fewer than 6% of nurses (CNA, 2012; CNA 2015b). This highlights another significant barrier to certification, which is that some specialties just don’t possess it. Consider one of the most publicly recognized specialties: pediatrics. This is a specialty area of nursing that already has a well-defined practice, existing advanced education programs, and a large body of nursing literature and research. Yet pediatric nursing still lacks national recognition in the form of a certification examination. In 2012, the Canadian Association of Pediatric Nurses held a meeting to discuss restoring the group, which has been inactive since 2005, and beginning work to develop national standards of pediatric nursing care, as well as advocating for the certification of pediatric nurses in Canada (Bailey, 2012; Pediatric Nurses Interest Group, 2012). One of the challenges in the development of CNA specialty certification is the existence of human resources to support exam development and the ongoing maintenance of a certification program (L. Vachon, personal communication, January 5, 2015).

Other drawbacks of specialization are suggested via the medical profession. In an article from the New England Journal of Medicine, Cassell and Reuben (2011) contend that while new specialties can benefit both patients and physicians, “a proliferation of specialties without adequate justification may simply confuse the public without creating a social good” (p. 1173). They suggest the need to find a balance between the “potential benefits of recognizing more specific expertise with the detriment of fragmentation of the profession” (p. 1173). Cassell and Reuben
point out that medical students often develop the misguided idea that generalist fields are less exciting, when the reality is that even generalist practice is increasingly difficult to keep up with, given the breadth of knowledge and skill required.

**Conclusion**

Nursing specialization has been around for many years, and the development of specialties is becoming more common with the increased complexity of patients and medical technology. While nursing licensure is intended to ensure the minimum competency of practicing nurses, “certification demonstrates nurses’ achievement of a high level of competence or expertise in a particular area or specialty” (Haskins, Hnatiuk, & Yoder, 2011, p. 77).

This review of relevant literature has revealed a substantial body of evidence of professional recognition of the value of specialty certification, that identifies advantages of increased accountability, clinical competence, confidence in clinical abilities, professional growth, consumer confidence, employer recognition, nursing peer recognition, and recognition from other health care professionals (Allen, 2010; Byrne, Valentine, & Cater, 2004; Niebuhr & Biel, 2007). Specialty certification may also be associated with patient satisfaction, better patient outcomes, and improved quality of care (Coleman et al., 2009; Kendall-Gallagher et al., 2011; Miller & Boyle, 2008). There may also be additional advantages of nursing specialization, such as the development of nurse experts to support and educate bedside nurses and
patients, and bring expertise to quality improvement activities, while also improving nurse satisfaction and retention (Miller & Boyle, 2008).

Although certification is frequently perceived positively, barriers to specialization also exist and concerns about access to attaining specialty certification status, without which, one cannot be formally recognized in any given specialty. Specialties lacking formal recognition in the form of a certification examination also present a significant barrier. Literature also revealed some possible negative attitudes towards specialization, particularly in the medical profession.

Whereas certification is the “formal” recognition of a nursing specialty, given the idea that specialties are produced out of the needs of specific patient populations and their required level of nursing care, thoracic surgery may be a good contender for fitting with descriptions of a nursing specialty. Much of the literature explored does not account for how nurses perceive these non-formally recognized specialties.

Chapter three will be about the methodological approach and methods of analysis used to undertake this study and understand the perceptions of specialty certification, as well as thoracic surgery as a nursing specialty.
CHAPTER 3: METHODS

The research questions for this study included:

(a) How do experienced thoracic nurses and surgeons perceive nursing specialization/certification?

(b) Do nurses and surgeons perceive nursing to require an advanced level of knowledge and skills to meet the needs of the thoracic surgery patient population?

(c) Do nurses and surgeons feel that thoracic surgery should be formally recognized as a nursing specialty?

The methodology for the study is described in this chapter, including design, sampling, data collection, analysis, ethical considerations and limitations of the study.

Study Design and Setting

To address the research question and objectives, I selected a methodology that I believed would elicit the most authentic answers. A quantitative approach was used in this study, with data collected through a web-based survey that included both Likert-scale and multiple-choice questions.

Apart from low cost, the use of a web-based survey approach ensured the survey was self-paced and anonymous to encourage accurate and honest answers. Ha et al. (2015) suggest that if the researcher wants a survey to be self-paced by the respondent, then self-administered paper surveys, mail or online surveys are the best choices, while telephone or face-to-face interviews with the presence of an
Interviewer are more effective in controlling the flow of response as well as questions that need further explanation and probing. Additionally, telephone and face-to-face surveys are more likely to elicit socially acceptable answers, while privacy of mail and online surveys has been repeatedly shown to reduce socially desirable answers and increase more accurate answers (Ha et al.).

The first half of the survey utilized the Perceived Value of Certification Tool © (PVCT) to explore perceptions of the value of nurse certification. Additional multiple-choice questions were added after the PVCT, and collected demographic information, as well as examined if advanced knowledge and skills are required of thoracic nurses, and in-turn, if they felt thoracic surgery should be recognized as a nursing specialty. These questions were developed based on the research questions: Do nurses and surgeons perceive nursing to require an advanced level of knowledge and skills to meet the needs of the thoracic surgery patient population? And also, do nurses and surgeons feel that thoracic surgery should be formally recognized as a nursing specialty? The multiple-response answers were developed from a combination of medical-surgical nursing texts, thoracic surgery literature, and the researcher’s personal experience of the specialty.

**Sample Selection & Recruitment**

The researcher aimed to target experienced thoracic nurses and surgeons from several major thoracic surgery centers in British Columbia such as Surrey Memorial Hospital (SMH), Vancouver General Hospital (VGH), Kelowna General Hospital (KGH) and Victoria Royal Jubilee Hospital (RJH) who could speak to the
phenomena of concern. As each site employs a slightly different thoracic surgery care model (for example, closed units admitting only respiratory and/or thoracic surgery patients versus thoracic beds within a general surgical unit, as well as varied staff mixes) the inclusion of several sites was designed to contribute to a good representation of the thoracic surgery staff concerned with this specialty.

This study aimed to produce a minimum sample size of 30 survey respondents. Given the narrow focus of the research, it was thought that 30 responses would be the minimum number to ensure sufficient representation of the target thoracic surgery workforce. This sample was attained through targeted non-probability convenience sampling (Polit and Beck, 2012). Convenience sampling was used as it fits with the chosen study design, relies on volunteers and worked well with participants who needed to be “recruited from a particular clinical setting or organization” (Polit & Beck, p. 516). This method worked well given the limited time and resources for this study, especially with this work being exploratory only in nature, and the desired sample population being multi-site and province-wide.

The Clinical Nurse Educator (CNE) at each thoracic surgery center was asked to distribute the study invitation (Appendix A), consent information (Appendix B), and survey link to thoracic staff via institutional email. A small recruitment poster (Appendix C) was created and provided to the CNEs for survey advertising. The poster addressed the target population of RNs, nurse leaders, and surgeons, provided a brief description of the study, highlighted the opportunity for a prize draw, as well as outlined the inclusion and exclusion criteria.
All participants had the option of entering a prize draw as incentive to participate. Any participant who withdrew or was excluded from the research still had their name included in the prize draw. Care was taken such that entering the draw did not compromise the confidentiality of the participant. Any email address provided by the participant was not associated with their survey responses, and was used only for the purpose of the prize draw. There were three prize draw winners, each of whom were notified and delivered a $25 Starbucks Gift Card via email.

The inclusion criteria for the study was nurses with two or more years of experience in thoracic surgery, advanced practice nurses working within the specialty area, and also thoracic surgeons. Benner describes the process of nursing clinical judgment and skill development using different levels of proficiency, suggesting a nurse at the “competent” level have 2 to 3 years of clinical experience, from which the nurse is able to cope with and manage many of the more challenging occurrences of clinical nursing practice (Valdez, 2008). Hence, the researcher chose a minimum of 2 years of experience in the area. Advanced Practice Nurses are a common member of the thoracic surgery team, and were included for their role in caring for the thoracic surgery patient population, as well as their knowledge and expertise of the subject. Thoracic surgeons were included in this study in order to gain their perspectives on the expectations of nursing in caring for the thoracic patient population and the value of specialization for thoracic nurses. As thoracic surgery is a highly specialized practice, the pre and post-operative care of their patients is just as specialized. Yet it could be seen as entry-level nursing practice by surgeons, and so it was seen as important to include the perceptions of thoracic
surgeons in this work, particularly as they often have influence on the recruitment and employment of nurses in these areas.

Additionally, in order to correspond with CNA eligibility criteria for certification, exclusion criterion for the sample included: staff without a permanent assignment in the thoracic surgery unit or area; for example, casually employed nurses who work on multiple units and therefore are not permanent thoracic surgery nurses, and staff with less than two years of experience.

Given the varying size of each thoracic surgery center, the corresponding disparity in staffing across sites, and the exclusion criteria, 30 participants was the minimum expected sample size. The total number of survey respondents was 53, with 40 meeting the criteria for inclusion. 8 were excluded due to casual employment status, and 5 excluded for having less than two years of experience in thoracic surgery.

Procedures and Data Collection

Data collection took place over a period of six weeks through a web-based survey using the Canadian FluidSurveys™ tool. A link to the anonymous online survey was distributed to staff at each site through institutional email by the department CNE. The short-two part survey (Appendix D) combined Likert-scale and multiple-choice type questions. The first part was used to assess the participant’s perceptions of nursing specialization, and utilized the 18-item Perceived Value of Certification Tool © (PVCT), with written permission from the Competency and Credentialing Institute (Appendix E). The responses were
measured by the degree to which the respondents agree or disagree with each individual statement. The Likert-type response scale ranges from strongly agree, agree, disagree, strongly disagree, and no opinion. A numerical value is assigned to each Likert-scale response, and the assumption is made that is response is equidistant on the scale.

The PVCT, developed by the Competency and Credentialing Institute, has demonstrated excellent reliability and validity in multiple studies. In a recent study of 2,323 certified and non-certified operating room nurses, the reliability coefficient for the 18-survey items for the PVCT was (alpha) 0.94, indicating a high degree of internal consistency (reliability) among the items (Haskins, Hnatiuk, & Yoder, 2011). Similar findings have also been noted in studies completed by the American Board of Nursing Specialties (2006). The value statements are grouped into two factors: intrinsic and extrinsic rewards for certification. Intrinsic rewards are motivators internal to an individual and linked to personal development and self-concept values, while extrinsic rewards are external to an individual and defined by others (Niebuhr & Biel, 2007).

The second portion of the survey was not part of the PVCT, and collected general demographic information (to explore any variations within the sample) and asked several multiple-choice questions about the knowledge and skill level perceived necessary for working with the thoracic patient population. At the end of the survey, participants also had the option of entering additional comments in an open question. The estimated time to read the study information and consent, as well as complete the survey was approximately 15 minutes. Two reminder emails
were sent to CNEs for distribution at 1 week and 2 weeks after the initial information had been sent.

Once study information had been distributed, the survey link remained open for a period of six weeks during December 2014 to January 2015. This time frame gave participants ample time to review the purpose of the study and make a decision about participation. This also ensured participants who may check their institutional email less often, still had the opportunity to view the invitation to participate.

**Data Analysis**

After closure of the online survey, data was downloaded and participants’ responses were coded and inputted into computer software for statistical analysis, the Statistical Package for the Social Sciences (SPSS®), version 20. The data was analyzed using descriptive statistics to explore for trends and patterns. Graphical representations and tables were created using Microsoft® Excel® for Mac (2011), version 14.1.3, and SPSS®, and served to illustrate demographic and perceptual variances, as well as the distribution of results, such as years of experience.

Since Likert-type scales can also be treated as interval-level data, for the PVCT questions, each item on the response scale was assigned a score, with strongly disagree = 1, disagree = 2, agree = 3, and strongly agree = 4. Since “5” on the scale represents “no opinion,” it could not be considered a part of the interval scale, thus this response was eliminated from further calculations. Since the percentage of missing data was minimal (less than 2.5% of overall responses), those subjects who
responded “no opinion” (a “5” on the response scale) were omitted from the statistical analysis of that particular question only in order to keep bias at a minimum. Frequencies were used to determine how many participants responded with a “1”, “2”, “3”, or “4” with means and standard deviations were calculated for participants’ responses to the 18-item PVCT Likert-type questions. Responses to the thoracic surgery specific questions were evaluated as a percent agreement (nominal level) for each statement.

**Ethical Considerations**

Ethical approval for the study was obtained from the UBC Behavioral Research Ethics Board, as the Board of Record for the Ethics Boards from the respective health authorities. This study was identified as minimal risk, with no physical, psychological, emotional, or social risks identified. Survey participation was voluntary and participants were able to refuse or end their participation at any time without jeopardizing any relationship with the employing institution, or the University of British Columbia. The surveys were completed anonymously, and all participants received an electronic copy of study information (Appendix A) and informed consent (Appendix B). Completion and submission of the survey was taken as consent to participate in the study.

Survey completion was anonymous, although participants had the option of entering their email address if they wished to participate in the prize draw. In these cases, the email addresses were not associated with survey responses. Data collected via *FluidSurveys™* was stored on servers located at UBC and password
protected. Any electronic files were password protected and stored on a secure computer - either a password protected laptop, or on a password protected computer at the UBC School of Nursing. Data will be retained on a secure computer at UBC for a period of 5 years. Details of study confidentiality were described for participants on page 2 of the consent information (Appendix B).

Limitations of Study Design

There were several limitations to the study that may have influenced the results. This was an exploratory, non-experimental, descriptive study, with the small sample size and use of non-probability sampling representing the most significant limitations. However, because participants needed to be recruited from a specific clinical setting, convenience sampling was determined to be the most efficient way to reach the largest number of potential participants. In attempt to reduce sampling bias, participants were recruited from multiple thoracic surgery sites. Unfortunately, due to specific inclusion criteria, the sample was limited to permanent thoracic staff, and several casual nurse responses were excluded from the data set, reducing the overall number of respondents.

When implementing a quantitative research design, use of a non-probability sampling technique limits our ability to make broader generalizations from our results (Polit and Beck, 2012). Another specific challenge of using surveys in particular as a data collection method, is obtaining a large enough sample, especially when good representation is expected (Ha, 2015).
Furthermore, another limitation was that the additional questions concerning thoracic surgery included in the survey were multiple-choice, with predetermined answers. Future research could explore physician and perceptions through a qualitative approach, using more open-ended questions to elicit further answers and ideas.

**Summary**

Chapter three presented an overview of the methodologies used to conduct this quantitative research study. It introduced how data was collected, handled and analyzed and additionally, how confidentiality and other ethical considerations were taken into account.

That data that was generated from the online survey was analyzed using SPSS® software and is presented and discussed in chapter four.
CHAPTER 4: RESEARCH FINDINGS

In this chapter, the findings from this research are presented. Graphical representations and tables are used to illustrate results and were created using Microsoft® Excel® for Mac (2011), version 14.1.3, and SPSS®. Descriptive statistics were used to examine the data collected through a web-based survey. Average completion time for the online survey was 5:42 minutes, with a minimum time of 2:02 and maximum time of 11:16. This does not include the time the participant spent reviewing the study invitation and consent materials. The total number of survey respondents was 53, with 40 meeting the criteria for inclusion.

Sample Characteristics

Participants were thoracic nurses and surgeons from three thoracic surgery centers: Surrey Memorial Hospital (70%), Vancouver General Hospital (12.5%), and Victoria Royal Jubilee Hospital (17.5%). Kelowna General Hospital was also included in the survey invitations. However, no survey responses were completed from this site.

The sample consisted of 32 (80%) thoracic nurses, 3 (7.5%) thoracic surgeons, and 5 (12.5%) nurses in leadership positions (Manager, Patient Care Coordinator, Clinical Nurse Educator). In terms of gender, 31 (77.5 %) respondents were female, and 9 (22.5%) male. 33 respondents were full time (82.5%) and 7 were part-time (17.5%).

The majority of respondents (55%) had 5 or more years of overall experience in their profession, with 47.5% having worked 5 or more of those years in a thoracic
surgery area. Table 1 illustrates the characteristics of the sample. The typical respondent was a female frontline registered nurse, working full time.

Table 1 Demographic profile of respondents

<table>
<thead>
<tr>
<th>Characteristics (n=40)</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Work Site</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surrey Memorial Hospital</td>
<td>28</td>
<td>70.0</td>
</tr>
<tr>
<td>Vancouver General Hospital</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>Victoria Royal Jubilee Hospital</td>
<td>7</td>
<td>17.5</td>
</tr>
<tr>
<td><strong>Current Role</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registered Nurse</td>
<td>32</td>
<td>80.0</td>
</tr>
<tr>
<td>Surgeon</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td>Nursing Leadership (Manager, PCC(^a), CNE(^b))</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9</td>
<td>22.5</td>
</tr>
<tr>
<td>Female</td>
<td>31</td>
<td>77.5</td>
</tr>
<tr>
<td><strong>Employment Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-Time</td>
<td>33</td>
<td>82.5</td>
</tr>
<tr>
<td>Part-Time</td>
<td>7</td>
<td>17.5</td>
</tr>
<tr>
<td><strong>Overall Years of Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3 years</td>
<td>8</td>
<td>20.0</td>
</tr>
<tr>
<td>3-5 years</td>
<td>10</td>
<td>25.0</td>
</tr>
<tr>
<td>Over 5 years</td>
<td>22</td>
<td>55.0</td>
</tr>
<tr>
<td><strong>Years of Experience with Thoracic Surgery</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3 years</td>
<td>8</td>
<td>20.0</td>
</tr>
<tr>
<td>3-5 years</td>
<td>13</td>
<td>32.5</td>
</tr>
<tr>
<td>Over 5 years</td>
<td>19</td>
<td>47.5</td>
</tr>
</tbody>
</table>

*Note.* \(^a\)Patient Care Coordinator (PCC), \(^b\)Clinical Nurse Educator (CNE).

Perceived Value of Certification

Each response to the Perceived Value of Certification Tool © was assigned a numerical value, with strongly disagree = 1, disagree = 2, agree = 3, and strongly agree = 4. These values were analyzed as interval level data, in which means and
standard deviations were calculated (Table 2). Item response statistics are also represented graphically in Figure 1.

The statement with most positive agreement was that certification “enhances feelings of personal accomplishment,” with a mean score of 3.48, suggesting respondents identified most with this intrinsic reward of certification. Other highly agreed with statements indicated respondents felt that certification “provided a professional challenge” (mean score of 3.50), and “validates specialized knowledge” (mean score of 3.48).

The most negatively perceived statement, with a mean score of 2.62, (and also the most varied response: SD = 0.924), was “increases salary,” suggesting that most respondents did not feel that certification resulted in an increase in salary.
Table 2 PVCT item response statistics

<table>
<thead>
<tr>
<th>PVCT Item Response Statistics</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validates specialized knowledge</td>
<td>40</td>
<td>3</td>
<td>4</td>
<td>3.48</td>
<td>.506</td>
</tr>
<tr>
<td>Indicates level of clinical competence</td>
<td>39</td>
<td>3</td>
<td>4</td>
<td>3.41</td>
<td>.498</td>
</tr>
<tr>
<td>Indicates attainment of a practice standard</td>
<td>40</td>
<td>2</td>
<td>4</td>
<td>3.25</td>
<td>.543</td>
</tr>
<tr>
<td>Enhances professional credibility</td>
<td>39</td>
<td>2</td>
<td>4</td>
<td>3.44</td>
<td>.552</td>
</tr>
<tr>
<td>Promotes recognition from peers</td>
<td>40</td>
<td>2</td>
<td>4</td>
<td>3.37</td>
<td>.540</td>
</tr>
<tr>
<td>Promotes recognition from other health professionals</td>
<td>39</td>
<td>1</td>
<td>4</td>
<td>3.26</td>
<td>.637</td>
</tr>
<tr>
<td>Promotes recognition from employers</td>
<td>40</td>
<td>1</td>
<td>4</td>
<td>3.25</td>
<td>.630</td>
</tr>
<tr>
<td>Increases consumer confidence</td>
<td>36</td>
<td>1</td>
<td>4</td>
<td>3.22</td>
<td>.681</td>
</tr>
<tr>
<td>Enhances feeling of personal accomplishment</td>
<td>40</td>
<td>2</td>
<td>4</td>
<td>3.53</td>
<td>.554</td>
</tr>
<tr>
<td>Enhances personal confidence in clinical abilities</td>
<td>39</td>
<td>2</td>
<td>4</td>
<td>3.41</td>
<td>.549</td>
</tr>
<tr>
<td>Provides personal satisfaction</td>
<td>40</td>
<td>3</td>
<td>4</td>
<td>3.40</td>
<td>.496</td>
</tr>
<tr>
<td>Provides professional challenge</td>
<td>40</td>
<td>3</td>
<td>4</td>
<td>3.50</td>
<td>.506</td>
</tr>
<tr>
<td>Enhances professional autonomy</td>
<td>40</td>
<td>2</td>
<td>4</td>
<td>3.23</td>
<td>.660</td>
</tr>
<tr>
<td>Indicates professional growth</td>
<td>40</td>
<td>2</td>
<td>4</td>
<td>3.40</td>
<td>.545</td>
</tr>
<tr>
<td>Provides evidence of professional commitment</td>
<td>40</td>
<td>1</td>
<td>4</td>
<td>3.27</td>
<td>.599</td>
</tr>
<tr>
<td>Provides evidence of accountability</td>
<td>40</td>
<td>1</td>
<td>4</td>
<td>3.25</td>
<td>.630</td>
</tr>
<tr>
<td>Increases marketability</td>
<td>37</td>
<td>1</td>
<td>4</td>
<td>3.11</td>
<td>.699</td>
</tr>
<tr>
<td>Increases salary</td>
<td>37</td>
<td>1</td>
<td>4</td>
<td>2.62</td>
<td>.924</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Perceptions of Thoracic Surgery

Advanced Knowledge Related to Thoracic Surgery

Responses to the thoracic surgery specific question exploring perceptions of advanced knowledge required, related to thoracic surgery were analyzed as a percentage of agreement (nominal level) for each of the given components, and results are represented in Table 3.
Participants were asked to select the statements that they perceive to be examples of advanced nursing knowledge related to thoracic surgery:

- Knowledge of lung-associated diseases, cancers and their stages
- Knowledge of esophageal-associated diseases, cancers and their stages
- Knowledge of thoracic surgical procedures (e.g. lobectomy, esophagectomy)
- Knowledge and understanding of potential complications of thoracic surgical procedures and when to intervene
- Understanding of the implications of thoracic surgeries and application to patient care peri-operatively, with considerations to pain management, activity, nutrition, and lifestyle
- Ability to provide patient teaching of thoracic surgical procedures and their implications
- Anticipation of the needs of thoracic surgery patients post-discharge from acute care, with considerations to pain management, activity, nutrition, and lifestyle
- Other: ______

All of the surgeons identified all of the statements as advanced thoracic surgery related knowledge, indicating that thoracic surgeons recognize and value the additional specialist knowledge that is required of thoracic nurses. However, whilst the majority of frontline registered nurses also reported that all the statements characterizing knowledge of thoracic surgery were valuable, the highest scoring statements they identified were those relating to knowledge of thoracic
surgical procedures (90.6%), and of the potential complications of thoracic surgical procedures and when to intervene (93.8%), understanding of the implications of thoracic surgeries and application to patient care peri-operatively with considerations to pain management, activity, nutrition, and lifestyle (84.4%), and ability to provide patient teaching of thoracic surgical procedures and their implications (90.6%). The majority (80%) of nurse leaders identified all of the components as advanced knowledge related to thoracic surgery.

One surgeon also commented that “management of complex pleural based diseases and post-surgical pleural spaces” was advanced nursing knowledge related to thoracic surgery. Additionally, a nurse respondent commented that “ELOS” (estimated length of stay) was advanced nursing knowledge related to the thoracic surgery patient.
### Table 3 Perceptions of advanced nursing knowledge related to thoracics, by role

<table>
<thead>
<tr>
<th>Perception of Advanced Nursing Knowledge Related to Thoracics by Role</th>
<th>Current Role</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Registered Nurse</td>
<td>Surgeon</td>
<td>Nursing Leadership (Manager, PCC, CNE)</td>
</tr>
<tr>
<td>Knowledge of lung-associated diseases, cancers and their stages</td>
<td>Count</td>
<td>21</td>
<td>3</td>
</tr>
<tr>
<td>% within ROLE</td>
<td>65.6%</td>
<td>100.0%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Knowledge of esophageal-associated diseases, cancers and their stages</td>
<td>Count</td>
<td>21</td>
<td>3</td>
</tr>
<tr>
<td>% within ROLE</td>
<td>65.6%</td>
<td>100.0%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Knowledge of thoracic surgical procedures (e.g., lobectomy, esophagectomy)</td>
<td>Count</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td>% within ROLE</td>
<td>90.6%</td>
<td>100.0%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Knowledge and understanding of potential complications of thoracic surgical procedures and when to intervene</td>
<td>Count</td>
<td>30</td>
<td>3</td>
</tr>
<tr>
<td>% within ROLE</td>
<td>93.8%</td>
<td>100.0%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Understanding of the implications of thoracic surgeries and application to patient care peri-operatively, with considerations to pain management, activity, nutrition, and lifestyle</td>
<td>Count</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>% within ROLE</td>
<td>84.4%</td>
<td>100.0%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Ability to provide patient teaching of thoracic surgical procedures and their implications</td>
<td>Count</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td>% within ROLE</td>
<td>90.6%</td>
<td>100.0%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Anticipation of the needs of thoracic surgery patients post-discharge from acute care, with considerations to pain management, activity, nutrition, and lifestyle</td>
<td>Count</td>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td>% within ROLE</td>
<td>75.0%</td>
<td>100.0%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Other</td>
<td>Count</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>% within ROLE</td>
<td>3.1%</td>
<td>33.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>32</td>
<td>3</td>
</tr>
</tbody>
</table>

Percentages and totals are based on respondents.

a. Dichotomy group tabulated at value 1.
Advanced Skills Related to Thoracic Surgery

Responses to the thoracic surgery specific question exploring perceptions of advanced skills related to thoracic surgery were analyzed as a percentage of agreement (nominal level) for each statement, and the results are given in Table 4.

Participants were asked to select the statements that they perceive to be examples of advanced nursing skills related to thoracic surgery:

- Auscultation of chest sounds
- Interpretation of cardiac rhythms and interventions
- Assessment and care of chest tubes
- Assessment, care, and management of chest drainage devices (eg. Pleur-evac®, Thopaz™, Pneumostat™)
- Assessment, care, and management of long-term chest catheters for malignant pleural effusions (eg. PleurX®)
- Irrigations/flushing of chest tubes
- Removal of chest tubes
- Other: ________

The lowest scoring skill perceived as an advanced skill was found to be “auscultation of chest sounds” with only 28.1% of the registered nurses and 33.3% of the surgeons identifying this as an advanced thoracic surgery skill. This would seem to suggest that both nurses and surgeons recognize the auscultation of chest sounds to be a basic nursing skill. However, the majority (81.2%) of nurses felt that the interpretation of cardiac rhythms was an advanced nursing skill, whilst only 66.7% of surgeons were in agreement.
Roughly half (56.2%) of the nurse respondents identified that the assessment and care of chest tubes was an advanced thoracic nursing skill, with slightly more (65.6%) identifying the assessment, care, and management of drainage devices as advanced thoracic skills. The assessment and care of chest tubes refers to care of the tube itself, which is inserted into the pleural space for drainage of air or fluid. Assessment involves inspection of the insertion site for redness, swelling, drainage, subcutaneous emphysema (air under the skin), and tube placement, with the associated care being cleansing and dressing of the site. Assessment, care, and management of drainage devices refers to the equipment attached to the chest tube, which collects and measures the drainage, as well as prevents air or fluid from returning into the chest, thus re-establishing the negative pressure within the pleural space to support lung expansion.

The removal of chest tubes was the highest scoring skill, with 84.4% of nurses perceiving it to be an advanced skill related to thoracic surgery. All of the surgeon respondents identified all of the skills relating to chest tubes to be advanced nursing skills. The only two nursing skills identified as advanced nursing skills by all those in nursing leadership roles were the interpretation of cardiac rhythms, and the removal of chest tubes.

One of the nurse respondents commented, “I think [all the] examples are basic skills, but then again, I work on a thoracic ward”.
**Table 4 Perceptions of advanced nursing skills related to thoracic surgery, by role**

<table>
<thead>
<tr>
<th>Skill a</th>
<th>Auscultation of chest sounds</th>
<th>Count</th>
<th>% within ROLE</th>
<th>Current Role</th>
<th>Registered Nurse</th>
<th>Surgeon</th>
<th>Nursing Leadership (Manager, FCC, CNE)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>28.1%</td>
<td></td>
<td>1</td>
<td></td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>33.3%</td>
<td></td>
<td></td>
<td>33.3%</td>
<td></td>
<td>40.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interpretation of cardiac rhythms and interventions</td>
<td>26</td>
<td>81.2%</td>
<td></td>
<td>2</td>
<td>66.7%</td>
<td>5</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.7%</td>
<td></td>
<td></td>
<td>2.8%</td>
<td></td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assessment and care of chest tubes</td>
<td>18</td>
<td>56.2%</td>
<td></td>
<td>3</td>
<td>100.0%</td>
<td>3</td>
<td>60.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.8%</td>
<td></td>
<td></td>
<td>1.2%</td>
<td></td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assessment, care, and management of chest drainage devices (e.g. Pleur-evac, Thoraz, Pneumostalt)</td>
<td>21</td>
<td>65.6%</td>
<td></td>
<td>3</td>
<td>100.0%</td>
<td>3</td>
<td>60.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.8%</td>
<td></td>
<td></td>
<td>1.2%</td>
<td></td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assessment, care, and management of long term chest catheters for malignant pleural effusions (e.g. PleurX)</td>
<td>25</td>
<td>78.1%</td>
<td></td>
<td>3</td>
<td>100.0%</td>
<td>4</td>
<td>80.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.8%</td>
<td></td>
<td></td>
<td>1.2%</td>
<td></td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Irrigation/flushing of chest tubes</td>
<td>24</td>
<td>75.0%</td>
<td></td>
<td>3</td>
<td>100.0%</td>
<td>3</td>
<td>60.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.8%</td>
<td></td>
<td></td>
<td>1.2%</td>
<td></td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Removal of chest tubes</td>
<td>27</td>
<td>84.4%</td>
<td></td>
<td>3</td>
<td>100.0%</td>
<td>5</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.8%</td>
<td></td>
<td></td>
<td>1.2%</td>
<td></td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1</td>
<td>3.1%</td>
<td></td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>% within ROLE</td>
<td>0.0%</td>
<td>0.0%</td>
<td></td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>32</td>
<td>3</td>
<td>5</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Percentages and totals are based on respondents.
a. Dichotomy group tabulated at value 1.

**Education Requirements**

Participants were asked their opinion of the following statement “Additional education related to nursing knowledge and skills is required to meet the care needs of the thoracic surgery patient and improve the overall nursing care provided.”

Answers were on a Likert-type scale with respondents being able to select “strongly disagree,” “disagree,” “agree,” “strongly agree,” or identify “no opinion” (Table 5).

The majority of respondents (92.5%) either agreed or strongly agreed with this statement, indicating that thoracic surgery nursing may be different from basic
surgical nursing or entry-to-practice standards, with some level of additional nursing education required. The three respondents that disagreed were registered nurses, with the remainder of nurses selecting “agree” or “strongly agree”. Both surgeons and nurse leaders selected only “agree” or “strongly agree”. Response statistics by role is presented graphically in Figure 2.

*Table 5 Additional education related to nursing knowledge and skills is required to meet the care needs of the thoracic surgery patient population*

<table>
<thead>
<tr>
<th>Additional education related to nursing knowledge and skills is required to meet the care needs of the thoracic surgery patient population.</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Disagree</td>
<td>3</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Agree</td>
<td>21</td>
<td>52.5</td>
<td>52.5</td>
<td>60.0</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>16</td>
<td>40.0</td>
<td>40.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 2 Perception of additional education requirements for thoracic nurses, response breakdown by role*
**Patient Outcomes**

Participants were asked their opinion of the following statement "Nursing specialty recognition promotes better patient outcomes." Answers were on a Likert-type scale with respondents being able to select “strongly disagree,” “disagree,” “agree,” “strongly agree,” or identify “no opinion” (Table 6). The majority of respondents agreed (87.5%) with this statement, indicating the perception that recognition of nursing specialties promotes better outcomes for patients. Response statistics by role is presented graphically in Figure 3.

The two respondents that disagreed were registered nurses, with an additional three not responding to this question. The remaining majority (84%) of registered nurses responded with either “strongly agree” (50%) or “agree” (34%). Two surgeons answered, “strongly agree” with the third selecting “agree”. The majority of nurse leaders responded “agree” (60%), with the remaining selecting “strongly agree” (40%).

*Table 6 Nursing specialty recognition promotes better patient outcomes*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Disagree</td>
<td>2</td>
<td>5.0</td>
<td>5.4</td>
<td>5.4</td>
</tr>
<tr>
<td>Agree</td>
<td>20</td>
<td>50.0</td>
<td>54.1</td>
<td>59.5</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>15</td>
<td>37.5</td>
<td>40.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>92.5</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>3</td>
<td>7.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Participants were asked their opinion of the following final statement

“Thoracic surgery should be formally recognized as a certified nursing specialty.”

Answers were on a Likert-type scale with respondents being able to select “strongly disagree,” “disagree,” “agree,” “strongly agree,” or identify “no opinion” (table 7). The majority of respondents (85%) responded positively, either agreeing or strongly agreeing with this statement. This suggests that thoracic nurses and surgeons largely feel that thoracic surgery should be formally recognized as a certified nursing specialty. Four nurses did not respond to this question, and two responded with “disagree”. Response statistics by role is presented graphically in Figure 4.

Additional comments for this statement included, “I strongly believe that a thoracic specialty will enhance patient care and outcomes”, and “thoracic surgical
nursing is an important next step in the evolution of the management of thoracic surgical patients.”

Table 7 Thoracic surgery should be formally recognized as a certified nursing specialty

<table>
<thead>
<tr>
<th>Thoracic Surgery should be formally recognized as a certified nursing specialty</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Disagree</td>
<td>2</td>
<td>5.0</td>
<td>5.6</td>
</tr>
<tr>
<td></td>
<td>Agree</td>
<td>20</td>
<td>50.0</td>
<td>55.6</td>
</tr>
<tr>
<td></td>
<td>Strongly Agree</td>
<td>14</td>
<td>35.0</td>
<td>38.9</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>36</td>
<td>90.0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>System</td>
<td>4</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>40</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4 Thoracic surgery should be formally recognized as a certified nursing specialty, response breakdown by role
Summary of Findings

Participants in this study were thoracic nurses and surgeons from three thoracic surgery centers: Surrey Memorial Hospital, Vancouver General Hospital, and Victoria Royal Jubilee Hospital. The typical respondent was female, a frontline registered nurse, working full time, with 5 or more years of experience.

The most agreed with statement in the Perceive Value of Certification tool was “enhances feelings of personal accomplishment,” suggesting respondents identified most with this intrinsic reward of certification. Other statements highly agreed with indicated respondents felt that certification “provided a professional challenge,” and “validates specialized knowledge”. Overall, the statements most agreed with were the intrinsic rewards, suggesting that internal motivators may be more important to respondents in considering certification than extrinsic motivators. The statement with the highest disagreement was “increases salary,” indicating that respondents did not feel that certification resulted in an increase in salary.

When asked about perceptions of thoracic surgery, all of the surgeons responded that all knowledge statements were advanced thoracic surgery related knowledge. While the majority of frontline nurse respondents also agreed that all the knowledge statements characterized thoracic surgery, the highest scoring statements perceived by nurses to characterize advanced knowledge were: knowledge of thoracic surgical procedures, knowledge and understanding of potential complications of thoracic surgical procedures and when to intervene, understanding of the implications of thoracic surgeries and application to patient
care peri-operatively with considerations to pain management, activity, nutrition, and lifestyle, and the ability to provide patient teaching of thoracic surgical procedures and their implications.

In terms of advanced skills, the skill with the lowest number of respondents perceiving it to be advanced was found to be “auscultation of chest sounds”. The majority of nurses and surgeons felt that the interpretation of cardiac rhythms was an advanced nursing skill. Roughly half of nurse respondents felt that the assessment and care of chest tubes was an advanced thoracic skill, while the removal of chest tubes was the highest scoring skill, with the majority of nurses perceiving it to be an advanced skill related to thoracic surgery. Surgeon respondents perceived all skills related to chest tubes to be advanced skills. These results imply that thoracic surgeons recognize and value the additional knowledge and skill of thoracic nurses.

The majority of respondents either agreed or strongly agreed with that additional education related to nursing knowledge and skills is required to meet the care needs of the thoracic surgery patient and improve the overall nursing care provided and that nursing specialty recognition may promote better patient outcomes. Finally, the majority of respondents again either agreed or strongly agreed with the statement that thoracic surgery should be formally recognized as a certified nursing specialty.

In chapter five, I will discuss these finding, suggesting explanations for them with relation to existing research and literature.
CHAPTER 5: DISCUSSION

In this chapter, I explore the implications of these findings, discuss explanations for them, and relate the findings to existing literature. Specialty certifications have been shown to validate specific, specialized, and tested knowledge acquired by nurses (Ferdon, 2009). Research is essential to understand the factors affecting the obtainment of specialty certifications for growth of the nursing profession, retention, knowledge obtainment, and improved patient care outcomes (Ferdon). This descriptive quantitative study was developed to investigate thoracic nurses and surgeons perceptions of specialty nursing with a specific interest in whether or not thoracic nursing should be considered a specialty and why.

Although there were no studies found as part of this thesis that specifically examined thoracic surgery as a nursing specialty, the findings of this study support results of studies for other types of certification, indicating that thoracic nurses and surgeons value nurse certification for similar intrinsic and extrinsic reasons as nurses in other specialties and in other countries (Cary, 2001; Niebuhr & Biel, 2007). This chapter will enhance understanding of the perceptions of thoracic surgery as a nursing specialty in order to help make recommendations for future research.

Perceived Value of Certification

Overall, the PVCT statements most positively validated were those identifying the intrinsic rewards, such as “enhances feelings of personal
accomplishment,” “provided a professional challenge,” and “validates specialized knowledge,” suggesting that internal motivators may be more important to respondents when considering certification, than extrinsic motivators. Intrinsic rewards are those linked to personal development and self-concept values, while extrinsic rewards are external to an individual and defined by others (Niebuhr & Biel, 2007).

The most negatively perceived statement was “increases salary,” suggesting that most respondents did not feel that certification resulted in an increase in salary. This result is consistent with other studies (Niebuhr & Biel, 2007; Ferdon, 2009; Byrne, 2004).

Recognition of the value of specialty certification in this study is consistent with other studies that identifies advantages of increased accountability, clinical competence, confidence in clinical abilities, professional growth, employer recognition, nursing peer recognition, and recognition from other health care professionals (Allen, 2010; Byrne, Valentine, & Cater, 2004; Niebuhr & Biel, 2007). With intrinsic and extrinsic rewards, additional advantages of nursing specialization may be improved nurse satisfaction and retention (Miller & Boyle, 2008). A study by Mallidou, Cummings, Estabrooks, and Giovannetti (2011) suggested that these intrinsic and extrinsic rewards can also be influenced by principles and values associated with specialization, and found evidence of the existence of “nurse specialty subcultures” within hospitals that influence nurse job satisfaction and patient outcomes. They suggested that communication, collaboration, and teamwork improve quality of care and patient outcomes, noting that relationships
between nurses and physicians are better in specialty areas such as ICU or Emergency, because these are highly specialized care units where nurses are experts working closely with physicians (Mallidou, Cummings, Estabrooks, & Giovannetti).

**Perceptions of Thoracic Surgery**

*Advanced Knowledge and Skills*

In terms of advanced nursing knowledge, all of the surgeons and the majority of nurse leaders identified all of the components as advanced thoracic surgery related knowledge, indicating that thoracic surgeons recognize and value the additional specialist knowledge that is required of thoracic nurses. However, the highest scoring statements identified by nurses were those relating to knowledge of thoracic surgical procedures, potential complications and interventions, understanding of the implications of thoracic surgeries to patient care peri-operatively with considerations to pain management, activity, nutrition, and lifestyle, and the ability to provide patient teaching of thoracic surgical procedures and their implications. These higher scoring statements are likely more often associated with post-operative care and management of the thoracic surgical patient, while the lower scoring statements about the knowledge of lung and esophageal diseases, cancers, and their stages may be perceived by nurses as more applicable to pre-operative decision making and planning.

In terms of advanced nursing skills related to thoracic surgery, the lowest scoring skill perceived as an advanced skill was found to be “auscultation of chest
sounds” which would seem to suggest that both nurses and surgeons recognize the auscultation of chest sounds to be a basic nursing skill. Roughly half of the nurse respondents identified that the assessment and care of chest tubes was an advanced thoracic nursing skill, with slightly more identifying the assessment, care, and management of drainage devices as advanced thoracic skills. A larger number of nurses identifying management of drainage devices as advanced may be due to the variation in the equipment used in thoracic surgery compared to other areas. For example, the Pleur-evac® chest drainage system made by Teleflex® is a widely recognized and utilized device in many units, while other products such as the Atrium® Pneumonstat™ and the Medela® Thopaz™ digital drainage device are less likely to be seen in other areas of nursing.

The highest scoring skills perceived to be advanced skills related to thoracic surgery (and the only two nursing skills identified as advanced nursing skills by those in nursing leadership roles) were the removal of chest tubes the interpretation of cardiac rhythms. All of the surgeon respondents identified all of the skills relating to chest tubes to be advanced nursing skills. It may be that the nurses in leadership positions were considering which skills require additional specific formal education or training, while frontline nurses considered the amount of experience or expertise required in determining which were “advanced” nursing skills. One of the frontline nurse respondents commented, “I think [all the] examples are basic skills, but then again, I work on a thoracic ward”. This comment may also be telling as to why a greater number of nurses did not identify the examples as advanced skills. Since nearly half of those surveyed had greater than 5 years of
experience in a thoracic surgery area, skills that may be considered advanced for an entry-level nurse, or a nurse working on a medical unit that rarely sees chest tubes, often becomes second nature to a nurse on a thoracic unit where nearly every patient will have one or more chest tubes and many will be cardiac monitored.

**Education, Patient Outcomes, and Specialty Recognition**

During a conference of the Canadian Association of Thoracic Surgeons (CATS) in 2001, a discussion was facilitated by an expert panel of surgeons, of which the goal was to develop standards of practice and define resource requirements for the practice of thoracic surgery in Canada (Darling et al., 2004). From this discussion, it was determined that a clinical program in thoracic surgery should include one thoracic surgeon for every 300,000 to 500,000 people in the surrounding community, a dedicated thoracic unit with 5–6 ward beds per surgeon, dedicated nurses with expertise in thoracic surgery, a dedicated physiotherapist and respiratory therapist, and a dedicated thoracic anesthesiologist (Darling et al.). Within the hospital center, there should also be support of 2 intensive care unit (ICU) beds per surgeon, a respirologist, general and interventional radiologists, and pathologist, as well as an associated cancer center (Darling et al.). These recommendations were made to promote the delivery of optimum patient care in the practice of thoracic surgery in Canada.

Study findings are consistent with other research which similarly suggests that specialized thoracic surgical centers demonstrate lower morbidity and mortality, the explanation for this trend being that physicians and nurses become
more effective in providing care by gaining experience and expertise as patient volumes increase (Farley & Ozminskowski, 1992).

The majority of respondents in this study agreed that, “additional education related to nursing knowledge and skills is required to meet the care needs of the thoracic surgery patient and improve the overall nursing care provided,” indicating that thoracic surgery nursing may be different from basic surgical nursing or entry-to-practice standards, with some level of additional nursing education required. This finding supports the definition of a specialty, in that the professional is specifically qualified to practice by attending advanced education (Boss, 1989). This finding may be similar to findings of a study completed by Coleman et al. (2009) which suggested that formal certification may improve patient care quality because the nurses' increased knowledge of care management is related to the nurse having attending more hours of continuing education.

The majority of respondents also agreed that, “nursing specialty recognition promotes better patient outcomes.” This finding is consistent with multiple other studies (Ferdon, 2009; Coleman et al., 2009; Kendall-Gallagher et al., 2011; Miller & Boyle, 2008). The Kendall-Gallagher (2011) study in particular found that the specialty certification of nurses was associated with lower mortality and failure to rescue in general surgery patients, concluding the investment in post-basic education and specialty certification has the potential to improve quality of care.

A study by Dunn et al. (2000), looked at the development of competency standards for specialist critical care nurses, suggesting that while both entry-to-practice nurses and specialist level nurses should be effectively managing the care
of patients for whom they are responsible, an entry-to-practice level nurse, however, should demonstrate the effective utilization of resources, discharge planning and ongoing nursing management, while a specialist level nurse with additional education and experience will operate at a higher level, for example, providing guidance in patient management to less experience nurses, and assisting others to re-evaluate priorities in emergency situations.

The results of this study indicate that thoracic nurses and surgeons largely feel that there is benefit to formally recognizing thoracic surgery as a certified nursing specialty.

**Limitations**

Although these study findings are compelling, they may not be generalizable to other specialist nursing units due to the small sample size, and localized practices of thoracic centers. It would be interesting to widen a study to include thoracic centers in western Canada, or nationally, since the study was only completed for one province.

Additionally, this study only included part of the thoracic surgical patient trajectory, and may have provided further insight if pre-admission, intra-operative, and post-anesthetic care nurses were included. Nor did the study determine what, if any, additional education the thoracic nurse respondents may have already received. Consequently, findings also only provided a professional perspective, as patients were not included in the study.
As a limitation of quantitative research, this study did not allow for in depth analysis of perceptions. Although some good comments surfaced in the findings, they could have been further analyzed through qualitative study. However, time, workload, and cost constraints were prohibitive for this depth of work.

Summary

With the Canadian Nurses Association (2014) promoting nursing certification as a “tangible distinction” that indicates to patients, employers, and the public, that you are qualified, competent, and current in a specialty area of nursing practice, and the increasing complexity of patients and their specific needs creating new challenges for the nursing profession, the identification and development of nursing specialties should be supported. Specialty areas of nursing practice such as thoracic surgery may benefit from formal recognition through certification. A study by Niebuhr and Biel (2007) using the Perceived Value of Certification Tool ©, that included a sample of 20 different nursing specialties, determined that the value statements resonate with a variety of nurses regardless of specialty area, work role, or certification status. This supports the findings of this study, indicating that among the top perceived values, thoracic surgery nurses perceived specialty certification to enhance feelings of personal accomplishment, provide a professional challenge, and validate specialized knowledge.

Several examples of nursing knowledge was found to characterize advanced knowledge related to thoracic surgery, specifically; knowledge of thoracic surgical procedures, knowledge and understanding of potential complications of thoracic
surgical procedures and when to intervene, understanding of the implications of thoracic surgeries and application to patient care peri-operatively with considerations to pain management, activity, nutrition, and lifestyle, and the ability to provide patient teaching of thoracic surgical procedures and their implications. Nurses and surgeons also identified several nursing skills that are perceived as advanced and related to thoracic surgery, such as the interpretation of cardiac rhythms, the assessment and care of chest tubes, and the removal of chest tubes.

Overall, the results of this study suggest that thoracic nurses and surgeons largely feel that additional education related to nursing knowledge and skills is required to meet the care needs of the thoracic surgery patient and improve the overall nursing care provided, nursing specialty recognition promotes better patient outcomes, and thus, there is benefit to formally recognizing thoracic surgery as a certified nursing specialty.

In chapter six, I will summarize the research with conclusions drawn from this study, as well as discuss the future implications, with regards to the benefits of recognizing and supporting nursing specialization and certification, as well as the next steps in recognizing thoracic surgery as a nursing specialty, and potential for future research.
CHAPTER 6: CONCLUSIONS AND IMPLICATIONS

Summary

The purpose for this study was to examine the perceptions of thoracic nurses and surgeons regarding nursing specialization. Using multiple-choice queries, the research assessed what elements they perceive characterizes a nursing specialty, if they consider thoracic surgery as a nursing specialty, and what they identify as the outcomes and value of nursing specialization, both for nurses, and the thoracic surgery patient population.

With the continual advances in technology and specialized procedures in health care, the specific needs and complexity of surgical patients is increasing. This creates new challenges for nurses, as the number of settings requiring additional education and training to care for specific patient populations grows. The expansion of specialist practice in the last 50 years is an indicator to the need for recognizing the integral role of applied specialist knowledge in facilitating optimal patient outcomes.

Conclusions

The specific research questions for this study included:

(a) How do experienced thoracic nurses and surgeons perceive nursing specialization/certification?
(b) Do nurses and surgeons perceive nursing to require an advanced level of knowledge and skills to meet the needs of the thoracic surgery patient population?

(c) Do nurses and surgeons feel that thoracic surgery should be formally recognized as a nursing specialty?

Perceptions of the Value of Specialist Certification

Results of this study suggest that thoracic nurses and surgeons value nurse certification for similar intrinsic and extrinsic reasons as nurses in other specialties and in other countries, identifying several intrinsic rewards, such as “enhances feelings of personal accomplishment,” “provided a professional challenge,” and “validates specialized knowledge,” as motivators for certification, suggesting that internal motivators may be more important to respondents when considering certification, than extrinsic motivators, as they are linked to personal development and self-concept values, while extrinsic rewards are external to an individual and defined by others (Niebuhr & Biel, 2007).

Level of Knowledge Required of Thoracic Nurses

This study found that nurses and surgeons perceive that additional nursing education related to knowledge and skills is required to meet the care needs of the thoracic surgery patient population, and improve the overall nursing care provided. Dunn et al. (2000) suggest that competency is the overlap of knowledge with the performance components of psychomotor skills and clinical problem solving. It is the acquisition of a specialized body of knowledge and its application to clinical
settings that defines competency in nursing care. In further defining the role of the specialist nurse, it is necessary to challenge the concept of nursing as merely a combination of skills and knowledge. Nursing must be demonstrated and defined in the context of client care and specific populations, and include the broader concepts of professional development and competence (Dunn et al., 2000).

**Thoracic Certification**

Study findings suggest that thoracic nurses and surgeons believe that thoracic surgery should be formally recognized as a certified nursing specialty. While nursing licensure is intended to ensure the minimum competency of practicing nurses, “certification demonstrates nurses’ achievement of a high level of competence or expertise in a particular area or specialty” (Haskins, Hnatiuk, & Yoder, 2011, p. 77). A review of relevant literature revealed a substantial body of evidence of professional recognition of the value of specialty certification, that identifies advantages of increased accountability, clinical competence, confidence in clinical abilities, professional growth, consumer confidence, employer recognition, nursing peer recognition, and recognition from other health care professionals (Allen, 2010; Byrne, Valentine, & Cater, 2004; Niebuhr & Biel, 2007).

**Outcomes**

Additionally, study results also suggest that nurses and surgeons feel that nursing specialty recognition may promote better patient outcomes. Results of other studies also support the sense that specialty nursing may be associated with patient
satisfaction, better patient outcomes, and improved quality of care (Coleman et al., 2009; Kendall-Gallagher et al., 2011; Miller & Boyle, 2008).

With all the evidence to support the benefit of nursing specialization, it is important to promote formal recognition of specialty areas of nursing practice through the process of nursing certification. Hopefully the passion and commitment of nurses working in thoracic surgery areas across Canada will help advance this cause, and we will one day see thoracic surgery as a formally recognized nursing specialty area.

**Implications**

This study provides health care organizations insight into the views of experienced thoracic nurses and surgeons on the value of specialized certified practice in this area. This may help inform agencies on the benefits of recognizing and supporting thoracic nursing specialization, not only for nursing satisfaction, but also for improvement in patient satisfaction and outcomes.

As nurses and surgeons have identified thoracic surgery as a prospective nursing specialty through this study, the next steps towards establishing a thoracic surgery nursing specialty would be the formation of a national nursing group that can work with the CNA to outline the uniqueness of thoracic nursing practice, develop standards, and promote ongoing research activities.

Further work would be required to identify the competency standards required for nurse specialists in this area, and specifically, to articulate the differences between entry-to-practice standards and the advanced practice of
specialist nurses in thoracic surgery. Additional research would also be useful to examine the roles of advanced practice nurses (such as Nurse Practitioners and Clinical Nurse Specialists) who work in thoracic settings, helping meet the needs of patients and staff within the specialty area.

Additionally, this type of research could also be applied in other surgical specialties such as general surgery, head and neck surgery, urology, or gynecology, to see if there are advanced nursing practices, knowledge, and skills specific to these areas. Orthopedic surgery is already recognized as a nursing specialty with the CNA through a certification examination, as well as several medical nursing specialties such as neuroscience, nephrology, cardiovascular, and oncology. Further study into the extrinsic benefits of supporting nursing specialization could also be examined, such as completing patient satisfaction surveys or reviewing the effects on key performance indicators such as hospital length of stay and post-operative complication rates.
REFERENCES


Canadian Nurses Association. (2015b). Number of RNs with valid CNA certification by year (all specialties/areas of nursing practice 2006-2010). Retrieved from


APPENDIX A

The University of British Columbia
School of Nursing
T201-2231, Wesbrook Mall
Vancouver, B.C. V6T 2B5
Phone: (604) 822-7417 Fax: (604) 822-7466

INVITATION TO PARTICIPATE IN A RESEARCH STUDY

TITLE: Thoracic Surgery as a Nursing Specialty: Perceptions of Senior Nurses and Surgeons of Specialty Nursing Practice

Sunday, November 30, 2014

Dear Nurse/Surgeon,

My name is Angela Wilson and I am a graduate student in the Master of Science in Nursing program at the University of British Columbia.

I am writing to invite you to participate in a study as a nurse/surgeon who has experience with the thoracic surgery patient population. This research is part of my graduate thesis work and is being conducted in partial fulfillment of the requirements for the degree of Master of Science in Nursing.

The Project

This study examines the perceptions of nurses and surgeons with regard to nursing specialization. This study will explore what is perceived to characterize a nursing specialty, if thoracic surgery is considered a nursing specialty, and what the potential outcomes of nursing specialization might be, both for nurses, and the thoracic surgery patient population. Specifically, I wish to explore views on nursing specialization and the appropriate level of education and training surgical nurses are perceived to require in meeting the needs of the thoracic surgery patient population.

What is involved?

You are being asked to participate in this study by completing a simple survey. Your participation in this study will require the following:

- Completion of an online survey (FluidSurvey Canada), using the Perceived Value of Certification Tool® (PVCT), which is an established tool used to explore perceptions of the value of nurse certification. Additionally, several multiple choice questions will be included to collect demographic information, and explore your views on thoracic nursing as a specialty, and level of education/training required. At the end of the survey, you will also have the option of entering additional comments in an open text field.

It is estimated the survey will take approximately 15 minutes to complete.
Compensation

Unfortunately we cannot offer any compensation for participation in this study. However, all participants will be eligible to enter an optional prize draw for one of three $25 Starbucks Gift Cards. At the end of the survey, there will be an optional field to enter your email address. The email you provide will not be associated with your survey responses, and used only for the purpose of this prize draw.

Consent

Your participation in this project is entirely voluntary and you may refuse to participate in the study or any element of the survey activities listed above at any time without giving a reason and without any negative impact on your employment, professional standing, or any relationship with UBC. For further details, please read the accompanying consent information letter. Completion and submission of the online survey will be taken to imply your consent to participate in the study.

Contact for Information About the Study

If you have any questions related to this project or wish to have further information with respect to the study, you may contact me at (604) 585-5666 ext. 778326 or angela.wilson@fraserhealth.ca, or my primary supervisor and principal investigator for this study, Dr. Bernie Garrett.

Contact for Concerns About the Rights of Research Subjects

If you have any concerns about your treatment or rights as a research participant, you may contact the Research Subject information Line in the UBC Office of Research Services at (+1) 604-822-8598 or RSIL@ors.ubc.ca, which is also affiliated with Vancouver Coastal Health. For Fraser Health, please contact the Fraser Health Research Ethics Board co-Chair at (+1) 604-587-4681. For Island Health, please contact the Island Health Research Ethics Office in Victoria at (+1) 250-370-8620 or researchethics@viha.ca. For Interior Health, please contact the Chair of the Interior Health Research Ethics Board at (250) 870-4602 or researchethics@interiorhealth.ca.

Thank you very much for your time in considering this invitation and participating, if you choose to do so.

Yours faithfully,

Angela Wilson, RN - Investigator / Contact Person
MSN Student
University of British Columbia

Supervisory Committee

Dr. Bernie Garrett - Primary Supervisor / Principal Investigator
Associate Professor
School of Nursing
University of British Columbia
Dr. Victoria Bungay  
Associate Professor  
School of Nursing  
University of British Columbia

Sarah Derman, RN, MSN  
Clinical Nurse Specialist  
Fraser Health Authority
APPENDIX B

Consent Information

TITLE: Thoracic Surgery as a Nursing Specialty: Perceptions of Senior Nurses and Surgeons of Specialist Nursing Practice

Investigator / Contact Person: Angela Wilson, Graduate Student (MSN), University of British Columbia, School of Nursing

This research is part of graduate thesis work in my Master's of Science in Nursing program at the University of British Columbia School of Nursing.

Supervisory Committee
Primary Supervisor / Principal Investigator: Dr. Bernie Garrett, School of Nursing, University of British Columbia
Committee Member: Dr. Victoria Bungay, School of Nursing, University of British Columbia
Committee Member: Sarah Derman, Clinical Nurse Specialist, Fraser Health Authority

Purpose

This study examines the perceptions of nurses and surgeons with regard to nursing specialization. This study will explore what is perceived to characterize a nursing specialty, if thoracic surgery is considered a nursing specialty, and what the potential outcomes of nursing specialization might be, both for nurses, and the thoracic surgery patient population. Specifically, I wish to explore views on nursing specialization and the appropriate level of education and training surgical nurses are perceived to require in meeting the needs of the thoracic surgery patient population.

Study Procedures

You are being asked to participate in this study by completing a simple survey. Your participation in this study will require the following:

- Completion of an online survey (FluidSurveys), using the Perceived Value of Certification Tool® (PVCT), which is an established tool used to explore perceptions of the value of nurse certification. Additionally, several multiple choice questions will be included to collect demographic information, and explore your views on thoracic nursing as a specialty, and level of education/training required. At the end of the survey, you will also have the option of entering additional comments in an open text field.
• Meet one of the following inclusion criteria:
  • Are a Registered Nurse with two or more years of experience in thoracic surgery and have a permanent assignment in the thoracic surgery unit or area,
  • Are an Advanced Practice Nurse within the thoracic specialty area,
  • Are a Thoracic Surgeon

• Do not meet any exclusion criteria:
  • Casually employed on multiple units (not permanent in a thoracic surgery area)
  • Staff with less than two years of experience
  • Students
  • Surgical Fellows/Residents/Medical Students

It is estimated the survey will take approximately 15 minutes to complete.

The results of this study will be reported in a graduate thesis and may also be published in journal articles. Results will also be made available to the Clinical Nurse Educator for your area.

Compensation

Unfortunately we cannot offer any compensation for participation in this study. However, all participants will be eligible to enter an optional prize draw for one of three $25 Starbucks Gift Cards. At the end of the survey, there will be an optional field to enter your email address. The email address you provide will not be associated with your survey responses, and used only for the purpose of this prize draw.

Research Use and Confidentiality

By agreeing to participate in this project, you will be allowing the research team to use and analyze the materials you produce. Please note, the survey is anonymous and no biographical information will be required or collected. Any data kept on electronic media (computers) will not include the name or personal details of the individual subject and will be encrypted, kept solely on the computers of the investigator, or primary supervisor Dr. Garrett. As a research participant, you will not be identified by name in any reports of the completed study. There are no known risks to participating in any aspect of this study. As a participant, you will be given the option of providing an email address for entry into a prize draw. If you choose to provide your email address for prize draw entry, it will be kept confidential, will not be associated with study data, and used only for the purpose of the prize draw.

Please note that FluidSurveys is being used to collect survey data, and is a service provided by SurveyMonkey, a US based company. The servers on which FluidSurveys operate are located in Canada, so your information will be hosted in Canada. Additionally, your information may be processed in and transferred or disclosed to countries in which their affiliates are located and in which their service providers are located or have servers. In particular, the US Patriot Act allows authorities access to the records of internet service providers. The survey or questionnaire does not ask for personal identifiers or any information that may be used to identify you. The web survey company servers record incoming IP addresses of the computer that you use to access the survey but no connection is made between your data and your computer’s IP address. If you choose to participate in the survey, you understand that your responses to the survey questions may be accessed in the USA. The security and privacy policy for the websurvey company can be found at the following link: http://fluidsurveys.com/about/privacy
Consent

Your participation in this project is entirely voluntary and you may refuse to participate or any element of the survey activities listed above at any time without giving a reason and without any negative impact on your employment or professional standing, or any relationship with the University of British Columbia. If the online survey is completed and submitted, your consent to participate in this study as outlined above will be assumed to have been given.

Further Information

Contact for information about the study: If you have any questions related to this project or wish to have further information with respect to the study, you may contact me at or my primary supervisor and principal investigator for this study, Dr. Bernie Garrett

Contact for concerns about the rights of research subjects: If you have any concerns about your treatment or rights as a research participant, you may contact the Research Subject information Line in the UBC Office of Research Services at (+1) 604-822-8598 or RSIL@ors.ubc.ca, which is also affiliated with Vancouver Coastal Health. For Fraser Health, please contact the Fraser Health Research Ethics Board co-Chair at (+1) 604-587-4681. For Island Health, please contact the Island Health Research Ethics Office in Victoria at (+1) 250-370-8620 or researchethics@viha.ca. For Interior Health, please contact the Chair of the Interior Health Research Ethics Board at (250) 870-4602 or researchethics@interiorhealth.ca.

Thank you very much for your time in considering this invitation.

Yours faithfully,

Angela Wilson, RN – Investigator / Contact Person
MSN Student
University of British Columbia

Supervisory Committee

Dr. Bernie Garrett – Primary Supervisor / Principal Investigator
Associate Professor
School of Nursing
University of British Columbia

Dr. Victoria Bungay
Associate Professor
School of Nursing
University of British Columbia

Sarah Derman, RN, MSN
Clinical Nurse Specialist
Fraser Health Authority
Are you an RN, nurse leader, or surgeon, working with Thoracic Surgery patients?

I am conducting a research study looking at perceptions of nursing specialization related to thoracic surgery and would like your opinion!

Participation in this study involves an online survey, which will take approximately 15 minutes to complete.

You may enter your name into a draw to WIN one of three $25 Starbucks cards!

Survey information and links will be distributed by email. Please ask your CNE!

<table>
<thead>
<tr>
<th>Inclusion Criteria for Study</th>
<th>Exclusion Criteria for Study</th>
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<tr>
<td>• Registered Nurses with two or more years of experience in thoracic surgery and a permanent assignment in the thoracic surgery unit or area</td>
<td>• Casually employed nurses on multiple units (and are therefore not permanent in a thoracic surgery unit or area)</td>
</tr>
<tr>
<td>• Advanced Practice Nurses within the thoracic surgery area</td>
<td>• Staff with less than two years of experience</td>
</tr>
<tr>
<td>• Thoracic Surgeons</td>
<td>• Students</td>
</tr>
<tr>
<td></td>
<td>• Surgical Fellows/Residents/Medical Students</td>
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</table>
Dear Nurse/Surgeon,

You are invited to complete this survey, which examines the perceptions of nurses and surgeons of nursing specialization.

The American Board of Nursing Specialties defines nursing specialty certification as the “formal recognition of specialized knowledge, skills, and experience demonstrated by the achievement of standards identified by a nursing specialty to promote optimal health outcomes” (2005). The Canadian Nurses Association currently offers such certification in 20 specialties of nursing practice, including areas such as cardiovascular nursing, critical care nursing, orthopedic nursing, perioperative nursing, and medical-surgical nursing (CNA, 2014).

This research study looks to explore your perception of nursing certification, whether or not you perceive thoracic surgery nurses to have advanced knowledge and skills that may meet specific needs of the thoracic surgery patient population, and if you perceive value in recognizing thoracic surgery as a nursing specialty.

It is estimated this survey will take approximately 15 minutes to complete.

The first section uses the Perceived Value of Certification Tool© (PVCT), which is an established tool used to explore perceptions of the value of nurse certification. The second section is comprised of multiple choice questions that explore your views on thoracic nursing as a specialty, and level of education/training required. The last section will collect demographic information. At the end of the survey, you will also have the option of entering additional comments in a free text field, as well as your email address for prize draw entry.

Your participation in this project is entirely voluntary and you may refuse to participate in the study or any element of the survey activities listed above at any time without giving a reason and without any negative impact on your employment, professional standing, or any relationship with UBC. Completion and submission of the online survey will be taken to imply your consent to participate in the study.
Perceived Value of Certification

DIRECTIONS: Below are statements that relate to perceived values of certification. Please indicate the degree to which you agree to disagree with the statements by circling SA for strongly agree, A for agree, D for disagree, SD for strongly disagree, and NO for no opinion.

Validates specialized knowledge.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ No Opinion

Indicates level of clinical competence.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ No Opinion

Indicates attainment of a practice standard.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ No Opinion

Enhances professional credibility.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ No Opinion

Promotes recognition from peers.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ No Opinion

Promotes recognition from other health professionals.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ No Opinion

Promotes recognition from employers.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ No Opinion

Increases consumer confidence.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ No Opinion

Enhances feeling of personal accomplishment.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ No Opinion
Enhances personal confidence in clinical abilities.

☐ Strongly Agree  ☐ Agree  ☐ Disagree  ☐ Strongly Disagree  ☐ No Opinion

Provides personal satisfaction.

☐ Strongly Agree  ☐ Agree  ☐ Disagree  ☐ Strongly Disagree  ☐ No Opinion

Provides professional challenge.

☐ Strongly Agree  ☐ Agree  ☐ Disagree  ☐ Strongly Disagree  ☐ No Opinion

Enhances professional autonomy.

☐ Strongly Agree  ☐ Agree  ☐ Disagree  ☐ Strongly Disagree  ☐ No Opinion

Indicates professional growth.

☐ Strongly Agree  ☐ Agree  ☐ Disagree  ☐ Strongly Disagree  ☐ No Opinion

Provides evidence of personal commitment.

☐ Strongly Agree  ☐ Agree  ☐ Disagree  ☐ Strongly Disagree  ☐ No Opinion

Provides evidence of accountability.

☐ Strongly Agree  ☐ Agree  ☐ Disagree  ☐ Strongly Disagree  ☐ No Opinion

Increases marketability.

☐ Strongly Agree  ☐ Agree  ☐ Disagree  ☐ Strongly Disagree  ☐ No Opinion

Increases salary.

☐ Strongly Agree  ☐ Agree  ☐ Disagree  ☐ Strongly Disagree  ☐ No Opinion

Perceived Value of Certification Tool (PVCT) reproduced with permission from Certification Board of Perioperative Nursing (CBPN). Copyright 2002.
Perception of Thoracic Surgery as a Nursing Specialty

1. Please indicate which of the below statements you perceive to be examples of advanced nursing knowledge related to thoracic surgery (select one or more):
   - Knowledge of lung-associated diseases, cancers and their stages
   - Knowledge of esophageal-associated diseases, cancers and their stages
   - Knowledge of thoracic surgical procedures (eg. lobectomy, esophagectomy)
   - Knowledge and understanding of potential complications of thoracic surgical procedures and when to intervene
   - Understanding of the implications of thoracic surgeries and application to patient care perioperatively, with considerations to pain management, activity, nutrition, and lifestyle
   - Ability to provide patient teaching of thoracic surgical procedures and their implications
   - Anticipation of the needs of thoracic surgery patients post-discharge from acute care, with considerations to pain management, activity, nutrition, and lifestyle
   - Other: __________

2. Please indicate which of the below statements you perceive to be examples of advanced nursing skills related to thoracic surgery (select one or more):
   - Auscultation of chest sounds
   - Interpretation of cardiac rhythms and interventions
   - Assessment and care of chest tubes
   - Assessment, care, and management of chest drainage devices (eg. Pleur-evac, Thopaz, Pneumostat)
   - Assessment, care, and management of long term chest catheters for malignant pleural effusions (eg. PleurX)
   - Irrigations/flushing of chest tubes
   - Removal of chest tubes
   - Other: __________

3. What is your opinion on the following statement? “Additional education related to nursing knowledge and skills is required to meet the care needs of the thoracic surgery patient and improve the overall nursing care provided.”
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree
   - No Opinion

4. What is your opinion on the following statement? “Nursing specialty recognition promotes better patient outcomes.”
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree
   - No Opinion

5. What is your opinion on the following statement? “Thoracic Surgery should be formally recognized as a certified nursing specialty.”
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree
   - No Opinion
Demographic Information

1. In what hospital are you currently and primarily working?
   - Surrey Memorial Hospital
   - Vancouver General Hospital
   - Victoria Royal Jubilee Hospital
   - Kelowna General Hospital

2. In what role do you practice?
   - Registered Nurse
   - Surgeon
   - Advanced Practice Nurse (NP or CNS)
   - Nursing Leadership (Manager, PCC, CNE)

3. What is your gender?
   - Female
   - Male

4. What is your employment status?
   - Full-time
   - Part-time
   - Casual

5. Overall years of experience:
   - Less than 1 year
   - 2-3 years
   - 3-5 years
   - Over 5 years

6. Years of experience working with thoracic surgery patients:
   - Less than 1 year
   - 2-3 years
   - 3-5 years
   - Over 5 years

Additional Comments

Please feel free to provide any additional comments:
Prize Draw for $25 Starbucks Card

Thank you for your participation, you are welcome to enter an optional prize draw for one of three $25 Starbucks Gift Cards. Please note, any email address you provide will not be associated with your survey responses, and used only for the purpose of this prize draw.

Email address for entry into prize draw (optional):

Completion and submission of this online survey will be taken to imply your consent to participate in the study.

Thank you for taking the time to complete this survey. If you are interested in the outcome of this study, results will be made available to the Clinical Nurse Educator for your area.
APPENDIX E

28 JUL 14

Angela,

Thank you for submitting the materials required to receive permission to use the CCI Perceived Value of Certification Tool (PVCT®). We reviewed the information and are pleased to grant you permission to use the instrument.

As a reminder, this permission is granted with following conditions:

• You will use the instrument without modifications.
• You will include the necessary copyright statement at the bottom of all photocopies.
• You will use the instrument only for the purposes of the research project you originally submitted.
• You will provide CCI with any validity and reliability data you derive from the PVCT® based on your sample.
• If the work is published you will provide a copy of the article to CCI.

Thank you for your interest in the PVCT®, and best of luck with your work. We look forward to hearing from you.

Sincerely,

James X Stobinski
PhD RN CNOR
Director of Credentialing and Education