



CANADIAN NURSES ASSOCIATION
ASSOCIATION DES INFIRMIÈRES ET INFIRMIERS DU CANADA

EXPLORING NEW ROLES FOR ADVANCED NURSING PRACTICE

A Discussion Paper

Prepared by:

Marjorie MacDonald, RN, PhD
Rita Schreiber, RN, DNS
Lyn Davis, PhD

Canadian Nurses Association

www.cna-aiic.ca

June 2005

The research for and the preparation of this study was funded by the Canadian Nurses Association. This document expresses the view of the authors and does not necessarily represent the official policy of the Canadian Nurses Association.

All rights reserved. No part of this document may be reproduced, stored in a retrieval system, or transcribed, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission of the publisher.

© Canadian Nurses Association
50 Driveway
Ottawa ON K2P 1E2

Tel: (613) 237-2133 or 1-800-361-8404
Fax: (613) 237-3520
Web site: www.cna-aiic.ca

June 2005

ISBN 1-55119-925-4

Executive Summary

As part of its vision to advance the quality of nursing in the interest of the public, the Canadian Nurses Association (CNA) has developed a national framework for advanced nursing practice (ANP) and is now exploring the potential for new ANP roles that are consistent with its national framework. ANP is an umbrella term used to describe an advanced level of nursing practice that maximizes the use of in-depth nursing knowledge and skill to meet clients' health needs.

The purpose of this paper is four-fold: to review the literature to identify new and emerging ANP roles within and outside Canada; to identify potential impacts and benefits of these new and emerging roles to nursing and to the public; to identify opportunities and challenges in implementing new ANP roles; and to provide a framework for discussion and consultation on the feasibility and desirability of implementing particular ANP roles. To develop this paper, the authors supplemented an extensive literature database with additional articles located through literature searches of professional journals and magazines via the Internet. Websites of Canadian and international professional nursing and midwifery associations and regulatory bodies were reviewed, and many organizations were contacted directly.

In Canada, two ANP roles currently exist: clinical nurse specialist and nurse practitioner. Internationally, the ANP roles that are most common include nurse practitioner, clinical nurse specialist, and nurse anaesthetist¹. The United States has the most well-developed advanced practice roles and the greatest degree of consensus on what constitutes advanced practice. The International Council of Nurses, which has developed a definition and description of nurse practitioner/advanced practice nurse roles, identifies the United Kingdom, Hong Kong, Australia, and Taiwan as countries that offer ANP educational programs.

Nationally and internationally, two roles have emerged that could constitute ANP as defined by CNA. These include nurse anaesthetist (U.S. and several other countries) and nurse-midwife (U.S.). Nurse anaesthesia is the oldest recognized specialty in nursing. The International Federation of Nurse Anesthetists (IFNA) has 32 member nations and oversees nurse anaesthesia practice. The role is not related to a country's level of development, as nurses provide anaesthesia in 69 per cent of the most developed countries and 67 per cent of the least developed countries. Similarly, educational preparation varies worldwide, from "on the job" training to graduate education. Practice models range from informal delegation to autonomous practice. Models of anaesthesia practice are largely influenced by health care funding arrangements and public expectations. Fee-for-service funding increases overall anaesthesia and surgical service costs, while waged providers help contain costs. IFNA has taken a strong position in support of regulating nurse anaesthesia practice in order to promote high standards and role recognition. Impacts and benefits of nurse anaesthesia are mostly illustrated through U.S. experience, where certified registered nurse anaesthetists have a low rate of malpractice claims.

Midwifery is almost as old as records of human activity and is seen internationally as a discipline in its own right. In Canada, midwifery is legislated and regulated in several provinces. Nurse

¹ In this paper, various spellings of certain terms (e.g., anaesthesia, anesthesia; programme, program) conform to the spelling of the term of the country being discussed.

midwifery is generally seen as a form of nursing specialization and not as a distinct and separate profession. The U.S. has direct entry midwives and nurse-midwives. Direct entry midwives are educated at a variety of levels, including the baccalaureate level, as in Canada. In some countries they are also educated in apprenticeship programs. Many countries require a three- or four-year educational program before midwives can practise. In the U.S., nurse-midwives are designated as a certified nurse midwife (CNM). Almost 70 per cent of CNMs have a master's degree, and 5 per cent have doctorates. The U.S. is the only country in the world that has explicitly recognized nurse midwifery as a form of ANP; in other countries, direct entry midwifery is emerging or re-emerging.

A third ANP role that could constitute advanced practice as defined by CNA is the advanced practice nurse case manager, as has been identified in the literature. Case management is among the characteristics expected of any advanced practice nurse according to the CNA framework.

Practitioners in other roles, including nurse endoscopy (U.K. and U.S.), RN first assistant (Canada, several other countries), and RN first call (Canada) do not demonstrate the characteristics and competencies of ANP according to the CNA definition. In addition, the physician assistant role, which is well developed in the U.S., has been implemented in the Canadian military, but is not considered to be a nursing role.

Opportunities for development of new forms of ANP are created by physician shortages, gaps in service, and a welcoming political climate. Extended and expanded nursing roles may have beneficial potential. One ANP role, the certified registered nurse anesthetist, offers the potential to decrease waiting times for surgery, improve pain control, and improve access to perinatal anesthesia services. Challenges to implementing CRNA include the need for enabling legislation; regulation; development of a curriculum; accessing the necessary expertise; funding and implementation of one or more educational programs; and creation of employment mechanisms and opportunities. Introducing advanced practice nurse midwifery in Canada would be a bit more complicated because several provinces have a separately regulated midwifery profession in addition to nursing and medical professions.

Successfully developing any new roles, however, is dependent upon promoting cordial and collaborative relationships with other regulated health disciplines both at the organizational and the local, practice level. This includes relationships with medicine, pharmacy, midwifery, and other disciplines.

Nursing and health care in Canada are again at a crossroads in the development of advanced nursing practice and new forms of nursing practice to meet the health needs of Canadians. From this review of established and emerging roles, a number of approaches for consideration are suggested, as follows.

- Initiate steps toward the development and implementation of nurse anaesthesia practice, beginning with a feasibility study to determine the challenges and opportunities involved.
- Fully support the separate profession of direct entry midwifery and join lobbying efforts to make midwifery widely and universally available across the country.

-
- Undertake consultation with nursing and midwifery organizations and practitioners to determine the merits of developing or expanding graduate nursing programs for CNSs or ACNPs in women's and perinatal health care, which may overlap somewhat with the scope of midwifery practice. Support the development of advanced midwifery education at a graduate level to develop a cadre of midwifery professionals who can provide practice leadership, including the conduct of research and its integration into practice.
 - Initiate discussions with midwifery educators regarding areas of overlap in educational programs between midwifery and nursing, with the intent of identifying course comparability and prior learning assessment to enable transfer between programs. This will allow nurses who wish to become midwives to reduce the four-year time frame of midwifery education for degree-prepared nurses.
 - Recognize and acknowledge case management as already practised within Canadian registered nursing and advanced nursing practice and support it. There is no need at the present time to invest resources in developing a specific case management advanced nursing practice role. Currently there are no legislative or regulatory barriers to this type of practice which is likely to evolve naturally in areas of need. Several examples of this type of practice currently exist in Canada.
 - Lobby in favour of advanced nursing practice and other forms of needed nursing practice. Continue to support the optimization of the scope of practice of existing advanced nursing practice roles.
 - Examine the extent to which current approaches to the legislation and regulation of registered nurses in Canada supports or restricts the development of new nursing roles.
 - To the extent that there is demonstrated need, interest, and resources, support the development of roles such as RN first assistant and RN first call. This should include standardizing the training required for these nurses, and making whatever regulatory changes will be needed to support practice. Other extended/expanded forms of practice, such as nurse endoscopy, should only be considered if there is demonstrated need, interest, and resources.

Table of Contents

1.0	Introduction	1
1.1	Purpose	1
1.2	Methodology	2
2.0	National and International Trends in ANP Roles	3
2.1	National Trends.....	4
2.2	International Trends.....	6
3.0	ANP and Related Roles that are Being Developed	8
3.1	Nurse Endoscopy	8
3.1.1	Nurse Endoscopy and Advanced Nursing Practice.....	9
3.2	RN First Assistant (RNFA)	9
3.2.1	RNFA and Advanced Nursing Practice.....	11
3.3	RN First Call	11
3.3.1	RN First Call and Advanced Nursing Practice.....	12
3.4	Physician Assistant (PA)	12
3.4.1	Physician Assistants and Advanced Nursing Practice	13
3.5	APN Case Manager	13
3.5.1	Case Management and Advanced Nursing Practice	15
4.0	ANP Roles that Exist Outside Canada	16
4.1	Nurse Anaesthetist	16
4.1.1	Development of the Nurse Anaesthetist Role	16
4.1.2	Practice Models	18
4.1.3	Models of Anaesthesia Provision	19
4.1.4	Scope of Practice	20
4.1.5	Educational Preparation of Nurse Anaesthetists	21

4.1.6	Impact and Benefits of Nurse Anaesthesia.....	23
4.1.7	Nurse Anaesthesia as Advanced Nursing Practice.....	23
4.2	Nurse Midwifery.....	24
4.2.1	Midwifery in Canada.....	25
4.2.2	Midwifery in the United States.....	42
4.2.3	Midwifery in Other Countries.....	46
4.2.4	Nurse Midwifery as Advanced Nursing Practice.....	48
5.0	Opportunities and Challenges	51
5.1	Extended and Expanded Nursing Roles.....	53
5.2	Advanced Nursing Practice Roles.....	54
5.3	Relationships with Other Disciplines.....	55
6.0	Recommendations	57
7.0	References	58
8.0	Appendices	68
	Appendix 1 – International Federation of Nurse Anesthetists Standards of Practice.....	68
	Appendix 2 – Contact List.....	69

1.0 Introduction

The Canadian Nurses Association vision is one of registered nurses collectively contributing to the health of Canadians and the advancement of nursing. The Association vision is to advance the quality of nursing in the interest of the public.

One career pathway in nursing is advanced nursing practice (ANP). ANP is an umbrella term used to describe an advanced level of nursing practice that maximizes the use of in-depth nursing knowledge and skill in meeting the health needs of clients.² The Canadian Nurses Association (CNA) has developed a national framework for ANP that is intended to guide the ongoing development of ANP in Canada and to provide a national coordinated approach to ANP across the country (CNA, 2002a). Critical to the CNA vision of ANP is that it is viewed as “nursing.” *What makes it advanced is the application of advanced nursing knowledge rather than the addition of functions from other professions.* This particular definition is important to note because it guides the analysis presented in this document, and it differs somewhat from the understanding of ANP in other countries.

The key elements of the CNA framework include: a) characteristics of ANP that are consistently evident in all advanced nursing practice roles; b) core competencies of ANP in five areas (clinical, research, leadership, collaboration, and change agent); c) a graduate degree in nursing as the minimum educational preparation for ANP; and d) regulation of ANP within the current scope of nursing practice and prevailing regulatory approaches (CNA, 2002a).

The CNA has taken a leadership role in Canada in developing national position statements on advanced nursing practice (CNA, 2002b), and on the two ANP roles that are established in Canada: the clinical nurse specialist (CNA, 1993; CNA, 2003a), and the nurse practitioner (CNA, 2003b).

1.1 Purpose

As part of promoting the development, recognition, and integration of ANP throughout Canada, CNA is exploring the possibility of initiating new advanced nursing practice roles in this country that are consistent with its *Advanced Nursing Practice: A National Framework* (CNA, 2000a).

The purpose of this paper therefore is to: a) review the literature to identify new and emerging advanced nursing practice and selected other roles (excluding clinical nurse specialist and nurse practitioner) both within and outside Canada; b) identify potential impacts and benefits of these new and emerging ANP roles to nursing and to the public; c) identify opportunities and challenges in implementing new ANP roles in Canada; and d) provide a framework for discussion and consultation among relevant stakeholders in Canada on the feasibility and desirability of implementing particular ANP roles.

² “Clients” are broadly defined to include individuals, families, groups, populations, or entire communities.

1.2 Methodology

In developing this report, we drew from the extensive literature database gathered as part of a CHSRF-funded ANP research project (Schreiber et al., 2003). We also searched for additional literature on ANP models that are used in Canada and internationally using Internet databases, such as CINAHL, MEDLINE, PUBMED and EBSCO. Reference lists in key articles provided additional publications that we accessed for the review. There were some challenges in accessing the literature from European, Asian, African, and South American countries because many articles were published in languages other than English or French.

In addition to searching in professional journals and magazines, we searched publications and websites of Canadian and international professional nursing and midwifery associations and regulatory bodies. Finally, we had contact with nursing regulatory bodies and professional associations including all Canadian provincial nursing organizations and other organizations. For the most part, the information from many of these organizations on new and emerging advanced practice nursing roles was incomplete.

In our analysis of the literature on various ANP and other roles, we used the CNA framework to make a determination about whether the role in question was, in fact, an example of ANP. Roles that we identify as ANP met the CNA's definition, characteristics, and competencies of advanced nursing practice.

2.0 National and International Trends in ANP Roles

The term “advanced nursing practice” has been present in the nursing literature for some time, but has only become a significant part of the nursing discourse in Canada in the past decade. Internationally, there is considerable confusion and disagreement about the meaning of the term, the nature and scope of advanced practice, the education required, and the responsibilities of practitioners (Castledine, 1991; Daly & Carnwell, 2003; Redekopp, 1997; Rose et al., 2003; Scott, 1999; Sutton & Smith, 1995; Wilson-Barnett et al., 2000).

In Canada, the work of the CNA in developing a national consensus on ANP has gone a long way toward achieving a better understanding among nurses about the nature of advanced practice in this country. Nonetheless, confusion remains. For example, in a recent study of ANP carried out in British Columbia (Pauly, Schreiber, MacDonald, Davidson, Crickmore, Moss, et al., 2004), the authors found two distinct understandings of ANP. The first of these was congruent with the CNA definition and the characteristics and competencies outlined in their framework. Those who held the second view understood ANP as specialized practice at the individual client level, or practice that included responsibilities that extended beyond or outside the regulated scope of nursing practice. To “advance,” many of the nurses who held the second view believed that they needed to move outside nursing’s knowledge base and scope of practice. Research participants who held the first view of ANP tended to be educated at the graduate level whereas those who held the second view were more often diploma or baccalaureate prepared.

The importance of a core, stable vocabulary related to advanced nursing practice has been identified by Styles and Lewis (2000). They argue that without a shared language and meanings, the development of knowledge, practice, theory, and education will be in jeopardy. CNA, in its ANP framework (2002), note that the terms “advanced practice nursing” and “advanced nursing practice” are often used interchangeably (p. 2). They adopt the term “advanced nursing practice” for use in the framework on the basis that this terminology is used by the majority of professional associations in Canada. We note, however, that clear distinctions between these terms have been made elsewhere, and the distinctions are now emerging in the Canadian literature. We believe that it is important to review the distinctions that have been made between the terms so that the readers of this paper are clear about what is meant by the terms used in the international literature, the U.S. literature in particular. At some point, CNA may wish to facilitate a national discussion to achieve consensus on the issues related to terminology. In the meanwhile, however, we would like to point out the distinction between the two terms.

According to Styles and Lewis (2000), drawing from the work of Brown (1998),

...advanced practice nursing (APN) includes but is not synonymous with nor limited to advanced nursing practice (ANP) just as the nursing profession is not limited to direct practice. Nursing, and similarly, advanced practice nursing, is the whole field, the profession – its members, its institutions, its values, and all that define and enable its practice; the practice is the vital function of the profession. If one envisions *advanced practice nursing* as a pyramid, at the base are foundational or support factors; at the apex is *advanced nursing practice* (p. 35).

In this document, we use the term preferred by CNA (ANP) when referring to advanced nursing practice in Canada or when it is used as a general term. We use the term APN when the literature and references cited about that role have used this term. When referring to an individual practitioner, we use the term advanced practice nurse.

The concepts of expert, specialized, expanded, and extended practice are also very much tied up in the confusion about language and nature of advanced practice and the lack of shared meanings among nurses in Canada. In fact, the CNA in its framework did not use the terms extended or expanded to describe nursing practice because of the confusion these terms caused. It should be noted, however, that the terms “extended” or “expanded” are incorporated into the legislation governing nurse practitioner practice in several Canadian provinces and the term “extended” is part of the title protected under the legislation (e.g., Alberta, Manitoba, Ontario). Thus, it is difficult to get away from using these terms when discussing this type of practice.

For our purposes in this paper, when these terms are used, they refer to nursing practice that extends beyond the usual or regulated scope of registered nursing practice. In many ways, some of these “extended” or “expanded” roles might be better characterized as “specialized.” The problem with using these terms is that changes in the legislation governing registered nursing practice are taking place across the country in several provinces. Currently, there is not always consistency across provinces in the defined scope of registered nursing practice. Here is the challenge: practice that might be considered within the basic RN scope of practice in some provinces may well be beyond the scope of practice in other provinces, particularly over time. Thus, the meaning of extended or expanded practice may vary from one province to the next and over time.

“Expert” and “specialized” are two adjectives that people sometimes confuse with advanced practice. Expert practice can take place at any level of nursing practice from basic through to advanced. The practice of registered nurses may be characterized along a continuum of novice to expert but a registered nurse may or may not be specialized in her or his practice. Expert and specialized practice is not the same as advanced practice although an advanced practice nurse is considered to be both expert and specialized.

2.1 National Trends

Although our purpose in preparing this paper is to examine the potential for implementing ANP and nursing roles other than CNS and NP in Canada, it may be helpful to provide a brief overview of the status of these roles in this country. In this country, the CNS is widely accepted as an advanced practice role and one that clearly meets the CNA characteristics and competencies. In fact, until recently, it was the only recognized advanced nursing role in many provinces. There seems to be little debate about this role internationally although educational requirements, scope of practice, and regulatory authority differ from one country to the next. Care must be taken when making international comparisons because titles do not always mean the same things in different countries. For example, in Taiwan, a CNS encompasses characteristics of what we would call a nurse practitioner in North America (Chen, 2000; Wang, Yen, & Snyder, 1995).

The other emerging ANP role in Canada is that of nurse practitioner. In Canada, the NP role has been in existence in primary health care settings for over three decades in Ontario, and nurses in the

north have been working for many years in NP-like roles under employer protocols or delegated authority from a physician (Haines, 1993). Recently, however, the NP role has been, or will soon be, legislated in all 10 provinces and two territories (CNA, 2003c). Nonetheless, the level of education required in each province varies considerably from a post-RN diploma through baccalaureate and master's degrees to a post-master's certificate (Canadian Association of Schools of Nursing, 2004). The number of practice hours in the programs is also variable ranging from just over 300 hours to over 900.

Whether the NP role in Canada could be classified as ANP is debatable, given the CNA framework. Schreiber et al., (2003), found that baccalaureate prepared NPs, although very competent in their extended role functions (i.e., those overlapping with the scope of medical practice) and in their basic nursing practice, as a rule did not demonstrate the full range of advanced practice competencies outlined by the CNA. In particular, missing were the research competencies, some of the leadership competencies, and some of the change agent competencies. What stood out as a hallmark of advanced practice was systems-level thinking, which the researchers did not generally see reflected in the practice or descriptions of practice provided by baccalaureate prepared nurses.

Part of the problem in establishing a minimum educational requirement for advanced practice is that we do not have agreement nationally on the scope of RN practice and although most provinces have now approved a baccalaureate degree for entry to practice, there are one or two holdouts (e.g., Manitoba). In provinces where the scope of RN practice is quite narrow, then what falls within the scope of NP practice in some provinces actually reflects RN practice in other provinces. This is particularly true in relation to medication administration.

Part of the reason Schreiber et al., (2003) may not have seen the full range of ANP competencies by the baccalaureate prepared NPs may have been because job descriptions for the NP did not allow for the full range of competencies to be enacted. NP participants in that study also reported having no time to read the research literature to inform their practice and almost none were engaged in any research themselves. This does not preclude, however, the possibility that individual NPs in the site studied by the research team, or NPs in other sites in Ontario, practise in a way that fully reflects the characteristics and competencies of ANP. It appears, however, that educational preparation is related to the ability of NPs to enact all the competences in the CNA framework (Pauly et al., 2004). In particular, post-diploma certificate programs do not provide learning experiences that would facilitate graduates to develop and demonstrate the full range of ANP characteristics and competencies.

Similar debates about whether the NP role constitutes “advanced” practice are going on elsewhere in the world, as is disagreement about the educational preparation required for the NP role. In the U.S., however, a clear position has been taken that NP preparation is at the graduate level and all NP programs in the U.S. now culminate in a master's degree. This level of consensus has not been achieved elsewhere in the world, although we are moving in that direction in Canada. The Canadian Nurses Association, for example, is currently engaged in a national project, funded by Health Canada's Primary Health Care Transition Fund to develop mechanisms and processes to support the implementation of the role of the NP in primary health care across Canada (CNA, 2003d) and CNA has taken the position that a formal graduate degree in nursing is the most effective means of acquiring NP competencies (CNA, 2003b). As noted above, this position is

consistent with the CNA Position Statement on Advanced Nursing Practice (CNA, 2002b) and the CNA National Framework on ANP (CNA, 2002a).

The CNA NP project will develop national recommendations for nurse practitioner education and regulation, including a national examination. In addition, the Canadian Association of Schools of Nursing (CASN) has developed a draft position statement on the educational requirements for nurse practitioners working in primary health care settings (CASN, 2004). In this statement, CASN took the position that graduate preparation in nursing should be the minimum educational requirement for entry to NP practice irrespective of the setting of practice. It is clear that a national consensus on NP education at the graduate level is emerging.

In Canada, we have also seen the development of the acute care nurse practitioner role, particularly in Ontario, but now also in Alberta and Newfoundland and soon to come in British Columbia. Two acute care NP roles in Ontario were explored in the British Columbia ANP study (Schreiber, et al., 2003) and the nurses working in these roles clearly and consistently demonstrated all of the CNA ANP characteristics and competencies.

2.2 International Trends

Internationally, terms like “higher level” practice are often used (Bissell, 2004; Daniel, 2004; Fairley, 2003) to describe practice that appears to reflect definition in the CNA framework, although there is considerable disagreement internationally on the level of education required for advanced practice. In some countries, advanced education is considered to include post-basic programs, baccalaureate level programs, and graduate education programs whereas in Canada, we tend to view graduate level education as being advanced.

The roles most commonly identified as advanced nursing practice internationally include nurse practitioner, clinical nurse specialist, and nurse anaesthetist. With the exception of the U.S., there is less discussion of nurse midwifery as an advanced “nursing” role. This is because midwives in many countries are not nurses and are not always educated at the master’s level. These particular roles will be discussed separately later in this paper.

The United States is the country with the most well developed advanced practice roles and the greatest degree of consensus on the nature and scope of advanced practice. In the U.S., there are four established ANP roles: nurse practitioner, nurse-midwife, nurse anesthetist, and clinical nurse specialist. All but the nurse-midwife role require graduate education, although the majority of nurse-midwives have master’s or doctoral degrees. For all but the CNS role, there are “extended role functions”, including prescriptive and diagnostic authority, that are governed under legislation.

In addition to the U.S., the International Council of Nurses (ICN) identifies that Hong Kong, Australia, Taiwan, and the U.K. offer educational programs in advanced nursing practice. Various educational institutions within the U.S. offer NP specialties in adult, family, gerontological, pediatric, acute care, school, women’s health, psychiatric or mental health, emergency room, neonatal, occupational, and other areas of study. The University of Hong Kong offers a master’s of nursing, with two streams: Advanced Nursing Practice and Nurse Practitioner. One university in Australia offers a postgraduate certificate in advanced nursing practice (rural and remote) and a

master of advanced nursing practice (rural and remote). Various universities in the U.K. offer a master's degree in Nurse Practitioner (Strategic Leadership and Expert Practice), Advanced Health Care; Advancing Health and Social Care Practice; Advanced Nurse Practitioner; and Clinical Nursing. Clearly, ANP roles are increasingly being taken up in many countries (International Council of Nurses, 2003).

Australia has considered credentialing advanced practice nurses and accrediting related educational programs (Royal College of Nursing, 2001) but has not yet taken action. Indeed, the Royal College's position statement on advanced practice nursing, published in 2002, is still under review. That position statement asserts that advanced practice nursing "is related to a level of practice rather than a specific role so is therefore not restricted to nurses working in particular contexts and having designated roles" (Royal College of Nursing, 2002, p.1).

The International Council of Nurses' Nurse Practitioner / Advanced Practice Network has developed a definition and description of Nurse Practitioner / Advanced Practice Nurse (NP/APN) roles (International Council of Nurses, 2003; Ouellette & Caulk, 2000). An NP/APN is "a registered nurse who has acquired the expert knowledge base, complex decision-making skills and clinical competencies for expanded practice, the characteristics of which are shaped by the context and/or country in which s/he is credentialed to practice." Educational preparation includes studying at an advanced level; formal recognition of the programs in which NP/APNs study; and a formal system of licensure, registration, certification, and credentialing. The nature of NP/APN practice integrates research, education, practice and management and is marked by a high degree of professional autonomy and independent practice. Further, NP/APNs are involved in case management and/or have their own case load. Their skill set includes advanced health assessment, decision-making and diagnostic reasoning skills. They have recognized advanced clinical competencies and provide consultant services to health providers. They plan, implement, and evaluate programs and are recognized as the first point of contact for clients. The regulatory mechanisms under which NP/APNs practice provide them with the right to diagnose as well as the authority to prescribe medication and treatment and refer clients to other professionals and admit patients to hospital. Their title is protected under legislation and there are other legislative or regulatory mechanisms that are specific to advanced practice nurses (International Council of Nurses, 2003).

The last three points distinguish the ICN position somewhat from the CNA framework position on advanced nursing practice and from the enactment of advanced roles in Canada, particularly the CNS role. The ICN statement equates NP and APN practice, while in this country, there are some clear distinctions between the two types of practice. In Canada, CNS's do not, as a rule, have prescriptive authority, diagnose medical conditions, or require additional regulation beyond that required for registered nursing practice. And, they do not have title protection under the legislation nor do they require certification to practice as a CNS. In Canada, we have clearly taken the position that it is the application of advanced nursing knowledge that determines whether nursing practice is advanced, not the addition of functions from other professions. The ICN definition incorporates "extended" functions as a part of what constitutes advanced nursing practice.

3.0 ANP and Related Roles that are Being Developed

Nationally and internationally, there are several roles that have recently emerged or are being developed although it is questionable whether some of these constitute advanced nursing practice as defined by the CNA. Developing nursing roles include anesthetic nurse (Europe), nurse endoscopy (U.K. and U.S.), RN first assist (Canada), RN first call (Canada) and advanced practice nurse case manager (US). In addition, the physician assistant role, although not a nursing role, is well developed in the United States, has been implemented in the Canadian military, and has been proposed for wider implementation in Canada. The role of anesthetic nurse is discussed within a later section on the nurse anesthetist. The roles of nurse endoscopy, RN first assist (RNFA), RN first call, and physician assistant are discussed separately below, although a detailed review of these roles was not carried out because none of these meet the definition of ANP outlined in the CNA Framework. The role of the APN case manager is also discussed because the role is identified as an emerging ANP role in the U.S. by Hamric, Spross, and Hanson (2005). Furthermore, the notion of case management as a unique focus for an ANP role is not well known and raises some questions about its relationship to other existing or new ANP roles.

With respect to other emerging ANP roles, a recently published U.S. textbook on Advanced Practice Nursing (Joel, 2004), identifies the following as emerging roles: acute care nurse practitioner, psychiatric nurse practitioner, the blended clinical nurse specialist/nurse practitioner, and the clinical specialist in community health nursing. Because all of these roles fall within CNS- or NP-type roles, which are not included in the mandate of our review, we have not included them in this discussion.

3.1 Nurse Endoscopy

In response to growing public awareness of colorectal cancers, the role of nurse endoscopist was developed as a way of increasing public access to screening procedures. In the U.K., nurses are widely involved with the practice of gastro-intestinal endoscopy, and the role has emerged in the U.S. as well (Basnyat, Gomez, West, Davies, & Foster, 2002; Pathmakanthan, Murray, Smith, Heeley, & Donnelly, 2001; Spiegel, 1995). Much of the focus of this development has been on the use of nurses to perform sigmoidoscopies, although with appropriate training they have been able to perform other procedures, including colonoscopy and bronchoscopy (Barber, Martin, & O'Donnell, 2004; Martin, 2004; Pathmakanthan, et al., 2001). The National Health Service is supporting further development of nurse endoscopy in the U.K. (Pathmakanthan, et al., 2001).

The role has become widespread in the U.K., with high acceptance among patients, and the development of direct-access nurse endoscopy services. Physician support is high for nurse involvement in endoscopy for diagnostic purposes, less so for therapeutic purposes (Pathmakanthan, et al., 2001). However, Hughes (1996) has noted that because endoscopic treatment is now an effective option for conditions that formerly required surgery, anyone performing endoscopy requires the necessary knowledge and skills to perform both diagnostic and treatment services. According to Smale et al. (2003), non-physician endoscopists are able to acquire the appropriate knowledge and skills to perform both functions.

Depending on their training, nurse endoscopists in the U.K. are currently able to perform a variety of upper- and lower-GI diagnostic procedures. Training for the role, however, is not standardized, with many nurses learning the use of particular equipment on the job or through special courses (Pathmakanthan, et al., 2001; Smale, et al., 2003). From our review, it appears that the focus of preparation for the role is on the skills necessary to perform the procedure effectively.

We were unable to determine under what authority nurse endoscopists are able to practise, although in some states in the U.S., nurses are able to perform any procedures for which they have the knowledge and skills. In other jurisdictions, the nurses may work under formal or informal delegation.

There is limited information available about the effectiveness of nurse endoscopists; however, findings from one study determined that the accuracy of the nurse in identifying significant lesions was comparable to that of the gastroenterologist (Levinthal, Burke, & Santisi, 2003), and in the relatively small sample of this study, the nurse was seen as marginally more effective. Smale and colleagues (2003) found that experienced nurses were able to “perform routine diagnostic gastroscopy safely”, including provision of conscious sedation, with a minimum of patient discomfort (p.1090). Other benefits of the use of nurses to perform endoscopy include apparent reductions in waiting lists as a result of access to timely services (Pathmakanthan, et al., 2001), and potential cost-effectiveness (Levinthal, et al., 2003).

3.1.1 Nurse Endoscopy and Advanced Nursing Practice

Endoscopy presents an opportunity for interested nurses to gain the knowledge and skills necessary to perform in an expanded role within a specialized area of practice. The role is an expansion (or extension) of medical-surgical nursing to include particular skills that are outside the legally defined traditional scope of nursing practice, either through delegation or autonomous practice. According to the CNA (2002), while practising at or beyond the boundaries of nursing practice may characterize advanced practice, it does not define the advanced practice role. Although some authors (for example, Smale, 2003) speak of the role as being advanced nursing practice, we found no evidence that nurses in these roles would be able to demonstrate other CNA characteristics of advanced nursing practice, such as intersectoral collaboration, program planning, or involvement in research and knowledge development.

3.2 RN First Assistant (RNFA)

A nursing role that has generated considerable interest in recent years is that of RN first assistant (RNFA). The RNFA collaborates with the surgeon and the health care team in performing safe surgical procedures to promote optimal outcomes for the patient (ORNA, 2004). According to the Operating Room Nurses Association (ORNA, 2004), the role is recognized in all 50 states and 100 or more countries worldwide, and others have noted its international presence as well (McAuliffe & Henry, 1998). McAuliffe and Henry (1994, 1998) report that the use of nurses as surgical assistants is widespread and somewhat unacknowledged. Educational preparation often takes place on the job, although as in Canada, formal programs are beginning to emerge (ORNAC, 2004).

The RNFA role is emerging in Canada and there is a well-established program housed at the British Columbia Institute of Technology (BCIT) and available through distance education (Canadian RN First Assist, 2004). In addition, there are a handful of home-grown, hospital-based training programs to prepare nurses to take on expanded roles in the operating room (OR). As in the U.S., RNFA is a subspecialty of operating room nursing and represents an expanded nursing role. RNFAs practise in collaboration with, and under the direction of the attending surgeon.

The RNFA role is supported by perioperative nurses in Canada. For example, the Registered Nurses Association of Ontario (RNAO) offers a fellowship for nurses wishing to enrol in the BCIT program (RNAO, 2004). The Operating Room Nurses Association / RN First Assistant Interest Group is an interest group of the RNAO, and is very much supportive of the role. The Operating Room Nurses Association of Canada (ORNAC), founded in 1983, which is dedicated to promoting high quality perioperative patient care, as well as the professional and personal development of OR nurses, focused considerable attention at its most recent conference on the RNFA role (ORNAC, 2004).

Competencies for RNFAs have been developed by the American Association of Operating Room Nurses (AORN). RNFAs must be proficient in perioperative nursing, be able to apply sound principles of asepsis and infection control, and possess the specific knowledge, skills and judgement required in their area of practice (RNFA, 2004). They must be knowledgeable about anatomy and physiology, pathophysiology, and the surgical techniques used. The scope of practice of RNFAs is usually expanded beyond the regulated authority of registered nurses to include such skills as handling tissue, providing exposure of the surgical site, using instruments, suturing, and providing haemostasis.

In the U.S., there is a requirement that the RNFA is not concurrently the scrub nurse (RNFA, 2004). To enter an RNFA program, the registered/licensed nurse must have a minimum of two years experience in the operating room or OR, and be certified as an OR nurse. To become an RNFA, the nurse must enrol in a didactic first assistance course that includes 200 hours of practice education, and must pass the certification exam as an RNFA. Writing the exam requires 2,000 hours as an RNFA (RNFA, 2004).

RNFA is a role that has the potential to provide wide benefits for the public, for the nurses involved, and for the profession. There is considerable logic to having a coterie of OR nurses with the additional skills and knowledge to act as first assistants at surgery, under the direction of the attending surgeon(s). These nurses would be more knowledgeable about the operating room generally, as well as the particular surgical procedure involved, than would most general practitioners (who are often offered the first assistant role), because the OR is their area of specialization. Thus, RNFAs have the potential to improve the overall quality of surgical care for the public. Further development of the RNFA role has the potential to provide avenues for OR nurses to grow within their area of specialization into an expanded role by providing a different career path, one that is not moving into advanced practice. This can also benefit the profession, particularly if processes can be developed to provide recognition, as well as regulatory authority for such roles.

3.2.1 RNFA and Advanced Nursing Practice

The RNFA role represents an expanded nursing role in which operating room nurses take on additional skills within a specialized area of practice. It is an expansion (or extension) of the usual perioperative nursing practice under the supervision of a physician. According to Bonnie Denholm (personal communication, December 29, 2003) of the American Association of Operating Room Nurses, the RNFA is expanded practice, not advanced. Although expanding the boundaries of nursing practice may be one characteristic of advanced nursing practice, it is not understood as the defining characteristic, and the CNA perspective of ANP as involving application of advanced nursing knowledge is relevant here. Other characteristics identified by CNA (2002) as consistently evident in advanced nursing practice are not typical of RNFA practice. Some key ANP characteristics not reflected in RNFA practice include such characteristics and competencies as intersectoral collaboration; program planning; use of, and involvement in, knowledge development; and substantial autonomy and independence.

3.3 RN First Call

RN First Call is a project begun as a pilot co-sponsored by the Registered Nurses Association of British Columbia (RNABC) and the British Columbia Nurses Union (BCNU) as a way of taking pressure off overcrowded emergency rooms and providing access to care. Development of the program, including training of nurses, involved RNABC, BCNU, the College of Pharmacists, and the College of Physicians and Surgeons (B.C. Ministry of Health, 2002). The program was launched in 1996 at the Ashcroft and District General Hospital in British Columbia to provide timely, first-contact care. Accurate recent figures are difficult to obtain, but it appears that the program currently involves 230 RNs in 12 rural communities.

RN First Call involves expanded-role nurses working under medically-delegated protocols (CNA, 2000). These registered nurses are able to assess, diagnose, and treat patients with simple health problems who come into emergency rooms. This represents a substantial number of patients with difficulties such as scrapes, nosebleeds, colds and sore throats, who comprise about half of emergency room visits (B.C. Ministry of Health, 2002). In addition, RN First Call nurses are able to assess patients, and if they determine the condition is an emergency, contact the physician on call. The physician is then able to treat the patient, either by directing the nurse over the telephone, or by coming to the hospital to examine the patient directly.

Schreiber et al. (2003) reported that a particular problem in some RN First Call sites was the lack of physician buy-in and endorsement of the protocols. According to participants, some physicians indicated directly that they did not want the nurse to use the protocols. In these sites, the nurses were being prevented from doing certain activities that were part of the protocols, and for which they had been trained. The RN First Call nurses felt frustrated by this situation, because they saw that being able to use their RN First Call skills would have benefited patients and prevented duplication of services. For example, in more rural sites, the nurses felt that many of the patients in emergency could have been seen and discharged much more quickly by implementing the protocols. In another example, newborn assessments done by nurses were being repeated by physicians. Thus, at sites where the protocols were not fully implemented and endorsed by the necessary physicians, they were problematic for the nurses. Even where RN First Call protocols

were fully implemented, the nurses attributed a large part of the success on their personal credibility and relationship of trust with the local physicians.

The use of delegation to expand nursing practice in this way has proven somewhat problematic for physicians and nurses. The Canadian Medical Protective Association, which provides malpractice insurance for physicians, is “increasingly reluctant” to support medical delegation because of the challenges with accountability (RNABC, 2001). Many of these nurses in the Schreiber et al. (2003) study felt responsible for providing care they knew was required and that they were capable of providing, particularly in the absence of a medical practitioner or formal delegation. Because of difficulties such as these, in recognition of existing health service gaps as well as the considerable informal delegation that is occurring, the RNABC and the BCNU are lobbying hard to expand the scope of practice for all RNs (RNABC, 2001).

Evaluation results of the RN First Call program have been positive, and the recommendation has been made that the program be expanded, particularly in rural and remote regions. Under the B.C. Primary Health Care Renewal initiative, RN First Call initiatives are eligible for funding to the health authorities under the Primary Health Care Transition Fund (B.C. Ministry of Health, no date). In addition to timely access to care, it was recognized that the nursing perspective taken by these nurses added to the quality of care (Gillespie, 2000). The role has been touted as an effective nursing retention strategy as well (B.C. Ministry of Health, 2002).

3.3.1 RN First Call and Advanced Nursing Practice

RN first call appears to provide timely access to treatment of minor health problems through the use of basic RNs. Because they work under delegated authority, the scope of practice, degree of autonomy, and accountability of these nurses is more in keeping with basic nursing care. There is no involvement with leadership, (although the role has been touted as a possible target for career mobility), influencing practice, or research (B.C. Ministry of Health, 2002). Thus, the RN first call is not congruent with the CNA definition of advanced nursing practice.

3.4 Physician Assistant (PA)

A related health paraprofessional role in which there has been recent interest is that of the physician assistant (PA). The PA role arose in the U.S. in the mid-1960s as a way of providing “a useful role” for military corpsmen who had developed considerable medical knowledge and skill during their service in Vietnam (Bullough & Winter, 1980, p. 171). The first formal educational program, which included nine months of classroom teaching and 15 months of clinical work, was established at Duke University in 1965. The first class consisted of four ex-corpsmen. By 1972, there were 31 PA programs in the U.S., and today there are more than 130 (AAPA, 2004; Bullough & Winter, 1980). The current length of PA programs is approximately 26 months.

The PA role is not a nursing role per se, although nurses may qualify to enrol in PA programs. PAs are licensed to practise medicine under physician supervision, through formal delegation arrangements with a physician partner. There is some jurisdictional variation in the PA scope of practice, as well as variation related to the specific practice patterns of the supervising physician. According to the American Academy of Physician Assistants (2004), the physician

is ultimately responsible for the coordination and managing of patient care. In the U.S., the median salary for a PA is currently \$72,665.00 USD (salary.com, 2004).

PAs receive “a broad education in medicine”, including sciences such as anatomy, pharmacology, pathophysiology, clinical medicine, and physical diagnosis, as well as clinical practice experience in geriatrics, family practice, surgery, pediatrics, obstetrics and gynecology, emergency and internal medicine (AAPA, 2004).

In 1970 and 1982, the CNA took a position against introduction of the PA role in this country and recommended using nurses in expanded and more independent roles to meet perceived gaps in health care service (CNA, 1970; Haines, 1993). CNA does not currently have a position on the physician assistant role. CNA advocates for the optimizing the scope of practice of existing categories of care providers and has continued to endorse further development of ANP roles, including the nurse practitioner role (CNA 2003b). The CNA and others have noted that there is value added to the quality of care because the service is provided by APNs who have broad-based nursing preparation as the foundation for practice (Barton, Baramee, Sowers, & Robertson, 2003; Mundinger et al., 2000).

3.4.1 Physician Assistants and Advanced Nursing Practice

The PA role is not a nursing role, and is not founded on nursing knowledge or a nursing perspective. It is a skills-based medical role that operates strictly under medical delegation.

3.5 APN Case Manager

There is no widespread agreement in nursing in the U.S. on the APN case manager (APN CM) role, which Hamric, Spross and Hanson (2005) have identified as an emerging advanced practice role. They acknowledge, however, that it has not been formally recognized as an ANP specialty by the American Nurses Association. Other recent texts on Advanced Nursing Practice (Hickey, Ouimette, & Venegoni, 2000; Joel, 2004; Snyder & Mirr, 1999; Stanley, 2005) do not even mention the ANP CM as a distinct role, although they all point out that case management is carried out by other advanced practice nurses (APNs). The International Council of Nurses (2003) also indicates, in its definition of NP/APN, that case management is a function of advanced practice roles.

Keeling and Bigbee (2005) discuss the roots of case management in nursing as dating back to the late 1800s, even though the term “case management” was not generally used until the 1970s and 1980s in the U.S. Case management was largely developed by the early visiting nurses at the turn of twentieth century (later called public health nurses) who provided primary care for the poor and indigent in New York through the Henry Street Settlement House. The term case management was introduced into the social welfare literature in the 1970s carrying on the tradition in social work that was begun by the early public health nurses in working with poor and underserved populations. Soon after, the term emerged in the public health nursing literature. During the 1980s in the U.S., case management was recognized as a specialized nursing role, but not yet an advanced role. Changes in health care delivery in the 1980s and 1990s, particularly the move to managed care and changes in reimbursement mechanisms, reinforced the need for and development of the case

management role in nursing. Currently, the rationale for the development of the advanced practice case management role in nursing is based on economic arguments related to achieving cost efficiencies and dealing with the growing number of people living with chronic illnesses (Mahn-DiNicola & Zazworsky, 2005).

In their review of the APN case manager role, Mahn-DiNicola and Zazworsky (2005) distinguish among case management in general, nurse case manager (NCM), and APN case manager (APN CM). In addition, they distinguished between the APN CM role and case management responsibilities carried out by nurses in other APN roles, particularly nurse practitioners, clinical nurse specialists, and nurse-midwives.

As noted above, case management is carried out in many settings by nurses, social workers, rehabilitation specialists, and other health care providers. The Case Management Society of America (CMSA), an interdisciplinary body, defines case management as:

...a collaborative process which assesses, plans, implements, coordinates, monitors and evaluates options and services to meet an individual's health needs through communications and available resources to promote quality, cost effective outcomes (CMSA, 2002, as cited in Mahn-DiNicola & Zazworsky, 2005, p. 620).

The American Nurses Association (ANA) has defined nurse case management as:

...a dynamic and systematic collaborative approach to providing and coordinating health care services to a defined population. It is a participative process to identify and facilitate options and services for meeting individual's health needs, while decreasing the fragmentation and duplication of care and enhancing quality, cost effective clinical outcomes. The framework for nursing case management includes five components: assessment, planning, implementation, evaluation and interaction (ANA, 2003, as cited in Mahn-DiNicola & Zazworsky, 2005, p. 621).

Although much has been written about nurse case managers (American College of Nurse-Midwives, 1997; Delaronde, 2002; Donagrandi & Eddy, 2000; Edmunds, 2002; Kelly & Stephens, 1999; Leyden, Carvalho, et al., 2000; Polononsky, Earles, et al., 2003; Schroer, 1991; Sund & Sveningson, 1998), comparatively little has been written about APN CMs. Thus, the distinction between them is not clear.

Although they note that the distinguishing features of the APN CM are not sufficiently supported by research, Mahn-DiNicola and Zazworsky (2005) identify the major factors distinguishing NCMs from APN CMs as education level and the complexity of care provided. An NCM is educated at the baccalaureate level and provides care for a defined group of clients, working in collaboration with clients and members of the interdisciplinary team to match patient care needs to the appropriate services, often using defined guidelines and protocols. In contrast, an APN CM is educated at the master's level, has established expertise in a clinical specialty, and is accountable for managing and evaluating care for high risk, clinically complex, or resource intensive clients to optimize outcomes. The APN CM also establishes programs and system improvements along a continuum of services.

3.5.1 Case Management and Advanced Nursing Practice

As noted above, case management is also carried out by nurses in other advanced practice roles so it is important to distinguish between the case management functions of any advanced practice nurse and those of an APN³ CM. Mahn-DiNicola and Zazworsky (2005) state that the scope of influence of the APN CM differs from that of other APN roles in that the APN CM influences care at a systems level. This suggests that they view the roles of other APNs as focusing on care at an individual client level. This view is not entirely congruent with the definition of advanced nursing practice in the CNA framework which includes an implicit (if not explicitly stated) focus on care at the systems level. Research on models of advanced practice by Schreiber et al. (2003) in Canada suggests that a distinguishing feature of advanced nursing practice was a systems level focus and perspective (Pauly et al., 2004; Schreiber et al., 2003) and that this perspective was most likely to be found in nurses who were educated at a graduate level and who worked in CNS and NP roles in particular.

There are other differences between the U.S. perspective on APN as reflected in Hamric, Spross and Hanson (2005), and the perspective reflected in the CNA framework document. Hamric (2005) emphasizes that the focus of all APN roles is the patient and family, with the patient being an individual. This also differs from the definition of “client” in the CNA framework, in which client is defined as including individuals, families, groups, populations, or entire communities. It appears, therefore, that the Canadian perspective reflects a less individualistic focus.

Another U.S. difference is that collaboration in APN (Hanson & Spross, 2005) appears to be viewed primarily as occurring among APNs, clients, and other health care providers who are part of the interdisciplinary team. This type of collaboration is important in the CNA vision of ANP, but intersectoral collaboration is also identified explicitly as an important characteristic of ANP in the CNA framework because of the importance placed in Canadian nursing practice on the social determinants of health and thus the need to collaborate with other sectors. Thus, although there are strong similarities in the definitions of ANP in Canada and the United States, there are also subtle but important differences.

There is debate in the profession about whether specialized graduate programs in NCM are necessary or whether the other APN programs should provide a greater focus on case management. In the U.S., some universities offer a master’s degree in nurse case management. Other types of APN programs for CNS and NP students have incorporated coursework on case management. Various certification bodies, such as the Commission for Case Management Certification, the National Board of Continuity of Care, and the American Institute of Outcomes – Case Management, offer general case management certification but, at present, there is no certification credential specific to the APN CM role offered by a nursing body, nor is there any intention to do so in the near future (Mahn-DiNicola and Zazworsky, 2005).

³ Note that the authors of this paper have used Advanced Practice Nursing (APN) in this section when referring to the U.S. but they have used Advanced Nursing Practice (ANP) when referring to Canada. See discussion on page 3.

4.0 ANP Roles that Exist Outside Canada

Two ANP roles exist outside Canada: nurse anaesthetist and nurse midwifery. Each of these is described in the sections below.

4.1 Nurse Anaesthetist

Administration of anaesthesia and control of pain are traditional nursing roles (Schreiber & MacDonald, 2003) and nurse anaesthesia is the oldest recognized speciality in nursing (Faut-Callahan & Kremer, 2000). There is evidence of nurses practising anaesthesia during the American Civil War, and currently nurses provide anaesthesia services in 142 countries (McAuliffe & Henry, 1994; Schreiber & MacDonald, 2003).

The usual definition of a nurse anaesthetist is an individual recognized as a registered or licensed nurse who has completed post-basic nursing education in anaesthesia and is recognized within her/his country. In the U.S., a certified registered nurse anesthetist (CRNA) is defined as a registered nurse who is educationally prepared for, and competent to practice nurse anaesthesia (Faut-Callahan & Kremer, 2000). The exact role varies from country to country and continent to continent, and is not necessarily an advanced nursing practice role.

The International Federation of Nurse Anesthetists (IFNA), formally created in 1989, is the international body overseeing nurse anaesthesia practice. IFNA is governed by a council of national representatives and has developed standards of practice as well as for educational curricula. Currently there are 32 nations represented by IFNA.

Nurse anaesthesia practice is widespread. According to McAuliffe and Henry (1996), nurses administer anaesthesia in at least 76 per cent of African countries, 57 per cent of American countries, and 67 per cent of European countries. In other regions, the reported levels of nurse anaesthetists are somewhat lower; for example, nurses provide anaesthesia in 41 per cent of countries in the western Pacific, 27 per cent in Eastern Mediterranean countries, and 36 per cent in Southeast Asian countries (McAuliffe & Henry, 1996). Methodological challenges led the authors to suggest that these figures may represent underestimations, and that nurses may be providing as much as 90 per cent of anaesthesia in a “fairly high number of countries (p. 479). The authors found that using nurses to provide anaesthesia was not related to a country’s level of development, and that nurses provide anaesthesia in 69 per cent of the most developed countries and 67 per cent of the least developed countries (McAuliffe & Henry, 1996). McAuliffe (2002) further reported that the visibility of nurse anaesthetists was low, and in some countries, ministry of health staff and other nurses did not know nurse anaesthetists existed, even though they provided the majority of anaesthesia services in those countries. It should be noted that the authors of neither of these studies distinguished between nurses and advanced practice nurses administering anaesthesia.

4.1.1 Development of the Nurse Anaesthetist Role

As mentioned above, nurse anaesthesia is a traditional nursing role that preceded regulation, and with regard to analgesia, professionalization of nursing practice. During the Franco-Prussian War and the American Civil War, nurses administered anaesthesia (Schreiber & MacDonald, 2003).

Although effective anaesthesia was developed in the 1840s, administration of anaesthesia became particularly important when aseptic techniques developed (Bacon & Lema, 2002).

The development of the nurse anaesthetist role is well-documented in the U.S., although there is some literature available about its development elsewhere. Because of the comprehensive U.S.-based literature, in addition to the fact that Canadian nursing often more closely parallels that in the U.S. than it does other countries, the focus of this section will be on role development in the U.S.

In the U.S., the nurse anaesthesia role has deep roots and is one of four recognized ANP roles. Physician involvement with anesthesia as a medical specialty began after the First World War and the publication of the Flexner Report, but did not gain momentum until the end of World War II (Gunn, 1987). The development of anaesthesia as a medical specialty enabled physicians and hospitals to charge special fees for this service (Bacon & Lema, 2002). Before that time, nurses were the primary, and sometimes the only provider of anesthesia care and pain management. The nurse anesthesia role re-emerged in strength to fill a health service gap in the U.S. military during the Vietnam War (Schreiber & MacDonald, 2003). Since then, the role has expanded outside the military and gained in popularity as physician interest in pursuing a lengthy anesthesiology residency as a field of specialization and practice has diminished. Currently, CRNAs provide approximately 60 per cent of all anaesthesia in the U.S., with this percentage increasing to 70 to 80 per cent in rural areas (Schreiber & MacDonald, 2003). The educational preparation of CRNAs mirrors that of nurse practitioners in the U.S., with graduate preparation as the current minimum for entry to practice.

In a 1997 report written for the National Health Service (NHS) in the U.K., recommendations were made to re-examine the use of non-physician anaesthesia providers (Audit Commission, 1997). The review and recommendations occurred in response to high numbers of cancelled surgeries, waiting lists, costs of educating physician providers, and citizens traveling to other European countries for surgery rather than waiting (Ron Caulk, personal communication). In the U.K., foreign-trained nurse anaesthetists are occasionally employed on a temporary basis but they have not been integrated into the health system. The NHS sought assistance from IFNA, and as a result, a pilot program to train non-physician anaesthesia providers was initiated at five selected sites. Physicians were not directly involved in this initiative, which was stewarded by the NHS. There are plans underway to develop up to 11 more programs, which suggest that the current initiative is being well-received.

The Nursing Council in New Zealand has developed a framework for nurse practitioners in that country, and includes nurse anaesthesia within its perioperative scope of practice (N.Z. Ministry of Health, 2002). With the full support of the N.Z. Ministry of Health, IFNA has been involved with the National Council of Nursing in developing a nurse anaesthesia program. The Ministry has hired a doctorally-prepared American CRNA to develop a program that would be internationally recognized and would meet U.S. accreditation standards. At last report there was considerable physician opposition and the program may be stalled (Ron Caulk, personal communication), but official Ministry of Health documents show no indication of this.

4.1.2 Practice Models

Nurse anaesthetist practice models cover the range of possibilities, from informal delegation to autonomous practice (McAuliffe & Henry, 1994), and some models meet the CNA competencies for advanced practice. This is discussed below. In most of Europe, nurse anaesthetists practise in a care team setting in which physicians supervise nurse anaesthetists, although the physician may not be physically present during the anaesthesia case. There is typically one nurse anaesthetist per patient, with a single anaesthesiologist supervising up to three patients at a time. Thus, the nurse anaesthetists practice with a fair degree of autonomy in these countries. Countries in which this model of practice is prevalent include Denmark, France, Norway, Sweden, Switzerland, Luxembourg, Netherlands, Hungary, Poland, the Czech Republic, and Iceland (Pascal Rod, personal communication, August, 2004).

In other European countries, such as Finland, Slovenia, Austria, and Germany, the nurse anaesthetist role is not formalized, but is called an “anaesthetic nurse”. Anaesthetic nurses are not educated or authorized to practice some skills without the direct control of an anaesthesiologist, although we have learned that this happens. This is particularly the case during coffee and meal breaks, at night, on weekends, and in rural or small hospitals, as well as when a relationship of personal-professional trust is established between the OR nurse and the anaesthesiologist (Pascal Rod, personal communication).

In Belgium and the U.K., anaesthesia has been defined as a medical role and by law cannot be delegated to a nurse. IFNA (Pascal Rod, personal communication August, 2004) reports that there has been some reluctance within the nursing communities in these countries to having an extended role such as nurse anaesthetist. It has been reported, however, that anaesthesiologists in Belgium often have difficulty practising alone and are often called to practise in two ORs simultaneously. This has required OR nurses to take on assisting in some phases of anaesthesia. According to IFNA, these nurses take on these expanded roles without appropriate educational preparation. There are currently some projects underway in these two countries that might result in changes regarding the viability of a nurse anaesthesia role. Interest in this is increasing as the retirement of the baby boomer generation of medical anaesthesiologists draws closer.

In the U.S., nurse anaesthetists often practise autonomously (McAuliffe, 2002; McAuliffe & Henry, 1994), with relatively little regulatory limitation. CRNAs may encounter constraints to their practice, including instances of required medical direction, through requirements placed upon them by hospitals, other employers, and insurance companies.

In countries as diverse as Haiti and the U.S., nurse anaesthetists are able to practise autonomously under their own authority. It is interesting to note the full use of nurses as anaesthesia providers exists in countries at the extreme ends of the development continuum. In Italy and much of Europe, nurses work closely with physicians and in some circumstances may not initiate anaesthesia (Demeere, 2002; McAuliffe & Henry, 1994). In many less developed countries, including all of Africa and large parts of Asia, nurses are the primary providers of anaesthesia. The only limitation on their practice is availability of resources and is not regulatory.

4.1.3 Models of Anaesthesia Provision

Models of anaesthesia practice are largely influenced by health care funding arrangements and public expectations. Fee-for-service funding tends to increase overall costs of anaesthesia and surgical services, while salaried providers help contain costs. Cromwell and Snyder (Cromwell & Snyder, 2000) identified several models of anaesthesia practice in the U.S., and these parallel practice models elsewhere. The first model, which is the most expensive, involves only medical (physician) anaesthesiologists working on fee-for-service. These authors suggest that, when implemented in a teaching hospital, the overall costs could be lowered by as much as 20 per cent from a strict fee-for-service model. McAuliffe and Henry (1994), however, discussed the “improbability” of this model, noting that attainment the appropriate physician per capita ratios

...would not be economically feasible for any but the richest of nations and, in those, it may only add to spiralling health care costs. In the United States, for example, the physician anesthetist per capita ratio is the highest in the world (.91:10,000), yet nurse anesthetists provide more than 60 per cent of all the anesthetics (p. 54).

Other models described involved varying levels of collaborative practice or medical supervision. For example, in one model, CRNAs and medical anaesthesiologists are available in equal numbers in the operating room. This model was described as one-third cheaper than a purely physician-administered anaesthesia service. The authors also identified a supervisory model in which one physician is responsible for the practice of up to four CRNAs, and no physician practiced alone. This model was described as more than 40 per cent less expensive than an all-physician anaesthesia service (Cromwell & Snyder, 2000).

CRNAs can work as either employees or as self-employed professionals. CRNAs can be employees of civilian and medical departments of anaesthesia, and work in surgical units or dental offices. Others are employees of medical or nurse-anaesthetist group practices. CRNAs can work independently, either by billing the payer directly on a fee-for-service basis, or by being a paid employee. In the latter situation, the employer provides an hourly wage in return for handling the billing (Schreiber & MacDonald, 2003). Wages for CRNAs are high and ranged between \$90,000 and \$180,000 USD in 2001. We found several CRNAs whose incomes were significantly higher than this national range, including one who earned a reported \$275,000 USD in her second year of practice (Schreiber, 2003). In contrast, medical anaesthesiologist wages in the same time period in the U.S. were between \$240,000 and \$287,000 USD per year. These high wages reflect the national shortage of anaesthesia providers, which is only expected to increase with the retirement of the baby boomer generation.

Location of practice in the U.S. varies between anaesthesiologists and CRNAs. Over 90 per cent of active practising anaesthesiologists live in metropolitan counties, while twice as many CRNAs as medical anaesthesiologists live in non-metropolitan counties (Fallacaro & Ruiz-Law, 2004). This means that CRNAs are able to provide care in non-urban settings, and are often the sole anaesthesia providers in rural hospitals (Gunn, 2000). However, anaesthesia services may not be readily available in some settings; of the 3,140 counties in the U.S., over one-quarter (843, or 26.8 per cent) have neither a CRNA nor an anaesthesiologist in residence (Fallacaro & Ruiz-Law, 2004).

In the U.S., CRNAs who are part of anaesthesia care teams have somewhat different practices than CRNAs who are not part of such teams. Compared to CRNAs who work independently, those in anaesthesia care teams had fewer years of experience, were younger, were more likely to be female, were employees, and practised in urban and metropolitan locations (Shumway & Del Risco, 2000). Sometimes CRNAs will begin practice in such settings and models in order to gain sufficient experience to prepare them for future autonomous practice (Schreiber, et al., 2003). In contrast, CRNAs who work independently tend to deal with more complex cases, have greater incomes, work on average more hours per week, and were more likely to be self-employed (Shumway & Del Risco, 2000).

We found reports of countries in which nurse anaesthesia is no longer supported, although in the past it was. For example, So et al. (1999) reported that nurse anaesthetists worked in Taiwan 40 years ago, but current thinking is that anaesthesia is a medical specialty. These authors report that this shift is a result of questions about the quality of anaesthesia provided. In Taiwan, nurse anaesthesia is not considered as an advanced nursing practice role, however (Chen, 2000). McAuliffe and Henry (1996) report that in several South American countries, the development of medical anaesthesiology is supplanting nursing anaesthesia by imposing supervision on nurse anaesthetists and / or otherwise curtailing their practice.

4.1.4 Scope of Practice

IFNA has taken a strong position in support of regulation of nurse anaesthesia practice as a means of promoting high standards and recognition of the role. IFNA holds the position that “if nurses are utilized for pre- and post-operative preparation of the patient, perform venous and arterial cannulation, intubate, extubate, induce anaesthesia, (are) ever left alone with the anesthetised patient and participate in the emergence of anesthesia,” then nurse anaesthetists must have a clearly-defined scope of practice, and be appropriately educated (IFNA, 1998). IFNA also encourages countries to develop credentialing procedures to ensure appropriate standards to enter and maintain practice are met. The IFNA standards of practice are listed in Appendix 1.

As suggested above, the scope of nurse anaesthesia practice is characterized by considerable diversity worldwide, and at times overlaps with an RN first assistant role (see below). In several countries, including such examples as Belize, the U.S., and most of Africa, nurse anaesthetists are able to practise fully and autonomously. They practise under their own authority without requirements for consultation or medical supervision, and their practice represents the full scope of anaesthesia services available in the country.

In the U.S., the parameters of CRNA practice are determined by legislation, agency policy, and the regulations of insurance or payment providers (Schreiber & MacDonald, 2003). Overall, legislation in the U.S. tends to be less restrictive than regulations imposed by payer organizations. Nurse anaesthesia is not medically delegated (Faut-Callahan & Kremer, 2000), although regulations imposed by some payers require a degree of medical supervision. In general, in the U.S., CRNAs are capable of providing complete anaesthesia services in all settings, and are limited most often by local agency or payment policies. These are gradually disappearing (Pearson, 2004). CRNAs are responsible for:

-
- reviewing registered nurses' pre-operative evaluations and ordering any necessary tests; (If necessary, CRNAs have the authority to postpone surgery in order to obtain a more complete patient evaluation.)
 - preparing an individualized anesthesia plan for each case, proposing medication, and anticipating fluid volume and electrolyte balance over the course of the procedure;
 - meeting with the patient to discuss the anesthesia and / or analgesia plan;
 - ordering equipment and medication for each surgical case;
 - initiating and managing insertion of arterial, central venous or epidural lines; ventilation; or use of regional or local blocks;
 - administering, monitoring, and managing general, regional, and local anaesthesia and analgesia;
 - maintaining or correcting the patient's physiological homeostasis, airway and cardiopulmonary status through the procedures; and
 - assisting with transfer to the recovery room and reporting on the surgery to the recovery room staff.

In addition, they may obtain informed consent. CRNAs in the U.S. do not work just in the operating room. They also may be members of cardiac arrest teams or participate in managing chronic and acute pain. In some teaching hospitals, CRNAs teach and monitor basic anaesthesia skills with both residents and nursing anaesthesia students (Schreiber & MacDonald, 2003).

The activities of a CRNA are characterized by a depth of technical and theoretical knowledge in their substantive area of practice, and to an untrained observer may appear the same as that of a medical anaesthesiologist. At the same time, CRNAs synthesize considerable medical knowledge and skills into their nursing practice. For example, CRNAs report that their management of a drop in blood pressure during surgery would be different than that of a physician, and that they would use both nursing measures (positioning, fluid challenge) and medical interventions (vasoactive medication) to stabilize the patient's blood pressure so that surgery could proceed safely (Schreiber & MacDonald, 2003). According to their informants, these researchers reported that physicians were more likely to use medications in this circumstance rather than trying more conservative approaches. The researchers also reported that CRNAs themselves, and others around them saw them as both nurses and anaesthesia providers, and the nursing contribution was somewhat visible to others who noticed, for example, the nature of their patient interactions.

4.1.5 Educational Preparation of Nurse Anaesthetists

Educational preparation of nurse anaesthetists, like so much else about the role, varies considerably worldwide, ranging from "on the job" training to graduate preparation. Many programs involve 18 to 24 months of training beyond the basic nursing preparation, although the degree to which this is embedded in a nursing perspective is unclear (McAuliffe & Henry, 1996). This is the model of education in Denmark, France, Norway, Sweden, Switzerland, Luxembourg, Netherlands, Hungary, Poland, the Czech Republic, and Iceland. In Austria, Germany, Finland, and Slovenia, the program is two years in length, and is integrated into a more generic intensive care program. The proposal of the New Zealand Ministry of Health is that

nurse anaesthesia will be part of the perioperative nursing scope of practice. In other countries, the educational picture is more complex. For example, in Spain, Italy, and Croatia there are no formal programs to prepare nurse anaesthetists, although there is apparently interest in starting such programs. At present, nurses who provide anaesthesia are trained on the job.

In some settings, there is a blurring of anaesthesia training and roles. For example in the United Kingdom pilot project to train non-physicians as anaesthesia providers, not all enrollees are nurses and nursing is not a pre-requisite. In many countries in South America, Asia, and North Africa, the basic level of nursing education is low and does not provide sufficient preparation for development of expanded roles (Pascal Rod, personal communication, August, 2004). In such countries, three-year university-level programs have been developed for the role of “anaesthesia technician”. It is not known whether these programs are open to people other than nurses, although this is likely. In such circumstances, when nurses complete their anaesthesia training their title may change for example, to “medical assistant” or “anaesthetic officer” so that they would not be known as nurse anaesthetists. This makes data collection about the role difficult and might, in part, explain how nurse anaesthesia practice can be overlooked by other nurses or by ministries of health.

In the U.S., graduate preparation is the minimum requirement for nurse anaesthesia practice. The programs vary in length from 27 to 36 months. Some schools are developing doctorates in nurse anaesthesia (American Nurses Association, 2002; Faut-Callahan & Kremer, 2000; Schreiber & MacDonald, 2003). CRNA curricula are based on standardized core content including nursing knowledge, theory, practice, and research. Generally nurse anaesthesia students are not allowed to work outside their educational programs because of the challenging nature of the programs (Faut-Callahan & Kremer, 2000; Schreiber & MacDonald, 2003), however, considerable assistance is available in the form of loans. Because of their high earning power after graduation, it is not uncommon for CRNA students to accumulate student debt in excess of \$100,000 USD (Schreiber, MacDonald et al., 2003).

The International Federation of Nurse Anesthetists (IFNA) has created educational standards for preparing nurse anaesthetists. These standards specify that the minimum prerequisites are completing a basic nursing education program of at least 36 months in length, as well as completing nursing experience of at least one year, preferably in an acute care setting. IFNA also specifies content curriculum, location of the education, length of program, and faculty requirements (International Federation of Nurse Anesthetists, 1999).

The length of most educational programs in the U.S. is 27 months, with a range of 24 to 36 months. The number of students ranged from 10 to 119, with a mean enrolment of 36. The mean number of graduates was 16 (Ouellette, Bruton-Maree, et al., 2002, p. 435). Approximately 1,000 nurse anaesthesia students graduate each year (Faut-Callahan & Kremer, 2000; Schreiber & MacDonald, 2003).

In the U.S., the American Association of Nurse Anesthetists (AANA) established the National Commission on Nurse Anesthesia Education in 1989 with the goals of promoting nurse anaesthesia practice as a career path and to the public, and increasing the number of annual graduates into the profession (Mastropietro, Horton, Ouellette, & Faut-Callahan, 2001). The work of this Commission resulted in a greater number of nurse anaesthetist graduates, but the exact numbers are not clear. These authors assert that between 1976 and 2001, the number of nurse anaesthesia programs

providing a certificate declined and the number offering a graduate degree increased. Ouellette, Bruton-Maree, and Kohlenberg (2002), however, state that the number of programs decreased from 91 in 1995 to 83 in 2001, with 51 programs closing between 1982 and 1989, leaving only 85 programs at the time their article was written. Because of the high intensity of the labour and equipment costs inherent in such programs, it may be that some schools were unable to maintain them.

4.1.6 Impact and Benefits of Nurse Anaesthesia

The CRNA role was identified by Schreiber et al. (2003) as bringing many benefits. First, the CRNA role is well accepted in the U.S., to the extent that patients did not often know if their anaesthesia provider was a physician or a nurse (Schreiber et al., 2003). In the Schreiber et al. (2003) study, the OR studied was reported to have had one of the lowest malpractice rates in the country. Within the U.S., lawsuits against CRNAs for malpractice were relatively infrequent and the cost of malpractice insurance for CRNAs actually declined in the 1990s (Pearson, 2002). To the extent that low rates of malpractice claims are a crude indication of positive client outcomes, it can be assumed that anaesthesia services provided by CRNAs are of acceptable quality. Further, Schreiber and MacDonald (2003) reported that medical anaesthesiologists and others who worked in the OR selected CRNAs to provide anaesthesia services for themselves and for members of their families, which suggests that CRNAs are very highly regarded in professional circles.

4.1.7 Nurse Anaesthesia as Advanced Nursing Practice

In Canada, we consider advanced nursing practice to be more than expanded or extended practice, and to be based on advanced nursing knowledge. Because of the considerable variation among countries in the education, practice models, and scope of practice of nurses providing anaesthesia, no definitive statement can be made regarding the degree to which nurse anaesthesia would be considered ANP in accordance with the CNA framework. Even within a particular country, it is possible that, for example, a nurse trained informally on the job may demonstrate the characteristics and competencies identified by the CNA.

In a study by Schreiber and MacDonald (2003) in the U.S., the authors noted, “CRNAs meet most or all of the competencies and characteristics of ANP as defined by the CNA framework.” (p. 24). CRNA practice is highly specialized, focusing on provision of analgesia and anaesthesia services. Within that specialization, some CRNAs have developed a degree of sub-specialization, for example providing anaesthesia for morbidly obese patients, or gravitating toward lengthy, complex surgical procedures. This speaks to the way in which CRNAs are able deliberately and purposefully to integrate knowledge gained through practice and familiarity with literature in their specialty, even to the extent of developing more expertise in the area than many physicians and most nurses. Schreiber et al. frequently observed CRNAs who were widely regarded as being more highly skilled than most medical residents passing through the OR in their tertiary-care setting (Schreiber, et al., 2003).

In research conducted by Schreiber and MacDonald (2003), the authors noted the nursing knowledge and skills of CRNAs as well. In particular, they discovered that CRNAs in the study were noted for, and noted themselves, their attention to communication with patients, and there was a general belief that this made a qualitative difference in patient outcomes. Others in the OR

commented on the “extra stuff”, “those communication pieces”, or the “gentle manner” that CRNAs brought to practice, making them the preferred providers for many nursing and non-nursing colleagues. The CRNAs themselves saw more than niceties in their relationships with patients, which they valued highly in their work. They spoke of the importance of communicating with patients to decrease anxiety so the period in which they were asleep would be a calm one for patients, and so they would awaken peacefully and experience no post-operative nausea and vomiting. In this way, the CRNA’s expertise forged a breadth and depth of knowledge of brain physiology, stress theory, nursing, and other sources to promote patient wellness in a highly complex patient situation. Although the nursing knowledge about relationships and communication was not visible to others, CRNAs could identify nursing rationales among the reasons for their actions.

CRNAs influenced the practice of other nurses through interactions with staff nurses and through direct teaching. For example, CRNAs in the Schreiber et al. study site provided education for staff nurses on the use of conscious sedation (Schreiber, et al., 2003). Another ANP characteristic identified in the CNA document is autonomy and independence. This has already been discussed in the sections on scope of practice and on models of practice.

In some circumstances, because of their job descriptions, the CRNAs were unable to demonstrate all of the competencies, although their educational programs fully prepared them as advanced practice nurses as defined by the CNA. Schreiber, et al. (2003) saw limited evidence of CRNAs involved in program planning, although they have the skills to do so. Similarly, this group of CRNAs was not directly involved with research activities, although they were prepared for research involvement both through coursework and in some circumstances through preparation of theses. The American Association of Nurse Anesthetists has a website which lists dissertations and theses by nurse anaesthetists and a journal in which research and scholarship are published (AANA, 2004). Analyzing and influencing health policy was not part of the CRNA job observed in the Schreiber et al. (2003) study; however there were some CRNAs with considerable involvement in the state and national professional organizations and governing bodies. These CRNAs were positioned to influence health policy at the highest levels, and were quite knowledgeable about the issues involved, both regarding patient care and CRNA practice. The authors concluded that the service orientation and structure of the role, within a fee-for-service, managed care context, mitigated against CRNAs demonstrating these characteristics of advanced nursing practice.

From our brief contacts with European nurse anaesthetists, it is likely that some of the nurse anaesthesia models in place would also meet the CNA definition, in which the characteristic of “advanced” is the “application of advanced nursing knowledge rather than the addition of functions from other professions.”

4.2 Nurse Midwifery

Midwifery is almost as old as records of human activity (Dorroh & Kelley, 2000; Reed & Roberts, 2000). In almost every culture and pre-modern society, communities assigned women the task of assisting other women during childbirth (Neglia, 2003). Midwives learned from each other, from observation, and from experience. The role of the midwife has always been to provide help and support to women by women during childbirth. Midwifery from the beginning of its recorded

history has viewed childbirth as a natural phenomenon and this view continues to distinguish midwifery. The word midwife means “with woman.”

Because nurse midwifery does not exist in Canada as a distinct and regulated profession, we first discuss the profession of midwifery and its current status in Canada and other countries. Following this, we discuss nurse midwifery in other countries and advanced practice nurse midwifery, particularly in the United States because that is where nurse midwifery has primarily developed as an advanced nursing practice role.

4.2.1 Midwifery in Canada

Most definitions of midwifery around the world tend to refer to the international definition of midwifery jointly developed by the International Council of Midwives, the World Health Organization, and the International Federation of Gynecologists and Obstetricians. This definition has been adopted in Canada.

A midwife is a person who, having been regularly admitted to a midwifery educational programme, duly recognized in the country in which it is located, has successfully completed the prescribed course of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practise midwifery.

She (sic) must be able to give the necessary supervision, care and advice to women during pregnancy, labour and the postpartum period, to conduct deliveries on her own responsibility and to care for the newborn and the infant. This care includes preventive measures, the detection of abnormal conditions in mother and child, the procurement of medical assistance and the execution of emergency measures in the absence of medical help. She has an important task in counselling and education, not only for the women, but also within the family and the community. The work should involve antenatal education and preparation for parenthood and extends to certain areas of gynaecology, family planning and child care. She may practise in hospitals, clinics, health units, domiciliary conditions or in any other place of service (International Confederation of Midwives, 2003).

Until recently, Canada was one of only eight countries in the world not to have legalized midwifery (Herbert, 1992). As noted by Bourgeault (2000), Canada had the dubious distinction of being the only industrialized western nation to have no provisions for midwifery care for pregnant women, despite public interest in such a role. The legalization of midwifery is a fairly recent development in Canada, with Ontario achieving the first legally designated midwifery role in this country in 1993 (Harris, 1993). In British Columbia, legislation governing the practice of midwifery was introduced in 1995 and the first regulated midwives to enter practice in British Columbia did so in 1998 (College of Midwives of British Columbia, 2004). Manitoba and Alberta have since followed suit.

The current status of midwifery in Canada is outlined in the table provided on the next page. In this table, we identify the status of midwifery in each of the provinces and territories of Canada, including whether legislation exists or has been passed, availability of funding for midwifery in that province, availability of educational programs, scope of practice, model of practice, and number of registered midwives in practice. Legislation and implementation of midwifery is proceeding

quickly in this country, so it is likely that the status of midwifery in some provinces may change in the near future.

Bourgeault (2000) conducted a study in which she explored the integration of midwifery into the health care system in Ontario. She points out that attempts were made in the early 1900s to establish a system of nurse midwifery similar to that in Britain and the United States, but that these efforts were not successful. The “rebirth” of midwifery in Canada occurred in the late 1970s in response to consumer concerns about the medicalization of childbirth. Thus, the “new midwifery” emerged to put control of birth back into the hands of women, rather than creating a new professional authority. Midwifery at that time was seen as integral to the women’s health movement and the midwifery philosophy exemplified the importance of an egalitarian relationship between midwives and the women they supported (Bourgeault, 2000).

Although it is the profession of midwifery and not nurse midwifery that is legislated and regulated in parts of Canada, there are many nurse-midwives (educated primarily in the U.K.) who are now registered to practise as midwives in British Columbia, Alberta, Manitoba, and Ontario. Before legislation was introduced in Canada, some midwives and some nurse-midwives practised midwifery without the recognition and protection of legislation for several decades in this country.

On the Canadian Nurses Association (CNA) website under “Midwifery in Canada,” CNA noted that nurse-midwives have been employed in all parts of Canada, generally providing prenatal and postnatal care in maternal-child programs or community health settings. Many nurse-midwives have worked in hospital settings as obstetrical nurses but they have not been able to practice to the full scope of midwifery practice. CNA also noted on their website that some nurse-midwives have practiced in rural and remote areas of the country, carrying out the full range of midwifery responsibilities, including care during labour and delivery. For the most part, this practice has been governed under delegation/transfer of function arrangements with physicians or through approved agency protocols.

In 1976, the World Health Organization (WHO), the International Council of Nurses (ICN), and the International Confederation of Midwives (ICM) agreed that midwifery was a discipline in its own right. Midwifery is not nursing, although nurses may be midwives (Herbert, 1992). Historically, the nursing profession in Canada has taken the position that nurse midwifery is a form of specialization within the profession of nursing and not a distinct and separate profession. In 1979, CNA produced a position statement in which it supported the development of nurse midwifery in Canada claiming that the nurse-midwife was the health professional best equipped to meet the growing need for counselling services and greater continuity of care in childbearing (CNA, 1979). CNA’s 1979 position statement contrasted with the position taken by the ICN. Several provincial nursing associations (e.g., RNABC, AARN) took similar positions. The RNABC, for example, took the position that “The Association does not support the concept of midwifery as an autonomous and separately regulated discipline” (RNABC, 1988, p.1).

In Ontario, in the years just before midwifery became regulated, the Ontario Association of Nurse Midwives joined with the Ontario Association of Midwives to form the Midwifery Coalition. This group presented a case to the government-appointed Health Professions Legislative Review (HPLR) committee that midwifery should be an independent health profession regulated separately from nursing. This proposal was in opposition to the positions taken by the College of Physicians

and Surgeons of Ontario and the College of Nurses of Ontario, both of whom argued that midwifery should be regulated by one of their organizations. However, as Bourgeault notes, the HPLR committee was more impressed with the submission of the Midwifery Coalition, which relied heavily on presentation of solid evidence in favour of their position, while the presentation of the nursing and medical regulatory bodies cited little or no evidence to justify their position.

In 1997, the RNABC reversed its earlier position and supported the recognition of midwifery as a regulated health profession. Since the evolution of legalized midwifery in Canada, CNA has issued no further statements.

Table 1

The Status of Midwifery in Canada

Province	Legislation	Education	Scope of Practice	Model of Care	Number of Practicing Registered Midwives
British Columbia	1995 Autonomous self-regulated profession Funded services fully integrated in provincial health care system Regulatory body is College of Midwives of BC	4-year Baccalaureate program at UBC PLAR process in place	Provide full primary care through continuum of ante-intra, and postpartum focusing on normal birth Order diagnostic tests, prescribe medications and admit to hospital Can consult and refer to specialists	Midwives are independent practitioners Principles of practice include: · continuity of care (a limited number of midwives are involved in care to ensure continuity) · partnership with clients · single and group practice · providing choice of birthplace	74 practising as of July 2003
Alberta	1998 Autonomous self regulated profession Regulated by Midwifery Health Disciplines Committee of Alberta Government		Provide full primary care through continuum of ante-intra, and post partum Order diagnostic tests, prescribe medications and admit to hospital Can consult and refer to specialists	Midwives are independent practitioners in primarily group practice but some are single practitioners Provide choice of birthplace	16 practising midwives at last count

Province	Legislation	Education	Scope of Practice	Model of Care	Number of Practicing Registered Midwives
Saskatchewan	<p>1999 legislation developed but has not been proclaimed or enacted</p> <p>As yet, no regulatory body but a transitional council until numbers sufficient</p> <p>No credentialing or assessment process at this time</p>	<p>No education programs as yet</p> <p>No PLAR process in place</p>			
Manitoba	<p>2000</p> <p>Regulated by the College of Midwives of Manitoba</p>	<p>Baccalaureate program planned at U of M</p> <p>May also be educated in apprenticeship programs approved by the College of Midwives of Manitoba</p>		<p>Midwives are employed by regional health authorities</p> <p>Model of care based on:</p> <ul style="list-style-type: none"> · principles of autonomy · community input · continuity of care · informed choice and choice of birth setting · two attendants at each birth · collaborative care 	<p>Approximately 40</p>

Province	Legislation	Education	Scope of Practice	Model of Care	Number of Practicing Registered Midwives
Ontario	<p>1993 legislation passed – first province in Canada to legislate and fund midwifery</p> <p>Funded services through Ontario Ministry of Health</p>	<p>4-year baccalaureate degrees offered at Laurentian, Ryerson, and McMaster universities</p> <p>A 1-year bridging program for internationally trained midwives is also available through Ryerson (the International Midwifery Pre-Registration Program)</p>	<p>Provide full primary care through continuum of ante-intra, and post partum focusing on normal birth</p> <p>Order diagnostic tests, prescribe medications and admit to hospital</p> <p>Can consult and refer to specialists</p> <p>Most women under the care of a midwife do not see a physician</p>	<p>Model similar to that of B.C., which adopted Ontario’s model</p> <p>Midwives practice in group practices, but a limited number of midwives are involved in the care of each woman</p> <p>Model is based on principles of informed choice, choice of birthplace and continuity of care</p>	<p>267 registered midwives</p> <p>Approximately 40 new midwives are added every year</p>
Quebec	<p>Legislation was passed in 1999 following a 5-year pilot project</p> <p>Midwives licensed in the project were accredited</p> <p>Funded Services under Medicare</p> <p>L’Ordre des sages-femmes du Québec is the licensing body</p>	<p>Université du Québec à Trois-Rivières offers 4-year baccalaureate program</p> <p>PLAR process and mandatory internship</p>		<p>Midwives are autonomous professionals but practise only in birthing centres currently, although legislation allows for hospital births</p> <p>Midwives carry own caseload and provide backup to others</p> <p>Homebirths currently being negotiated with government</p>	<p>55 practising midwives plus additional traditional aboriginal midwives working in Northern Quebec</p>

Province	Legislation	Education	Scope of Practice	Model of Care	Number of Practicing Registered Midwives
New Brunswick	No legislation, but according to Midwives Association of NB there no law prohibiting midwifery			A few midwives practise in NB without benefit of legislation and regulation	
Nova Scotia	No legislation and no other information available				Midwives Association of Nova Scotia lists 2 midwives on their website
Prince Edward Island	No legislation or funding for midwifery services in Prince Edward Island There are midwives who provide home birth services but midwives are restricted from practising in hospitals Government argues there is no demand for the services				

Province	Legislation	Education	Scope of Practice	Model of Care	Number of Practicing Registered Midwives
Newfoundland	<p>1920 Midwifery legislation was passed and remains on the books</p> <p>There is still a special agreement between the Department of Health, the Newfoundland Medical Board, and the Association of Registered Nurses of Newfoundland, that enables midwives who are nurses employed by the two Health Boards in the northern area to practise midwifery</p> <p>In 1999, government appointed a Midwifery implementation committee to provide advice on development of midwifery legislation</p>	<p>After the legislation was introduced the Department of Health trained midwives in a short 2-month course at the Salvation Army Grace Hospital in St. Johns until about 1960</p>			

Province	Legislation	Education	Scope of Practice	Model of Care	Number of Practicing Registered Midwives
NW Territories and Nunavut	<p>2003 midwifery legislation introduced in Nunavut</p> <p>A Midwifery Implementation Committee is developing regulations and standards for practice</p> <p>A caveat in the legislation will permit midwifery only in “designated communities”</p>				11 practising members (not yet registered) of the Midwives Association of NWT and Nunavut
Yukon	<p>Midwifery currently unregulated and unlegislated</p> <p>The current government, on election, promised to regulate and fund midwifery under the Health Professions Act but nothing has been heard since then</p>			<p>There is a freestanding birthing centre in Whitehorse owned and operated by a midwife</p> <p>Two midwives associated with the centre attend out of hospital births and are privately reimbursed</p>	2 midwives mentioned on website

4.2.1.1 *Regulation of Midwifery in Canada*

Midwifery is regulated in those provinces that have introduced and implemented legislation, providing the regulatory body with the authority to set standards for practice, approve educational programs, govern admission into the profession, and discipline members. Midwifery is a self-regulating profession in most of the Canadian provinces that have implemented midwifery. The exception is Alberta, where the regulatory body is not a college of midwifery, but a departmental committee within government. The regulatory body in those provinces in which midwifery is legalized have developed prior learning assessment processes to determine whether midwives who have been in practice or have been educated elsewhere have the competencies to be registered in that province. For the most part, the implementation of midwifery as a regulated profession has meant that government provides funding for services. Again, the exception is Alberta where midwifery is privately funded. In those provinces in which midwifery is not legalized, midwives are in private practice, which means that there is limited access to their services.

In B.C., which has a process similar to that of Ontario and Manitoba, all foreign-educated midwives must go through the prior learning and experience assessment process. The standards of the midwifery colleges in Canada are rigorous and nurse-midwives from other countries often have to do some additional coursework or supervised practice to ensure that they meet the Canadian standards. For example, the College of Midwives of British Columbia notes on its website that even master's-prepared nurse-midwives from the U.S. may not meet the B.C. standards because they may not have sufficient home birth delivery experience, or may not have provided continuity of care throughout pregnancy and postpartum. Many nurses from direct entry programs in the U.S. may not have had any hospital delivery experience.

Midwifery practice in Canada focuses primarily on normal pregnancy and delivery. Midwives provide primary care to healthy pregnant women and their newborn babies from early pregnancy through labour and birth, up to six weeks post partum. Detailed standards of practice, clinical practice guidelines, and guidelines for physician consultation guide practice in all provinces where midwifery is regulated. Midwives can order diagnostic tests and prescribe medications related to managing pregnancy, labour, and delivery, and the health of the mother and newborn following delivery. There is a great deal of consistency across the provinces of British Columbia, Manitoba and Ontario in terms of standards of practice, scope of practice, competencies and clinical practice guidelines.

4.2.1.2 *Midwifery Education in Canada*

As noted in Table 1, midwifery education has only recently begun in Canada. The approved midwifery programs in Canada are four-year baccalaureate programs often referred to as “direct entry” programs. This means that anyone wishing to become a midwife can enter the program directly. Registered nurses are welcome to apply to these programs as are graduates from any other field of study. There are currently no post-basic nurse midwifery education programs in Canada that we have been able to identify. In contrast, midwifery programs in other countries offer post-basic nurse midwifery education programs (e.g., U.K., U.S., Australia), although there is an international trend toward the development of direct entry educational programs as is the case in Canada. In some countries, midwives may also be trained in an apprenticeship model. Prior to

legalization in most developed countries, apprenticeship models were common, and they remain common in developing countries.

4.2.2 Midwifery in the United States

In the United States, midwifery is practised either by certified nurse midwives or by direct entry midwives. Direct entry midwives include certified midwives and certified professional midwives, which means they have attended an approved educational program and have been certified by one of the national certifying bodies. In the U.S., direct entry also includes lay midwives, who are generally educated in an apprenticeship model. Lay midwives may become certified by going through a prior learning assessment process with one of the certifying bodies. The vast majority of midwives in the U.S., however, are nurse midwives.

4.2.2.1 Nurse Midwifery in the United States

The American College of Nurse-Midwives' (ACNM) definition of nurse midwifery is similar to the ICM definition of midwifery but includes a statement that nurse-midwives are educated in the two disciplines of nursing and midwifery, thereby acknowledging midwifery as a separate discipline.

The ACNM defines a Certified Nurse Midwife (CNM) as:

...an individual educated in the two disciplines of nursing and midwifery, who possesses evidence of certification according to the requirements of the American College of Nurse-Midwives, (American College of Nurse-Midwives, 2004) specifically registered nurses who have graduated from a midwifery education program accredited by the CNM Division of Accreditation and have passed a national certification examination administered by the ACNM Certification Council, Inc. (American College of Nurse-Midwives & American College of Obstetricians and Gynecologists, 2002).

The American College of Nurse Midwives takes the position that midwifery is an independent practice not defined by place of employment, an employee-employer relationship, requirements for physician co-signature, or the method of reimbursement for services (American College of Nurse-Midwives, 1997).

4.2.2.2 History of Midwifery in the United States

In the U.S., midwifery almost completely disappeared at the turn of the 20th century as it was taken over by obstetrical medicine. It began a resurgence, however, in the 1920s and 1930s through an alignment with nursing and public health (Kennedy, Rousseau & Low, 2003), and the establishment of the Frontier Nursing Service in Berea, Kentucky (Safriet, 1992). The first nurse midwifery education program was established in 1932 in New York City. As the numbers of nurse-midwives increased in the U.S., they organized nationally within the public health nursing association until the merger of that association with other national nursing organizations. In the merger, nurse midwives were denied their request to maintain a separate and autonomous section thereby initiating tension between the two groups that continues to affect interactions between them to this day (Dawley, 2003).

In the 1970s, the American Nurses Association embraced nurse midwifery as an extension of nursing practice. This permitted regulation of nurse midwifery under the nurse-practice acts of most states, even though nurse-midwives were not explicitly named in the statutes and their practice was effectively invisible. Dawley (2002) argues that given the historical tension between nursing and nurse midwifery, and the movement within the U.S. toward certification and regulation of direct entry midwives, the central task facing nurse-midwives today is to redefine their relationship with both nursing and midwifery.

Currently, the majority of midwives in the U.S. obtain their basic qualifications in nursing and obtain a post-basic certificate in midwifery leading to certification as a certified nurse-midwife (CNM) through the American College of Nurse-Midwives. Close to 70 per cent of nurse-midwives achieve a master's degree and five per cent have doctorates (Kennedy, Rousseau, & Low, 2003). CNMs attend 95 per cent of all births attended by midwives. Between 1989 and 1997, CNM-attended births increased from 3.6 per cent of all births to seven per cent. All of that increase comes from births attended in hospitals. The proportion of births attended by other midwives is about .3 per cent (Rooks & Ernst, 1999), but this is likely to increase with the development of national standards, certification, and program accreditation for direct entry midwives. The vast majority of home births are conducted by direct entry midwives, although some home births are attended by nurse-midwives. Thus, in the U.S., there are clear differences in the focus of practice for direct entry midwifery and nurse midwifery.

4.2.2.3 Regulation of Nurse Midwifery in the United States

In the U.S., nurse midwifery practice is legal in all 50 states and the District of Columbia (American College of Nurse-Midwives, 2004; Reed & Roberts, 2000). CNM practice settings include hospitals, birthing centres, and ambulatory care settings (American Association of Colleges of Nursing, 1996). Although some CNMs do assist with home births, the majority do not. Fully 42 states grant Boards of Nursing primary authority to regulate CNM practice (Reed & Roberts, 2000).

Thirteen states and the District of Columbia require health benefit plans to provide direct access to CNMs, while four states and the District Columbia require health plans to recognize CNMs as primary care providers (American College of Nurse-Midwives, no date a). Forty-eight states, the District of Columbia, American Samoa, and Guam provide CNMs prescriptive authority (American College of Nurse-Midwives, no date b); Reed & Roberts, 2000). However, CNMs often are denied the right to admit and discharge patients autonomously and to have access to privileges without going through the authority of a physician (Vann, 1998). In 12 states, physician supervision and/or direction is required for some or all aspects of CNM practice, but the majority of states use the phrase "consultation, collaboration and referral" to specify the type of relationship that is expected between CNMs and physicians (Reed & Roberts, 2000).

Continuing education is sometimes required in the U.S. A total of 33 states require such education for CNM renewal. Ten states require continuing education for CNMs who seek to renew their prescriptive authority (Reed & Roberts, 2000).

4.2.2.4 *Direct Entry Midwifery in the United States*

In the U.S., direct entry midwifery encompasses midwives who were educated in apprenticeship models through to degree-prepared midwives in accredited programs. As noted above, the proportion of midwives in this category is very small, but is likely to increase.

Myers-Ciecko (1999) provides an excellent overview of the emergence of the direct entry (DE) midwife in the U.S. As described earlier, the number of DE midwives declined in the U.S. during the first half of the century. They re-emerged in the 1960s and 1970s in response to public demand for home birth support. Because very few physicians or nurse midwives were willing to attend home births, women who wanted an alternative to the “medicalized” childbirth typically found in hospital settings turned to each other for support. These women learned from each other, from the experience of observing and participating in home births, and from reading the childbirth literature. Schools of midwifery also emerged but these were of variable type and quality.

Women who had experienced home births formed consumer organizations or joined with midwives to form state midwifery associations. Recognizing the benefit of a national voice, the Midwives Alliance of North American was formed in 1982. This organization adopted standards of practice in 1985, created a board in 1987 to examine midwives, and adopted core competencies in 1991. The examining board later incorporated separately as the North American Registry of Midwives (NARM) to set standards for and evaluate competency for practice. NARM is committed to identifying standards that preserve the unique, women-centred forms of practice that are shared by midwives attending out of hospital births (Myers-Ciecko, 1999). Midwives who complete the certification process are entitled to use the title “Certified Professional Midwife” (CPM).

The Midwifery Education Accreditation Council (MEAC) was established to accredit direct entry educational programs. Thus direct entry midwives are represented by a national professional organization (MANA), are certified by an examining board (NARM), and graduate from schools approved by an accreditation council (MEAC). Direct entry midwives who do not graduate from approved schools can still be certified by MARN going through a prior learning assessment process in which they produce a portfolio to demonstrate that they have the requisite knowledge, skills and experience. They must also pass a written exam and skills assessment.

A subtle difference between direct entry and nurse midwifery is that the core values of DE midwives have been influenced and informed by serving women who choose to give birth at home. DE midwives, regardless of educational background, share a philosophy that emphasizes wellness, holistic and individualized care and egalitarian partnerships between midwives and the women they support. Midwives are motivated by a desire to avoid iatrogenic consequences of hospitalization and potential obstetrical interventions. It is easy to imagine how the practice of midwifery might be different in the home compared to the hospital with its medically dominated power structures – thus the differences in the practice of CNMs and DE midwives.

4.2.2.5 *Regulation of Direct Entry Midwifery Practice in the United States*

There are over 1,000 direct entry midwives in the United State who are licensed in 16 states where they are regulated by the North American Registry of Midwives. In addition, there are 13 states in which midwifery practice is legal but unregulated, and another five states in which statutory

provisions for DE midwives are not clear. DE midwifery is effectively prohibited in seven states and legally prohibited in 10 states (Myers-Ciecko, 1999).

As noted in the previous section, direct entry midwives can be certified either through the ACNM which certifies CNMs and CMs, or NARM, which certifies CPMs. The availability of funding for DE midwives is less certain than for CNMs, in part because there are fewer of them. In states that regulate DE midwives, there are often some provisions for funding. In Washington state, for example, the state Medicaid program provided funding after a birth centre licensing law was adopted in 1986, but this meant that midwives were only compensated for pre- and post-natal care if the birth took place in a birthing centre. In 1993, some private insurance carriers were required by law to provide for reimbursement for every category of licensed professional, including licensed midwives (Myers-Ciecko, 1999). Not all states, however, make funding available. And, of course, only women who are insured, either privately or through Medicaid, would be eligible for funded midwifery care.

4.2.2.6 *Midwifery Education in the United States*

In the U.S., CNMs have an average of one and one-half years of specialized education beyond nursing school, either in an accredited certificate programs or, increasingly, at the master's level (American Nurses Association, 2002). There are over 40 accredited nurse midwifery programs; four of these are post-baccalaureate certificate programs and 39 are graduate programs (Dorroh & Kelley, 2000). Over two-thirds of CNMs have a master's degree and slight less than five percent have a doctoral degree (American College of Nurse-Midwives, 2004)

The American College of Nurse-Midwives has developed core competencies for basic midwifery practice and these competencies are intended to guide curriculum development in accredited schools (American College of Nurse-Midwives, 1997). It should be noted that the American College of Nurse Midwives officially opposes mandatory master's degree requirements for licensure as a CNM or certified midwife (American College of Nurse-Midwives, 1998). In part, this position was taken because the ACNM certifies direct entry midwives that meet their competencies and accredits programs that meet their standards. It would be difficult for an accrediting body to require a master's degree of one group of members and not of another. ACNM's position is based on the fact that there is no evidence of differences in exam scores between CNMs and CMs (Rooks & Ernst, 1999).

Direct entry programs vary considerably, although programs that are accredited by either the ACNM or MEAC tend to be more standardized. The first direct entry program to be accredited by the ACNM was developed at the State University of New York Health Science Center at Brooklyn, and offered in the 1996-97 academic year. It was the same length as the program for registered nursing students who were also admitted to this program. All DE students had a baccalaureate degree on entry and took an additional basic health skills course beyond what was expected of RN students. All RN students also had a degree. Evaluation results demonstrated that there was no difference in academic performance between RN and DE students and that the DE students acquired entry-level midwifery competencies at the same pace as their nurse peers and consonant with the expectations of practice settings (Fullerton, Shah, Holmes, & Roe, 1998).

We were unable to locate information on the number of direct entry programs that are now accredited by either ACNM or MEAC.

4.2.3 Midwifery in Other Countries

It is not possible to discuss the status of midwifery as a separate profession in all countries around the world. Thus, the status and development of midwifery in selected countries is reviewed briefly. Countries were selected to demonstrate varied experiences but we were limited in our selection by the availability of information.

Direct entry midwifery is emerging or re-emerging in many countries worldwide. In the U.K. for example, recent changes have meant that midwifery can be accessed through what is called the degree route (direct entry) or the diploma route (post-nursing) (Royal College of Midwives, 2004). Direct entry is now the main route of entry to midwifery in the U.K. and rigorous evaluation demonstrating effectiveness of direct entry education and practice supports this decision (Fullerton, Shah, Holmes, Roe, & Campau, 1998). Midwifery in the U.K. is regulated by the Nursing and Midwifery Council which regulates both nursing and midwifery.

Direct entry midwifery programs of three or four years duration are the main route of entry to midwifery in many European countries, including France, Germany, Denmark, Belgium, Switzerland, and Netherlands. In fact, in these countries, direct entry has been the only route to enter practice since midwifery was first regulated.

In Peru, midwifery is a recognized profession that has existed since 1826. Lima was the first South American city that had a teaching centre for training midwives. Midwifery in Peru has always been a profession separate from nursing, and midwifery education was based in universities much earlier than nursing in that country. From the beginning of the profession in Peru, midwives practised autonomously and independently with prescriptive authority and the right to engage in private practice (Neglia, 2003).

In New Zealand, legislation has been passed to permit direct entry midwifery and the provision of autonomous, publicly funded midwifery services. Five universities in New Zealand now offer three-year direct entry programs that lead to a university level diploma.

In Australia, as noted above, a comprehensive review has just been completed of midwifery education in that country on the basis of concerns raised about the cost effectiveness, quality and inconsistency of nurse midwifery education and the shortage of midwives. In that country, it takes a student approximately five years to complete midwifery education when considering the length of post-basic nurse midwifery certificates plus the basic nursing education. In the end, many graduates of the midwifery certificate programs go on to practice nursing rather than midwifery. The cost effectiveness of this, given the shortage of midwives, has been called into question, in light of the experience of direct entry midwifery internationally and the evidence of the effectiveness of direct entry programs in producing competent midwives. Furthermore, new models of midwifery care related to providing continuity of care and care in birthing centres had not been explicitly integrated into the education programs in Australia.

In the Australian review, considerable inconsistency was found nationwide in terms of the regulation and education of nurse midwives. There are major differences among states related to the entry requirements, awards granted, and the length and quality of programs. It was noted that nurse midwives educated in Australia are seriously disadvantaged if they want to work abroad because they encounter difficulty registering to practise in other countries without taking additional

course work or completing supervised practice experiences. Many of these nurses who have taken midwifery education might choose not to practise as midwives.

Prior to the transfer of midwifery education to the university sector in 1992, midwifery education in Australia took place in hospital programs. The current inconsistencies in midwifery education were apparently exacerbated by the move to universities. In the 2002 review, 27 universities in Australia were identified as providing midwifery education leading to authorization to practise as a midwife. Twenty-two of the 27 programs result in a post-basic diploma or certificate. Two programs result in a degree in midwifery and three result in master's degrees in midwifery. All of these programs required applicants to be registered nurses, and most require some experience in nursing but there is considerable variability.

On the basis of the evidence reviewed by the government (2002) about the quality of direct entry midwifery programs in other countries, and the international trend toward direct entry, recommendations have been made to expand direct entry degree programs in Australia and some programs have been initiated. The Australian Nursing Federation (ANF), however, does not support the separation of midwifery into a separate profession, nor does it support direct entry midwifery programs (Illife, 2000). It also does not support separate legislation for midwifery on that basis that it would be necessary to demonstrate the current mechanisms to protect the public are not working.

According to the Australian government's review (2002) of midwifery education in Australia, in which it considered the status of midwifery internationally, it appears that whenever governments decide to provide publicly funded continuity of care and the opportunity to give birth at home, direct entry midwifery is the preferred alternative. In those countries in which childbirth is highly medicalized and births take place primarily in hospitals, then nurse midwifery is more likely to have evolved.

4.2.3.1 Regulation of Midwifery in Other Countries

In its framework for midwifery legislation, the International Confederation of Midwives (ICM) (2002) acknowledges that midwifery practice is legislated in some countries through specific midwifery legislation, while in others it is legislated through nursing legislation. The ICM takes the position that nursing legislation is inadequate to regulate midwifery practice. This position is consistent with the findings of a review of midwifery education in Australia carried out in 2002 (Australian Government Department of Education, Science and Training, 2002). It is also consistent with problems identified in the United States (Rooks & Ernst, 2002). The problem is that when midwifery is regulated within a nursing framework, it is often rendered invisible within nursing. Furthermore, the nursing practice acts may not define or describe midwifery appropriately, or set appropriate standards for midwifery education and practice. The regulation of midwifery may also be controlled by nurses who do not understand midwifery, its philosophy, or scope of practice. Often, nursing bodies regulate midwifery without any representation by midwifery at all.

Such legislation may well be appropriate when the majority of midwives are nurses, but with the expansion of direct entry midwifery, regulation under nursing legislation is increasingly problematic and inappropriate. For example, accreditation of education programs under nursing regulations means that nursing rather than midwifery standards are used. In such circumstances, it would be necessary to demonstrate, for example, that courses and programs have a nursing

focus and that qualified nurses teach them. Similarly, in our search, we could find no evidence that would justify the position that nurse-midwives, rather than DE midwives, are in the best position to be the primary providers of midwifery care. In fact, the evidence appears to contradict this assertion and goes against an international trend toward the incorporation of DE midwives into the health care systems of countries around the world (Australian Government, Department of Education, Science and Training, 2002).

It appears that the previous and current positions of nursing associations around the world that midwifery not be regulated separately from nursing may be more related to protecting the interests of the profession than those of the public, particularly now that direct entry programs are meeting approved standards and evidence is mounting that DE graduates are practising as competently as nurse midwives (e.g., Fleming, Poat, Curzio, Douglas, & Cheyne, 2001; Kennedy, Rousseau, & Low, 2003). As direct entry programs are developed, implemented, and publicly funded in countries around the world, access to midwifery care for women is greatly enhanced and this is an important aim of both midwifery and nurse midwifery. In our view, it should also be an important aim of professional nursing organizations given that 600,000 women die in childbirth per year internationally and that “safe motherhood” around the world has been linked to the legalization of midwifery in its various forms (Thompson, 2003).

4.2.4 Nurse Midwifery as Advanced Nursing Practice

As far as we are aware, the only country in the world that has explicitly recognized nurse midwifery as a form of advanced nursing practice is the United States, where certified nurse midwifery is one of four recognized and regulated APN roles (Hamric, Spross & Hanson, 2005; Joel, 2005). Of the four roles, nurse midwifery is somewhat different than the others. Kommenich (2005) comments that nurse midwifery in the U.S. is a unique professional discipline that has both an identity as a specialty practice within nursing and an identity within the discipline of midwifery internationally. She argues that this contrasts with other APNs who have only one identity as a specialty within nursing and advanced nursing practice, and not another identity with another profession or discipline. We would argue, however, that CRNAs have identities as both nurses and anesthesia providers and that this is similar to the situation experienced by nurse midwives.

Of all the advanced practice nursing roles, however, the CNM is the most difficult to distinguish with respect to a unique set of characteristics and competencies that distinguishes advanced practice by the nurse midwife from the practice of other practitioners. In the other three ANP roles (CNS, NP, and CRNA), one point of comparison often used is physician practice, so it is straightforward to demonstrate how nurses functioning in these roles provide care that is “more than” and “different from” the care provided by physicians doing many of the same things. The nursing knowledge and perspective brought to the role is identifiable, as noted in the discussion above on the CRNA role. With nurse midwifery, it is also straightforward to demonstrate how their practice is very different than that of physicians and obstetricians. Considerable research has been done to demonstrate the benefits of nurse midwifery as compared to obstetrical medical practice. It is quite another matter to demonstrate how nurse midwifery practice is unique in comparison to that of the new breed of direct entry midwives, or to identify the unique nursing knowledge base in nurse midwifery practice. We were unable to locate studies that explicitly compared midwives and nurse midwives in terms of health outcomes for women.

Kommenich (2005) points out that the ACNM has taken leadership in formulating standards for education and practice that reflect the differences between nurse-midwives and traditional midwives. These differences are clear with respect to many lay midwives; however, as we pointed out above, ACNM now certifies direct entry midwives who are able to demonstrate the requisite knowledge and skills for midwifery certification, and ACNM also approves direct entry educational programs. The same standards for education and practice apply to both CNMs and CMs. When questioned about how the ACNM could accredit a program designed for individuals who were not first nurses, “the ACNM responded that this would require identification of all the relevant knowledge, skills, and competencies that nurses bring to nurse midwifery education, and that those essential competencies would be acquired by completion of the midwifery education program” (Kommenich, 2005, p. 10). Dorroh and Kelley (2005) point out that the ACNM’s core competencies are consistent with the core competencies of advanced nursing practice. If these two statements are true, then how is it possible to distinguish a unique nursing knowledge base and a unique advanced practice by nurse midwives that would not also be shared by non-nurse midwives?

In fact, there is a basic philosophical difference with respect to nurse midwifery as advanced nursing practice between organized nurse midwifery and advanced practice nursing in the U.S. Because the ACNM defines the CNM as a person educated in the two disciplines of nursing and midwifery, new graduates are viewed by ACNM as beginning level practitioners of midwifery, not advanced practice nurses. In contrast, the profession of nursing in the U.S. views midwifery as an area of specialization and advancement of nursing practice. Dorroh and Kelley (2005) argue that the ACNM’s position on credentialing certified midwives makes it difficult for the organization to advocate for master’s level education for nurse-midwives and thus midwifery is diverging from the vision of APN advocated by the profession of nursing.

The answer to the question posed above may lie in the fact that CNMs are primarily prepared at the graduate level, whereas direct entry midwives are not – although there are certainly some master’s prepared DE midwives. In general, graduate education provides practitioners with greater depth and breadth in their research knowledge, skills, and ability to integrate evidence into practice than undergraduate degree programs. It seems reasonable to hypothesize that advanced practice CNMs would have more sophisticated knowledge and skill in carrying out research and using it in practice. We do not, however, have evidence to support this hypothesis.

In the study by Pauly et al. (2004), nurses with master’s degrees in nursing and master’s degrees in other disciplines did have different understandings of advanced nursing practice and had a broader systems focus in their practice than nurses with undergraduate degrees. It seems reasonable to assume that graduate prepared midwives (nurses or otherwise) are more likely, on average, to have more sophisticated critical thinking skills and a broad systems perspective relative to midwives and to nurse-midwives without graduate degrees. Greater depth and breadth of knowledge in midwifery develops over time, as midwives become more experienced and continue to develop their knowledge base in practice. The International Confederation of Midwives, for example, in their review of core midwifery competencies, identifies those that are “basic” level competencies, and those that are additional competencies (Fullerton, Serverino, Brogan, & Thompson, 2003).

Another thing that may help to distinguish the knowledge base and practice of certified nurse midwives from certified midwives and certified professional midwives is that the current scope of practice of nurse midwifery in the U.S. has been expanded from prenatal, intrapartum, and newborn

care to incorporate primary care of women, preconception, gynecological, contraceptive, and infertility care. This expansion has resulted from consumer demands for access to these services (Dorroh & Kelley, 2005), particularly in a country in which millions of people are uninsured and do not have access to primary care services. American CNMs in the 1990s began to provide care to women in hospitals with relatively high risk pregnancies, in collaboration with obstetricians. Nurse-midwives in other countries are also involved in providing care to women at high obstetrical risk (Berg & Dahlberg, 2001). These expanded aspects of care clearly fall within the scope of nursing practice but are not incorporated into the core competences of midwifery, which focuses on normal pregnancy. It is in this area of nursing within the nurse-midwife role that there is scope for defining advancement in nursing knowledge and practice.

It is apparent that the setting of practice and the nature of the practice in particular settings may help to distinguish CNMs from direct entry midwives. In addition to the increasing focus by CNMs on high-risk pregnancy, a great deal of creativity is required to enact the midwifery model and philosophy of care in the hospital setting (Kennedy, Rousseau, & Low, 2003), given the structure and organization of hospitals and the dominance and power base of physicians in those settings. This may well be an important feature of advanced practice in those settings and graduate preparation would be more likely to provide nurse-midwives with the leadership skills necessary to negotiate and advocate for women in that setting.

Other characteristics and competencies of advanced nursing practice, as identified by the CNA Framework are more difficult to distinguish in nurse-midwives compared to midwives. Client education and advocacy have been identified by Dorroh and Kelley (2005) as cornerstones of advanced practice in nurse midwifery. Based on the CNA framework, we would add that analyzing and influencing policy is also an important cornerstone of advanced practice. While clearly evident in nurse midwifery practice, these hallmarks are also evident in the practice of direct entry midwives. In fact, arguably midwifery has been particularly effective in its advocacy and change agent roles for women in achieving greater choice in and access to childbearing options around the world. With respect to influencing policy and legislation, it is clear that in Canada midwives have been particularly effective in their efforts to influence policy, having achieved the legislation, regulation, and implementation of midwifery, in the face of opposition from professional nursing and medical bodies. Thus, these particular hallmarks of advanced practice do not serve to distinguish nurse midwifery from midwifery.

Similarly, independence and autonomy, which are important characteristics of advanced nursing practice, do not distinguish nurse midwifery from midwifery. Both are independent and autonomous in their roles. In fact, a study in Britain suggested that DE midwives there were better able to practice autonomously when compared to nurse-midwives. For the most part, however, these nurse-midwives were not necessarily educated at the graduate level. It is possible that greater autonomy and independence in practice might be facilitated by an advanced level of education.

Overall, it is not difficult to see that certified nurse midwives are able to demonstrate the characteristics and competencies of advanced nursing practice as defined in the CNA framework. The CNA position is that it is not the knowledge and skills drawn from other disciplines that defines advanced nursing practice, but rather the nursing knowledge and skills. Thus, the expansion of CNM practice into areas of care that are not provided by midwives makes it possible to define CNM practice as advanced, according the CNA framework.

5.0 Opportunities and Challenges

Schreiber et al. (2003) found that a number of converging trends can lead to the initial development of advanced nursing practice and other nursing roles. These are physician shortages, gaps in service, and a welcoming political climate.

Physician shortages can provide the opportunity for new nursing roles to develop. As is the case with other health professions in Canada, physician numbers have waxed and waned over the decades, and the current shortage, which emerged in the past decade, appears to be the worst. Unlike previous shortages, the demographics of the aging and retiring baby boomer cohort compound the problem. Although some short term attempts at health human resource planning have been undertaken, to date these have not been sufficient to provide long term stability in the health care workforce in Canada, leaving it open to political manipulation. In the U.S., where human resource planning is less apparent, physician shortages have become increasingly chronic, and applications to medical schools have fallen significantly for each of the past five years (Pearson, 2002).

Such shortages in the past have promoted development of ANP roles; in some instances (e.g., CRNAs and other nurse anaesthetists, RNFA) physicians directly sought ways of extending health care services in the absence of perceived sufficient physician numbers. These physicians approached nurses, nursing bodies, and agencies to seek opportunities to collaborate in expanding the nursing role by training nurses to take on many of the skills usually performed by physicians. This is what seems to be happening in some of the European countries in terms of anaesthetic nurses, and in the U.K. in terms of nurse endoscopy. In Canada, one of the early impacts of physician shortages was seen in decreased numbers of residents training in neonatal intensive care units (NICU), who, although present in hospital primarily to learn, provided a good deal of patient care in this setting. Thus, the CNS-NP role in the NICU at McMaster originated as a way of training nurses to replace residents directly while maintaining the level of service provided in the unit. Physician shortages could create a niche that ANP or other nursing roles might grow into over the years.

At the same time, it would be necessary to address concerns within the Canadian nursing community with regard to the perception of physician replacement. Direct physician replacement has been somewhat controversial within the nursing community, and the claim has been made, with justification, that the addition of skills normally performed by physicians is not what defines ANP (Bullough, 1995; CNA, 2002). To the degree that ANP is defined solely by roles overlapping with medicine, it remains controversial within nursing. The extension of the boundary of nursing into other disciplines might be seen as a hallmark of extended-expanded practice rather than of ANP. Schreiber et al. (2003) found, however, that advanced nursing practice roles often include skills or medical (controlled or reserved) acts outside the legally defined, traditional scope of practice for RNs. It has long been recognized that medicine and nursing share areas of overlapping practice (Gunn et al., 1987). For example, as far back as 1970, the American Medical Association Committee on Nursing published a statement in which the authors declared that a particular function performed by a physician was the practice of medicine, and when it was performed by a nurse, was the practice of nursing (AMA, 1970). Promoting this notion of overlapping practices might help nurses and other health professionals comprehend the different natures of advanced and / or extended-expanded nursing practice.

Data from a study by Schreiber et al. demonstrated growing recognition that advanced practice nursing differs from physician practice in key ways (Schreiber et al., 2003). Further, it must be recognized that, although not well publicized, expanded nursing roles overlapping with those of physicians have been documented throughout the 20th century in the U.S., and include nurses working in public health, clinics, and settlement houses (Buhler-Wilkerson, 1993; Bullough, 1995; Noonan, 1972; Siegel & Bryson, 1963). Thus, the development of the NP role in Colorado in 1965 was not new, but represented a re-emergence of an older nursing role (Bullough, 1995). In addition, although it appears that physician replacement and enhancement provided opportunities for development of ANP roles that might not have otherwise emerged, the APNs work in these roles as nurses rather than physicians, and are recognized for their nursing expertise.

With respect to gaps in services, nurses have always been involved in developing new roles and job descriptions to meet the needs of particular groups for whom services were not available. Currently existing ANP roles often developed in response to such gaps in service. This has been particularly true of the NPs working in remote and northern settings and with vulnerable and marginalized populations. It has also been true of nurse midwives. In a similar vein, Schreiber et al. (2003) found that acute care nurse practitioners were able to provide health care services that were not previously available, and fill a gap in services. In a tertiary oncology centre, acute care nurse practitioners created a symptom management clinic to help patients manage the side effects of radiation and chemotherapy, something that physicians were not doing. These ANP roles might be considered an indirect form of physician replacement; however, it must be remembered that no physicians previously provided this care. In this way, the roles might be considered physician enhancement. In the B.C. study on ANP (Schreiber et al., 2003), nurses in many of the unique and interesting roles saw a gap in services for particular populations and took the leadership to create a role and engage in practice that addressed the particular health concerns of those populations. Not all of these were advanced roles, but clearly provided needed services and had the potential to develop over time into advanced practice.

At the same time, it is important to recognize that physician shortages and gaps in service, in and of themselves, would have been insufficient to create and develop ANP and other nursing roles. In all situations in which ANP and other nursing roles have evolved, there was also prevalent a welcoming political climate at the time at various levels of influence, that fostered and facilitated the development and implementation of the roles and the related educational programs. Although there was considerable variation among the roles discussed in this paper, it is clear that these roles will not be fully developed without the political will to support them, as the history of the NP role in Ontario demonstrates.

There may be some cost benefits to adoption of roles such as CRNA, midwifery, and nurse midwifery. When considering wages for people working in these roles, they are lower than those of physicians delivering the same service. It may, however, be short-sighted to promote such roles because they cost less. Because most CRNAs, midwives, and nurse midwives are women, this argument can be used to solidify wage differentials based largely on gender. At the same time, most of these providers are currently working in a fee-for-service system, a structure that demonstrably increases overall costs to the system (Armstrong & Armstrong, 2003; Rachlis & Kusher, 1989). From the perspective of cost control, it would be advisable to have salaried personnel providing these services, and it might well be that CRNAs, midwives, and nurse-midwives would be more willing to work this way than physicians.

The other cost issue to consider is the cost of educational preparation of the various providers. Preparation of CRNAs involves a 27 to 36-month, resource-intensive graduate program in addition to basic baccalaureate nursing education. This is undoubtedly less costly than preparation of medical anaesthesiologists, which involves four years of medical school plus a four-year paid residency in the specialty. Similar comparisons could be made between nurse midwifery and medicine. Nurse midwifery programs involve approximately 18 months of graduate work beyond the basic baccalaureate, while direct entry midwifery is usually at the baccalaureate level. Thus, the costs of preparation for nurse midwifery are actually more than for DE midwifery. And, because outcomes for uncomplicated pregnancy are comparable for the two roles, there may be no compelling cost argument to be made in support of nurse midwifery to provide care to women with uncomplicated pregnancies. Nonetheless, as discussed above, certified nurse-midwives are able to provide more comprehensive care in hospitals and birthing centres for women with some pregnancy complications.

5.1 Extended and Expanded Nursing Roles

Considering the roles discussed above more specifically, changing conditions in Canada's health care system may provide opportunities for nursing roles to develop, particularly in light of the findings of the Romanow Commission (Commission on the Future of Health Care in Canada, 2002). Extended and expanded roles, in which nurses are able to focus specifically on developing skills to expand the scope of their practice within an area of specialization, have considerable beneficial potential. As in the Schreiber et al. (2003) study, such nurses are able to meet gaps in services, such as providing assistance at surgery, which might otherwise interfere with timeliness or accessibility of care. For example, in the U.K., the role of nurse endoscopist was specifically created to address waiting lists for such procedures, and is believed to have ameliorated the problem. Further, these roles may provide career opportunities for nurses who wish to grow within their specialization without giving up their hands-on bedside care.

There are challenges in promoting extended or expanded roles, however, and these relate both to regulation and acceptance of the roles. Registered nurses currently working outside the defined RN scope of practice require the authority to do so, either through adoption of institutional protocols or through medical delegation. As discussed above, the medical profession is becoming increasingly reticent regarding delegation because of the complexity of determining accountability for the nurse's practice. Schreiber et al. (2003) found that such nurses invested considerable effort in establishing personal credibility and developing trusting relationship with physicians, which was vital in obtaining the necessary support for their practice. Without this support, the nurses were caught, unable to provide the services they felt capable of providing and which they felt were needed. An alternative to relying on protocols or delegation as a way of expanding nursing practice would be to alter current nursing regulation so that it would provide for a full scope of practice, including all regulated and controlled acts. This would involve adopting a professional practice model in which the knowledge, skills, and abilities of the individual self-reflective nurse provide the limits on his or her practice, and in which the regulatory bodies monitor practice to ensure standards are upheld. It is not clear, however, that the political will exists to permit such a broad scope for RN practice.

The other challenge in promoting extended or expanded roles relates to validation and recognition of the roles. Pauly, et al. (2004) discovered that the majority of nurses in such roles considered themselves to be advanced practice nurses because they were engaged in activities that they did not necessarily do when they were staff nurses, or they did not learn in nursing school. In some cases they were told by their employers that their role was an advanced practice role. This suggests that issues of status might be a factor, and that basic nursing is somehow not viewed as sufficiently prestigious. If so, this reflects the ongoing challenge faced by the nursing community to be recognized for the central importance of their work (Schreiber, 1994).

5.2 Advanced Nursing Practice Roles

In this report, we have discussed two nursing roles that fit with the CNA (2002) conceptualization of advanced nursing practice: the CRNA, and the advanced practice certified nurse midwife (CNM). Implementation of the CRNA role in Canada has the potential to decrease surgical waiting times, to improve pain control, and to improve access to perinatal anaesthesia services caused by an increasing shortage of medical anaesthesiologists. Because of this, it is possible that surgeons might be supportive of the role, which could result in increased operating room time available. Schreiber and MacDonald (2003) have also described the challenges related to implementation of this role, including the need for: enabling legislation; regulation; development of a curriculum; accessing the necessary expertise; funding and implementation of one or more educational programs; and creation of employment mechanisms and opportunities. In addition, cultivation of support for the role might present a challenge, particularly among physicians. Again, it would be useful to bear in mind the benefits of physician exposure to competent nurse anaesthesia provider practice in cultivating support and ameliorating possible opposition.

The introduction of advanced practice nurse midwifery in Canada would be a bit more complicated because of the fact that in several provinces a separately regulated midwifery profession currently exists in addition to the nursing and medical professions. It is not clear, based on our review and the evidence from other countries, that introduction of the CNM role in Canada will provide benefits that cannot be achieved by other means. Introduction of such a role may also increase tensions between the midwifery and nursing professions that could be detrimental to the goal of ensuring access to midwifery services for the entire population of Canada.

Existing roles that might provide care at an advanced practice level to women include the existing acute care nurse practitioner, clinical nurse specialist, and primary health care nurse practitioner roles. Family nurse practitioners (who provide primary health care along the life span), as well as acute care nurse practitioners and clinical nurse specialists who have a specialization in perinatal care and women's health, working in collaboration with midwives and physicians, could provide the full range of services and care that CNMs provide in the United States. The issue for us in Canada would not be one of access to services, as it was in the U.S. in terms of influencing the development of the CNM role. There is also nothing that precludes nurses who want to practise midwifery from enrolling in midwifery education programs. The University of British Columbia is currently exploring options for providing transfer credit to degree-prepared nurses who wish to become midwives.

Clearly, the commitment has already been made by several provincial governments to direct entry midwifery as the preferred route to midwifery care in Canada. Introducing the CNM role here would present many challenges, not the least of which would be opposition from governments. It could also risk the already progressive movement to ensure access for Canadian women to midwifery care and could damage interprofessional relationships with a profession (midwifery) that shares many of the same goals with nursing and a philosophy of practice that is shared by at least some views of nursing.

5.3 Relationships with Other Disciplines

A particular concern to be addressed is promoting cordial and collaborative relationships with other regulated health disciplines both at the organizational and the local, practice level. Good working relationships are particularly important between nursing and medicine; however, the relationships between nursing and pharmacy, midwifery, and other disciplines should be of equal concern. These are disciplines that people working in advanced practice and other nursing roles work particularly closely with, and with whom clear communication is necessary.

It is important to attend to these relationships at all levels because there can be discrepancies in perspectives that may benefit the development of nursing roles. For example, the American Society of Anesthesiologists (ASA) has campaigned to make anesthesia an all-medical practice, much to the chagrin of the American Association of Nurse Anesthetists (Gunn, 1998). The motivation for the marketing campaign is suspect, because there are no demonstrable differences in patient outcomes between medical and nursing anaesthesia providers (Schreiber & MacDonald, 2003). At the practice level, however, physicians working with CRNAs have considerable respect for, and acceptance of, the role, and physicians in teaching hospitals particularly appreciate the CRNA role, which allows the physicians to engage in research activities. It is likely that the widespread practice-based relationships of professional collegiality and trust have effectively limited the impact of the ASA marketing campaign, because nurse anaesthesia practice continues to expand in the U.S. and third-party payer limitations continue to be removed.

The potential dichotomy between inter-professional relationships at the organizational and the practice levels has been observed with regard to other ANP roles (Schreiber & MacDonald, 2003). Schreiber et al. (2003) reported that radiation oncologists had been the chief source of opposition to the introduction of the acute care nurse practitioner role in one of the study sites, yet once they were able to work next to the NP, observe her practise, and see the positive impact she was having on this group of patients, the physicians were forced to change their minds. Prior to establishment of an ANP-run symptom management clinic, the symptoms and side effects of treatment that can interfere considerably with quality of life often led patients to discontinue treatment, regardless of their prognosis. The nurse-run symptom management clinic changed this pattern, and the radiation oncologists, acknowledging the positive impact this has had on their patients and on their own practice, became the biggest supporters of the advanced practice nurses. Thus, there is much to be gained in terms of effective inter-disciplinary relationships by advanced practice nurses demonstrating their professional credibility.

A specific focus of attention is the relationship between nursing and direct entry midwifery. DE midwifery as a profession is the norm in much of the world, and is now well established in Canada.

Development of nurse midwifery as an ANP role has the potential to create turf battles and considerable inter-professional distrust both at the practice and organizational levels. Thus, pursuit of nurse midwifery should be taken with extreme caution, if at all, and only to address significant gaps in health service delivery. Whatever direction the nursing community takes with regard to midwifery, with or without development of nurse midwifery, the two disciplines will have somewhat overlapping scopes of practice, and will work closely together. It will be necessary for nursing to demonstrate considerable good will and professional respect with regard to the DE midwifery.

6.0 Recommendations

In this review, we have explored advanced nursing practice and related roles with regard to their potential applicability within the Canadian context. The role of certified registered nurse anaesthetist, advanced practice case manager, and certified nurse midwife are nursing roles that are congruent with ANP as understood in Canada. The role of nurse endoscopist, RN first assistant, and RN first call are extended-expanded nursing roles. The role of physician assistant is not a nursing role.

Nursing and health care in Canada are again at a crossroads in the development of advanced nursing practice and related roles to meet the health needs of Canadians. From this review of established and emerging roles, a number approaches for consideration are suggested for CNA.

- A. Initiate steps toward the development and implementation of the nurse anaesthesia role, beginning with a feasibility study to determine the challenges and opportunities involved.
- B. Fully support the separate profession of direct entry midwifery and join lobbying efforts to make midwifery widely and universally available across the country.
- C. Undertake consultation with midwifery organizations and practitioners to determine the merits in developing graduate nursing programs for CNSs or ACNPs in women's and perinatal health care, which may overlap somewhat with the scope of midwifery practice. Support the development of advanced midwifery education at a graduate level if this will improve access to, or quality of, services.
- D. Initiate discussions with midwifery educators regarding areas of overlap in educational programs between midwifery and nursing, with the intent of identifying course comparability and prior learning assessment to enable transfer between programs. This will allow nurses who wish to become midwives to reduce the four-year time frame of midwifery education for degree-prepared nurses.
- E. Recognize and acknowledge case management as already practised within Canadian advanced nursing practice and other nursing roles, and support it. There is no need at the present time to develop a specific case management advanced nursing practice role, although reconsideration at a future time is advised.
- F. Lobby in favour of advanced nursing practice and other nursing roles. Continue to support the optimization of the scope of practice of existing advanced nursing practice roles.
- G. Examine the extent to which current approaches to the legislation and regulation of registered nurses in Canada supports or restricts the development of new nursing roles.
- H. To the extent that there is demonstrated need, interest and resources, support the development of roles such as RN First Assistant and RN First Call. This should include standardizing the training required for these nurses, and making whatever regulatory changes will be needed to support practice. Other extended-expanded forms of practice, such as nurse endoscopy, should only be considered if there is demonstrated need, interest, and resources.

7.0 References

- American Academy of Physician Assistants. Physician Assistant Programs. Retrieved August 24, 2004, from <http://www.aapa.org/pgmlist.php3>
- American Association of Colleges of Nursing. (1996). Position statement: Certification and regulation of advanced practice nurses. *Journal of Professional Nursing*, 12, 184-186.
- American Association of Nurse Anesthetists. (2004). Dissertations and theses. Retrieved August 28, 2004, from http://www.aana.com/archives/dt_list.asp
- American College of Nurse-Midwives. (1997). Certified nurse-midwives and certified midwives as primary care providers/case managers. American College of Nurse-Midwives. Retrieved from <http://www.midwife.org/prof/display.cfm?id=99>
- American College of Nurse-Midwives. (1997). Independent midwifery practice. American College of Nurse-Midwives. Retrieved from <http://www.acnm.org/prof/display.cfm?id=120>
- American College of Nurse-Midwives. (1997). Midwifery education. American College of Nurse-Midwives. Retrieved from <http://www.midwife.org/prof/display.cfm?id=109>
- American College of Nurse-Midwives. (1998). Mandatory degree requirements for midwives. American College of Nurse-Midwives. Retrieved from <http://www.midwife.org/prof/display.cfm?id=102>
- American College of Nurse-Midwives. (2004). Basic facts about Certified Nurse-Midwives. American College of Nurse-Midwives. Retrieved from <http://www.midwife.org/prof/display.cfm?id=6>
- American College of Nurse-Midwives. (2004). Definition of midwifery practice. American College of Nurse-Midwives. Retrieved from <http://www.midwife.org/prof/display.cfm?id=101>
- American College of Nurse-Midwives. (no date a). State and federal action on primary care and direct access to obstetrical and gynecological providers. American College of Nurse-Midwives. Retrieved from <http://www.midwife.org/display.cfm?id=90>
- American College of Nurse-Midwives. (no date b). States in which certified nurse-midwives have prescriptive authority. American College of Nurse-Midwives. Retrieved from <http://www.midwife.org/prof/display.cfm?id=85>
- American College of Nurse-Midwives and American College of Obstetricians and Gynecologists. (2002). Joint statement of practice relations between obstetrician-gynecologists and certified nurse-midwives/certified midwives. American College of Nurse-Midwives. Retrieved from <http://www.midwife.org/prof/display.cfm?id=121>
- American Medical Association Committee on Nursing. (1970). Medicine and nursing in the 1970s: A position statement. *Journal of the American Medical Association*, 213, 1882.

-
- American Nurses Association. (2002). Advanced practice nursing: A new age in health care. Retrieved from <http://nursingworld.org/readroom/fsadvprc.htm>.
- Armstrong, P. & Armstrong, H. (2003). *Wasting away: The undermining of the Canadian health care system, 2nd ed.* Don Mills, ON: Oxford University Press.
- Association of Operating Room Nurses. (2004). Revised AORN Official Statement on RN First Assistants. Retrieved from: <http://www.aorn.org/about/positions/default.htm>
- Audit Commission. (1997). *Anaesthesia under examination.* London: Audit Commission.
- Australian Government, Department of Education, Science and Training. (2002). *National review of nursing education. Midwifery education.* Author: Canberra.
- Bacon, D. R., & Lema, M. J. (2002). Anaesthetic team and the role of nurses – North American perspective. *Best Practice & Research Clinical Anaesthesiology, 16*, 401-408.
- Barber, P.V., Martin, J., & O'Donnell, P.N. (2004). The development of the first nurse-led bronchoscopy post in the United Kingdom. *Respiratory Medicine, 98*(6), 504-508.
- Barton, A. J., Baramée, J., Sowers, D., & Robertson, K. J. (2003). Articulating the value-added dimension of NP care. *The Nurse Practitioner, 28*, 34-40.
- Basnyat, P.S., Gomez, K.F., West, J., Davies, P.S., & Foster, M.E. (2002). Nurse-led direct access endoscopy clinics: The future? *Surgical Endoscopy, 16*, 166-169.
- Berg, Marie & Dahlberg, K. (2001). Swedish midwives' care of women who are at high obstetric risk or who have obstetric complications. *Midwifery, 17*, 259-266.
- Bissel, G.J. (2004). The phenomenon of higher level nursing practice within neonatal units: who does it? *Journal of Neonatal Nursing, 10*(1), 21-25.
- British Columbia Ministry of Health (2002). Assess and intervene: Report to the Minister of Health on the Recruitment and Retention of RNs and RPNs in BC. Victoria: Author.
- British Columbia Ministry of Health. (no date). Primary health care practice models. Victoria: Author. Retrieved on August 31, 2004 from http://www.healthservices.gov.bc.ca/phc/pdf/phc_practice_models.pdf
- Bourgeault, I.L. (2000). Delivering the 'new' Canadian midwifery: the impact on midwifery of integration into the Ontario health care system. *Sociology of Health and Illness, 22*(2), 172-196.
- Brown, S.J. (1998). A framework for advanced practice nursing. *Journal of Professional nursing, 14*(3), 157-164.
- Buhler-Wilkerson, K. (1993). Bringing care to the people: Lillian Wald's legacy to public health nursing. *American Journal of Public Health, 83*, 1778-1786.

-
- Bullough, B. (1995). Professionalization of nurse practitioners. In J.J. Fitzpatrick & J.S. Stevenson (Eds.), *Annual Review of Nursing Research*, 13, 239-265).
- Bullough, B., & Winter, C. (1980). Physician's assistants and the law. In B. Bullough (Ed.), *The law and the expanding nursing role, second edition*. New York: Appleton-Century-Crofts.
- Canadian Nurses Association (1970). Canadian Nurses Association's Stand on the Physician's Assistant. Position Statement. Ottawa: Author.
- Canadian Nurses Association. (1979). Statement on the nurse-midwife. *Canadian Nurse*, 75(10), 22.
- Canadian Nurses Association. (1993). *Position Statement. Clinical Nurse Specialist*. Ottawa: Author.
- Canadian Nurses Association. (2000). Quality and Cost-Effective Care: A Nursing Solution. Fact Sheet. Ottawa: Author.
- Canadian Nurses Association. (2002a). *Advanced nursing practice: A national framework*. Revised. Ottawa: Author.
- Canadian Nurses Association. (2002b). *Position statement. Advanced nursing practice*. Ottawa: Author.
- Canadian Nurses Association. (2003a). *Position statement: Clinical nurse specialist* (revised). Ottawa: Author.
- Canadian Nurses Association. (2003b). *Position statement: The nurse practitioner*. Ottawa: Author.
- Canadian Nurses Association. (2003c). Helping to sustain Canada's health system: Nurse practitioners in primary health care. Ottawa: Author.
- Canadian Nurses Association. (2003d). Fact sheet. Education, regulation and legislation of the nurse practitioner in Canada. Ottawa: Author.
- Canadian Association of Schools of Nursing. (2004). CASN Position statement (draft). Nurse practitioner education in Canada. Ottawa: Author.
- Casteldine, G. (1991). The advanced nurse practitioner, part 1. *Nursing Standard*, 5(44), 33-35.
- Centre for Nursing Studies and The Institute for the Advancement of Public Policy. (2001). Final report: The nature of the extended/expanded nursing role in Canada. Centre for Nursing Studies. Retrieved from <http://www.cns.nf.ca/research/finalreport.htm>
- Chen, D. (2000). *The current issues in advanced practice nursing in Taiwan*. Geneva, Switzerland: International Council of Nurses.
- Commission on the Future of Health Care in Canada (2002). *Building on values: The future of health care in Canada – Final Report*. Ottawa: Author.

-
- Cromwell, J. & Snyder, K. (2000). Alternative cost-effective anesthesia care teams. *Nursing Economic\$, 18*, 185-192.
- Daly, W. M., & Carnwell, R. (2003). Nursing roles and levels of practice: A framework for differentiating between elementary, specialist and advancing nursing practice. *Journal of Clinical Nursing, 12*, 158-167.
- Daniel, C. (2004). Higher level practice in nursing: the making of a profession. *Professional Nurse, 19*(7), 361-362.
- Dawley, K. (2003). Origins of nurse midwifery in the United States and its expansion in the 1940s. *Journal of Midwifery and Women's Health, 48*, 86-95.
- Delaronde, S. (2002). Using case management to increase antiinflammatory medication use among a managed care population with asthma. *Journal of Asthma, 39*, 55-63.
- Demeere, J. L. (2002). Anaesthesia manpower in Belgium until 2020: Nurse anaesthetists – A possible solution? *European Journal of Anaesthesiology, 19*, 755-759.
- Donagrandi, M. A., & Eddy, M. (2000). Ethics of case management: Implications for advanced practice nursing. *Clinical Nurse Specialist, 14*, 241-246.
- Dorroh, M. W., & Kelley, M. A. (2000). The certified nurse-midwife. In A.B. Hamric, J. A. Spross, & C. M. Hanson (Eds.), *Advanced nursing practice: An integrative approach* (2nd ed., pp. 491-519). Philadelphia: W.B. Saunders.
- Edmunds, M. (2002). Standardizing our status. *The Nurse Practitioner, 27*, 66.
- Fairley, D. (2003). Nurse consultants as higher level practitioners: factors perceived to influence role implementation and development in critical care. *Intensive and Critical Care Nursing, 19*(4), 198-206.
- Fallacaro, M. & Ruiz-Law, T. (2004). Distribution of US anesthesia providers and services. *AANA Journal, 72*, 9-14.
- Faut-Callahan, M., & Kremer, M. J. (2000). The certified registered nurse anesthetist. In A.B. Hamric, J. A. Spross, & C. M. Hanson (Eds.), *Advanced practice nursing: An integrative approach* (2nd ed., pp. 521-548). Philadelphia: W.B. Saunders.
- Fleming, V., Poat, A., Curzio, J., Douglas, V., & Cheyne, H. (2001). Competencies of midwives with single or dual qualifications at the point of registration in Scotland. *Midwifery, 17*(4), 295-301.
- Fullerton, J., Severino, R., Brogan, K., & Thompson, J. (2003). The International Confederation of Midwives' study of essential competencies of midwifery practice. *Midwifery, 19*(3), 174-190.
- Fullerton, J., Shah, M.A., Holmes, G., Roe, V., & Campau, N. (1998). Direct entry midwifery education: Evaluation of program innovations. *Journal of Nurse Midwifery, 43*(2), 102-105.

-
- Gillespie, L. (2000). Beyond imagining: A nursing perspective on the future health-care system. *BC Medical Journal*, 42(5), 244-245.
- Gunn, I. P. (1998). Setting the record straight on nurse anesthesia and medical anesthesiology education. *CRNA: The Clinical Forum for Nurse Anesthetists*, 9, 163-171.
- Gunn, I. P. (2000). Rural health care and the nurse anesthetist. *CRNA: The Clinical Forum for Nurse Anesthetists*, 11, 77-86.
- Gunn, I. P., Nicosia, J., & Tobin, M. (1987). Anesthesia: A practice of nursing. *Journal of the American Association of Nurse Anesthetists*, 55, 97-100.
- Haines, J. (1993). *The nurse practitioner: A discussion paper*. Ottawa: Canadian Nurses Association.
- Hamric, A.B. (2005). A definition of advanced nursing practice. In Hamric, A.B., Spross, J.A., & Hanson, C.M. (Eds.) *Advanced nursing practice: An integrative approach*. (3rd edition) (pp. 85-108). St. Louis: Elsevier Saunders.
- Hamric, A.B., Spross, J.A., & Hanson, C.M. (Eds.) (2005). *Advanced practice nursing: An integrative approach*. (3rd edition). St. Louis: Elsevier Saunders.
- Hanson, C.M., & Spross, J.A. (2005). Collaboration. In Hamric, A.B., Spross, J.A., & Hanson, C.M. (Eds.). *Advanced nursing practice: An integrative approach*. (3rd edition). (pp. 341-378). St. Louis: Elsevier Saunders.
- Harris, S. (1999). Midwifery in Canada. *International Journal of Childbirth Education*, 14(1), 4.
- Herbert, P. (1992). *Midwifery in Canada – the present era: A review*. Unpublished paper. Memorial University of Newfoundland. (Available from CNA).
- Hickey, J.V., Ouimette, R.M., & Venegoni, S.L. (2000). *Advanced practice nursing: Changing roles and clinical applications*. (2nd edition). Philadelphia: Lippincott.
- Hughes, M. (1996). Key issues in the introduction of nurse endoscopy. *Nursing Times*, 92(8), 38-39.
- Illife, J. (2000). Outlining the ANF's view on midwifery. *Australian Nurses Journal*, 8(2), 1.
- International Confederation of Midwives. (2002). *Framework for midwifery legislation and regulation*. Author: Vienna, Austria. Retrieved from <http://www.internationalmidwives.org/Statements/Framework%20for%20midwifery%20legislation.pdf>
- International Council of Nurses (2003). *Definition and characteristics of the role*. Geneva, Switzerland: Author.
- International Federation of Nurse Anesthetists. (1999). Educational standards for preparing nurse anesthetists; standards of practice; code of ethics; monitoring guidelines. 6-23. Helsinki, International Federation of Nurses.
- Joel, L.A. (2004). *Advanced practice nursing: Essentials for development*. Philadelphia: FA Davis.

-
- Keeling, A.W., & Bigbee, J.L. (2005). The history of advanced nursing practice in the United States. In Hamric, A.B., Spross, J.A., & Hanson, C.M. (Eds.) *Advanced nursing practice: An integrative approach*. (3rd edition) (pp. 3-46). St. Louis: Elsevier Saunders.
- Kelly, J., & Stephens, I. (1999). Community case management for mental illness. *Australian Nursing Journal*, 6, 24-27.
- Kennedy, H.P., Rousseau, A.L., & Low, L.K. (2003). An exploratory metasynthesis of midwifery practice in the United States. *Midwifery* 19(3), 203-214.
- Kommenich, P. (2004). The evolution of advanced practice in nursing. In J.M. Stanley (Ed.). *Advanced practice nursing: Emphasizing common roles* (2nd edition). (pp. 3-45). Philadelphia: FA Davis.
- Levinthal, G.N., Burke, C.A., & Santisi, J.M. (2003). The accuracy of an endoscopy nurse in interpreting capsule endoscopy. *American Journal of Gastroenterology*, 98(12), 2669-2671.
- Leyden, C. G., Carvalho, J. Y., & Saylor, C. R. (2000). An evaluation of a nurse case-managed program for children with diabetes. *Pediatric Nursing*, 26, 296-302.
- Mahn-DiNicola, V.A. & Zazworsky, D.J. (2005). The advanced practice nurse case manager. In Hamric, A.B., Spross, J.A., & Hanson, C.M. (Eds.). *Advanced nursing practice: An integrative approach*. (3rd edition) (pp. 617-676). St. Louis: Elsevier Saunders.
- Martin, J.M. (2004). Developing and implementing the role of the nurse bronchoscopist. *Professional Nurse*, 19(6), 348-350.
- Mastropietro, C. A., Horton, B. J., Ouellette, S. M., & Faut-Callahan, M. (2001). The National Commission on Nurse Anesthesia Education 10 years later – Part 1: The Commission years (1989-1994). *AANA Journal*, 69, 379-385.
- McAuliffe, M. S. & Henry, B. (1994). Nurse anesthesia world-wide: An analysis of practice, education and legislation. Part one and part two.
- McAuliffe, M. S., & Henry, B. (1996). Countries where anesthesia is administered by nurses. *Journal of the American Association of Nurse Anesthetists*, 64, 469-479.
- McAuliffe, M. S., & Henry, B. (1998). Survey of nurse anesthesia practice, education, and regulation in 96 countries. *Journal of the American Association of Nurse Anesthetists*, 66, 273-286.
- McAuliffe, M. S., (2002). Nurse anesthesia: International health care research. *spirium*, 37, 47-49.
- Munding, M. O., Kane, R. L., Lenz, E. R., Totten, A. M., Wei-Yann, T., Cleary, P. D., Friedewald, W. T., Siu, A. L., & Shelanski, M. L. (2000). Primary care outcomes in patients treated by nurse practitioners or physicians: A randomized trial. *The Academic Nurse*, 283, 59-68.

-
- Myers-Ciecko, J. (1999). Evolution and current status of direct-entry midwifery education, regulation, and practice in the United States, with examples from Washington state. *Journal of Nurse-Midwifery*, 44(4), 384-393.
- Neglia, H.B. (2003). The future of midwifery education. *Midwifery*, 19(1), 3-9.
- New Zealand Ministry of Health (2002). *Nurse practitioners in New Zealand*. Publication ISBN 0-478-25505-5 available at www.moh.govt.nz
- Noonan, B.R. (1972). Eight years in a medical nurse clinic. *American Journal of Nursing*, 72, 1128-1130.
- Operating Room Nurses Association of Canada (2004). *Canadian RN First Assistant*. Retrieved August 26, 2004 from: <http://www.ornac.ca/rnfa/rnfa-contacts.htm>
- Operating Room Nurses Association of Canada (1997). *Operating Room Nursing Journals*. Retrieved August 26, 2004 from: <http://www.ornac.ca/articles/jun97-3.htm>
- Operating Room Nurses Association of Canada (2004). *What is ORNAC?*. Retrieved August 30, 2004 from <http://www.ornac.ca/what-is.htm#history>
- Ouellette, S. M., & Caulk, R. F. (2000). The International Federation of Nurse Anesthetists: 10 years later. *AANA Journal*, 68, 209-214.
- Ouellette, S. M., Bruton-Maree, N., & Kohlenberg, E. (2002). Expansion of nurse anesthesia educational programs: Where are the barriers? *AANA Journal*, 70, 435-438.
- Pathmakanthan, S., Murray, I, Smith, K., Heeley, R., & Donnelly, M. (2001). Nurse endoscopists in United Kingdom health care: A survey of prevalence, skills, and attitudes. *Journal of Advanced Nursing*, 36(5), 705-710.
- Pauly, B., Schreiber, R., MacDonald, M., Davidson, H., Crickmore, J., Moss, L., Pinelli, J., Regan, S., & Hammond, C. (2004). Dancing to our own tune: Understandings of advanced nursing practice in British Columbia. *Canadian Journal of Nursing Leadership*, 17(2), 47-56.
- Pearson, L. (2002). How each state stands on legislative issues affecting advanced nursing practice (2002). *The Nurse Practitioner*, 27, 10-51.
- Pearson, L. (2004). How each state stands on legislative issues affecting advanced nursing practice (2004). *The Nurse Practitioner*, 29, 26-51.
- Polonsky, W. H., Earles, J., Smith, S., Pease, D. J., Macmillan, M., Christensen, R., Taylor, T., Dickert, J., & Jackson, R. A. (2003). Integrating medical management with diabetes self-management training: A randomized control trial of the Diabetes Outpatient Intensive Treatment program. *Diabetes Care*, 26(11), 3048-3053.
- Rachlis, M., & Kushner, C. (1989). *Second opinion: What's wrong with Canada's health-care system*. Toronto: Collins.

-
- Redekopp, M.A. (1997). Clinical nurse specialist role confusion: The need for identity. *Clinical Nurse Specialist, 11*(2) 87-91.
- Reed, A. & Roberts, J. E. (2000). State regulation of midwives: Issues and options. *Journal of Midwifery and Women's Health, 45*(2), 130-149.
- Registered Nurses Association of British Columbia. (1988). *Midwifery as a speciality of nursing*. Vancouver: Author.
- Registered Nurses Association of British Columbia (2001). Regulating Registered Nurses in the Public Interest: RNABC's Brief to the Government of British Columbia on the Health Professions Council's Final Report on Registered Nurses Scope of Practice. Vancouver: Author.
- Registered Nurses Association of Ontario (2004). *Advanced Clinical / Practice Fellowships*. Retrieved August 30, 2004 from http://www.rnao.org/projects/acpf/topics/operating_room.asp
- Rooks, J.R., & Ernst, E.K.M. (1999). The future of midwifery. *International Journal of Childbirth Education, 14*(4), 16-21.
- Rose, S. B., All, A. C., & Gresham, D. (2003). Role preservation of the clinical nurse specialist and the nurse practitioner. *The Internet Journal of Advanced Nursing Practice, 5*, 1-11.
- Royal College of Midwives (2004). *Midwifery as a career*. Retrieved August 26, 2004 from <http://www.rcm.org.uk/data/education/data/midwife.htm>.
- Royal College of Nursing, A. (2001). The feasibility of a national approach for the credentialing of advanced practice nurses and the accreditation of related educational programs. Deakin, ACT: Royal College of Nursing, Australia.
- Royal College of Nursing, A. (2002). *Position statement: Advanced practice nursing*. [On-line]. Available: <http://www.internationalmidwives.org/Statements/Framework%20for%20midwifery%20legislation.pdf>
- Safriet, B. J. (1992). Health care dollars and regulatory sense: The role of advanced practice nursing. *Yale Journal on Regulation, 9*, 419-484.
- Salary.com (2004). Salary Wizard Basic Report on PA Salary. Retrieved August 26, 2004, from: <http://www.physicianassistantjobs.com/>
- Schreiber, R. (1994). Pay equity for nurses: Comparable worth and gender neutrality. *Health Care for Women International, 15*(6), 577-586.
- Schreiber, R. & MacDonald, M. (2003). The time has come: An old nursing role is new again, as the ranks of nurse anesthetists grow around the world. *The Canadian Nurse, 99*, 20.

-
- Schreiber, R., MacDonald, M., Davidson, H., Crickmore, J., Moss, L., Pinelli, J., Regan, S., Pauly, B., & Hammond, C. (2003). *Advanced nursing practice: Opportunities and challenges in British Columbia*. Victoria.
- Schroer, K. (1991). Case management: Clinical nurse specialist and nurse practitioner, converging roles. *Clinical Nurse Specialist*, 5, 189-194.
- Scott, R.A. (1999). A description of the roles, activities, and skills of clinical nurse specialists in the United States. *Clinical Nurse Specialist*, 13(4), 183-189.
- Shumway, S. H., & Del Risco, J. (2000). A comparison of nurse anesthesia practice types. *AANA Journal*, 68, 452-462.
- Siegel, E., & Bryson, S.C. (1963). Redefinition of the role of the public health nurse in child health supervision. *American Journal of Public Health*, 53, 1015-1024.
- Smale, S., Bjarnason, I., Forgacs, I., Prasad, P., Mukhood, M., Wong, M., Ng, A., & Mulcahy, H.E. (2003). Upper gastrointestinal endoscopy performed by nurses: Scope for the future? *Gut*, 52, 1090-1094.
- Snyder, M., & Mirr, M.P. (Eds.) (1999). *Advanced practice nursing: A guide to professional development*. (2nd edition). New York: Springer Publishing.
- Spiegel, T. (1995). Flexible sigmoidoscopy training for nurses. *Gastroenterology Nursing*, 18(6), 206-209.
- Stanley, J.M. (2005). *Advanced practice nursing: Emphasizing common roles*. Philadelphia: FA Davis.
- Styles, M. & Lewis, C. (2000). Conceptualizations of advanced nursing practice. In A. Hamric, J. Spross, & C. Hanson (Eds.) *Advanced nursing practice: An integrative approach*. (pp. 33-52). Philadelphia: W.B. Saunders.
- So, E.C., Huang, C.T., Chen, Y.H., Shieh, J.P., Hsing, C.H., Chen, J.Y., Hsu, C.S. (1999). The role of nurse anesthetist in Taiwan (questionnaire report). *Acta Anaesthesiology Sin*, 37(1 Suppl), S1-8. Abstract retrieved August 23, 2004 from: www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10408127
- Sund, J., & Sveningson, L. (1998). Case management in an integrated delivery system. *Nursing Management*, 29, 24-31.
- Sutton, F., & Smith, C. (1995). Advanced nursing practice: New ideas and new perspectives. *Journal of Advanced Nursing*, 21, 1037-1043.
- The International Federation of Nurse Anesthetists (IFNA) became a reality June 1989 in St. Gallen, Switzerland. (1998). *World Hospitals and Health Services*, 34, 11-14.
- Thompson, A. (2003). The relationship of the legalization of midwifery and safe motherhood. *Midwifery*, 19(2), 77-78.

-
- Vann, M. K. (1998). Professional autonomy for midwives: An essential component of collaborative practice. *Journal of Nurse-Midwifery*, 43(1), 41-45.
- Wang, J., Yen, M., & Snyder, M. (1995). Constraints and perspectives of advanced practice nursing in Taiwan, Republic of China. *Clinical Nurse Specialist*, 9(5), 252-255.
- Wilson-Barnett, J., Barriball, K. L., Reynolds, H., Jowett, S., & Ryrie, I. (2000). Recognising advancing nursing practice: Evidence from two observational studies. *International Journal of Nursing Studies*, 37, 389-400.

8.0 Appendices

Appendix 1 – International Federation of Nurse Anesthetists Standards of Practice

1. The patient shall receive a thorough and complete pre-anesthetic assessment.
2. An anesthetic care plan is formulated based on current knowledge, concepts, scientific and nursing principles.
3. Anesthetic management includes the continuous presence of the nurse anesthetist administering and/or participating in the administration of general or regional anesthesia and adjunctive therapeutic agents to all ages and categories of patients with a variety of surgical and medically related procedures.
4. The nurse anesthetists will monitor psychological and physiological responses, interpret and utilize data obtained from the use of invasive and non-invasive monitoring modalities and take corrective action to maintain or stabilize the patient's condition, and provide resuscitative care.
5. The nurse anesthetist is responsible for the prompt, complete and accurate recording of pertinent information on the patient's record.
6. The nurse anesthetist shall terminate or participate in the termination of anesthesia, determine adequacy of physiological and psychological status and report pertinent data to appropriate personnel.
7. The patient shall receive immediate post-anesthesia care by appropriate personnel.
8. Appropriate safety precautions shall be taken to insure the safe administration of anesthesia care.
9. Nurse anesthetist practice shall be reviewed and evaluated to assure quality care.
10. The nurse anesthetist shall maintain anesthesia practice based on a continuous process of review and evaluation of scientific theory, research findings and current practice.
11. The nurse anesthetist supports and preserves the basic rights of patients for privacy by protecting information of a confidential nature from those who do not need such information for patient care. In addition, the nurse anesthetist supports the right of patients for independence of expression, decision, and action.
12. The nurse anesthetist participates in the education of patients and other members of the community of interest such as family, surgeon and other nurses who care for the patient before and during the perioperative period. The nurse anesthetist is also a resource person in cardiopulmonary resuscitation and other patient care needs.
13. The nurse anesthetist recognizes the responsibility of professional practice and maintains the level of knowledge, judgment, technological skills, and professional values prerequisite to delivering high quality health services. (International Federation of Nurse Anesthetists, 1999)

Appendix 2 – Contact List

Alberta Association of Registered Nurses

American Association of Nurse Anesthetists

American Association of Operating Room Nurses

American Nurses Association

Association of Nurses of Prince Edward Island

Association of Registered Nurses of Newfoundland and Labrador

Australian Nursing Council

College of Nurses of Ontario / Ordre des infirmières et infirmiers de l'Ontario

College of Registered Nurses of Manitoba

College of Registered Nurses of Nova Scotia

International Council of Nurses / Conseil international des infirmières

International Federation of Nurse Anesthetists

New Zealand Ministry of Health

Nurses Association of New Brunswick / Association des infirmières et infirmiers du Nouveau-Brunswick

Ordre des infirmières et infirmiers du Québec

Registered Nurses Association of British Columbia

Registered Nurses' Association of Ontario / Association des infirmières et infirmiers autorisés de l'Ontario

Registered Nurses Association of the Northwest Territories and Nunavut

Saskatchewan Registered Nurses' Association

Yukon Registered Nurses Association

