



CLINICAL NURSE SPECIALISTS AND NURSE PRACTITIONERS IN CANADA

A DECISION SUPPORT SYNTHESIS

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EXECUTIVE SUMMARY

Advanced nursing practice is an umbrella term describing an advanced level of clinical nursing practice that maximizes the use of graduate educational preparation, in-depth nursing knowledge and expertise in meeting the health needs of individuals, families, groups, communities and populations. It involves analyzing and synthesizing knowledge; understanding, interpreting and applying nursing theory and research; and developing and advancing nursing knowledge and the profession as a whole. (Advanced Nursing Practice: A National Framework, 2008. Canadian Nurses Association)

Overview

Increasingly, there is a growing demand for advanced practice nursing (APN) in Canada and around the world. As clinical experts, leaders and change agents, APNs are recognized as an important human resource strategy for improving access to high-quality, cost-effective and sustainable models of healthcare.

This special report was commissioned by CHSRF to develop a better understanding of the roles of APNs, the contexts in which they are currently being used, and the health system factors that influence the effective integration of advanced practice nursing in the Canadian healthcare system. Three types of APNs were the focus of this report: clinical nurse specialists (CNSs), primary healthcare nurse practitioners (PHCNPs), and acute care nurse practitioners (ACNPs).

Based on over 60 stakeholder interviews and a review of over 500 papers, the findings in this report show that there is a growing consensus related to the purpose of APN roles. However, the evidence also reveals inconsistencies in perceptions and practice related to the roles of APNs. For example, there are striking differences between CNSs and nurse practitioners (NPs) in understanding their roles, patterns of deployment, and integration.

- ▶ NP roles in Canada have demonstrated significant growth and improved integration through, among other initiatives, the development of legislation to support autonomous practice, an increase in the number of graduates, and the funding of new education programs.
- ▶ Conversely, there is limited provincial/territorial or national investment in supporting the development of CNS roles. This is characterized by a lack of formal CNS education programs and credentialing mechanisms, lack of title protection, and overall decline in the current numbers of CNS roles between 2003 and 2006, especially in British Columbia and Ontario.

Overall, a number of key factors are essential to the successful integration of APNs. These include the need to establish mechanisms to support a full scope of practice, to raise awareness of the function of APNs, to clearly define roles, and to sustain strong administrative leadership to support the implementation of those roles.

Recommendations

The findings in this report support the recommendations proposed at a roundtable convened by CHSRF and the Office of Nursing Policy, Health Canada, in April 2009.

- ▼ Create a vision statement that clearly articulates the value-added role of advanced practice nursing, across settings.
- ▼ Establish a pan-Canadian multidisciplinary task force involving key stakeholder groups to facilitate the implementation of advanced practice nursing roles.
- ▼ Consider advanced practice nursing as part of health human resources planning, based strategically on population healthcare needs.
- ▼ Standardize advanced practice nursing regulatory and educational standards, requirements and processes across the country.
- ▼ Include, in all undergraduate and post-graduate health professional training programs, components that address interprofessionalism.
- ▼ Develop a communications strategy to disseminate to a wide readership the positive contributions of advanced practice nursing.
- ▼ Protect funding support for advanced practice nursing positions and education, to ensure stability and sustainability.
- ▼ Conduct further research on
 - ▼ the “value-added” of advanced practice nursing roles
 - ▼ their impact on healthcare costs
 - ▼ the CNS role

Summary

While great strides have been made over the past 40 years in the development and deployment of advanced practice nursing, the full contribution of APNs has yet to be realized. Considerable opportunity exists to more clearly define roles, to improve integration, and to maximize APNs’ contribution to the Canadian healthcare system, thereby improving the quality and delivery of healthcare.

I. CONTEXT

1.1 Background

Current Healthcare Environment

The Canadian healthcare system is facing significant challenges, many of which require the optimal use of all members of the healthcare team. We face public calls for increased and more equitable access to care and reduced wait times as well as increased demands for service related to the aging population, chronic illnesses (e.g., cancer, arthritis, diabetes, heart disease), and mental health problems. There is also a societal shift toward wellness care and the provision of support to patients for self-management. Canada is a vast country and, consequently, there are many under-served, rural and remote populations. At the same time, we face physician and nursing shortages and a continued maldistribution of practitioners, especially in northern Canada.^{1,2,3} *The aim of this Decision Support Synthesis is to summarize information obtained through a review of the literature and interviews with key stakeholders to inform policy and practice recommendations for optimizing the contributions of nurse practitioners and clinical nurse specialists in meeting Canadians' healthcare needs.*

Nurse Practitioners and Clinical Nurse Specialists

Nurse practitioners (NPs) and clinical nurse specialists (CNSs) have existed in Canada for about four decades. Both are considered advanced practice nurses (APNs), defined internationally as registered nurses (RNs) who have acquired the expert knowledge base, complex decision-making skills, and clinical competencies for expanded practice.⁴ Advanced nursing practice, according to the national framework recently released by the Canadian Nurses Association (2008),⁵ is “an umbrella term describing an advanced level of clinical nursing practice that maximizes the use of graduate educational preparation, in-depth nursing knowledge and expertise in meeting the health needs of individuals, families, groups, communities and populations. It involves analyzing and synthesizing knowledge; understanding, interpreting and applying nursing theory and research; and developing and advancing nursing knowledge and the profession as a whole” (p.10).⁵ Core APN roles include direct patient care, research, education, consultation, and leadership activities.

Types of APNs

In Canada, APNs include primary healthcare NPs (PHCNPs), acute care NPs (ACNPs), and CNSs. All these roles have existed in the United States for many years. In Canada, the nurse anesthetist role is just emerging and will not be addressed in this synthesis.

NPs are “registered nurses with additional educational preparation and experience who possess and demonstrate the competencies to autonomously diagnose, order and interpret diagnostic tests, prescribe pharmaceuticals and perform specific procedures within their legislated scope of practice” (p.4).⁶ PHCNPs, also known as family or all-ages NPs, typically work in the community in settings such as community health centres, primary healthcare practices, and long-term care; their main focus is health promotion, preventive care, diagnosis and treatment of acute minor illnesses and injuries, and monitoring and management of stable chronic diseases. ACNPs, also known as specialty or specialist NPs, provide advanced nursing care across the continuum of acute care services for adult and pediatric patients who are acutely, critically, or

chronically ill. These ACNPs might work in settings such as neonatology, nephrology, and cardiology. Titling of NP roles is in transition; for the purposes of this report, we will refer to NPs who practice in primary care settings as PHCNPs and those who work in hospital settings as ACNPs.

CNSs are RNs with graduate education, who have expertise in a clinical nursing specialty and they perform a role that includes practice, consultation, education, research and leadership. They contribute to the development of nursing knowledge and evidence-based practice and address complex healthcare issues for patients, families, other disciplines, administrators, and policy makers.⁷ CNSs specialize in a specific area of practice that may be defined in terms of a population, a setting, a disease or medical subspecialty, type of care, or type of problem.

In the early 1990s, a blended CNS/NP role was introduced.⁸ This role was first established in Ontario in tertiary-level neonatal intensive care units (NICUs).⁹ The blended CNS/NP title was chosen to reflect a role that includes all the APN role dimensions, including advanced clinical responsibilities, education, research and leadership. However, given that non-clinical role dimensions, are now seen as essential components of all APN roles, the need for a separately titled CNS/NP, in addition to the ACNP role, has become redundant. Those who were known as CNS/NPs in the past now see themselves as ACNPs. The PHCNP, ACNP, and CNS roles are described in further detail in Section III.

Numbers of APNs in Canada

Between 2003 and 2007, the number of licensed NPs increased from 656 to 1,346¹⁰ (Appendix A). This figure, however, is an underestimate of the NP workforce, as the numbers do not include ACNPs from all Canadian jurisdictions. Until recently, ACNPs have not been licensed and, therefore, it is not possible to determine how many exist in Canada. Only those who were licensed by 2007 are included in the figures summarized in Appendix A. It is also difficult to ascertain the exact numbers of CNSs in Canada because there is no protected titling or standard credentialing mechanism. Based on self-reported CNS data, the number of CNSs decreased from 2,747 in 2004¹¹ to 2,288 in 2006¹² (Appendix B).

Historical Context

PHCNPs were first introduced in Canada in the 1960s; however, by the 1980s, most of the NP initiatives had disappeared due to a perceived oversupply of physicians in urban areas, lack of remuneration mechanisms, the absence of provincial/territorial legislation and regulation, little public awareness of the role, and weak support from policy makers and other health professionals. With the health system renewal of the 1990s, many provinces and territories introduced education programs (baccalaureate, post-baccalaureate certificate, and graduate) and legislation to support the regulation of NPs.¹³ It was during the early 1990s that ACNPs and CNS/NPs emerged in hospital settings to address shortages of specialist physicians and residents. NPs are now legislated in all 10 provinces and in both the Northwest Territories and Nunavut to provide advanced treatment to patients.¹⁴ The Yukon Territory is currently revising the Yukon Registered Nurses Act to introduce the regulation of NPs.

CNSs have been part of the healthcare landscape in Canada since the late 1960s.¹⁵ As stated in the Advanced Nursing Practice National Framework,⁵ “their role was to provide clinical guidance and leadership to nursing staff managing complex care, to improve the quality of care and to promote evidence-based practice. Cutbacks in the 1980s and 1990s led to the elimination of many of these positions, but as concern over the quality of care builds in the early 21st century, there is reason to believe that the CNS role will regain prominence” (p. 6).⁵

Effectiveness of APNs

A substantial body of research attests to the safety and effectiveness of APN roles. A systematic review published by Horrocks et al. (2002)¹⁶ compared NPs and physicians providing first-contact care to patients in primary care settings and found that patients who received NP care had higher satisfaction and better quality of care than those who received physician care, with no difference in patient health outcomes. NPs tended to spend a longer time with patients and order more tests; no differences were found in the number of prescriptions, return visits or referrals to specialists.¹⁶ Comparisons of ACNP care with usual care showed either no differences in outcomes such as mortality, morbidity/complications, and length of hospital stay or an improvement in outcomes favouring the ACNP role (see Appendix C). In their annotated bibliography of 70 studies, Fulton and Baldwin (2004)¹⁷ found that CNSs were associated with reductions in hospital length of stay, readmissions, emergency room visits, and costs as well as improvements in staff nurse knowledge, functional performance, mood state, quality of life, and patient satisfaction. Mitchell-DiCenso et al. (1996)¹⁸ found that CNS/NPs functioning in the blended role in a tertiary level neonatal intensive care unit in Ontario (now known as ACNPs) were equivalent to pediatric residents with respect to neonatal morbidity and mortality, parent satisfaction, costs, and incidence of long-term developmental delays.

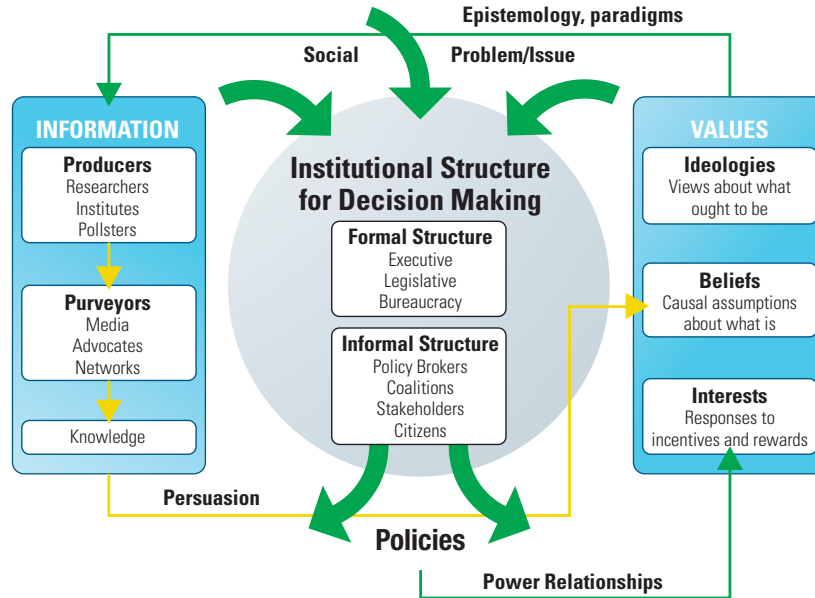
Given the striking consistency in findings across studies and the consolidation of these findings in a number of systematic reviews, our synthesis builds on the premise that APNs are effective, safe practitioners who can positively influence patient, provider and health system outcomes. For readers who may be interested in specific evaluations, we have included an appendix that briefly summarizes the outcomes of RCTs of APNs. Since it was not our mandate to conduct a systematic review of the effectiveness of APNs, we do not claim to have included every RCT conducted on APNs but have attempted to be as comprehensive as possible (Appendix C).

Why Is This Synthesis Needed?

Despite abundant strong research evidence about APN safety and effectiveness, the implementation of this role in Canada has been sporadic and dependent on the changing political agendas shaping the healthcare system. Lomas' (2000)¹⁹ framework, *The World in Which Policies are Made*, posits that the institutional structure that influences policy formulation is shaped by values and information (Figure 1). This framework informed the data collection and analysis for our synthesis so that we might better understand the values (ideologies, beliefs and interests) that are facilitating and impeding the effective integration of APNs into the Canadian healthcare system.

Figure 1: The World in Which Policies are Made

The World in which Policies are Made:
A Schematic View of the Contextual Influences on the Decision Making Process



Lomas J (2000). Connecting research and policy. *Canadian Journal of Policy Research* 1(1): 140-44.

1.2 Objective of the Synthesis

CHSRF requested a Decision Support Synthesis to address the following aim and research objectives: to develop evidence-informed recommendations for the individual (e.g., skills, experience, attitudes), organizational (e.g., culture, role definitions, incentives, community context), and system (e.g. scope of practice, regulatory definitions) supports that are required to better integrate CNS and NP roles into the Canadian healthcare system and advance the delivery of nursing and patient care services in Canada. The Office of Nursing Policy in Health Canada acknowledged the importance of this work and contributed to its funding.

Specific Research Objectives

1. To conduct a review of published and grey literature and to conduct stakeholder interviews (including multiple perspectives within the healthcare system) to:
 - ▶ identify and describe the distinguishing characteristics of CNS and NP role definitions and competencies relevant to Canadian contexts;
 - ▶ identify the key barriers and facilitators for the effective development and utilization of CNS and NP roles.
2. To prepare a research report for presentation to decision makers and researchers (at a roundtable convened by CHSRF). The aim of this roundtable was to formulate evidence-informed recommendations for policy and practice that support the greater integration of CNS and NP roles in the Canadian healthcare system.

1.3. Organization of the Report

We have reviewed over 500 papers about APNs and conducted over 60 stakeholder interviews. To address our objectives above, we have integrated our findings from the literature and interviews and present them in three sections:

- ▼ APN role definitions, competencies and current deployment in Canada
- ▼ Key barriers, facilitators, and implications for the effective development and utilization of APN roles
- ▼ Opportunities for development of APN roles and improved deployment

This report ends with a summary of the recommendations made at the Roundtable on April 16, 2009.

II. METHODS

2.1 Advisory Board

We formed a multidisciplinary, multi-jurisdictional Advisory Board to oversee this project (Appendix D). The Advisory Board was composed of administrators, practitioners, policy makers and researchers holding positions in provincial, national and international organizations with a stake in the integration of APN roles into healthcare systems. Teleconference meetings with Advisory Board members were conducted in July 2008 to assist us with the identification of potential key informant interviewees and the formulation of interview questions. Advisory Board members also identified and made available relevant documents from within their organizations. A face-to-face meeting of the research team and Advisory Board was held in Toronto in March 2009 to obtain feedback on and discuss implications arising from the draft report; 13 Advisory Board members attended (Appendix E). The full-day meeting included brief presentations on the purpose, methods and results of the synthesis followed by small-group discussions and reporting back to the large group. Three groups of 4-5 Advisory Board participants deliberated the implications of the study results for specific themes. Two members of the research team facilitated and recorded the discussion points for each group. We summarized the key implications identified for each theme. We also incorporated general and specific feedback from the Advisory Board about the draft report into the preparation of the final report for the CHSRF Roundtable discussion.

2.2 Scoping Review of the Literature

To address the first objective of this synthesis, we completed a scoping review of the literature using established methods.²⁰ A scoping study was the preferred type of review to achieve our aims of mapping the literature on APN role definitions, competencies and utilization in the Canadian healthcare system; mapping the policies influencing the development and integration of these roles; and identifying the gaps and opportunities for their improved deployment.²¹ Given these broad objectives, we concentrated our scoping review on relevant APN-related Canadian literature of all types to capture context-free, context-sensitive and colloquial evidence.²² In keeping with the tenets of scoping reviews, we did not evaluate the methodological quality of papers, except to note those primary studies with potentially fatal flaws such as poor response or follow-up rates. To organize our scoping review we developed a framework that allowed us to capture the structure, process and outcome dimensions and descriptors of APN roles:

Structural-Related Dimensions: 1) description, numbers, types; 2) required education and competencies; 3) regulation and scope of practice; 4) practice settings; 5) union membership; 6) liability coverage.

Process-Related Dimensions: 1) barriers to role implementation; 2) facilitators of role implementation; 3) practice patterns.

Outcome-Related Dimensions: 1) patient outcomes; 2) provider outcomes; 3) health system outcomes

Search Strategies

We used five search strategies to obtain relevant literature for our scoping study. First, with the assistance of health sciences librarians at McMaster and McGill Universities, we searched MEDLINE, CINAHL, and EMBASE electronic databases using applicable Mesh Headings and free text keywords pertinent to CNSs and NPs. The detailed strategy of individual and combined search terms using the Boolean operators 'AND' and 'OR' can be found in Appendix F. To be as certain as possible we had obtained all relevant papers, a citation search was conducted using the Web of Science database. The search was conducted using 10 key papers that directly addressed some or all of the components of the structure, process and outcome dimensions for CNS, ACNP, and PHCNP roles. Second, we scanned the reference lists of all papers included for data extraction, looking for relevant papers that were not captured in our original search. Third, we searched websites of Canadian research and professional organizations, and national, provincial and territorial governments (Appendix G). Fourth, the four journals yielding the greatest number of relevant articles from the electronic database search, *Canadian Journal of Nursing Leadership*, *Journal of Advanced Nursing*, *Canadian Nurse*, and *Clinical Nurse Specialist*, were hand searched for the time period May 2008, the time of our initial search, to January 2009. This was intended to avoid omitting papers published following completion of the database search. Fifth, Advisory Board and research team members contributed relevant literature from their personal files throughout the study.

Inclusion/Exclusion Criteria and Review Process

Since our focus was APN roles in the Canadian healthcare system and the APN published literature is vast, we established inclusion criteria:

- ▶ All Canadian papers including primary studies, literature and policy reviews, reports, editorials, essays, commentaries and descriptive accounts (any date of publication)
- ▶ International review papers published between 2003 and 2008
- ▶ International non-review papers only if of unique relevance to the synthesis or if little Canadian literature on the topic
- ▶ Language of publication French or English
- ▶ Structure, process and/or outcome dimensions of one or more of CNS, ACNP, and PHCNP roles addressed

The yield from the combined search strategy was 2,397 papers and is outlined in detail in Appendix H. *Refworks* was used to file and manage retrieved papers and record decisions of reviewers. The papers were divided among three teams of two researchers for title and abstract review. To ensure consistency across reviewers, the co-principal investigators (AD & DBL) trained team members on how to apply the inclusion criteria and encouraged inclusion of papers when in doubt about the relevance. We resolved disagreements among the two-member teams by having a third member of the research team review the disputed titles and abstracts and act as tie-breaker. Following this process, the full text of all included papers was reviewed by one member of the research team using our inclusion criteria. Ideally two team members would have independently reviewed each paper; however, time and resource constraints did not permit this. After all levels of review were completed, 573 relevant papers were identified for data extraction. To facilitate data extraction and analysis, an electronic tool, based on the structure, process and outcome dimensions described above as well as on a framework specifically developed to guide the introduction, implementation and evaluation of APN roles (PEPPA Framework), was informed by the research team and prepared by the Health Information Research Unit (HIRU) at McMaster University. Using two articles, the tool was piloted by

the research team and subsequently refined. The final data extraction tool incorporated a series of text boxes for narrative comments, drop-down menus and check boxes. To facilitate the data extraction process, the principal investigators divided the team into triads. Each triad was assigned the literature that pertained to a specific APN role and all relevant papers were systematically extracted by one of the three team members in the triad. Through the extraction process, 105 papers were deemed irrelevant because they did not meet our inclusion criteria, leaving 468 papers in the synthesis. All the papers are listed in the bibliography at the end of this report. The breakdown of papers by country, publication date, type of paper and APN focus can be found in Appendix I.

Note: Between the Roundtable in April 2009 and the time we submitted the final version of this synthesis, we identified three papers reporting on one three-phase study of APNs in Canada published before our cut-off date of January 2009. These three papers were published in an Online Exclusive of the *Canadian Journal of Nursing Leadership* and were not identified in any of the searches we conducted. We have integrated the findings reported in these papers in this report.^{237,238,239}

Analysis of Scoping Review Results

To analyze the data extracted from the literature, we used a combination of tabular summaries of the extracted data, narrative syntheses²³ and team discussions. Descriptive tables were developed to summarize all data extracted from the literature. Each member of each triad independently summarized the data they had extracted. Each triad then met by telephone to discuss the tabulated data, their summaries, and impressions of the data. Three researchers (AD, IB, KK) attended each triad meeting to enable cross-triad continuity. Following this the entire research team met to discuss the results of the triad meetings and aggregate data from each of the categories within our data extraction tool.

2.3 Key Informant and Focus Group Interviews

We conducted semi-structured telephone or in-person individual interviews in English or French with key stakeholders and conducted four focus groups. These are described in more detail in the following sections. Ethics approval was obtained from McMaster University Research Ethics Board (Appendix J). All interviews were audio-taped, transcribed and checked for accuracy.

Individual Interviews

The individual interview participants were selected purposively by the research team in consultation with our Advisory Board. Our aim was to constitute a pan-Canadian, multidisciplinary and multi-sectoral sample. Since APN role implementation is occurring world-wide, we elected to include international participants to obtain a broad perspective on the issues. A semi-structured interview guide, informed by the PEPPA Framework, was developed by the research team and piloted on four participants (Appendix K). Data collection occurred between August 2008 and February 2009. Each interview participant was sent an information letter and consent form (Appendix L) for signature. The consent form was available in English and French. The French version was translated by one of our team members (KK) and back-translated for accuracy. We interviewed 62 key stakeholders in total. Our sample included CNSs (n=9), PHCNPs (n=8), ACNPs (n=5), administrators (n=11), government policy makers (n=6), regulators (n=7), educators (n=5), physicians (n=7), RNs (n=2), a pharmacist (n=1) and a respiratory technician (n=1). Four of the interviews were conducted in French and the remainder in English.

Focus Groups

Three of the focus groups were a convenience sample of attendees at the International Council of Nurses (ICN) International Nurse Practitioner/Advanced Practice Nursing Network (INP/APNN) conference in Toronto in September 2008. An invitation to attend the focus group was included in the conference package distributed to all participants (Appendix M). A total of 15 individuals participated. The group size ranged from 3-6 participants. Each focus group was conducted by two members of our research team, one as interviewer and the other as recorder and observer. The questions used to guide these focus groups can be found in Appendix N. The fourth focus group was a purposively selected sample of ACNPs from Ontario (4 participants). We chose to use a focus group interview for these APNs for convenience since they worked in the same setting. The interview guide for individual interviews was used for this group. All focus group interview participants signed a consent form.

Diversity of the Interview Sample

In the interest of having as diverse and representative a sample as possible, we chose to continue interviewing even after data saturation was achieved. In total, through focus groups and interviews, we collected data from 81 individuals:

FOCUS GROUPS (4 FOCUS GROUPS WITH A TOTAL OF 19 ATTENDEES):

- ▼ 3 focus groups with a total of 15 attendees at the INP/APNN conference representing all types of APNs as well as educators, administrators and government staff involved with educating, supervising or deploying APNs. The majority of participants were from Canada; others were from the United States and Australia;
- ▼ 1 focus group of 4 ACNPs from Ontario.

INTERVIEWS (n = 62):

- ▼ 22 APNs who included:
 - ▼ 9 CNSs (5 from three provinces in Canada and 4 from the US)
 - ▼ 8 PHCNPs (5 from three provinces and two territories in Canada, 2 from the US, and 1 PHCNP-researcher from the UK)
 - ▼ 5 ACNPs (4 from three provinces in Canada and one from the US);
- ▼ 11 nurse administrators from five provinces;
- ▼ 6 government informants from five provinces (5 in Chief Nursing Officer or Nursing Policy Analyst positions within their provincial/territorial governments and 1 without a nursing background);
- ▼ 7 regulators, 6 from Canada (representing six provinces/territories);
- ▼ 5 educators, 3 from Canada (representing three provinces);
- ▼ 7 physicians (3 family physicians and 4 specialists from five provinces);
- ▼ 4 healthcare team members (from three provinces) including 2 RNs, 1 pharmacist and 1 respiratory therapist.

The geographical distribution of the 62 interview participants is found in Appendix O.

Analysis of Individual and Focus Group Interviews

An initial coding structure of emergent themes from the interviews was developed by the interviewer and one member of our research team (IB). This draft coding structure was then integrated by three members of the research team (DBL, IB, AD) into a broader, theoretically informed framework based on two papers by the co-principal investigators^{24,25} (DBL, AD) about factors influencing APN role integration (Appendix P). To enhance the rigor of this analytic framework, three members of our research team (DBL, IB, AD) and the four individuals who would be doing the coding each used the framework to independently code one transcript and discussed their coding. Two members of the research team (JA, KK) and two research assistants then went on to use the framework to code all the transcripts, following which they extracted excerpts and prepared summaries according to type of stakeholder. Canadian and international interviews were summarized separately. French interviews were coded by a French-speaking member of our team (KK).

Integration of Scoping Review and Interview Results

In summarizing the results, we integrated findings from the scoping review and interviews looking for themes that were similar and leading to the same conclusion and themes that were complementary or that were contradictory.²⁶ With respect to the key barriers to and facilitators for APN role integration, we concentrated on Canadian literature from 1990 forward because we felt that barriers or facilitators identified pre-1990 might be outdated.

In the following sections, we summarize literature and interview data to provide a description of APN role definitions, competencies and current deployment (Section III) and to outline key barriers to and facilitators for APN role integration (Section IV). In Section IV, we also include implications identified by the Advisory Board and research team for each theme.

III. APN ROLE DEFINITIONS, COMPETENCIES AND CURRENT DEPLOYMENT

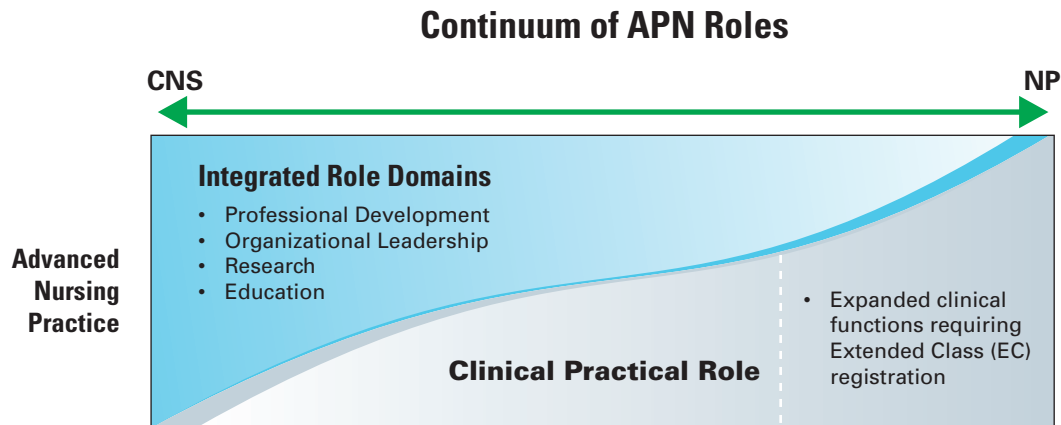
3.1 Role Definitions, Competencies and Models

Over the last several years, the International Council of Nurses NP/APN Network has conducted an on-line survey to describe APN roles as they have been developing around the world. Survey results demonstrate increasing international agreement about the main features and competencies of APN roles.²⁷⁻²⁹ An international review identifies generic features of APN roles including: the use of knowledge in practice, critical thinking and analytical skills, clinical judgment and decision-making, professional leadership and clinical inquiry, coaching and mentoring, research and changing practice.³⁰ Appendix Q compares the International Council of Nursing²⁸ and Canadian descriptions of APN roles. International views about core characteristics, scope of practice, competencies and education are consistent with Canadian definitions of advanced nursing practice and CNS and NP roles.^{31,32}

The CNA (2008)⁵ framework on advanced nursing practice outlines features common to all APN roles in four notable areas (see Appendix Q). First, the framework emphasizes that CNS and NP roles are clinical practice roles and it is the clinical care of patients through a direct relationship or supportive and consultative interactions that distinguishes advanced practice nursing from other types of nursing roles such as nurse educators or managers. APNs also provide a higher level of clinical practice that includes but may extend beyond the scope of practice for an RN. Second, like all RNs, the prime purpose of APN roles is to optimize health; thus health, health promotion and disease prevention are a focus of CNS and NP roles. Third, in addition to clinical practice, APN roles have other responsibilities for improving nursing practice and the delivery of health services requiring competencies related to collaboration, education, research, leadership, change management, and professional development.^{5,7,33} Finally it is the integration of these competencies that makes APN roles advanced, although there are differences in how CNS and NP roles integrate or operationalize these competencies.

Understanding the differences between CNS and NP roles is challenging because they share common role competencies. Figure 2 illustrates the differences between CNS and NP roles. At one end of the continuum, CNSs have greater role responsibilities and spend proportionately more of their work time on education, research, organizational leadership and professional development activities and may have fewer responsibilities related to direct clinical practice. At the opposite end of the continuum, NPs have greater clinical role responsibilities and spend more of their work time providing direct patient care compared to other role activities. Another important difference relates to scope of practice. CNSs are authorized to perform the same controlled acts as an RN. However, NPs have expanded clinical functions and legislated authority to perform additional activities (i.e., diagnose, order tests, prescribe medication) traditionally performed by physicians.

Figure 2: Continuum of APN Roles



Bryant-Lukosius, D. (2004 & 2008). *The continuum of advanced practice nursing roles*. Unpublished document.

The diagonal line in Figure 2 illustrates the fluid or flexible nature of APN roles. By definition, APN roles are purposefully dynamic and continually evolving in response to the changing contexts and healthcare needs of patients, organizations and healthcare systems.^{28,34} Our key informants noted that this context-dependent nature of advanced practice nursing made it difficult to understand the roles. No two CNS or NP roles are alike and the balance of clinical and other responsibilities for individual roles may vary and shift with changing patient health needs and practice priorities in the work environment.

Several Canadian models of advanced nursing practice^{35,36} and NP roles³⁷ have emerged in the last five years and support similar competencies outlined by the CNA (2008).⁵ The University Health Network model emphasizes patient-centredness as the core of APN roles,³⁵ while health is the central focus of a model of NP practice.³⁷ In the Capital Health model, the patient is the focus of the NP and nursing practice is the focus of the CNS.³⁶ One of the first Canadian models differentiated advanced and basic nursing practice and the sophisticated level of specialization and expertise APNs require to effectively manage a range of health problems and to improve care delivery.³⁸

3.2 Operationalization and Deployment of APN Roles in Canada

Appendix A summarizes the NP workforce in Canada between 2003 and 2007.¹⁰ During this period, the number of provinces and territories employing NPs increased from six to eleven and only the Yukon had yet to introduce the role. The deployment picture for CNSs is somewhat different, with roles reported in all jurisdictions in 2004. However between 2004 and 2006, the number of CNSs declined in four provinces or were no longer present in two provinces or territories.^{12,39} The greatest losses occurred in Ontario and British Columbia but there was a modest rise in the number of CNSs in Newfoundland, Nova Scotia, Quebec and Saskatchewan.

Of the 335 papers written about APNs in Canada that we reviewed, 121 of these were primary studies (35%), but only 10 of 121 (8%) focused on CNSs while 98 (81%) focused on NPs (see Appendix I). Consequently we know very little about how the CNS role is enacted across the country. This may explain why some key informants found CNS roles difficult to understand and why CNSs felt they were seen as a “jack of all trades”. In the United States, CNSs are defined as having three spheres of influence: patients/populations, nurses/nursing practice and organizations/health systems.⁴⁰ These spheres of influence and the potential capacity for CNS roles to significantly impact the Canadian healthcare system are also evident in our key informant interviews and literature review. As in Figure 2, key informants viewed the CNS role as more

varied than NP roles with greater involvement in integrative functions and supporting other health providers and leading education, evidence-based practice, quality assurance, and program development activities. Administrators who participated in our key informant interviews felt the strength of CNS roles was their ability to blend clinical expertise with leadership and research skills to support administrative decision-making and to achieve academic agendas in teaching hospitals. CNSs use varied sources of evidence to influence decision-making at the bedside and administrative levels⁴¹ and report that their research, education and administrative knowledge and skills are necessary to effect change at the individual, unit and organizational levels and improve patient care.⁴² Key informants also identified that CNS interventions were systems-oriented, population-focused or staff-targeted. For the most part, key informants felt that CNS roles had limited clinical practice involvement with notable exceptions in oncology and palliative care, where CNSs had extensive clinical roles in pain and symptom management and care coordination. In contrast, Canadian studies described a number of ways CNSs were involved in direct patient care including the assessment and management of acute and chronic illnesses, health promotion, discharge planning, care coordination and education.^{31,43-46} CNSs also work in a variety of specialty areas that have been defined by types of illness such as cancer and cardiovascular disease,^{47,48} health needs such as pain management,⁴⁹ types of care such as palliative care,⁵⁰ or age including pediatrics, neonatology or gerontology.^{44,46,51}

Key informants agreed that NP roles were more clear-cut and had greater emphasis on providing direct clinical care compared to CNS roles. Workload estimates of NP involvement in direct clinical care varied from 60% to over 90%. In Appendix Q, the CNA (2005)³⁴ Core Competency Framework does not make clear distinctions between types of NP roles and emphasizes clinical practice and expanded NP role competencies. ACNP and PHCNP roles were described by key informants as patient-focused and providing a range of services to manage acute and chronic illnesses, with ACNPs concentrating more on specialty areas similar to those reported in studies of CNSs. PHCNPs are more likely to provide episodic care for minor injuries and illnesses such as infections and preventative care such as immunization, lifestyle counseling and cancer screening for well populations.⁵²⁻⁵⁵ ACNPs described their role in providing consultation, clinical support and education for physicians and nurses. ACNPs also tend to be more involved in research and academic responsibilities compared to PHCNPs. Studies of practice patterns indicate that ACNPs spend over 80% of work time providing clinical care⁵⁶ and had longer hours and less control over their workload compared to PHCNPs.⁵⁷ A number of papers highlighted the technical components of ACNP roles in providing a variety of patient assessments, diagnostic tests and procedures.^{56,58-61}

In the 1990s, the addition of CNS to the title of Canadian NP roles in acute care, particularly in neonatology, was introduced to legitimize non-clinical activities known to be important for NP job satisfaction and retention.^{8,9} Key informants and the literature⁶² describe current CNS/NP practice that is consistent with the ACNP role involving the clinical care of complex medical problems and patient care planning and coordination, in addition to leadership, consultation, and research. Given that non-clinical role dimensions have been proposed as essential components of all APN roles, the need for a separately titled CNS/NP, in addition to the ACNP role, is redundant and key informants in CNS/NP roles did not support a blended role title.

Drawing on our review of the literature and key informant interviews, Appendix R uses cancer care as a model to provide some examples of how PHCNP, ACNP and CNS roles may be implemented to provide advanced nursing services. This summary shows various ways APNs can collaborate and illustrates the high level of interprofessional collaboration associated with these roles. An Ontario study found that oncology CNSs and ACNPs saw themselves as collaborative members of health teams.³¹ APNs were found to be instrumental in promoting interprofessional collaboration because they engaged other disciplines in education, research and other scholarly activities. They also assessed and identified a broad range of patient and family healthcare needs while referring to, and consulting and working with, various health professionals and services to address these needs.

3.3 Practice Settings

APN roles of all types can be found in a variety of practice settings (Appendix Q). CNS^{63,64} and ACNP roles^{9,65-69} are typically found in acute care settings such as inpatient units, critical care units, and hospital-based clinics. Recent reports have documented an outreach of ACNP roles to emergency departments,⁷⁰ the community, rehabilitation and primary care settings,^{71,72} while CNS/NP roles have been reported only in hospital settings.^{18,73-75} PHCNPs describe themselves as the backbone of rural healthcare in Canada and are most likely to be found in community and primary healthcare settings.⁷⁶⁻⁷⁸ More recently, PHCNP roles can be found in emergency departments,⁷⁰ long-term care,^{79,80,81,82,83} inpatient and hospital-based clinics^{14,52,84} and public health units.^{83,85}

While the majority of NPs in northern communities provide primary healthcare to the whole community,^{86,87} there are also specialty NPs who focus on specific needs of a specific population, such as the five master's-prepared NPs who worked in the Northern Alberta Renal Program.⁸⁸ The ability of many NPs to be adaptive and flexible to a variety of population and health system needs,⁵⁴ combined with the shortage of providers in northern communities⁸⁹ has facilitated the acceptance and integration of the NP role into the northern healthcare system in Canada.

There are also many nurses who work in rural and remote practice settings, especially with aboriginal communities, who are not NPs but who function in expanded roles. These nurses are often the only health provider in their communities. Lack of role support, education and practice standards has raised concerns about quality assurance and has led to challenges in recruiting and retaining nurses in these communities. In 2005, the Office of Nursing Services for the First Nations and Inuit Health Branch of Health Canada⁹⁰ introduced 16 full-time-equivalent CNS positions across Canada to address concerns in three key areas: maternal and child health, mental health and chronic disease/diabetes. These innovative CNS roles are responsible for nursing education and developing standardized orientation programs, clinical and professional development, and improving communication between nursing leadership and front-line staff. A significant challenge in introducing these community-based roles has been the limited pool of CNSs available to fill the positions.⁹⁰

3.4 Education

The recommended educational standard for APNs in Canada and internationally is a master's degree from an accredited NP and/or graduate nursing program.^{5,28} In 2006, 15.2%, 61.9% and 22.9% of PHCNPs had a diploma, baccalaureate or master's degree respectively.⁹¹ These figures are highly influenced by NPs in Ontario who represent the majority of PHCNPs in Canada and who are educated at the post-baccalaureate level, while most other provinces require graduate degrees. There is greater variability in education among PHCNP roles, especially in rural and remote settings where there is limited access to NP education programs and shortages of health providers.⁸⁹ Some provinces such as Ontario and Newfoundland are in transition and offer PHCNP programs at both the baccalaureate and Master's level. Government concerns about "creeping credentialism" or increasing entry to practice requirements for health professions may impact future APN education policies.^{92,93}

Aside from neonatology, most provinces offer generic graduate nursing or NP programs that are not specialty-based for APNs working in areas such as oncology and cardiology. The exception to this is in Quebec where they have phased in specialty-based NP or ACNP roles in cardiology, neonatology and nephrology.⁹⁴ In generic APN education programs, faculty may not have specialty-based expertise so students need to seek out learning opportunities to develop knowledge and skills in their desired specialty. Our CNS key informants felt their education programs were too broad. An important gap in Canada is limited access to specialty

education and lack of specialty certification. Currently specialty certification in Canada exists at the basic but not advanced level of nursing practice. Specialty education is important for developing role confidence and APN job satisfaction³¹ and for developing self-confidence and ability to solve complex problems.⁹⁵

In the United States, there are programs providing a blended CNS/NP curriculum. However, the national association for CNSs in the United States does not recommend blended or merged APN education programs or those that prepare students to obtain certification as both a CNS and an NP because they are felt to diminish the unique contribution of CNS roles and to blur role boundaries.⁴⁰ Similarly, key informants who were Canadian nurse educators also stressed the importance of separating NP and CNS education programs to develop distinct roles and competencies and to avoid role blurring and confusion.

3.5 Regulation and Scope of Practice

Scope of practice refers to activities that nurses are educated and authorized to perform through legislation and standards of practice outlined by professional nursing bodies.³⁴ In most Canadian jurisdictions, NP legislation and regulations give NPs authorization to diagnose, order and interpret diagnostic and screening tests and prescribe medication.⁹¹ The exceptions are in the Yukon, where new legislation to support NP practice is under development, and in Quebec, where establishing a primary diagnosis remains the exclusive domain of physicians.⁹⁴ In Quebec, only nurses such as NPs in neonatology, nephrology or cardiology, who have completed a specialist certificate in addition to master's education, can call themselves specialists.⁹⁴ Plans are also underway to develop specialist certificates in mental health and infection control. Specialist certificates are not available for CNSs and thus the title CNS is not formally recognized and the future of CNS roles in Quebec is uncertain.

In Canada, the scope of practice for the CNS is the same as that of the RN and additional legislation and regulations are not required. We found few reports of Canadian CNS involvement in diagnostic or prescribing activities, while in the United States prescribing medications may be a hidden activity of many CNSs, particularly related to pain and symptom management.⁹⁶ The national association for CNSs in the United States supports prescriptive authority and some states already have legislation in place for CNSs who have completed additional pharmacology training and registration exams.⁹⁷ Globally, government policies to create a more flexible workforce and to maximize the expertise and scope of practice of existing health providers have also led to expanded prescribing practices for a variety of nursing roles⁹⁸ and other providers.⁹⁹

3.6 Liability Protection

Liability protection or the need to ensure that NPs working in collaborative relationships with physicians have adequate personal liability or malpractice protection is an important issue identified in the literature and by several key informants, including administrators, regulators, government policy makers and PHCNPs. In contrast, no issues related to liability for CNSs were identified by key informants or in the literature. Over the last decade, expanding scopes of practice among health professions, increasing emphasis on the delivery of interprofessional healthcare services and greater physician collaboration with NPs and other healthcare providers have increased physician concerns about legal liability.^{100,101} Of particular concern for physicians is that they could be financially responsible for lawsuit claims involving joint care if NPs had insufficient malpractice coverage. Two joint policy statements by the CNA, the Canadian Medical Association (CMA), and the Canadian Pharmacists Association (CPhA)¹⁰² and by the Canadian Medical Protective Association (CMPA) and the Canadian Nurses Protective Society (CNPS)¹⁰³ provide principles and criteria for defining scopes of practice and clarified liability issues.

The CNPS provides professional liability coverage to NPs in all provinces and territories, except British Columbia and Quebec, where NPs obtain liability insurance through their registration with the provincial College of Nurses.¹⁰⁴ In response to physician concerns, the CNPS improved NP coverage in 2004 by providing “tail coverage” (protection extends from the date of the incident, regardless of when the claim is made even if the NP has left the practice or the policy has expired) and increasing the amount of professional liability coverage for NPs to \$5 million per incident and an annual aggregate of \$5 million. At the policy level, these improvements have addressed most physician concerns about NP liability protection^{101,103} and NPs are felt to have sufficient liability protection.^{14,105} The literature also indicates that overall liability risks are low and malpractice claims for NPs in Canada and the United States are exceptionally rare.^{106,107} But as our key informants indicate, at the individual level, many physicians still have concerns about liability. Physician and pharmacist concerns about NP liability issues primarily relate to lack of understanding about role autonomy and professional practice, particularly when multiple healthcare providers are involved.⁷⁸ A compounding issue is that of vicarious liability in which employers may also be liable for damages if an employee is found negligent.¹⁰³ The majority of NPs in Canada are not independent contractors but employees. As such NP employers, such as physicians or healthcare agencies, require insurance coverage for vicarious liability claims.

3.7 Nursing Leadership and Reporting Structures

Many key informants and reports related to APN¹⁰⁸ and NP¹⁰⁹⁻¹¹² and CNS¹¹³ roles identified the importance of nursing leadership in introducing and integrating the roles within organizations. Similar findings have been reported in the international literature²⁴ where the involvement of senior nursing administrators in developing the role was found to be critical for linking APNs to organizational priorities to improve nursing practice. As more organizations have moved to program management, many APNs report to supervisors who are not nurses but are from allied health or business backgrounds. Some NPs may also report to medical directors or other physicians. While there is limited research about the most effective models of APN role supervision, reporting to a senior nurse administrator may be important for negotiating the continued implementation of the role, addressing nursing practice related role barriers, role socialization and supporting the development of a nursing orientation to practice.²⁴

3.8 Role Evolution

The role of APNs in global and Canadian healthcare systems has never been stronger. As clinical experts, leaders, and change agents, there is high worldwide demand for APN roles as a strategy for developing sustainable models of healthcare^{24,29} The development of provincial legislation across the country to support autonomous practice, increasing numbers of graduates and deployment of new positions across acute, ambulatory, community, long-term care and public health sectors are just a few indications of the progress that has been made to integrate the NP role in the Canadian healthcare system. The same cannot be said about the CNS role, where there is a paucity of literature in Canada. Lack of protected role titling and credentialing has made it difficult to track CNS roles, but current estimates indicate a loss of almost 500 positions between 2004 and 2006.¹² Many of our key informants had limited knowledge of or exposure to CNS roles and some felt the role had “lost favour” with the rise in NP roles.

A number of issues emerged from an examination of the summary of Canadian and international publications by type of APN role since the 1970s (Appendix I). In the 1970s, a large number of papers were written about PHCNPs who during that time were introduced in response to physician shortages.^{63,114} Compared to the 1970s, there was a marked decline in APN publications during the recession years in the 1980s and 1990s when

cost containment policies and a perceived oversupply of physicians led to elimination of NP roles and loss of NP education programs.⁷⁹ Between 2000 and 2009, there was a steady rise in APN publications nationally and internationally with a tripling of Canadian APN publications in the last 5 years. During this period, the number of Canadian publications about PHCNPs was almost twice that of any other APN role. Compared to CNS-related publications, PHCNP and ACNP publications were more likely to be primary studies as opposed to essays. The increasing publications and interest in the PHCNP role correspond with provincial and national primary healthcare reform policies, funding of PHCNP education programs and roles, and investments in role supports such as the Canadian Nurse Practitioner Initiative.^{34,115} In contrast, interest in the CNS was less, as evidenced by the lack of academic publications and an absence of provincial or national policies or investment supporting the development of this role. Canadian key informants in CNS roles identified a lack of CNS representation at policy- and decision-making tables that influence their practice.

In striking contrast, over the past six years in the United States there has been an influx of CNS-related publications and policy activities driven by the National Association of CNSs^{40,116} to establish a national vision,⁹⁷ clarify credentialing and certification issues,¹¹⁷ increase enrollment in CNS education programs⁴⁰ and document the impact of the role on patient, provider and health systems outcomes.¹⁷ There are also numerous reports of innovative CNS practice in a variety of areas in the United States, including perioperative care,¹¹⁸ cardiovascular care,¹¹⁹ emergency care,⁹⁶ rapid response teams,¹²⁰ and a shared care CNS-MD model.¹²¹

In Canada, cutbacks in the 1980s and mid-1990s led to the elimination of many CNSs followed by a return of some positions to fill gaps in nursing practice that were created by losses of nurse educators and managers in the late 1990s.¹²² Key informants suggest that recent government policies related to accountability, patient safety and quality of care have stimulated new interest in the CNS role. However, with the economic downturn, there is a possibility that CNS roles may once again be in jeopardy. Despite abundant international evidence documenting the positive outcomes of CNS roles (Appendix C), there is no national nursing or healthcare policy agenda in place to secure the long-term sustainability of this role. Of our key informants, only healthcare administrators, educators and CNSs themselves could articulate the influence these roles have on patients, the nursing profession and the Canadian healthcare system.

An important landmark in the continued evolution of APN roles in Canada was the 2001 funding of a 10-year Chair in Advanced Practice Nursing by CHSRF and CIHR. The goal of this Chair program is to increase Canada's capacity of nurse researchers who will conduct applied research related to APNs that serves the needs of clinicians, managers, and policy makers in the health sector.¹²³ This goal is achieved through a number of activities including the education of nurse researchers at the graduate level, linkage and exchange with decision makers to ensure policy relevance and the dissemination and uptake of research results, mentoring of junior faculty and postdoctoral fellows to launch an APN-related research program, and conducting research to inform the utilization of APNs across Canada. Between 2001 and 2008, the Chair program accepted 23 graduate students from across Canada (6 MSc and 17 PhD) and funded three junior faculty, each of whom has been successful in obtaining post-doctoral fellowships. Over 65 APNs from across the country have also participated in a graduate-level APN-specific research methods course. APN Chair students and faculty are conducting research about CNS and NP roles in various specialties and patient populations such as long-term care, primary care, oncology, cardiology, and rural/remote settings.¹²³ Through its linkage and exchange activities, the APN Chair program has connected decision-makers, NPs and CNSs across Canada and has been involved in or informed a number of APN policy initiatives^{5,122-126} and international events such as the International Council of Nurses NP/APN Network conference. In 2011, the funding for this program will end and there are no immediate plans in place to ensure continued support to develop APN-related research in Canada.

IV. KEY BARRIERS, FACILITATORS AND IMPLICATIONS FOR THE EFFECTIVE DEVELOPMENT AND UTILIZATION OF APN ROLES

Review of the Canadian literature (from 1990 forward) and transcripts of key informant interviews revealed a multitude of barriers to and facilitators of APN role development and utilization. These have been summarized below in eight themes: 1) Role development and introduction; 2) Role clarity and awareness; 3) Educational preparation; 4) Legislation and regulation; 5) Role implementation; 6) Intra-professional and inter-professional relationships; 7) Funding; and 8) Evidence. Table 1 lists the themes as well as their related subthemes.

Table 1: Themes and SubThemes

1. Role Development and Introduction <ul style="list-style-type: none">↳ Ad hoc role development and implementation↳ Overlapping scopes of practice↳ Utilization of the APN role↳ Recruitment and retention↳ Fragmented approach to APN role integration	4. Legislation and Regulation <ul style="list-style-type: none">↳ Scope of practice↳ Title protection
2. Role Clarity and Awareness <ul style="list-style-type: none">↳ Role clarity↳ Titling↳ Healthcare team awareness of APN roles↳ Public awareness of APN roles	5. Role Implementation <ul style="list-style-type: none">↳ Organizational and health system environment↳ Interprofessional collaboration↳ Union membership
3. Educational Preparation <ul style="list-style-type: none">↳ Educational requirements across Canada↳ Curriculum issues↳ Mismatch between education and practice↳ Resources↳ Funding↳ Continuing education	6. Intra-Professional and Inter-Professional Relationships <ul style="list-style-type: none">↳ Between CNSs and NPs↳ Between APNs and healthcare team↳ Between APNs and physicians
	7. Funding <ul style="list-style-type: none">↳ APN role funding↳ Remuneration
	8. Evidence <ul style="list-style-type: none">↳ Producing and using evidence

Approach to Summarizing Data

The description of each subtheme will include, where available, a summary of the pertinent literature with corresponding references as well as key points raised by informant groups during the interviews. Informant type who identified the barrier and/or solution is identified directly in the text using abbreviations (Admin – Administrator; Educ – Educator; Govt – government; HCT – healthcare team; MD – physician; Reg – regulator; ACNP; CNS; PHCNP; INP/APNN – focus groups at INP/APNN conference). While key informants were asked questions during the interviews about both CNSs and NPs, there were some groups who spoke predominantly about NPs and these included the government informants, regulators, physicians, and healthcare team members. At the end of each theme, we have summarized the implications as identified by our Advisory Board and research team.

4.1 Role Development and Introduction

Ad Hoc Role Development and Implementation

PLANNING

Organizations often create new APN roles without first formulating well-defined goals based on a systematic needs assessment and a clear understanding of APN roles.^{24,63, 127,128} Key informants (Reg, Admin, Educ, PHCNP, ACNP) noted that poor planning for APN role implementation under tight time pressures, sometimes in response to funding availability, was a barrier to the successful integration of APNs. Informants (Reg, ACNP, PHCNP) reported that the identification of a service need or practice gap that an APN role could subsequently fulfill was a significant factor in determining the success of APN integration, including the identification of the best type of APN to fill the position.

The importance of undertaking a systematic process to assess patient/community needs; develop the APN role to address those needs; and introduce, implement, and evaluate the role was emphasized both in the literature^{24,31,89,127,129} and interviews (HCT). Specifically, common objectives and goals should be created for the position,^{13,24,130} as well as a defined job description that addresses the assessed needs and organizational goals.^{70,113,131,132} The development of guidelines, expectations and priorities for the APN role as well as the creation of a supportive environment facilitate implementation.^{24,133,134} Cummings & McLennan (2005)¹³⁵ discussed the importance of individualizing the role to ensure a good fit between the role requirements and the APN filling the role. Administrators suggested that APN roles need to be dynamic and continuously negotiated based on the needs of patients, organizations, and the healthcare system and on the skill sets of the APN. Upfront planning for APN recruitment, implementation and retention were recommended.^{133,134}

STAKEHOLDER INVOLVEMENT

Stakeholders include patients and families, advocacy groups, volunteer agencies, healthcare organizations, the healthcare team, healthcare providers, professional associations, support staff, administrators, educators and government agencies involved in health policy and funding.²⁵ Stakeholder participation at the onset of APN role development is critical for ensuring commitment to and providing support for planned change, even if it may lengthen the process.¹³⁵ Administrators noted that lack of stakeholder involvement contributed to lack of role clarity.

Patients are active participants in their own health and are experts regarding their healthcare needs.²⁵ Families provide home care and patient support. Patients and families can provide a balance between medical and administrative viewpoints, increase awareness about the human dimension of healthcare, and identify inefficiencies and lack of coordination among health services.²⁵

Informants (Govt, Admin, MD) emphasized the importance of the early involvement of key stakeholders in planning and implementing APN roles. NP role implementation was reported to be successful in regions where there was cooperation among sectors including practice, education, government, and regulatory bodies. The use of working groups to establish scope of practice protocols and accountability of the APN has been reported.¹³⁶ There was a sense that strategies to enlist stakeholders have had good results in gaining support and addressing concerns raised by stakeholders (Admin).

“it is really important to choose the appropriate NP role. And that’s based on the population need, the fit among the individual NP, the position, other stakeholders and in some cases, the community.” [Policy maker]

Overlapping Scopes of Practice

There is an increasing appreciation of the overlap in scope of practice among healthcare providers and for NPs and physicians in Canada, the extent of this overlap has, at times, created tensions. Because their role does not overlap with that of physicians, these tensions do not arise in the case of the CNS. Both the literature and our key informants (Reg, INP/APNN, HCT, Educ, Govt, Admin) identified inadequate numbers of physicians as a major impetus for the introduction of both PHCNPs and ACNPs. In the late 60s and early 70s, physician shortages, first in the north, and then in the south, prompted an expansion in the role of RNs in primary healthcare to include diagnostic and treatment functions. In acute care, this occurred in the early 90s when pediatric residency positions were cut back in anticipation of a physician surplus, and neonatologists and nurses collaborated to create the CNS/NP role.¹⁸ Since then, for similar reasons, the ACNP role has been introduced in other provinces; for example, in Quebec, ACNPs work in cardiology, nephrology, and neonatology. A survey of Canadian hospitals found that 46% of new APN roles were developed to support physicians and to provide services traditionally performed by physicians.¹²⁷

The extent of shared scope of practice between NPs and physicians depends on a number of variables including the setting and the needs of the patient population. While part of their scope of practice is shared, both NPs and physicians have distinct areas of knowledge and expertise. In our interviews, we found tensions related to the distinct areas of the ACNP role and the overlapping areas of the PHCNP role. With the ACNP role, regulator informants noted a discrepancy between nurse administrators and hospital physicians about the amount of time ACNPs spent in direct patient care. While physicians wanted the ACNP’s time to be spent mainly or exclusively in clinical practice, administrators wanted protected time for the ACNP to engage in leadership, research and education as well as clinical practice, and is so doing, to be more aligned with nursing. The nursing literature describes the concern that a nursing orientation to practice and participation in nursing activities may decline as APN roles become more medically driven.^{24,66}

In primary healthcare, and to a lesser extent in acute care,¹³⁷ the tension has focused on the overlapping scope of practice and the extent of autonomous or independent practice of the NP.²³⁹ For example, NP-led clinics, recently introduced in Ontario, have been met with strong opposition from the medical association.¹³⁸ The NP-led clinic has been developed by the Ontario Ministry of Health and Long-Term Care as a model of care in which NPs work in collaboration with physicians to provide healthcare to patients who previously did not have a primary healthcare provider. The NPs run the clinic and collaborate with part-time physicians on cases that go beyond their scope of practice.

In our interviews, some physician informants identified a professional culture clash in which they were looking for assistants while NPs wanted independent practice. Perhaps related, physician assistants (PAs)

have been introduced in a number of provinces. According to HealthForce Ontario (2007),¹³⁹ “physician assistants are highly skilled healthcare professionals educated in the medical model who work under the supervision of a registered physician in a variety of clinical team structures and settings....The PA profession is not regulated in Ontario. As such, medical care provided by the PA must be supervised by a registered physician and follow a recognized process of delegation. The PA is not an autonomous healthcare provider, and cannot act as the principal decision maker” (p.5).¹³⁹

In a State of the Union address issued by the Chair of the Section on General and Family Medicine of the Ontario Medical Association (2008), this culture clash was articulated. He described PAs as allowing for the preservation of the physician-patient relationship and providing true collaboration while NP collaboration with MDs was loosely defined and involved consultation rather than preserving the patient/MD relationship; PAs worked with MD supervision while NPs were encouraged to work independently without MD supervision (e.g., NP-led clinics); PAs could prescribe from a list of MD-identified medications while NPs prescribed autonomously; and finally, the scope of practice of PAs was determined by the MD while the scope of practice of NPs had expanded greatly in recent years and they were seeking to refer directly to specialists.

In the key informant interviews, there was a mixed perception about whether the introduction of PAs would be a barrier to implementation of the APN role. While regulators identified a potential for further role confusion, they did not see the PA as a threat to the NP role. Some administrators felt there was adequate work for both, while others felt that physicians would provide less support to NP roles. ACNPs and CNSs perceived that the PA would negatively influence NP implementation and practice more than that of the CNS. Some (ACNP, PHCNP) saw the PA in direct competition for NP funding and positions. Physician informants expressed concern about the casual process for development of a PA curriculum. Administrators noted that if PA salaries were lower than those for NPs, this role may receive greater support. They also recommended ensuring that the NP role was different from the PA role.

The overlapping NP scope of practice has created concerns related to liability. Physicians have expressed a lack of clarity regarding their medico-legal responsibility when in practice with an NP, the adequacy of NP liability insurance coverage and vicarious liability.^{55,76,78,79,84,89,128,134,140-145}

In some jurisdictions in Canada, ACNPs utilize medical directives to function to their full scope of practice; this is seen as a barrier for the ACNP⁷¹ and a key informant (Admin) spoke about physician discomfort with their responsibility for the medical directives. In primary care, a government informant noted that the joint position statement between the CNPS and the CMPA has allayed fears around liability issues; however, in some jurisdictions, the NP is not obliged to choose CNPS coverage and other malpractice insurance plans may not be as comprehensive. With respect to scope of practice, in some jurisdictions, tension has arisen regarding prescribing authority, admission and discharge privileges and referrals to specialists, which relate to the level of autonomy of the NP.

In addition to physician shortages, many other drivers for APN role introduction were identified including primary healthcare reform, increased prevalence of chronic illnesses, an aging population, large numbers of cancer and cardiac patients, and wait time management (Reg, INP/APNN, HCT, Educ, Govt, Admin). Some physician informants stated that they preferred a model of service delivery where physicians and NPs complemented each other's role and they identified the NPs' specific skills that added value such as community development, continuity of care, coordination of care, discharge planning, linkages with the community, quality improvement activities, patient teaching, and support to patients in self-management.

Regulators noted that NPs were unsure of what would happen when physician numbers increased. Historically, there has been some evidence that as physician supplies increase, the role of the NP becomes vulnerable and for this reason, van der Horst (1992)¹⁴⁶ writes about the need to ensure the sustainability of the role rather than viewing it as a gap-filler.

Utilization of the APN Role

APNs value the non-clinical aspects of their role, and these activities contribute to role satisfaction.^{24,56} However, insufficient administrative support and competing time demands associated with clinical practice are frequently reported barriers to participating in education, research and leadership activities.^{24,42,56,66,71} Time allocated for each role domain varies among APN roles, but a balance between clinical and non-clinical activities facilitates innovative nursing practice. Clearly defined goals are important for identifying strategies to support the implementation of role priorities.²⁴ In their report focused on strengthening primary care, the Nova Scotia Department of Health (2004)¹⁴³ identified a need for protected time for PHCNPs to plan and implement community-based health programs. Of concern is the finding that APNs often lack the knowledge, skills, experience and resources to participate in research activities.⁵⁶

Administrators recommended that APNs have a multi-dimensional role including clinical practice, education, research and leadership as well as project management and quality improvement. Consistent with this, ACNPs identified the need for protected time for non-clinical activities. For ACNPs, adding the non-clinical functions to a heavy patient care load tended to create high or unrealistic expectations and workload, and confusion with the CNS role in the organization. Both administrators and physicians noted a concern that when APNs functioned in highly focused ('silo-specialized') roles such as wait management initiatives or sexual health, their roles were not fully utilized.

Recruitment and Retention

Recruitment and retention challenges were most often identified by regulators. They spoke about the overall shortage of nursing human resources creating difficulty in identifying appropriate candidates for NP positions. This was also reported in the literature.¹⁴⁷ Administrators and some physicians reported recruitment challenges given the high demand for and low supply of NPs. Regulators noted that widely varying salaries for NPs and unhealthy work environments contributed to their moving to other regions, resulting in difficulty meeting the community's needs. They also voiced concern about the Agreement for Internal Trade (AIT), which facilitates mobility of licensed practitioners across provinces/territories, in that it may accentuate retention issues by providing opportunities for NPs to move to higher-salary regions. Gaps were noted for long-term care and home care sectors where NPs could provide an important service. Thrasher & Purc-Stephenson (2007)⁷⁰ identified challenges in recruiting NPs into Emergency Departments because of unawareness of or disinterest in the role. CNSs recommended succession planning to mitigate pending CNS retirements and ACNPs suggested visiting undergraduate nursing classes and encouraging them to pursue education to become APNs. The importance of well-defined recruitment and integration plans, including retention strategies, was emphasized.^{133,134} The literature adds another dimension to the informant interviews in describing the recruitment and retention challenges of APNs for rural underserved sites and outpost practice.^{43,110,148-150}

Fragmented Approach to APN Role Integration

Administrators, CNSs, PHCNPs, and ACNPs noted the variability among educational programs across Canada and called for standardization and national certification in order to allow for greater mobility of APNs across the country; this has also been reported in the literature.¹⁵¹ A lack of co-ordination across Canada was identified by the Canadian Nurse Practitioner Initiative (CNPI) (2005)¹⁰⁵ and in the CNA Advanced Nursing Practice framework (2008)⁵ regarding: 1) NP integration; 2) NP recruitment strategies; 3) a national interprofessional health human resource (HHR) strategy;^{13,76,144} 4) national NP education standards;⁷⁶ 5) a national NP legislative or regulatory framework that would ensure consistent titles, scope and role;¹⁵² and, 6) NP practice models that currently range from restrictive (e.g., formal practice agreements) to more open and autonomous. While the CNPI recommendations pertain to NPs, CNS informants stressed the need for similar co-ordination for CNSs across Canada.

There was a recommendation that the nursing profession work with the provincial and territorial governments to provide leadership in these areas.¹⁵⁷ There currently exists (and has existed for some time) a welcoming political climate for APNs across Canada that may facilitate the creation of a national vision for APNs.¹⁵³

ROLE DEVELOPMENT AND INTRODUCTION – IMPLICATIONS

- ▶ Ad hoc development of an APN role in reaction to health human resource problems, rather than proactive development to meet population health needs, can lead to unsuccessful role integration because it is unclear what need(s) the APN is addressing, which in turn creates poor stakeholder buy-in, role confusion, and inconsistent expectations.
- ▶ Lack of systematic needs-based planning approaches may result in failure to deploy roles to areas of identified priority and lack of access to APN care by patient populations who could benefit the most from these services.
- ▶ When new APN roles are established in isolation of key stakeholders, issues related to role clarity, role boundaries, role acceptance and potential barriers to and facilitators of role implementation may not be addressed.
- ▶ The overlapping scopes of practice of NPs and physicians facilitate patient access to care but this is compromised by misunderstanding of the distinction between autonomous and independent NP practice.
- ▶ The uncertainty of how the introduction of the PA will influence the NP role and funding as well as the sustainability of NP roles that have historically become vulnerable when physician supplies increase may influence recruitment and retention of NPs.
- ▶ Without the support, protected time, and resources to participate in education, research and leadership activities, APNs risk job dissatisfaction and lose the opportunity to develop and/or disseminate new nursing knowledge.
- ▶ Difficulties recruiting and retaining APNs due to unhealthy work environments, uncompetitive salary levels or nursing shortages result in a gap in meeting the needs of patients and/or communities, especially those in underserved remote and isolated areas or in high-need settings such as long-term care.
- ▶ A pan-Canadian approach to APN education, certification, recruitment, legislation and regulatory issues (for NPs), and practice models may be a strategy for promoting role clarity, ensuring consistent and high standards, and facilitating labour mobility.

4.2 Role Clarity and Awareness

Role Clarity

Lack of role clarity occurs when APN roles are not linked to clearly-defined patient and healthcare system goals.^{24,127} Unclear role definitions^{108,237,238,239} and inadequate articulation of APN practice,^{132,154} along with confusing terminology contribute to a lack of role clarity, resulting in underutilization or inappropriate use of the roles and limited actualization of the role.^{13,24,142,155} In instances where the role is clearly defined, there is less physician concern about NP scope of practice and liability.¹⁴²

Regulators, educators, government informants, and administrators consistently commented on the lack of clarity of APN roles. Administrators raised concerns that if the contributions of the role were not clear, there was the risk of losing it during economic downturns or when other roles were introduced. Administrators attributed the lack of clarity to poor planning for the role's introduction and/or lack of stakeholder involvement in the role development.

Regulators noted that role clarity was seen as a bigger issue for CNSs than NPs because the role had many different dimensions and often CNSs defined their own roles based on changing needs of patients, nurses and the organization. Government informants saw the CNS role as amorphous and suggested that more work be done to address the potential for CNSs to contribute to the health system. International educators and government informants noted that employer receptivity requires an understanding of the benefits of the role.

Recommendations to alleviate role clarity issues include the development of a clear description of the role based on defined patient and healthcare system needs and stakeholder involvement,^{24,127} clear articulation of scope of practice,¹³⁴ APN involvement in defining their role,¹⁴² and organizational support for APN full scope of practice.¹⁰⁸ Both CNSs and ACNPs suggested that strategies are required to clarify all the roles and their differences through research and dissemination to the public, healthcare providers, and decision-makers. Consistent with this, the literature emphasizes the need for consensus regarding role definitions and clarity between CNS and NP roles in different settings.^{134,156-158}

One physician proposed that APN role implementation is likely to be successful:

“when there’s a clear definition of what the role is, there’s a clear recognition of the extra expertise that that person brings to bear in the role, where that’s explicit to both the physicians who would be working alongside this person and to the patients, and where the other services recognize the role.” [Physician]

Titling

There was unanimity among informants about the confusion caused by the various APN titles. The ad hoc creation of nursing titles to differentiate practice has accentuated this.^{13,89,152,159} The CNPI (2005)¹³⁴ has advocated for the adoption of consistent titles. ACNPs noted that the ‘clinical’ reference in the CNS title is problematic in that it negates the role’s system-level responsibilities including research, education, administration, and leadership. Co-location of CNSs and NPs in the same organization contributed to role overlap and role title misunderstanding. The emergence of clinical nurse educators was thought to increase CNS role title confusion (ACNP).

Educators, physicians and healthcare team members agreed that the many different titles were confusing. Using common language for both CNS and NP roles created role blurring and further misunderstanding. Administrators felt the use of the title, APN, was least helpful. A physician commented:

“Well, actually I get a little lost in the nomenclature about APNs versus NPs vs CNSs plus or minus Master’s. They’re not well understood I think on the medical side and even for somebody like myself who is actually involved in and supportive of the idea, I still don’t understand a lot of the, as I say, the nomenclature, what the difference is, what the expectations might be.” [Physician]

Healthcare Team Awareness of APN Roles

Lack of healthcare team awareness of APN roles has been identified frequently as a barrier to APN role integration.^{5,6,14,15,36,55,58,62,66,67,70-73,76,79,83,89,109,131,134,137,140,142-144,146,154,155,160-176,239} There was consensus among the informants who addressed this issue (Reg, Admin, Govt, INP/APNN, CNS, ACNP, PHCNP) that other professionals, including nurses, were not aware of the scope of APN practice. Administrators noted that the NP role was understood more easily once people had engaged and worked with the NP; however, they did not believe this was the same for the CNSs. Among the six government informants, this awareness issue was the most commonly identified barrier to and facilitator of successful APN integration. They believed that there was a lack of understanding about the differences between NPs and CNSs among health authority managers and that the roles were only understood by physicians who worked closely with them and by administrators who employed them. They suggested that ACNPs were not working autonomously because of a lack of understanding of potential roles of APNs in acute care settings.

Understanding of the APN role by the healthcare team has been identified as a facilitator to role integration.^{5,15,47,59,67,70,71,75,79,84,108,133,134,135,141,142,143,146,155,160,165,166,167,169,174,176,177,178,179,180} The importance of increasing professional awareness about the APN’s education, certification, scope of practice, roles, and, where relevant, liability coverage has been emphasized.^{5,47,54,59,66,67,76,79,81,109,112,133,136,141-143,153,170,174,181-183,237} Government informants indicated that a strategic communication plan about APN roles is essential to achieving full integration, acceptability and support. There was consensus among informants on the need for strategic communication to educate all stakeholders in order to achieve a broad-based awareness and understanding of the role. Several informant groups also recommended enlisting nurse leaders and physicians as champions to promote the role (Reg, Govt, Admin, ACNP).

Public Awareness of APN Roles

As with healthcare team awareness, inadequate public awareness of APN roles has been identified widely as a barrier to APN integration.^{5,13,52,54,55,66,79,83,89,128,133,134,142,143,146,161,167,171,184-186,237} All the APN groups as well as regulators, administrators, educators, and government informants noted the lack of public awareness of the role. Regulators identified that it was difficult for the public to know the different services provided by different nursing roles, for example, a nurse and an NP in a primary care setting. ACNPs felt there was a greater public visibility and awareness of the NP role than of the CNS role.

Informants suggested a strategic communication plan including public awareness campaigns (Govt). There was a strong recommendation by the APNs that professional nursing leadership bodies take responsibility for a far-reaching communication campaign. One administrator in a regional health authority noted

that by making the work of the role visible, the public support grew and facilitated role implementation. Media releases were suggested. One province issued a media release when the province reached 100 NPs. Research conducted primarily on PHCNPs has shown that once informed about the role, the public is supportive.^{5,6,15,43,54,67,71,76,79,133,136,142,143,155,166,167,179,185,187-189}

ROLE CLARITY AND AWARENESS - IMPLICATIONS

- ▶ Lack of role clarity is associated with lack of planning for the role; without clearly defined goals, the outcomes and potential impact of APN roles are not identified or evaluated.
- ▶ Lack of role clarity contributes to variable stakeholder awareness and competing stakeholder expectations – if the role means different things to different people, everyone has different expectations.
- ▶ Role ambiguity limits the ability to actualize the appropriate use of the role and in turn leads to vulnerability and a lack of sustainability in the context of competing priorities.
- ▶ APN role titling issues have created confusion for healthcare professionals and the public; too many titles may be counterproductive and yet, the generic term, APN, is least helpful.
- ▶ Inadequate professional awareness of APN roles leads to ambiguous role expectations, concerns about whether the APN is practicing outside his/her scope, lack of clarity about what the APN can and can't do and the extent of role overlap with other team members.
- ▶ Role awareness may improve interprofessional collaboration as concerns, such as role parameters and liability, are addressed.
- ▶ Though numerous surveys of patients have indicated high support of and high satisfaction with NPs, their inadequate awareness of the role may lead to unclear role expectations particularly with respect to hospital-based roles such as the CNS and ACNP.

4.3 Educational Preparation

Educational Requirements Across Canada

VARIABILITY IN EDUCATIONAL REQUIREMENTS FOR PHCNPS

The recommended educational standard for APNs in Canada and internationally is a master's degree from an accredited NP and/or graduate nursing program.^{5,28} Graduate education is seen as necessary to facilitate the development of the characteristics and core competencies of advanced nursing practice.^{5,160,152,190,237} While all CNS and ACNP education programs in Canada are at the graduate level, there is variability in the educational requirements for licensing of PHCNPs across the country with most at the graduate level but a few still at the baccalaureate and post-baccalaureate level.^{91,76,89} In the informant interviews, there were divergent opinions about the educational requirements for PHCNPs. Educators and administrators spoke

about the legitimacy and credibility that graduate education provided for APNs. One government informant gave the following reasons for not supporting graduate education for PHCNPs: the time lag associated with higher educational standards, the absence of evidence to justify the need for a master's degree, the tuition costs associated with a higher level of training, its impact on the number of NPs in the system, and the likelihood that NPs would then request higher salaries without increasing patient volume and access. Evans et al. (2009)¹⁹¹ comment on the effects of increasing training requirements: “training and professional organizations themselves can be a threat to improved health human resources productivity insofar as they tend to dissipate the potential productivity gains through expanding the training requirements and making the substitute personnel unnecessarily expensive”. However, the CNA argues that the graduate degree is necessary because the APN role entails not only advanced clinical practice, but also education, research, leadership, change management, and professional development.^{5,33}

LABOUR FORCE MOBILITY

Regulators, educators and government informants spoke about the labour force mobility barriers related to the lack of consistency among provinces regarding educational requirements for licensing; for example, NPs educated in Ontario at the post-baccalaureate level are not able to be licensed in Quebec.

Curriculum Issues

There were differences of opinion on whether there should be overlap between NP and CNS curricula. The CNSs commented that their educational program was too broad and recommended integrative NP-CNS curricula for core competencies, while the educators emphasized the need to ensure that education was different for the two groups in order to create distinct roles and avoid role blurring and confusion. CNSs from the US recommended sharing core competencies across NP, CNS, medicine, pharmacy and nutrition disciplines and cited programs in the US as examples. ACNPs also suggested linking schools of nursing, medicine and allied health and pooling academic resources across health disciplines. Interprofessional education was suggested by administrators, educators and PHCNPs to facilitate effective team work and is supported in the literature¹⁹⁰ and by Canadian nursing and medical associations.^{5,141}

ACNPs recommended increasing the intensity but not the length of the current NP programs and noted that there was discordance between the education and practice expectations. At the INP/APNN focus groups, we heard about the need to increase clinical practice educational requirements via a formal residency or internship program for NPs. There are some programs that already do incorporate a final and fairly lengthy (14 weeks) practicum (e.g., Dalhousie University).¹⁹² A number of suggestions for topics to be added to curricula were made: government lobbying and political navigation courses (CNS, ACNP), conflict resolution, APN-physician collaboration, and writing APN job descriptions (INP/APNN). ACNPs reported an inadequate focus on research in the curriculum. A recent review of research course requirements in Canadian graduate nursing programs revealed that most programs required only one research course.¹⁹³ Many informants suggested increased access to distance education (Reg, CNS, INP/APNN, ACNP, PHCNP, MD).

Mismatch Between Education and Practice

Educators and physicians noted that PHCNP and ACNP training programs were not both available across all regions. This resulted in NP skill sets that were not always appropriate to meet the needs of the local

settings and it took time in practice for the NPs to acquire the necessary skills, which created credibility issues for the NPs. Educators explained that NPs trained in primary care might be working in acute care roles due to recruitment challenges or lack of knowledge of role preparation on the part of the employer. In health authorities, government informants reported that there were mismatches between education and the positions advertised due to lack of communication about NP roles and competencies (more for ACNPs than PHCNPs). Roots & MacDonald (2008)¹⁵⁵ identified a mismatch in British Columbia, where NPs educated as primary care providers were working in acute care or with specialized populations.

ACNPs identified that CNSs complete generic master's degree programs in nursing and yet, practice in specialty areas. Without a certification process or protected titling for CNSs, any nurse with a master's degree in nursing can call themselves a CNS.

Resources

There was remarkable consensus among key informants and in the literature about the need for enhanced mentorship, faculty recruitment and credentialed APN faculty and preceptors. The competition for clinical placements among disciplines was a barrier (Reg, CNS, INP/APNN, PHCNP, ACNP, MD). The importance of mentorship,¹⁹⁰ the competition for student clinical placements,¹⁹⁴ the need to develop faculty to teach in NP programs,^{43,237} as well as competition for physician time to train both residents and ACNPs,¹⁹⁵ were confirmed in the literature.

Funding

There was unanimity among regulators, educators, administrators and physician informants that NP education costs were high. Educators suggested that this may be limiting the pool of candidates, resulting in a lower supply of NPs. Administrators noted their difficulty attracting experienced nurses to pursue APN education, not only because of the high educational costs, but also the low salary post-graduation. Physicians, regulators and administrators advocated for educational support in the form of bursaries, and educators advocated for funding to hire faculty and offer continuing education. Schreiber et al. (2003)⁴³ wrote about the need for funding to develop faculty to teach in NP programs. In Quebec, students must reimburse the bursaries they receive from the Ministère de la santé et des services sociaux du Québec (2008) and new graduates must reimburse a portion of the financial support they receive from their employer if they do not remain in the organization for three years post-graduation.¹⁹⁶

Continuing Education

Regulators advocated for a robust plan for continuing education for APNs and emphasized the need for additional training for NPs in northern and remote areas as they are faced with highly challenging clinical situations. CNSs advocated for enhanced distance continuing education and incentives for CNSs in remote nursing stations to encourage retention. Stolee et al.(2006)¹¹² wrote about the lack of opportunity for continuing education for NPs in long-term care. Tilleczek et al. (2005)¹⁹⁷ described challenges in the delivery of continuing education to NPs in rural and northern communities, including the preference for face-to-face modalities and the use of multiple modes of online course delivery. An unpublished study of PHCNPs in Ontario by the Centre for Rural and Northern Health Research (CRaNHR)¹⁹⁸ identified the following barriers

to continuing education participation: difficulty taking time off work, financial barriers, the need to travel to a learning venue, family responsibilities, a lack of information regarding what courses were available, geographical barriers, fatigue or academic burnout and poor experiences with previous courses. Schreiber et al. (2005)^{238,239} emphasized access to continuing education and acknowledged the need to develop faculty to provide continuing education for APNs (2003).⁴³

EDUCATIONAL PREPARATION – IMPLICATIONS

- ▶ Although the CNA and the ICN have recommended that the educational standard for APNs in Canada and internationally be a master's degree, educational requirements, specifically for PHCNPs, vary across Canada which limits interprovincial mobility for APNs, limits the ability of PHCNPs to develop the APN competencies (i.e., education, research, leadership, change management, and professional development), and makes it difficult to apply national education standards.
- ▶ Adaptations to the content and the delivery of APN curricula may be required to support the shift to interprofessional collaboration, increased efficiency, ready access to educational opportunities from a distance, and augmented NP clinical training.
- ▶ The limited access to specialty education in Canada means that NPs and CNSs may be practicing in areas in which they initially lack specialized knowledge and skills placing the onus for skill development on the employer and APN.
- ▶ The current supply of qualified faculty, preceptors and appropriate clinical placements is insufficient; yet, these are essential for Canada to be able to provide high quality education programs to prepare safe, competent practitioners.
- ▶ High education costs, especially in programs requiring the completion of an extensive numbers of credits, may limit the applicant pool, lead to program withdrawal, and make it difficult for prospective students to see the benefits of pursuing an APN career when taking into consideration lost wages and unattractive salary levels post-graduation.
- ▶ The vastness of Canada, the lack of sufficient faculty resources, and the significant barriers identified by APNs pose formidable challenges to the delivery of continuing education; yet, it is essential given the importance of basing care on current best practice and developing and maintaining specialist knowledge

4.4 Legislation and Regulation

Scope of Practice

Restrictions on and variations in the scope of practice of NPs were identified as barriers to implementation and integration of APN roles and the provision of effective, efficient patient care.^{42,43,153,154,175,176,199,237,239} Scope of practice restrictions were reported most often in relation to the PHCNP role^{55,79,81,83,89,128,133,134,142,143,145,149,155,158,165,166,184-186,188,200} and the ACNP role.^{66,67,71,89,107,155,161,201,202} There was much less discussion about the impact of scope of practice restrictions or variability in relation to the CNS role.^{73,75}

For the PHCNP role, the absence of a national NP legislative or regulatory framework and legislative and regulatory inconsistencies at the provincial and territorial level were barriers to role implementation, deployment and sustainability.^{76,158,203} A recent study of ACNPs in Ontario indicated that while having medical directives facilitated their clinical activities, it was an onerous task to develop a detailed medical directive which could be “out-of-date” before sanctioned and the use of the directive could lead to potentially ineffective care options, untimely access to appropriate care, blurred accountability for care and ACNP dissatisfaction.⁷¹

In the interviews, administrators asked that legislative and regulatory changes be made so that NPs can work to their full scope of practice; regulators noted that various regulatory bodies need to network and work together on this issue; and, healthcare team members asked that legislated changes in the APN role be shared with their team members in writing so that everyone is kept up-to-date. Administrators and physicians noted the cumbersome process around medical directives and their potential for limiting patient-centred care.

The variability in legislated prescribing privileges across Canada was reported to be a barrier interfering with role implementation for both the PHCNP¹⁵⁸ and ACNP^{71,176} roles. Another reported example of a jurisdictional inconsistency in scope of practice resulting from legislative and regulatory policy was the ability of NPs to refer to medical specialists. In some jurisdictions, NPs were restricted from referring to medical specialists because remuneration policies provided for a higher rate of remuneration for the specialist if the patient referral originated from a physician.¹⁸⁵ Our review also found there were different expectations of PHCNPs in relation to collaboration and consultation across Canada. These ranged from models which bound or limited NP practice with legal formal practice agreements as specified in legislation to more open models.¹⁵⁸ The lack of admission and discharge privileges was a barrier to ACNP role implementation.⁶⁷

In our interviews, administrators, government informants, regulators, physicians and the APNs identified barriers such as the lack of admission and discharge privileges, prescribing authority issues, and difficulties referring to specialists in some jurisdictions. With respect to prescribing privileges, the issues differed by province and territory, but examples included problems with prescribing according to drug lists, lack of prescribing authority for hospital-based NPs, and resistance from pharmacists.

To ensure consistency across Canada for PHCNPs, Thille & Rowan (2008)⁵⁴ advocated for a pan-Canadian approach to the development and implementation of legislative and regulatory frameworks. For ACNPs, having a single certification process was regarded as a pathway to greater recognition and public acceptance.¹⁶¹

Title Protection

Regulators and ACNPs noted that title protection for PHCNPs has been a benefit to NP practice. CNSs, ACNPs, and INP/APNN focus group participants supported title protection for the CNS. There was no support for a blended CNS/NP role title. Regulators and educators noted the difficulty in tracking the number of CNSs in Canada because there is no protected titling or standard credentialing mechanism. MacDonald et al. (2006)^{156,237} suggested that the patchwork approach to titling could be a barrier to marketing the APN role.

“We present documents and we keep redefining our role over and over again and keep telling people what our role is over and over again and yet because there’s no way to rubber stamp it, even with the CNA framework, it doesn’t have the same clout. And I think that’s why the CNS protected title is absolutely essential to ensure that this advanced practice role truly is embedded into the system.” [CNS]

LEGISLATION AND REGULATION - IMPLICATIONS

- ▶ Clear, consistent legislation across all provinces and territories would support role clarity, credibility and legitimacy and is a facilitator of interprofessional collaboration.
- ▶ Legislation can provide structural support for APN roles and without it, much work is required to put in place other processes to support APN practice (e.g., medical directives).
- ▶ The restrictions on NPs' scope of practice in some jurisdictions interfere with the ultimate goal of providing safe and timely care for patients; restricted prescribing privileges limit the ability of NPs to prescribe and adjust patients' medications based on the most recent evidence; not being able to refer patients to a specialist means delays for the patient because they must first see a family physician; and, for ACNPs, not being able to admit and discharge patients to and from hospital means delays for patients.
- ▶ If an APN cannot work to her/his full scope of practice, it can be seen as a waste of human resources and can lead to frustration, delays in treatment, and additional work for other healthcare team members.
- ▶ In Canada, there are no restrictions on who can call themselves a CNS, creating problems for role clarity and integration into the healthcare system; CNSs believe title protection is an essential solution but some of our Advisory Board members questioned whether it would be sufficient to protect the role and recommended research be done to explore the need for, benefits and implications of a protected CNS title as well as other possible mechanisms for protecting the role.

4.5 Role Implementation

Organizational and Health System Environment

LEADERSHIP

The importance of organizational, nursing and physician support for APN role implementation was emphasized both in the literature^{62,127,132,204,238,239} and by many informants (Reg, Admin, INP/APNN, CNS, PHCNP, ACNP, HCT). Lack of administrative support has been reported frequently as a barrier to role implementation for all types of APN roles^{5,13,15,42,48,57,66,71,72,76,108,109,128,131,133,141,142,155,160,163,169,172,175,176,182,186,187,205,239} and the importance of nursing leadership in integrating the APN role, enacting policies that support and legitimize the role, and providing strong management support has been reported.^{108-113,144,206,207} A government informant highlighted the value of an NP Integration Committee at the regional level, with representation from the health authorities, regulatory body, government and NPs. An administrator noted that those that used regional approaches to APN role implementation were able to quickly put in place a large number of APN roles. At the broader level, INP/APNN informants identified that inadequate nursing representation at policy and decision making tables was a barrier to APN role implementation and called for increased APN representation at national leadership tables. One participant from Quebec noted that her province's refusal to join the Canadian Association of APNs (CAAPN) has created both provincial and national challenges.

There was concern voiced by some physicians that a provincial nursing association was too aggressive and political and doing a disservice to NPs. A call for both the nursing and medical profession leadership to shift the culture from a competitive to a collaborative stance was voiced by a government informant.

INFRASTRUCTURE

Inadequate resources to support the APN role (e.g., support staff, technology, infrastructure) have been frequently reported.^{5,15,42,43,57,65,70,71,76,84,89,106,108,109,110,113,133,-136,141,142,144,146,152,155,165,166,175,180,181,207-213,238}

INP/APNN informants and physicians identified inadequate physical space for NPs as a barrier as did Charchar (2005)⁴⁵ and Humbert (2007).¹⁶⁵ Delays in developing medical directives needed to diagnose and treat patients,^{161,169} the absence of a process for drug formulary upkeep (Reg), and the process for getting collaborative practice agreements in place (Reg) were identified as barriers to APN integration.

Many have called for policies that legitimize the role.^{5,14,43,54,59,62,65,76,79,89,106,108-110,135,143,144,153,155,161,163,167,171,180,187-189,204,207,208,212,214-216} A healthcare team informant suggested a decision making algorithm to help team members decide which APN to access and for what purpose when working in settings with more than one APN type.

The importance of existing APN implementation toolkits (e.g., Manitoba's) in facilitating APN role implementation was highlighted by administrators, PHCNPs, and INP/APNN informants. A number of administrators noted that the PEPPA Framework²⁵ gave them a structured, systematic, thorough and organized role implementation plan.

NETWORKING SUPPORT

Co-location of APNs was suggested in the literature^{113,165} and by INP/APNN informants to prevent APNs from being isolated. A number of papers^{108,111,190} and informants (CNS, Admin) emphasized the importance of mentorship, especially for those in their first APN role. The need for enhanced professional development opportunities was raised by the INP/APNN informants, PHCNPs, educators, and administrators as well as the Canadian Nurses Association (2008)⁵.

Informants suggested a number of networking support systems including the establishment of NP or NP/CNS joint committees or special interest groups to assist with ongoing planning needs as well as sharing and addressing common issues (Reg) and a community of practice model to foster professional development (Govt, INP/APNN, PHCNP, Admin); the importance of networking support systems was also advocated in the literature.^{35,155}

REMOTE LOCATION

Informants (PHCNP, ACNP) described working in remote locations as a barrier to APN practice but at the same time CNSs and PHCNPs noted that practicing in small, remote communities facilitated autonomous practice. Remote areas posed challenges for recruitment and practice support (INP/APNN). However, 'small towns' were seen as more receptive to APNs (INP/APNN). PHCNPs explained that RNs currently working in these environment have assumed expanded roles out of necessity, which was perceived to create challenges for NP integration efforts related to wage parity, scope of practice, and availability of nursing positions.

Interprofessional Collaboration

There is an extensive body of literature on interprofessional collaboration involving APNs.^{5,6,13,24,45,55,57-61,66,71,75,76,81,89,107,109,112,128,133,135,140,150,153,162,165,166,171,174,178,179,180,182-185,189,190,195,205-208,210,215,217-219} Jones & Way (2004)⁷⁶ have developed an instrument that measures the extent of collaboration between NPs and physicians and their satisfaction with that collaboration. A recent CHSRF decision support synthesis on interprofessional collaboration and primary healthcare summarizes high-quality evidence demonstrating positive outcomes for patients, providers and the healthcare system and identifies a variety of processes and tools to support the planning, implementation and evaluation of effective, interprofessional collaborative partnerships.²²⁰

There was a consensus among informants about the importance of interprofessional collaboration. CNSs saw it as essential to achieving the breadth of their scope of practice and ACNPs, physicians, and INP/APNN participants saw it as facilitating NP practice. There was an acknowledgement of the need to develop a specific skill set to work collaboratively (Govt) and suggestions included training and funding of team facilitators (Reg, Govt) and interprofessional education (Admin, Ed, PHCNP). There was a perception among government informants that where NPs have been introduced as part of new primary healthcare teams, that implementation seems to have gone smoothly.

Identified challenges include working together to examine the care delivery model as a whole to identify each team member's role (Reg, MD) and the need to move from medical direction to inter-professional collaboration. For example, one government informant identified the requirement for physicians to "sign off" on team formation as a barrier to collaborative practice and another noted that a provincial medical association must approve formation of teams and believed they should be physician-led.

Union Membership

Only a few papers in the Canadian literature addressed the issue of union membership for APNs. In a study of PHCNPs in Ontario in 2003, 16% had union membership and those working in a unionized environment indicated they were less satisfied with their role in decision making.¹⁴² In Quebec, union membership is legislatively mandated for ACNPs on the grounds that they are not in a management role;⁶⁵ however, the ACNPs have expressed some reservations about being unionized.¹⁰⁹ Quebec ACNPs have indicated that the small difference between their salary and the salary of the staff nurses does not recognize the efforts they have invested in their training or their added patient care responsibilities, and the unionized structure has made it difficult for their managers to manage their overtime hours.¹⁰⁹ Non-unionized CNSs have reported being challenged by their unionized colleagues about providing direct patient care as this was perceived to be doing union work.⁶³ Wall (2006)¹³¹ reported that fear of unionization contributed to role manipulation as APNs were given specific administrative duties in order to be excluded from the bargaining unit.

In their interviews, the CNSs and INP/APNN participants described unionization as a barrier noting that provincial nursing unions were not representative of NPs and did not understand the role. Although it was acknowledged that non-unionized nurses lacked negotiating power around salaries, resulting in wage disparity, CNSs felt that union membership created barriers to their scope of practice by negating the leadership aspect of their role. Administrators noted that when both CNSs and NPs worked in the same setting and one was unionized but the other wasn't, this created tension between them. Physicians noted that unions created roadblocks by insisting on overtime payment for the NP even though the role required flexible hours. The APNs were not unanimous in their resistance to unionization. Several Canadian participants in the INP/APNN focus groups were proponents of establishing an APN-dedicated union.

ROLE IMPLEMENTATION - IMPLICATIONS

- ▶ Strong administrative leadership is needed before an APN role is introduced to assess the need for the role and to prepare the team for the new role; leadership is also needed during APN role implementation to further facilitate role clarity within the healthcare team, address role overload and conflict issues, and attend to key structural elements for the role. Without this leadership support, APNs will likely feel isolated, unsupported and role implementation may fail.
- ▶ Inattention to basic resources such as office space, clerical support, communication technology and mentorship marginalizes the purpose and legitimacy of APN roles.
- ▶ Recruitment of APNs to remote locations is challenging and exacerbated by existing organizational policy – the federal public services does not have a job classification for NPs; thus, there are discrepancies in how CNS and NP positions are categorized within the organization.
- ▶ The development of effective interprofessional collaborative teams takes time and requires support, facilitation and education.
- ▶ While the existing nursing unions do not seem to be a good fit for many APNs, it means that they are without a union and consequently, do not have official bargaining rights regarding issues such as salary increases, wage disparities, benefits, and working conditions (for example, in some jurisdictions, NPs who are paid by the government do not have collective bargaining agents while staff nurses, physicians and others have unions to represent them).

4.6 Intra-Professional and Inter-Professional Relationships

Between CNSs and NPs

Only a handful of papers describe collaborative models involving CNSs and NPs. Phillips (2005)²²¹ describes the partnering of the CNS and NP to develop and implement evidence-based guidelines for the prevention of deep vein thrombosis in those who have had a craniotomy. In British Columbia, three CNSs and an NP function in complementary and potentially overlapping roles to care for cardiac patients. The NP focuses primarily on direct patient care and less on the healthcare professional and systems levels while the CNS works more on the healthcare professional and systems level in program development and quality initiatives.⁴⁷ In the interviews, administrators, CNSs, ACNPs, and INP/APNN participants were enthusiastic about the potential for collaboration among CNSs and NPs in practice change and quality improvement activities, research, and education initiatives.

“You can have the NP who is consulting, but the CNS can do a whole lot of work around the systems issues, and we can off-load some of that responsibility that is sort of sitting on the NP’s shoulders while she is struggling to try and deal with patient care....You put an NP and a CNS together, with working in a multidisciplinary team and you can make things happen” [ACNP]

While many informants viewed co-location of CNSs and NPs as a facilitator to APN practice, others noted that this accentuated role confusion resulting from overlapping clinical responsibilities and perceived redundancy in roles. Several participants commented on infighting among CNS and NP groups in these situations. There was concern voiced about the vulnerability of the CNS role, some of which is attributed to the recent significant attention given to primary care NPs as a result of the Primary Health Care Transition Fund and the Canadian NP Initiative (Reg, CNS). Targeted funding for NP roles, compounded by the legislative attention to the NP role, resulted in attention being diverted from CNS roles (Admin). Hospital budget cuts secondary to the current economic downturn were reported to have resulted in the loss of CNS roles (ACNP).

That the system is looking to NPs being the APNs and to have been concentrating on NPs for the last five and six years. And that this has been to the detriment of the building of more and more CNSs. It should have been done equitably as advanced practice. [CNS]

Additionally, the NP role has become a threat to the CNS role because only a small part of the CNS role focuses on direct patient care (Educ). Within nursing, NPs are sometimes seen as ‘mini-doctors’ while CNSs are viewed as ‘real nurses’, creating a strain between them (Educ). CNSs reported greater NP than CNS representation at policy and decision-making tables (e.g., Canadian Association of Advanced Practice Nurses (CAAPN); the American Association of Colleges of Nursing). This is consistent with our observation that some government informants did not seem very knowledgeable about CNSs. One noted the importance of addressing the impact of CNSs:

“I still think that there needs to be more work done to really address the significant impact that CNSs can have in the system...I think that there are some challenges around the role in terms of how it is defined, how it is universally defined...I don’t think it is a role that is really embedding into the system the same way that NPs are” [Govt]

CNSs and INP/APNN focus group participants suggested potential strategies such as teaching APNs how to collaborate with each other; establishing local, regional, and national communities of APN practice; pooling resources to collectively move the APN profession forward; and, hosting shared forums.

Between APNs and Healthcare Teams

Three authors reported a lack of understanding and support of APN roles by the nursing community.^{159,171,239} One author reported role confusion between the CNS role and other nurses.¹³² The two staff nurses who were interviewed did not describe conflicts or strain with APNs, although they did report challenges in understanding the nature of the role. Regulators reported that staff nurses saw NPs who had overlapping scopes of practice with physicians as aligned with medicine and had difficulty seeing their contribution to nursing. PHCNPs spoke about the strained relationship between staff nurses and nurses who had transitioned into an advanced practice role; the suggested reasons for this tension were wage disparity, perceptions of NP alignment with the medical community, and feelings of professional alienation.

We did not find any Canadian papers that addressed interprofessional relationships between APNs and other healthcare disciplines. Healthcare team informants noted uncertainty about the APN role and not having anything in writing about credentials, scope of practice, and drug formulary approvals. They described ‘turf wars’ as team members renegotiated their roles and feared that their roles would be replaced by the APN.

“And I think just the overall openness, I mean it has to be transparent, the transparency of why [neonatal NPs] need to be there so that people don’t feel that they’re trying to take over their roles and responsibilities because the respiratory therapists (RTs) felt very threatened in the beginning – like, what do you mean she’s going to be telling me how to run my ventilator and when I can wean the patient and all those kind of things.” [Respiratory Therapist]

Suggestions included providing reassurance to team members about their own jobs, involving team members in creating a ‘fit’ between their various scopes of practice, and examining the role of the interprofessional team as a whole rather than piecemeal when determining roles. Some HCT members described their involvement in educating the APNs in the clinical setting and appreciated being involved early in determining what training they would need; they felt this collaboration helped them understand the role.

Between APNs and Physicians

Several authors identified physician resistance to APNs^{13,43,127,238,239} or NPs in general.^{106,212,222} However, the bulk of the literature described physician resistance more specifically in relation to the PHCNP role^{14,54,70,76,79,81,83,84,89,130,134,141–146,150,155,159,166,169,171,184,185,188,223} and ACNP role.^{70,89,109,155,160,162,163, 182,201} One paper addressed physician resistance to the CNS/NP role⁷³ and another to the CNS role.⁴⁵

Primary reasons for physician resistance have been described earlier and relate to liability concerns,^{55,76,78,79,84,89,128,134,140–145} scope of practice issues (e.g., prescribing privileges), reimbursement mechanisms,¹⁴² and concern about NP independent practice.¹³⁷

In acute care settings, medical residents expressed concern about losing control of patient care decisions and the limited availability of physicians to support ACNP role integration because of their high workload.¹⁹⁵ They were also concerned that ACNPs would compete with and reduce the opportunities for medical residents to perform medical activities.¹⁰⁷ Some authors attributed the interprofessional tension between PHCNPs and physicians to system-related factors. For example, one author highlighted the role of the Medicare system structure and funding in establishing physicians as the gatekeepers to the healthcare system.¹⁴⁶ Another author identified how funding arrangements created financial competition and obstructed physician-PHCNP collaboration⁷⁶ and another suggested that rigidly defined occupational boundaries were problematic.¹⁵⁰ Finally, having an employer-employee relationship between a physician and PHCNP was reported to be a barrier to collaborative practice.²⁰⁰

In relation to the PHCNP role, several papers identified the importance of the physician-NP working relationship. Summarized in simple terms, if the relationship was not good, it was a significant barrier to NP role implementation and if the physician-NP working relationship was good, it was a key facilitator of NP role implementation and integration.^{79,142,143} Concern was reported by some physicians that NPs lacked expertise.^{79,142}

Government informants noted that there were frequently tensions between NPs and MDs. Physician resistance was seen as a significant challenge, while physician support and trust were facilitators of both PHCNP and ACNP practice (INP/APNN, Reg, CNS, ACNP, PHCNP). Physicians and ACNPs identified factors that supported NP role implementation including having a positive, respectful and trusting relationship between physicians and NPs, good communication, a willingness to deal with conflict, the right organizational structure, and matching of the right personalities. A physician noted that “if everybody feels they’re getting more out of it

than they're losing, then it's going to be successful" and that the NP and physician working together could see more patients, provide better services, and ensure patients did not "fall through the cracks".

There have been developments that are indicative of positive shifts. For example, Cal Gutkin (2008), executive director of the College of Family Physicians of Canada, wrote "many of our members have told us that, if supported by system payment and liability plans, they would welcome the opportunity to work with nurses and NPs" (p. 480).¹⁷⁸ This is consistent with earlier study findings that indicated that half of family physicians in Ontario would be interested in practicing with NPs.¹⁴² Physician acceptance of NPs was related to previous experience with the role, recent residency, and a perception that NPs enhance workload efficiency.¹⁴² An administrator informant spoke about physician receptivity to ACNPs in her institution:

"The pressures in the hospital setting for physicians particularly to be providing direct care, to be providing diagnostics, to be providing interventions whether it's angioplasty or whether it's surgery or whatever, has been such that it has opened up the receptivity of physicians to work with NPs so that they can have NPs really focusing on the clinical care in the organization while they're doing a variety of these diagnostic and interventional kinds of work. And that's what I've seen here particularly in the areas where we have APNs so that would be in the areas of cardiology, cardiac surgery, neurosurgery. Those are the primary areas. So that's one factor I think that has led to physician receptivity. I think from an administrative perspective the partnership of administrative leaders with physicians to augment the kind of care that's possible with some recognition that there is a value-add that the NP would bring or the CNS is also another factor." [Admin]

INTRA-PROFESSIONAL AND INTER-PROFESSIONAL RELATIONSHIPS - IMPLICATIONS

- ▶ While both the CNS and NP roles are vulnerable with the economic downturn, the CNS role is more at risk because the direct impact of this role is not readily visible. This is because the CNS role focuses primarily at the provider and health system levels (e.g., teaching staff nurses about a recent clinical practice guideline, conducting program evaluations or quality improvement activities). Yet, many RCTs have shown that CNSs can reduce costs through improved outcomes such as reduced hospital length of stay and readmissions (Appendix C).
- ▶ The strain between CNSs and NPs is relatively new and not well explored but could lead to negative implications for patient care and professional practice.
- ▶ In the interests of quality and sustainable patient care, many professions are having to adjust to role shifts in the activities carried out by other healthcare providers (e.g., physicians and NPs, NPs and RNs, and RNs and registered/licensed practical nurses); this engenders understandable fears related to loss of autonomy and control and leads to resistance.
- ▶ Healthcare team collaboration depends on respect, trust, a mutual understanding of one another's roles, a willingness to negotiate specific role functions based on the team's goals, a non-hierarchical dynamic, and a perception that everyone is "getting more out of it than they are losing".

4.7 Funding

APN Role Funding

For the most part, funding for CNS positions comes from global hospital budgets as does, in many instances, funding for ACNP positions. Funding for PHCNP positions comes more directly from the provincial/territorial governments. A number of related issues were identified in the literature and/or interviews, including an inadequate number of funded positions, absence of a stable funding mechanism, inadequate overhead costs, and the cumbersome process required of communities and health boards to apply for a funded NP position.

A recurrent theme in the literature was the inadequacy of APN funding.^{5,43,13,108,135,176,237} The lack of sustainable funding and/or reimbursement models for PHCNPs was identified by the Canadian Nurse Practitioner Initiative (2005)¹³⁴ and echoed by numerous Canadian authors over the past 15 years.^{6,70,76,79,89,106,133,134,142,143,146,148,150,155,165,166,170-172,188,189,205,210,212,224,238} The same barrier was identified for ACNPs^{67,66,70,72,89,109,163,155,225} and CNSs/NPs.⁷³ Davies & Eng (1995)¹⁵ identified lack of funding as an issue for the CNS role. Apart from a paper from the Canadian Nurse Practitioner Initiative (2005)¹³⁴ which discussed the need for funding models to support team care, we did not find any papers that discussed or evaluated specific APN funding models.

In the interviews, administrators spoke about the lack of funding as a major barrier in the implementation of APN roles. Regulators identified that initial funding to create NP roles was sometimes only available on a project or start-up basis and that long term funding was not always available. Government-funded demonstration projects were viewed as helpful to get APN roles introduced, particularly when funding was long-term (Admin). However, educators noted a number of challenges with funding allocation. First, the request-for-proposal process did not always allow high need areas to be successful in their application for NP funding and the process disadvantaged communities that did not have the capacity to put good proposals together. Second, lack of strategic targets for NP deployment meant that funding decisions were left to nursing directors or healthcare organizations rather than the government (Educ).

With respect to CNS roles, concerns were raised that it had become more difficult to justify funding for non-direct patient care roles given funding constraints (Reg) and yet, at the same time, administrators called for a large investment in the CNS role to ensure its integration. Regulators identified that political support and funding allocations to regional health authorities provided targeted funding opportunities for NPs but the lack of government funding for CNS positions was a barrier.

Administrators spoke of the inconsistent funding and having to look for funding from their base or global budget for APN roles. This has meant that funding has had to be reallocated from other roles, which was not seen as a sustainable approach.

The current economic downturn was emphasized as a significant barrier by INP/APNN focus group participants and CNSs. Administrators noted that the economic situation has direct bearing on available funding and other supports for introducing new positions for APNs and for keeping existing positions. Some of the physicians noted that with the cutbacks, there was less incentive to hire NPs.

Remuneration

In a study of PHCNPs in Ontario, most supported being paid a salary from the Ministry of Health and Long-Term Care through a transfer payment to an organization employer.¹⁴² Less than 5% wanted to

bill the patients for services rendered. Studies in both Ontario and Quebec reported cases where PHCNPs and ACNPs earn only slightly more than RNs and in some instances less.^{109,184} In the interviews, ACNPs identified a wage disparity among APNs and recommended changing funding models to ensure wage parity among APNs and with allied health professionals. Administrators indicated that APN salaries were not attractive considering the role responsibilities. PHCNPs suggested that APN salary scales be developed to ensure NP remuneration was commensurate with their advanced skills and scope of practice. At the same time, a government informant noted that NP demands for higher salaries were problematic and unjustified and recommended a consistent funding formula for NPs across different settings. This would address a regulator's concern that low salaries for NPs in some regions have created turnover and movement of NPs from one region to another.

Administrators emphasized the need for adequate compensation models for physicians. Physicians also noted that they were not able to bill for supervising NPs and this created a disincentive for working with NPs. The literature^{76,127,128,133,142,237,239} and many interview informants (Reg, INP/APNN, MD, ACNP, Educ) identified fee-for-service reimbursement as a barrier to NP integration because shifting care tasks to NPs sometimes resulted in loss of physician income.

"If the physician thinks if I don't see that person, I don't get paid, it's a huge barrier because they don't want somebody else to see that person. Or they want that person to see them but then they need to see them just so they can get paid. And that's a problem to the whole health system". [Administrator]

Educators noted that providing incentives to physicians to hire NPs resulted in the positioning of NPs as employees instead of colleagues. A government informant identified the unintended consequences of primary care incentives to physicians for preventive care. Under this compensation model, the work of the NP is included towards achieving targets for the incentive-based activities. The Nurse Practitioner Association of Ontario (2008)²⁰⁰ notes that "in the spirit of team development, the notion that one provider is being paid an incentive for the work of others is incompatible and inconsistent with the interprofessional approach to care".²⁰⁰ Some practices have converted these into team-based rather than physician-specific incentives to acknowledge the contribution of the team to preventive care delivery.

A government informant noted that remuneration mechanisms need more work to ensure fair compensation across professions working within teams. The informant also suggested integrated remuneration negotiations where multiple provider groups negotiate compensation together (e.g., what is the model of primary care we want to achieve and how do we negotiate remuneration to achieve this goal and to ensure fair compensation for all parties?).

FUNDING - IMPLICATIONS

- ▶ If funding is provided on a short term basis for APNs, and not sustained, or if funded APN positions are not available in high-need areas, patient needs may not be met.
- ▶ Remuneration mechanisms that do not disadvantage the physician or the APN enable them to work collaboratively and efficiently to achieve patient benefits; for example, when physicians and NPs can both see patients in emergency departments, patients experience quicker access to care.

4.8 Evidence

Producing and Using Evidence

Regulators identified existing research evidence as supportive of the APN role. Educators recommended disseminating and publicizing research on the benefits of the CNS role. There were also suggestions that further research was needed, with a focus on newly implemented roles such as the NP-led clinics, patient and health system outcomes (Reg, Govt, Admin) and models of CNS and NP collaboration (ACNP). INP/APNN focus group participants discussed the challenges inherent in measuring and validating outcomes of CNS care given their involvement in system-level interventions.

At the organizational level, evaluating new APN roles is often an afterthought; failure to collect baseline data prior to the introduction of the APN and to define performance indicators has made it difficult to evaluate the impact of new APN roles.²⁴ Evaluations have mostly compared APNs with MDs in their ability to improve patient outcomes associated with medical care. As a result, less is known about the impact of nursing care and non-clinical aspects of APN roles.²⁴

There was divergence with respect to the issue of productivity/volume. PHCNPs and CNSs emphasized the need to shift the research focus from financial productivity outcomes (e.g., volume of patients seen) to patient-based quality of care indicators. Evans et al. (2009)¹⁹¹ noted that ascertaining potential gains in health human resources productivity requires a will and ability to measure outcomes and not only outputs (i.e., patients seen per hour). On the other hand, a government informant noted concern about the low volumes of patients seen by NPs in a system where increasing access is a high priority. The NPs were described as equally costly with equal outcomes but low volumes. A study of PHCNPs recommended the development of a systematic way to track NP impact on service, given that medical records, especially in primary care settings, are often not designed to capture what NPs do.¹⁴⁴ Few formal mechanisms exist to document advanced practice roles.⁶⁴ In a recently completed review of PHCNP literature for Health Canada, Thille & Rowan (2008)⁵⁴ recommended the development of research programs to better study access and cost-effectiveness of NPs in the Canadian context. Sangster-Gormley (2007)²¹² notes that the development of NP-sensitive outcomes is needed to better understand NP contributions.

In our attempt to identify all APN studies conducted in Canada, we were struck by how few CNS-specific primary studies have been reported compared to the number of studies of PHCNPs. Part of this can be attributed to the Canadian NP Initiative and the Primary Health Care Transition Fund. Consistent with this, Alba DiCenso's CHSRF/CIHR Chair in Advanced Practice Nursing has had, since 2001, a national mandate to build capacity in APN researchers by accepting three graduate students per year to develop health services research expertise. Of the 24 Chair students accepted to date, only one has been a CNS and very few applications have been received from CNSs.

EVIDENCE - IMPLICATIONS

- ▼ Even though there is abundant research demonstrating the effectiveness of PHCNPs, ACNPs, and CNSs (Appendix C), if this existing evidence has not reached the public or the government, the impact of APNs on patient and healthcare system outcomes is not known and consequently, it is difficult to secure support for the role.
- ▼ If APNs are not involved in the planning of electronic medical records, these records may not be useful for capturing what APNs do. At the knowledge creation end, NPs who do not have a graduate degree do not have the skills to conduct research or program evaluation.

V. OPPORTUNITIES FOR DEVELOPMENT OF APN ROLES AND IMPROVED DEPLOYMENT

APNs have been part of the Canadian healthcare system for almost 40 years. Their presence has expanded and contracted based on factors such as physician shortages and surpluses and hospital budgets. While we have not addressed the nurse anesthetist role in this report, there is activity in many jurisdictions across Canada related to the creation and introduction of this role. There are three significant reports that have examined advanced nursing practice¹²² and more specifically NPs¹³⁴ and extended nursing roles such as NPs in primary care from a Canadian perspective.¹²⁸ Our report differs from these earlier works by providing an examination of CNS, ACNP and PHCNP roles through a comprehensive and systematic scoping review of Canadian and international literature and by conducting interviews and focus groups with national and international key informants from a variety of stakeholder groups. The findings of our report are consistent with those of the past, demonstrating the:

- ▼ yet unfulfilled or unrealized contributions APN roles could make to address important gaps in maximizing the health of Canadians through equitable access to high quality healthcare services;
- ▼ important interplay and influence of dynamic and often competing values, beliefs and interests of provincial and national governments, healthcare administrators and health professions on the policies and politics that shape the education, regulation and the ad hoc deployment of APN roles; and
- ▼ continued vulnerability of APN roles to changes in health policies and economic conditions.

Systemic challenges to maximizing the use of APN roles relate to policy versus population needs-based drivers for role implementation; continued (albeit reduced) emphasis on illness versus health; and practical, organizational and social barriers to interprofessional collaboration. Our report also documents the continued evolution of the CNS and especially the NP roles, with increasing deployment and incremental progress since 2001 to provide more standardized training and access to graduate education, legislated authority for expanded clinical functions and the integration of roles in a variety of healthcare settings. At both the federal and provincial/territorial level, governments are committed to the development and integration of NP roles. A striking example is the creation of over 200 family health teams (FHTs) in Ontario that will include family physicians, nurse practitioners, registered nurses, social workers and dietitians. The Ontario government is funding NP-led clinics, providing an alternative mechanism for funding and access to primary healthcare, yet creating some barriers as the name seems out of step with the concept of team care and has created tension between the physician and NP communities.

The Canadian healthcare system in 2009 faces enormous healthcare delivery challenges. These include an aging population and a high incidence of chronic illnesses including cancer, heart disease, diabetes, mental health problems and arthritis. There are many patients without primary care providers. Patients face long wait time for services and rapid hospital discharges. There are physician and nurse shortages and there is a maldistribution of practitioners especially in northern Canada. All these factors have prompted governments to introduce new roles (e.g., PAs) and to consider new roles for existing providers. The strong emphasis on interprofessional collaborative practice brings many of these providers together to address these significant healthcare challenges.

These developments increase the complexity of co-ordinating care delivery and ensuring that each member of the healthcare team is being deployed in an efficient and effective manner to maximize patient health. This requires a strong awareness of the roles of each member of the team. It calls out for a co-ordinated health human resources strategy that ensures the appropriate mix of providers for the specific setting and community/patient needs, and this, of course, has implications for forecasting education needs.

Primary healthcare reform and expansion of PHCNP roles in Canada over the last 10 years is an example of how targeted health human resource planning strategies to address service gaps in areas of priority can facilitate the development of a critical mass of providers and more system-wide changes to support their practice. There is similar evidence for the development of targeted CNS roles in the United States, designed to address gaps in care delivery for specific high risk, high cost, high volume patients.²²⁶ It is these populations of patients where APN roles and new models of care delivery are most likely to have the greatest impact for patients, providers and the health system. In Brooten et al.'s (2002)²²⁶ model, the CNS role is designed to address patient-centred needs and to transition with the patient across health sectors or between acute, ambulatory, rehabilitation, and home care settings. This model could be similarly applied to develop other types of APN roles.

In this synthesis, we have summarized barriers and facilitators to the effective development and utilization of APN roles. While there is much work to be done to address the barriers, key to APN introduction is a systematic, patient-centred, intersectoral and needs-based approach to role development and integration. The PEPPA Framework was developed to address common barriers to the effective introduction of APN roles, including many of those identified in our report.^{24,25}

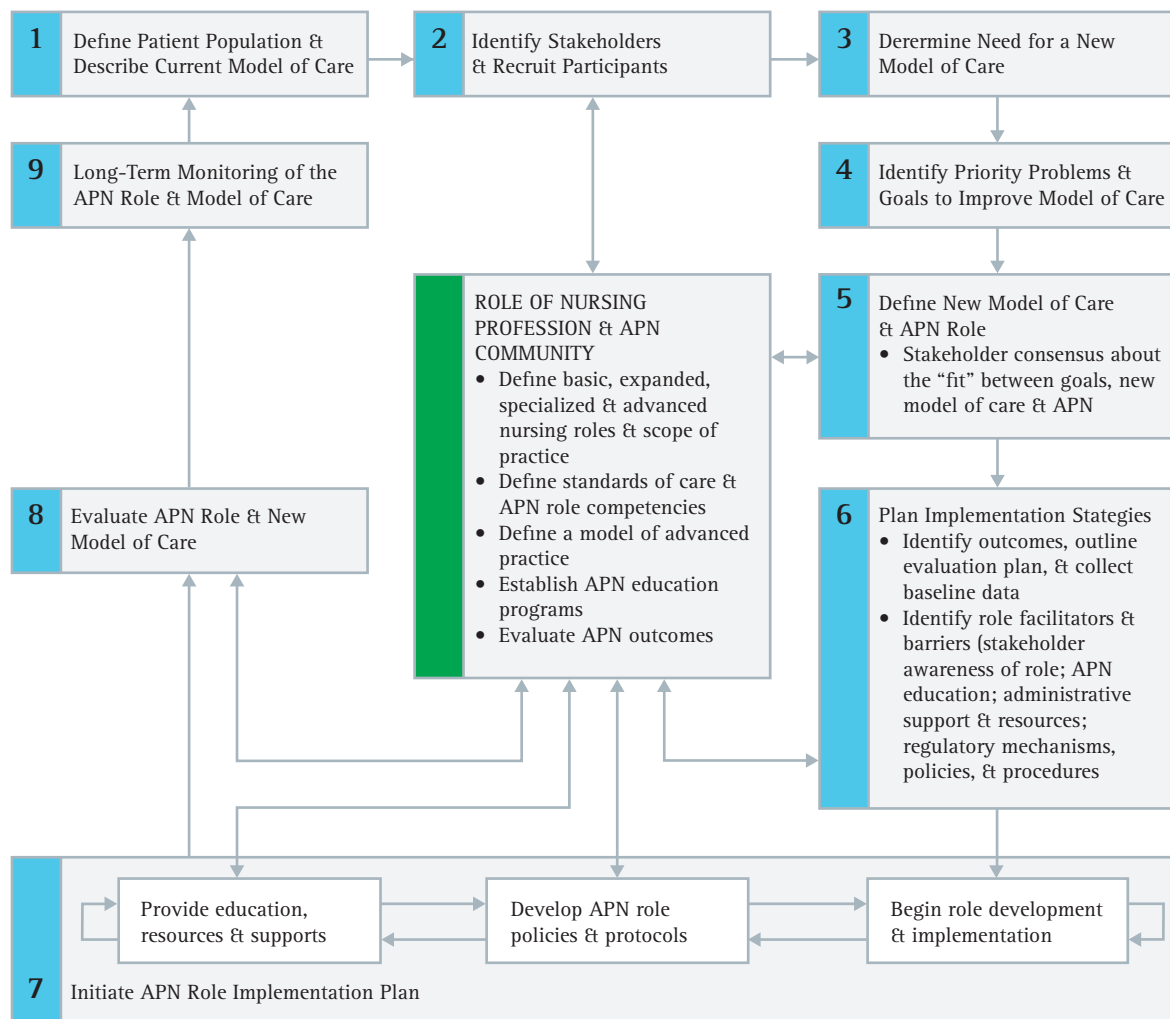
The PEPPA Framework

PEPPA is an acronym for a *participatory, evidence-informed, patient-centred process for advanced practice nursing (APN) role development, implementation and evaluation*.²⁵ Improving the introduction and evaluation of APN roles was the impetus for the development of the framework. However, the ultimate goal of the framework is to design and deliver a timely, accessible, effective and efficient package of healthcare services or model of care that best meets identified health needs for a specific patient population. Thus, maximizing patient health through effective healthcare redesign is the central focus of the framework. It is important to note that use of the framework does not imply that an APN role will be introduced within a new model of care. By working through each framework step, a broad range of possible solutions and strategies for improving the model of care are considered, including the introduction of APN and/or other healthcare provider roles.

The principles of participatory action research (PAR) informed the development of the framework. These principles are consistent with research-based approaches recommended for the planning of nursing and health human resources.^{128,227} They include: collaborative decision-making through involvement of appropriate stakeholders, ensuring target population healthcare needs are foundational to the process, consideration of environmental trends and drivers (context), and a systems approach to ensure comprehensiveness in the planning and in the evaluation of outcomes.

The PEPPA Framework involves a nine-step process (see Figure 3). Steps 1 to 6 focus on establishing role structures. This includes healthcare decision-making and planning about the need to develop and implement a new model of care that may require an APN role. Step 7 focuses on role processes and involves initiating the implementation plan and introduction of the APN role. Steps 8 and 9 include short and long-term evaluations of the APN role and the new model of care to assess progress and sustainability in achieving pre-determined goals and outcomes (see Appendix S for a detailed description of the PEPPA steps). Given the number of steps involved, the PEPPA Framework does require time to implement and some may need to adapt it to suit their timelines.

Figure 3: PEPPA Framework



Bryant-Lukosius, D., & DiCenso, A. (2004). A framework for the introduction and evaluation of advanced practice nurse roles. *Journal of Advanced Nursing*, 48(5), 530-540.

Current Applications of the PEPPA Framework

While development of the PEPPA Framework has been based on an extensive review of the APN literature²⁴ and other well-established models and theories, it has not been systematically evaluated. However, a recent study reports the positive impact of the framework when used to develop a unique model of NP care in long-term care.⁸² The framework's emphasis on stakeholder engagement to identify role priorities, establish a common vision of the NP role and participate in role planning was felt to contribute to the successful implementation of this new model of care. The NPs were found to improve staff confidence and reduce hospital admission rates by 39-43%.⁸² The PEPPA Framework has also been used successfully to implement other advanced health provider roles, such as advanced physiotherapist roles designed to improve access to and the quality of care for patients undergoing hip and knee replacement surgery²²⁸ and advanced radiation therapists in cancer care.²²⁹

The framework is being used by regional health authorities to implement new NP roles²³⁰ and to develop policies to support the successful implementation of NP and CNS roles in the regional health authority practice settings,^{231,232} as well as in the development of systematic programs of research for APN roles in oncology^{31,233} and in long-term care.^{80,234} Several toolkits have also been developed to support the application of the framework.^{235,236}

VI. STRENGTHS AND LIMITATIONS OF THE SYNTHESIS

Because our objectives were broad, seeking to learn about the different types of APNs in Canada with respect to their role definitions and competencies as well as the barriers and facilitators for their effective role development and utilization, we chose to conduct a scoping review of the literature rather than a systematic review (which is designed to focus on specific questions). This meant that we not only included primary studies, but also reviews, reports, editorials, commentaries, and descriptive accounts.

We used a variety of sources to identify published papers and grey literature including comprehensive searches of electronic databases, review of reference lists of papers included for data extraction, review of relevant websites (e.g., professional nursing associations across Canada, regional health authorities, provincial/territorial and federal governments), hand searches of key journals, and polling our Advisory Board. As a result, we reviewed and retained in the synthesis close to 500 papers representing the published literature ever written about APNs in Canada and international reviews published in the past five years. A member of the research team was from Quebec and she reviewed relevant papers written in French. We used an electronic program to systematically extract the information from the papers with training and pilot testing of data extractors. We have included a bibliography at the end of our report that identifies all papers included in our review.

We conducted 62 interviews and 4 focus groups with a breadth of key informants including all types of APNs (PHCNPs, ACNPs and CNSs), administrators, regulators, educators, government policy makers, physicians and members of the healthcare team, most from Canada but also from the US, UK and Australia. While these are more interviews than we had proposed to conduct, it is still a relatively small number when considering the vastness of Canada and the different constituencies represented. However, many of the themes arose repeatedly across informant groups and were consistent with the literature. We were able to identify at least one key informant from each province and territory (with one interviewee speaking on behalf of Nunavut and Northwest Territories). Our research team member from Quebec conducted four of the interviews in French.

Of the interviews, 18 (35%) of the 51 conducted with Canadian informants were with individuals in Ontario. Appendix T summarizes the total number of APNs in Canada in 2006 and the number of interviews by province and territory. For comparison purposes, we have calculated the number of APNs in the province/territory per interview conducted in that jurisdiction. For example, in 2006, there were a total of 3,417 APNs in Canada and with 51 interviews conducted across Canada, this works out to 1 interview for every 67 APNs. Comparing each of the provincial/territorial figures in the right hand column of Appendix T, we should have conducted more interviews with representatives from Newfoundland, Alberta and British Columbia. Because of the large number of APNs in Ontario, there were many more interviews conducted in Ontario and readers should keep this in mind when interpreting our findings.

While we interviewed seven physicians, we only conducted four interviews with other members of the healthcare team: two RNs, a pharmacist, and a respiratory therapist. The APN relationship with these and other healthcare team members (e.g., social workers) should be studied further. When the findings were reviewed by our Advisory Board, they indicated that some of the data provided by key informants may have been incorrect or incomplete based perhaps on their limited awareness of the issue; for example, some informants indicated that CNSs did not provide direct patient care. (This misperception reinforces the themes that emerged from this synthesis regarding lack of role clarity and title confusion.)

The collection of meaningful data from patient key informants was beyond the mandate and scope of this review given the breadth of patient characteristics and health experiences that would need to be considered in such an undertaking. As Appendix C illustrates, high role acceptance and satisfaction with care is frequently reported by patients who have received care from an APN. As new models of care are investigated in the future, it will be important to involve patients and families to identify their unmet needs.

In summary, our interview data provide a snapshot of key issues identified from diverse informants from a variety of jurisdictions about different types of APN roles. Based on the objectives of this Decision Support Synthesis, our findings synthesize the interview data and the literature to provide a comprehensive picture. Most reviews of APNs conducted in Canada to date have been APN-specific (e.g., PHCNPs only). While the breadth of this Decision Support Synthesis has allowed us to examine issues across APN types, it may have compromised depth of exploration of key issues.

To ensure comprehensiveness and objectivity in the interpretation of our findings, our Advisory Board reviewed our report, provided constructive feedback and most importantly, identified implications of our findings.

VII. ROUNDTABLE RECOMMENDATIONS

On April 16, 2009, CHSRF and the Office of Nursing Policy, Health Canada, convened a Roundtable attended by policy makers, professional leaders, administrators, practitioners, educators, and researchers from across Canada (see Appendix U for list of participants) to discuss the results of this synthesis. The objectives of the meeting were the following:

1. Review the methodology of the research project and the findings outlined in the draft report.
2. Identify the impact of these findings on the goals and activities of stakeholders.
3. Formulate evidence-informed recommendations for policy and practice to support the implementation of the greater integration of CNS and NP roles into the Canadian healthcare system.
4. Identify potential activities to disseminate the final report.

Recommendations

The following recommendations were developed by the group, both during the meeting and via follow-up communication with CHSRF. The recommendations are grouped according to which of the key players in our healthcare system would likely assume a leadership role for action or implementation related to the recommendation.

For the nursing community (and partners):

1. The Canadian Nurses Association should lead, in collaboration with other health professional stakeholder groups (particularly the Canadian Medical Association and the College of Family Physicians of Canada), the creation of vision statements that clearly articulate the value-added role of CNSs and NPs across settings, with close attention paid to roles in the delivery of primary healthcare. These vision statements should include specific, yet flexible, role descriptions pertinent to specific healthcare contexts, which would help to address implementation barriers deriving from lack of role clarity. This recommendation was the most frequently and consistently mentioned action item throughout the meeting.

For senior decision makers (policy and practice):

2. A pan-Canadian multidisciplinary task force involving key stakeholder groups should be established to facilitate the implementation of advanced practice nursing roles.
3. Health human resources planning by federal, provincial and territorial ministries of health should consider the contribution and implementation of advanced practice nursing roles based on a strategic and co-ordinated effort to address population healthcare needs.
4. A communication strategy should be developed (via collaboration with government, employers, educators, regulatory colleges, and professional associations) to educate nurses, other healthcare professionals, the Canadian public and healthcare employers about the roles, responsibilities, and positive contributions of advanced practice nursing.
5. Advanced practice nursing positions and funding support should be protected following implementation and demonstration initiatives to ensure some stability and sustainability for these roles (and the potential for longer term evaluation) once they have been incorporated into the healthcare delivery organization/structure.
6. In order to facilitate provider mobility in response to population healthcare needs and improve recruitment and retention to advanced practice nursing roles, a pan-Canadian approach should be taken, in collaboration with regulators, to standardize advanced practice nursing regulatory standards, requirements and processes.

For educators:

7. In order to facilitate provider mobility in response to population healthcare needs and improve recruitment and retention to advanced practice nursing roles, a pan-Canadian approach should be taken, in collaboration with educators, to standardize advanced practice nursing educational standards, requirements and processes.
8. The curriculum across all undergraduate and post-graduate health professional training programs should include components that address inter-professionalism, in order to familiarize all health professionals with the roles, responsibilities, and scopes of practice of their collaborators.

For the research and research funding community:

9. Further research should be conducted to quantify the impact of advanced practice nursing roles on healthcare costs. The contexts of education, effectiveness, and length of career should be addressed within this research.
10. The focus of advanced practice nursing role effectiveness research should shift away from replacement models and illustrate the “value added” of these roles as compared to other nursing roles.
11. The CNS role in the Canadian context requires further study and should be the focus of future academic work.

Dissemination Plans

Preliminary dissemination activities for disseminating the findings and recommendations of the draft report were suggested:

- ▼ A briefing note of the written report, along with a proposed plan for action, should be delivered to Ministers and Deputy Ministers of Health for each province and territory. The Advisory Committee on Health Delivery and Human Resources (ACHDHR) is also an important target for briefing. The briefing notes should be tailored to present the information to employers and program managers in a meaningful way. This information should also be made available to the nursing community, which would benefit from a more thorough information exchange such as a workshop.
- ▼ A one-page report should be produced that clearly defines what NPs and CNSs are, and the ways their roles differ from that of registered nurses. The target audience for the one-pager was not specified.
- ▼ “Champions” could be used to reach specific groups of stakeholders. Specifically, leaders in the medical and nursing communities could be targeted as champions to disseminate the results of the final report to various internal groups and committees of their professional associations and educational/regulatory bodies.
- ▼ A symposium could be organized to bring together advanced practice nursing committees from various professional communities to review the findings of the report.
- ▼ The issue of public engagement was raised. Concrete activities outlining how this would be achieved were not put forth, although the use of traditional and web-based media was mentioned.
- ▼ Publication in peer-reviewed journals of articles stemming from the final report could be used as an opportunity to speak directly to individual healthcare professionals.

Note: A Special Issue of the *Canadian Journal of Nursing Leadership* consisting of 10 manuscripts summarizing various aspects of this decision support synthesis was published in May-June 2010.

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