

**Nurse Practitioner Workforce Survey
and
NPAO Electronic Registry Project
Report**

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1.0 Introduction

Nurse Practitioners are registered nurses with additional qualifications that allow them to provide a variety of health care services in primary health care (PHC), adult acute care or child acute care (College of Nurses of Ontario 2005b). The NP role incorporates advanced practice nursing and, with appropriate authorization, activities that fall within the traditional scope of medical practice (College of Nurses of Ontario 2005a). The NP practice is an autonomous nursing practice that includes consultation and collaboration with physicians to offer a full scope of health care to clients in a variety of settings (College of Nurses of Ontario 2005b). There is evidence in the Canadian literature that NPs improve access to good quality, cost effective care (Tarrant & Associates 2005).

The Ontario government reintroduced the Nurse Practitioner (NP) role in 1993, as part of its health care reform. Since that time, the government has supported the NP Initiative through legislation, an increasing number of financed NP positions across the province, and funding for university-based training. This support has increased visibility of the role, but barriers remain: the NP title is not protected in Ontario; educational requirements differ between different types of NPs; remuneration is not considered equitable or sufficient by some NPs and physicians; liability issues between physicians and NPs are still not well understood; and there is confusion about the NP role among the public and other health care professionals (Tarrant & Associates 2005; IBM Business Consulting Services 2005; Fahey-Walsh 2004; College of Nurses of Ontario 2003). Restrictions on scope of authority, including prescriptive authority, and ease of access to referrals and diagnostic tests, have also been mentioned as barriers in both Canadian and US studies, and are identified as factors that could reduce the effectiveness of PHC NPs (IBM Business Consulting Services 2005).

Despite these barriers, there is evidence of growing acceptance of the role. In 2004, the Nurse Practitioners' Association of Ontario (NPAO) reported they received approximately 10-15 calls or e-mails a day from family physicians and members of the public who wished to work with or see a primary health care nurse practitioner. To facilitate the further development of interdisciplinary health care teams and increase access to primary health care, the Ministry of Health and Long-Term Care (MoHLTC) provided NPAO with funding to create an electronic database and website that health care professionals and the public can consult on the availability of NPs in their communities. NPAO commissioned the Centre for Rural and Northern Health Research (CRaNHR) to obtain relevant and up-to-date information about NPs by means of a mail survey. This document reports the findings of the survey.

2.0 Development of the NP role

The NP role has been in development in Ontario for a number of years. This section presents a short history of NPs in Ontario and Canada, and offers an overview of some of the current activities being undertaken to further develop the role.

2.1 A short history

The year 2005 marks the fortieth year since the first NP educational programme opened. The development of the PHC NP role in Ontario has occurred in two waves: the first PHC NP initiative lasted from 1967 to the mid-1980s, and the second from the early 1993 until the present (NPAO 2005). Role development has involved a variety of activities, including the recognition of a specialty area of practice; development of formal training programs, certification and degrees; legislation regarding title and scope of practice; funding and reimbursement mechanisms; and integration of NPs into the health care system (Fahey-Walsh 2004; IBM Business Consulting Services 2005). The Acute Care Nurse Practitioner (ACNP) role was introduced in Ontario in the mid-1980s, and role development is somewhat behind that of the PHC NP. A discussion of current efforts regarding ACNPs can be found in Section 2.2.2.

The first wave of professional development began in Canada in 1967 when Dalhousie University began a certificate program to provide nurses with advanced practice skills that would enable them to provide primary care more independently in northern nursing stations and outposts. Through the late 1960s and 1970s, Canada was perceived to have a physician shortage. Rural areas had a shortage of primary health care providers. The 1971 Boudreau Report gave high priority to the implementation of the expanded role of the registered nurse in Canada's health care system. A series of reports followed: the Hastings Report (1971), which supported community based care; the Lalonde Report (1974), which recognized the role of RNs in health promotion and disease prevention; and a report by the Ontario Council of Health (1975), which made recommendations for legislative changes and remuneration for PHC NPs. Parallel to these developments, a group of Ontario trained PHC NPs founded the Nurse Practitioners' Association of Ontario (NPAO) in 1973. NPAO sought to increase understanding of the PHC NP role for the public, political leaders, and nursing leaders.

The first NP initiative ended in Ontario in the early 1980s, with the closing of last PHC NP education program at McMaster University. Factors contributing to the demise of the first NP initiative were a perceived oversupply of physicians, lack of a remuneration mechanism, lack of public awareness regarding the role, and lack of support for the role from medicine and nursing (NPAO 2005). About 250 PHC NPs continued to work in Ontario through the 1980s and into the 1990s. These PHC NPs varied in their educational preparation for the role: from diploma RNs with additional education and experience, to RNs with a graduate degree (Fahey-Walsh 2004). They worked primarily in community health centres and in northern nursing stations (NPAO 2005; IBM Business Consulting Services 2005). NPAO became an interest and expert group of the Registered Nurses Association of Ontario in 1985.

Although there was a perceived oversupply of physicians during the 1970s and 1980s, there was a decrease in primary health care physicians. As part of health care reform, the Ontario government launched the second Ontario PHC NP initiative in 1993. In 1994, CNO approved a new registration class for RNs, the Extended Class, which was intended to cover PHC NPs and other advanced practice nursing roles (Fahey-Walsh 2005). In September 1995, the Council of Ontario University Programs in Nursing (COUPN) began the Primary Health Care Nurse Practitioner Education Program. This was a post-baccalaureate certificate program offered through a consortium of ten universities in Ontario. In 1998, Ontario passed the *Expanded Nursing Services for Patients Act*, which amended the *Regulated Health Professions Act* and the *Nursing Act* to give PHC NPs an expanded scope of practice.

The perceived oversupply of physicians of the late 1970s and 1980s also resulted in a reduction of medical school spaces for medical students. By the mid-80s, the decrease in the number of paediatric residents was recognized as a difficulty for hospitals. As a consequence, McMaster University began offering a nursing graduate degree in Neonatology. In 1988, Clinical Nurse Specialist-Nurse Practitioners (CNS-NPs) began work in level 3 Neonatal Intensive Care Units (NICU). During the early 1990s, the continued decrease in medical house staff and resident physicians helped create a growing interest in the ACNP role in teaching hospitals. Post-Master's certificate programs were developed at two Ontario universities, and in 1997, the University of Toronto opened a Master's of Nursing degree program for ACNPs in two areas: adult health and child health. In recognition of this development, NPAO changed its mandate in 1998 to include NPs working in secondary and tertiary care, as well as those in primary care. Later that year, the organization began a series of meetings to identify common issues and plan strategies to support both NP roles (NPAO 2005).

2.2 Current actions aimed at developing the NP role in Canada

2.2.1 Canada

In 2000 Health Canada established the Primary Health Care Transition fund, which granted almost \$9 million to the Canadian Nurses Association to recommend mechanisms and processes to support the implementation of the NP role in primary health care across Canada (Health Canada 2005). Five strategic components are presently in development by CNA through the Canadian Nurse Practitioner Initiative (CNPI). These are: 1) practice and evaluation; 2) legislation and regulation, 3) health human resource planning, 4) education, and 5) change management.

To this end, the CNPI commissioned a series of literature reviews, and developed a Canadian Nurse Practitioner Core Competency Framework and national examination for PHC NPs. The Canadian NP Examination: Family/All Ages will be administered for the first time in the fall of 2005.

2.2.1.1 Legislation and Title

The NP role is one of several advanced nursing practice roles in Canada. Prior to 2001 only New Brunswick, Ontario, and Newfoundland and Labrador had legislation for PHC NPs. From 2001 to the present, Nova Scotia, Alberta, Manitoba, Saskatchewan, and British Columbia passed legislation concerning nurse practitioners. PEI is currently developing regulations that will cover NPs. Although there is no specific legislation in the Northwest Territories and Nunavut, both territories have protected the NP title. Yukon and Quebec are considering regulation. Three provinces, Newfoundland and Labrador, Quebec, and Nova Scotia, specifically recognize the AC NP role, although they have titled it as Specialty NP or NP – Specialist (Fahey-Walsh 2005).

Ontario and Manitoba passed title legislation on NPs that did not include NP in the title. Ontario designated the title ‘registered nurse, extended class (RN(EC))’ for NPs, and Manitoba protected ‘registered nurse, extended practice (RN(EP))’. The rationale was that a broader title could include other extended nursing roles such as nurse midwife or nurse anaesthetist (Fahey-Walsh 2005). Information on legislation and title are presented in Table 2.1

2.2.2 Ontario

The Nursing Task Force was formed by MOH in 1998 in response to requests and concerns expressed by the nursing profession. That same year, the NPAO’s mandate expanded to include all NPs working in primary secondary and tertiary care. To fulfill this mandate, NPAO submitted a brief regarding the roles of the PHC NP and ACNP to the Nursing Task Force. In its 1999 report, the Nursing Task Force recommended new funding for nursing and an increase in the number of PHC NP positions (NPAO 2005; Ministry of Health and Long-Term Care, 1999). From 1998 through 2002, about 400 new PHC NP positions were created in Ontario through seven funding initiatives. At present, the government invests \$1.7 million annually for the NP education program (Ministry of Health and Long-Term Care 2005).

At present, the CNO is exploring the possibility of registering ACNPs as RN(EC)s for two purposes:

- 1) Regulating ACNPs through the RN(EC) registration process will protect the public by ensuring that ACNPs meet Extended Class standards. These include successfully completing:
 - a. an appropriate education program,
 - b. practice examinations, and
 - c. practice in accordance with RN(EC) standards.
- 2) Regulation as an RN(EC) will grant ACNPs authority to independently perform a number of controlled acts without medical directives or doctors’ orders. At present each employer must individually delegate authority for these controlled acts.

CNO is also planning to seek protection for the “Nurse Practitioner” title. This will restrict use of the title of NP to those in the Extended Class (College of Nurses of Ontario, 2004a).

Table 1 Status of NP Legislation and Title by Jurisdiction

Jurisdiction	Title	Acronym	Legislation
Alberta	Nurse Practitioner	NP – protected title	2002
British Columbia	Nurse Practitioner	NP – protected title	Implemented 19 Aug 2005
Manitoba	Registered Nurse (Extended Practice)	RN(EP) – protected title	15 June 2005
New Brunswick	Nurse Practitioner	NP – protected title	1984 and 2002
Newfoundland and Labrador	Nurse Practitioner –Primary Health Care	NP – protected title NP–PHC	1998
	Nurse Practitioner - Specialist	NP-S	
Nova Scotia	Nurse Practitioner	NP - protected title	2001
	Primary Health Care Nurse Practitioner	PCH NP	
	Specialty Nurse Practitioner	SNP	
Ontario	Registered Nurse (Extended Class)	RN(EC) – protected title	1998
Prince Edward Island	Nurse Practitioner or Registered Nurse - Nurse Practitioner	NP, RNNP or RN(NP) Title protection being proposed	Pending development of 4 sets of regulations including those for Nurse Practitioners, 2005 (Association of Nurses of PEI 2005)
Quebec	Specialist Nurse Practitioner	Title is not protected	Exploring legislation for primary NP
Saskatchewan	Registered Nurse – Nurse Practitioner	RN (NP) – protected title	2003
N.W.T. & Nunavut	Nurse Practitioner	NP or RN (NP) – protected title	Implemented Jan 2004
Yukon			Exploring legislation

Source: Tables 1 and 2 and Appendix from Fahey-Walsh (2005). Updates are from the following websites: Alberta Association of Registered Nurses ; BC Ministry of Health Services; College of Registered Nurses of Manitoba; Nurses Association of New Brunswick; College of Registered Nurses of Nova Scotia; Association of Nurses of PEI; Saskatchewan Registered Nurses Association; Registered Nurses Association of the Northwest Territories and Nunavut ; Yukon Registered Nurses Association; Canadian Institute for Health Information.

3.0 Objectives

This study has two objectives:

- 1) To collect information about individual nurse practitioners working in the province of Ontario for NPAO for use in developing a public electronic registry as part of the NPAO website. The information includes some demographic characteristics (name, date of birth, gender, languages spoken in their practice), registration number, practice address, and whether the NP was accepting new patients.
- 2) To conduct a survey of all PHC NPs and ACNPs, in order to describe NPs working in Ontario with respect to their demographic characteristics, geographic distribution, employment trends and practice profiles.

4.0 Primary Health Care Nurse Practitioner Workforce Survey and NPAO Electronic Registry Project: Methodology

Sections 4 through 6 detail the survey methodology and findings in relation to the Primary Health Care Nurse Practitioner Workforce Survey and the NPAO Electronic Registry Project. Sections 7 through 9 describe the methods and findings in relation to the Acute Care Nurse Practitioner Workforce Survey.

4.1 Defining Primary Health Care Nurse Practitioners (PHC NPs)

For the purpose of this study, the term PHC NP refers to registered nurses who have the College of Nurses of Ontario Registered Nurse Extended Class (RN(EC)) certificate of registration.

4.2 Questionnaire Development

A questionnaire for both PHC NPs and ACNPs was developed in consultation with the Advisory Committee for the NPAO Electronic Registry Project and with the Project Manager. The study, including the survey instrument, was approved by the Laurentian University Research Ethics Board. A pilot test was conducted with 13 practising PHC NPs and ACNPs for content validity. Minor adjustments to the questions were made based on their feedback, and the original questionnaire was divided into two separate questionnaires: one for PHC NPs and one for ACNPs.

4.3 Website Registry Form

A registry form for the NPAO electronic registry was also developed in consultation with the Advisory Committee for the NPAO Electronic Registry Project and the Project Manager. The Laurentian University Research Ethics Board decided that collection of data for the electronic registry fell outside of its mandate, and declined to pass judgement on the form. To ensure that the form did not violate privacy legislation, NPAO had the electronic registry project, data collection form and informed consent form reviewed by a lawyer. The review noted that NPAO was collecting business and limited personal information for non-commercial purposes and privacy issues were addressed in a policy developed by NPAO.

Two consent forms were sent to each NP: a form for the questionnaire and a separate form for the electronic registry. Both forms clearly stated that participation was voluntary. The electronic registry consent form indicated that information on the electronic registry form, including the individual's name, would be released to the public on the NPAO electronic registry website. The survey consent form indicated that survey data would be reported in aggregate form, and that no individuals would be identified. The cover letter indicated that recipients could choose to complete the electronic registry form, the workforce survey questionnaire, or both.

The electronic registry and related consent forms were collected and sent to NPAO for entry into the electronic registry. To decrease respondent burden, certain demographic data were limited to the website form. Since about 53% (n=174) of PHC NPs completed the registry form, information about the average age of PHC NPs, gender, number of practices, and language spoken in practice are not reported.

Early in the data collection process, a number of PHC NPs and ACNPs phoned or emailed CRaNHR and NPAO to indicate that they did not wish to include their registration number because it is used to prescribe medications. Individuals were informed that release of that information was voluntary, and cover letters were modified to indicate this. As well, NPAO decided not to include the registration number on the electronic registry which was launched in mid-August 2005. Other reasons given for deciding not to join the registry included disagreement with the definition of ACNP, and possible changes in practice that might render the information incorrect by the time the registry was posted.

4.4 Study Population

The population of interest was all PHC NPs in Ontario who were registered with the College of Nurses of Ontario as a RN(EC), and were practicing and providing patient care as a RN(EC) in Ontario. Three lists of RN(EC) registration were used:

- 1) The 2004 CNO database of RN(EC)s (N=589)
- 2) The 2004 membership list of the NPAO which included recently lapsed members
- 3) The 2005 CNO database for addresses for 62 RN(EC)s who had relocated between 2004 and 2005

The CNO houses two sets of addresses: a public registry of business addresses which includes all RN(EC)s registered with CNO, and the home addresses of RN(EC)s who allow CNO to release their home addresses for research purposes. Due to privacy legislation, the CNO has restricted the release of addresses to either home or business. The choice of whether to use home or business addresses for the survey was debated. Business addresses tend to change more often, while home addresses are generally more stable. Use of home addresses would have excluded 145 RN(EC)s. It was felt that the use of business addresses would allow more RN(EC)s to be contacted about the NPAO electronic registry project. Thus, questionnaires were sent to the business addresses of RN(EC)s in the CNO database, and to home addresses of those exclusively listed with NPAO. CNO provided updated business addresses for 62 RN(EC)s who business addresses had changed between their 2004 and 2005 registration.

4.5 Data Collection

Data collection occurred during two distinct time periods. A modified Dillman method was used. The first data collection period focused on individuals on the 2004 CNO list. Individuals registered with the CNO as RN(EC)s were sent a cover letter explaining the study, a consent form, and a questionnaire in November 2004. Second and third mailings

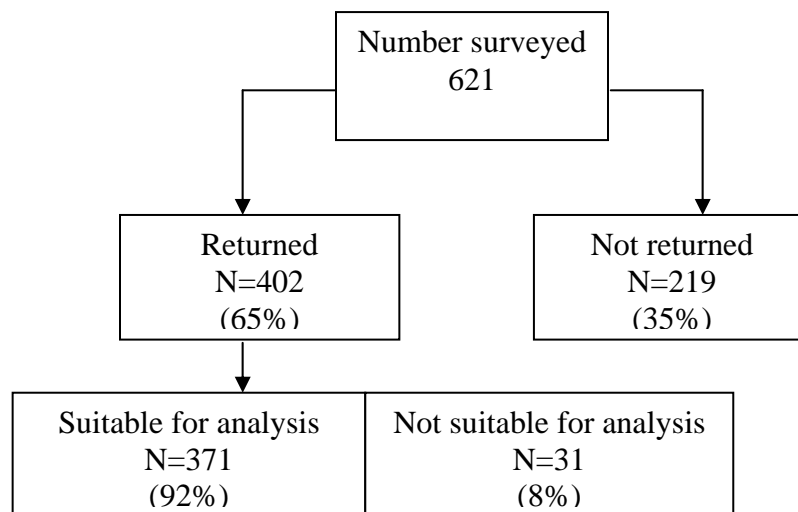
were sent to those who did not respond. The second and third mailings were delayed until early 2005 due to the year-end holiday season.

It became evident during the first data collection period that some RN(EC)s had been missed. To correct for this, the December 2004 NPAO membership list was cross-referenced with the CNO 2004 membership list. Duplicate names were removed, as were the names of individuals who were students or who were not PHC NPs. The remaining individuals were sent the same materials as the first group. In addition, members from the 2004 CNO list whose original mailings were returned to CRaNHR as ‘undeliverable’ were added to the second wave of the study. This addition was based on the assumption that these individuals had never received the original mailings. The first mailing was sent April 13, 2004. Second and third mailings were sent to those who had not responded.

4.6 Return Rate

Figure 1 details the response rate for the combined set of mailings. The final number of participants was 621. Of these, 402 returned their questionnaires. Of the 402 received, 371 were deemed suitable for analysis. The 31 questionnaires judged not suitable for analysis were excluded because the respondents did not return signed consent forms (n=20) or because they did not meet the inclusion criteria (n=11).

Figure 1 Respondents to PHC NP survey



The effective response rate was 60% (n=371) for PHC NPs.

4.7 Data Analyses

All survey data were entered and cleaned using SPSS PC, version 12. Data were checked for accuracy. The error rate for data entry was less than .2 %. Closed-ended questions were analysed with SPSS version 12. Open-ended questions were analyzed for content and coded into main themes. Coding was checked for reliability by one of the researchers and the Project Manager.

5.0 PHC NP Survey Results

5.1 Profile of Respondents

The profile of the respondents covers their registration status, whether they were practicing as an RN(EC) and providing patient care at the time of the survey, their educational attainment, and their level of experience in the role of RN(EC).

Almost 99% of respondents indicated they were registered with the College of Nurses of Ontario as a RN(EC). Just over 90% were practicing as an RN(EC) when they took part in the survey, and were responsible for patient care. The vast majority of the remaining 9% were not currently practicing as a RN(EC), and a very small number were practicing as an RN(EC) but not providing patient care.

Table 2 Profile of Survey Respondents

	n	%
Registered as RN(EC)	(n=371)	
Yes	367	98.9
No	4	1.1
Currently practicing as RN(EC)	(n=366)	
Yes	336	91.8
No	30	8.2
Currently responsible for patient care as RN(EC)	(n=336)	
Yes	336	100
No	0	0

RN(EC)s were asked several questions about their education, including their highest nursing degree, highest non-nursing degree, and whether they had completed a university-level Primary Health Care Nurse Practitioner program. They were also asked what type of PHC NP program they had taken, and the year and name of the university they graduated from as a PHC NP.

RN(EC)s were mostly likely to have a high school diploma (65%) as their highest non-nursing degree; to have a Bachelor of Science in Nursing (76%) as their highest nursing degree, and to have completed a university-level PHC NP certificate program (87%). About 12% had completed a non-nursing Master's degree, and 18% had a Master's in Nursing degree (Table 5.1.2).

As mentioned in Chapter 2, the PHC NP role developed in Ontario in two distinct time periods that differed from one another in terms of legislated scope of practice, title, reimbursement mechanisms, and educational requirements. About 250 PHC NPs remained in practice during the 1980s and early 1990s. After CNO approved the Extended Class registration for PHC NPs, and COUPN developed the five course

Table 3 Educational Attainment of Ontario PHC NPs

	n	%
Highest non-nursing diploma or degree	(n=285)	
High school diploma	184	64.6
Trade, Technical or Vocational School or Business School	7	2.5
Bachelor's or Undergraduate degree or Teacher's College	59	20.7
Master's Degree	35	12.3
Earned Doctorate in Nursing	0	0
Highest nursing degree	(n=331)	
Diploma	25	7.6
Bachelor of Science in Nursing (BScN)	252	76.1
Master's in Nursing	54	16.3
PHC NP Certification Process	(n=336)	
COUPN Certification program	262	78.0
COUPN Transition	7	2.1
CNO PLA	13	3.9
Other university PHC NP program	28	9.5
CNO PLA or COUPN Transition	22	6.5
Decade graduated as PHC NP	(n=306)	
1975 to 1983 (when Ontario programs closed)	13	4.3
1984 to 1995	9	2.9
1996 to 2004	284	92.8

certification program, experienced NPs were offered two options to obtain the RN(EC) designation.

The first was a Prior Learning Assessment (PLA), administered through the CNO, which involved three steps: 1) successfully writing the CNO CAT exam, 2) presentation of a portfolio, and 3) successful completion of an Observation of Structured Clinical Exam (OSCE). The OSCE involved case simulations that required an assessment, diagnosis, and communication of a treatment plan, all performed under observation. Successful NPs received their RN(EC), but did not receive an educational credential. Therefore, a small number of PHC NPs in Ontario are diploma RNs. The second option for experienced NPs occurred from 1996-97, which was referred to as the COUPN transition phase. Interested RNs took the PLA, and if successful they received credit for the four NP certificate courses, and then completed the Integrative Practicum through one of the COUPN universities. Upon completion, these NPs received their RN(EC) and a COUPN NP transition phase certificate. There were 40 such graduates.

Seventy-eight percent of responding RN(EC)s graduated from a COUPN PHC NP program, while 22% indicated they had graduated from another university PHC NP program or that they had taken some other form of PHC NP education. Of those who received their PHC NP education other than a COUPN program, 21% had a Master's in

Nursing, from either a Canadian or US university. The remainder took the CNO Prior Learning Assessment or the COUPN CNO transition program.

The vast majority of respondents (93%) graduated from a PHC NP program after 1996. The experience level of PHC NPs varied from a minimum of less than 1 year to a maximum of 29 years. The mean level of experience was 4.3 years and the median level of experience was 4.0 years. These figures suggest that the majority of RN(EC)s practicing in Ontario graduated from a COUPN program after 1995.

The level of experience in the current practices of respondents varied from a minimum of less than a year to a maximum of 20 years. The mean level of experience was 3.1 years, and the median level of experience was 2.5 years.

Table 4 Years of Practice in RN(EC) Role

	n
Total years practice in RN(EC) role	(n=329)
Mean (std dev)	4.3 yr (3.1 yr)
Median	4.0 yr
Minimum and maximum	>1 to 29 yr
Years practice in current RN(EC) position	(n=331)
Mean (std dev)	3.1 yr (2.7 yr)
Median	2.5 yr
Minimum and maximum	>1 to 20 yr

5.2 Employment

This section details findings on employers of RN(EC)s, their actual and preferred employment status, how their positions are funded, how they are remunerated, whether their positions are unionized, and their annual income.

5.2.1 Employer for main practice

RN(EC)s were asked who their employer was in their main practice, defined as the practice where they worked more than half their work hours in an average month. The most commonly mentioned employer of RN(EC)s in 2004 was community health centres or CHCs (37%), followed by acute care hospital (13.5%), “others” (9.8%), physician’s office/family practice unit (7.6%), and public health (6.1%). Long-term care facilities and Aboriginal Health Access Centres both employed slightly over 5.0% of the responding NPs, and 3% were self-employed.

Table 5 Employers of Main Practice

	n	%
Employers of RN(EC)s	(n=327)	
Community health centre (CHC)	122	37.3
Acute care hospital*	44	13.5
Physician's office/family practice unit	25	7.6
Public health unit	20	6.1
Long-term care facility	18	5.5
Aboriginal health access centre	17	5.2
Family Health Team (formerly FHN)	14	4.3
Community agency	14	4.3
Government	11	3.4
Self-employed as PHC NP	10	3.1
Others**	32	9.8

* Includes 11% of PHC NPs working in inpatient settings and 2.2% working in primary care practices in hospitals

**Includes addiction & mental health centres/psychiatric hospitals; student health services; complex continuing care/rehab hospitals; nursing station/outpost nurse clinics & CCAC

5.2.2 Actual and preferred employment status

Three quarters of RN(EC)s were employed full-time, 21% were part-time, and 2% were casual or “other”. Of those who described their employment status as “other,” two had modified full-time positions, two worked on a casual basis, one shared a full-time job with another RN(EC), one worked three part-time positions to create full-time hours, and two were self-employed.

Almost 80% of the respondents had permanent positions; these were divided between full time permanent positions (n=206) and part-time permanent positions (n=53). Twenty percent had contract positions; these were divided between those with full-time status (n=47) and those with part-time status (n=16).

Almost two-thirds of the respondents indicated they would prefer full-time permanent work, and another quarter would prefer permanent part-time work. About 5% would prefer casual or some other work arrangement, 4% would prefer full-time contract work, and less than 1% would prefer part-time contract work. Those who indicated a desire for some other work arrangement stated they would prefer to share a position or work a modified full-time position that would reduce the number of days they worked a week from five to four. Two RN(EC)s who preferred a modified full-time position stated that it would help them avoid burn-out in their position.

Table 6 Actual and Preferred Employment Status for RN(EC)s

	n	%
Present employment status	(n=330)	
Full-time permanent	206	62.6
Full-time contract	47	14.3
Part-time permanent	53	16.1
Part-time contract	16	4.8
Casual/Other	8	2.4
Preferred employment status	(n=327)	
Full-time permanent	213	65.1
Full-time contract	13	4.0
Part-time permanent	83	25.4
Part-time contract	2	.6
Casual/Other	16	4.9

5.2.3 Funding, reimbursement and income

The Ministry of Health and Long-Term Care funded approximately 70% of full-time main-practice positions through employers, and about 64% of part-time main-practice positions. The Ministry directly funded another 13% of full-time and part-time positions. Only a small number of positions (14) were funded by physicians or municipalities, and these were more likely to be part-time than full-time position. Of the 43 positions categorized as funded by “other”, over 80% were full-time. Almost two-thirds of the full-time positions were co-funded by MOHLTC, other provincial ministries, and municipalities, while the remainder were funded by an employer, the federal government, or by research projects. About a quarter of the full-time co-funded positions were funded by the Aboriginal Healing & Wellness Strategy. Part-time positions categorized as “other” were distributed across the categories mentioned. Some of the categories contained information from 5 or fewer respondents, therefore categories were combined to protect respondent confidentiality.

Almost four out of every five RN(EC)s employed full time earned a salary, and the rest earned hourly wages. Part-time RN(EC)s were more likely to earn an hourly wage than a salary.

About one out of every five RN(EC)s employed full-time was represented by a union, compared to about one out of every 12 for part-time RN(EC)s.

Table 7 Funding Source for RN(EC) Main Practice, Type of Remuneration, Union Status and Annual Income by Employment Status of RN(EC)

	Full-Time		Part-Time	
	n	%	n	%
Source of funding for RNECs main position	(n=245)		(n=69)	
MOH LTC directly	30	12.3	9	13.0
MOH LTC funds through employer	174	71.0	44	63.8
Physician, Municipality, or Other	41	16.7	16	23.2
Remuneration	(n=249)		(n=69)	
Salary	199	79.9	33	47.8
Hourly rate	50	20.1	36	52.2
Unionized	(n=252)		(n=70)	
No	198	78.6	64	91.4
Yes	54	21.4	6	8.6
Annual Income Group	(n=253)		(n=66)	
Less than \$80,000	167	66.8	61	92.4
\$80,001 and above	84	33.2	5	7.6

Two-thirds of full-time RN(EC)s earned between \$60,000 and 80,000 a year, and the vast majority of the remaining one-third earned between \$80,000 and \$100,000. A very small proportion of full-time RN(EC)s earned more than \$100,000. A third of part-time RN(EC)s earned between 40,000 and \$60,000, and a third earned between \$60,000 and \$80,000. More than 25% earned less than \$40,000 and the remainder earned over \$80,000. The income categories presented in Table 7 have been combined to maintain confidentiality.

5.3 Practice Setting and Organization

This section provides information on the settings where RN(EC)s practice; individuals to whom they are accountable; how patients are assigned to their care; number of physicians they work with; average number of clients they see a day; whether they make home visits or have on-call responsibilities; referrals; geographical distribution of RN(EC) practices; and size of communities in which RN(EC)s practice.

5.3.1 Practice setting

Respondents were asked to describe the practice setting for their main position from a list of 12 settings. Valid responses were given by 98%. The three practice settings most often mentioned were: community health center or CHC (35%); physician’s office or family practice unit (18%); and the “other” category (14%). The “other” category included clinics owned or managed by nurse practitioners (3.3%) and treatment centers for specific populations or types of care. Specific populations mentioned included students, women, Canadian Forces, and rural or remote areas; while types of care mentioned included sexual and reproductive health and walk-in care.

Table 8 Practice Setting for Main Position

	n	%
Practice Setting	(n=330)	
Community health centre	116	35.2
Physician's office/family practice unit	59	17.9
Hospital ambulatory setting	22	6.7
Long term care facility	18	5.5
Aboriginal health access centre	16	4.8
Public health unit	14	4.2
Hospital emergency department	12	3.6
Nursing station/Outpost nurse clinic	11	3.3
Hospital inpatient unit	10	3.0
Health service organization	7	2.1
Other*	45	13.6

*Includes practices focusing on specific populations; NP clinics; clinic in an educational institution; hospital inpatient & outpatient co-practices; and clinics for Department of National Defence.

5.3.2 Accountability in main practice setting

Respondents were asked to whom they were accountable in their main practice setting. Choices included a nursing leader; a medical leader; dual leadership (such as reporting to a medical leader for clinical issues and an administrative leader for administrative issues); and an “other” category. About 41% of responding RN(EC)s said they were accountable to a dual structure; 32% chose the “other” category; 18% said a nursing leader; and 8% said a medical leader.

The “other” category contained three distinct groups: RN(EC)s who said they reported to someone other than a nursing or medical leader (24%); those who said they had an independent practice (4%); and RN(EC)s who stated that they worked as part of an interdisciplinary team giving care or doing research (3%). RN(EC)s who reported they were accountable to someone other than a nursing or medical leader were most likely to report to an executive director (n=29); manager, administrator, or health services manager (n=27); or a clinical director, manager or coordinator (n=13).

Table 9 Reporting Relationship in Main Practice

	n	%
RN(EC) is accountable to:	(n=330)	
Dual structure	137	41.5
Other	103	31.2
Non-nursing/non-medical	(78)	(23.6)
Independent	(14)	(4.2)
Interdisciplinary team	(11)	(3.3)
Nursing leader	62	18.8
Medical leader	28	8.5

5.3.3 Assignment of clients

RN(EC)s were asked to indicate the ways in which clients were assigned to their care. Three out of four said that clients booked appointments with them. Almost 60% had clients referred to them from another health care practitioner, and about 55% had clients referred to them from a colleague within their practice. Another 48% were assigned clients through a receptionist. PHC NPs were about as likely to receive clients through the “other” category as through triage.

Of RN(EC)s who chose the “other” category, almost half had clients assigned to them. Assigned clients were equally split between those that were assigned on a first-come first-serve or walk-in basis, and those that were part of a population defined by the type of care they required. Populations with specific care needs included patients residing in an inpatient unit; patients who previously had a stroke; children requiring wellness-care; and residents of a long-term care facility. The remainder came as referrals from community agencies or hospitals.

Table 10 Assignment of Clients to RN(EC) for Care

	n	%
How clients were assigned	(n=336)	
Client books appointment with RN(EC)s	251	74.7
Referral from another health care practitioner	197	58.6
Referral from colleague within practice	184	54.8
Clients assigned by receptionist	161	47.9
Other	75	22.3
Triage	74	22.0
Rostered clients or emergency department patients who access PHC NP services through a physician	36	10.7

*Respondents could provide multiple responses, so percentages may exceed 100%.

5.3.4 Work with physician(s) in main practice

Almost all of the responding RN(EC)s worked with physicians in their practice (98%). Two out of three worked with physicians who were on-site at the practice, and 23% worked with physicians who were not on-site. About 10% stated that they worked with both on-site and off-site physicians. Comments suggested that this occurred when the practice had more than one site, or when the site was a clinic or long-term care facility that received occasional visits from a physician.

Table 11 Location Status of Physicians with Whom RN(EC)s Worked

	n	%
Worked with:	(n=311)	
On-site physician	205	65.9
Off-site physicians	72	23.2
On and off-site physicians	29	9.3
Did not work with physicians in practice	5	1.6

5.3.5 Average number of client visits per day, home visits, and on-call

RN(EC)s saw an average of about 14 visits on a typical day. The number of visits ranged from a low of 1 visit to a high of 60 visits. The 25% of RN(EC)s who saw the least number of clients saw 10 or less on a typical day, and the 25% who saw the most (those in the 75th percentile or above) saw about 18 or more clients per day. Eight RN(EC)s saw 26 or more patients per day. They worked in acute care hospitals or long-term care facility, rather than in an office setting, and all reported they were full-time employees.

The difference in the number of mean visits, and average visits for quartiles were small or non-existent. The maximum number of visits for part-time RN(EC)s was 25, lower than the 60 visits per day for a full-time RN(EC)s. As mentioned above, eight RN(EC)s saw 26 or more clients per day, and they all worked full-time. One explanation for the similarity between the average number of visits for full and part-time RN(EC)s is that both the full-timers and part-timers reported the number of clients they saw during a full day. However, it is not possible to determine this from the survey data.

Just under 60% of PHC NPs provided home visits to their clients, and 18% of PHC NPs had on-call responsibilities. These percentages were very similar for full and part-time RN(EC)s.

Table 12 Average Client visits per day, home visits and on-call responsibilities overall and by Employment Status

	n	%	Full time		Part-time	
			n	%	n	%
Number of client visits on a typical day	(n=320)		(n=243)		(n=66)	
Mean (std dev)	14.3 (6.3)		14.5 (6.7)		13.2 (4.9)	
25th percentile	10.0		10.0		10.0	
50th percentile (median)	13.3		13.5		12.5	
75th percentile	17.5		17.5		17.5	
Minimum & maximum	1-60		1-60		2-25	
Home visits	(n=334)		(n=252)		(n=69)	
Yes	192	57.5	147	58.3	39	56.5
No	142	42.5	105	41.7	30	43.5
On-call	(n=334)		n=251		(n=70)	
Yes	61	18.3	44	17.5	13	18.6
No	273	81.7	207	82.5	57	81.4

5.3.6 Referrals

5.3.6.1 Referrals to RN(EC)s

RN(EC)s were asked about referrals in terms of who referred clients to them and to whom they referred clients. The lists of professionals in the questionnaire were not identical, since it was assumed that while registered nurses might refer clients to RN(EC)s, RN(EC)s would not refer clients to registered nurses. Similarly, it was not assumed that RN(EC)s would receive referrals from allied health care professionals, but it was assumed that they would refer clients to allied health care professionals. Both lists included family physicians, physician specialists, other PHC NPs, social workers, midwives, mental health workers, and an “other” category (see Table 6.5.6).

The five types of professionals most frequently mentioned as referring clients to RN(EC)s were: family physicians (85%); registered nurses (60%); social workers (58%); PHC NPs (58%); and mental health workers (43%).

About a third of RN(EC)s indicated that a professional other than those listed referred clients to them. These included individuals working in health care (22%) and individuals who worked in community based organizations (13%). The former included physiotherapists, occupational therapists, respiratory therapists, public health nurses or agencies, RPNs, physician assistants, pharmacists, chiropractors, psychologists, chiropractors, naturopaths, homeopaths, and traditional healers. Diabetes educators and lactation consultants were also mentioned. The latter included teachers, early childhood educators, youth and child workers, addiction workers, residential care workers, case managers, and counsellors. Lawyers and clergy were also mentioned.

5.3.6.1 Referrals from RN(EC)s

The five most mentioned categories of professionals to whom RN(EC)s referred clients were: other allied health care professionals (94%); physician specialists (91%); family physicians (82%); mental health workers (77%); and social workers (75%). Allied professionals included physiotherapists, occupational therapists, diabetic resource nurses, registered dietitians, etc. About 10% of the respondents referred clients to “others,” which included individuals working in community agencies, alternative health care providers, optometrists, audiologists and dentists.

Table 13 Referrals to and from RN(EC)s

	n	%
Professionals who refer to RN(EC)s*	(n=330)	
Family physicians	283	85.8
Other registered nurses (RNs)	197	59.7
Social workers	193	58.5
Other PHC NPs	191	57.9
Mental health workers	142	43.0
Nutritionists	130	39.4
Physician specialists	129	34.8
Midwives	77	23.3
Others	72	21.5
Community organizations	44	13.3
Professionals RN(EC)s refer to*	(n=335)	
Other allied health care professionals	314	93.7
Physician specialists	304	90.7
Family physicians	273	81.5
Mental health workers	258	77.0
Social workers	252	75.2
Midwives	167	49.9
Other PHC NPs	154	46.0
Others	33	9.9

*Respondents could provide multiple responses, so percentages may exceed 100%.

5.3.7 Geographical distribution of main practices

Respondents were asked about the region and size of the community in which their main practices were located. RN(EC)s were most likely to work in the Central East region, which included Toronto, followed by Southwestern Ontario and Eastern Ontario. Almost 50% of the practices were reported to be in cities with more than 100,000 people, while about 31% of the practices were reported to be in towns or communities with 10,000 or fewer people.

Over half, or 56%, of RN(EC)s stated that their main practices were in an area designated as “under-serviced for family physicians” by MOHLTC. Almost one in five were unsure if they practiced in an under-serviced area.

Table 14 Geographic Distribution of Main Practices

	n	%
Region	(n=333)	
Central East Ontario (e.g., Toronto)	80	24.0
Southwestern Ontario (e.g., London)	69	20.7
Eastern Ontario (e.g., Ottawa)	57	17.1
Central Western Ontario (e.g., Hamilton)	54	16.2
Northeastern Ontario (e.g., Sudbury)	55	16.5
Northwestern Ontario (e.g., Thunder Bay)	18	5.4
Community Size	(n=324)	
City with 100,001 or more	155	47.8
City with 50,001 – 100,000	33	10.2
City with 25,001 – 50,000	22	6.8
City with 10,001 – 25,000	15	4.6
Town with 5,001 – 10,000	35	10.8
Community with 5,000 or less	64	19.8
Work in “under-serviced” area	(n=332)	
Yes	188	56.6
No	80	24.1
Not sure	64	19.3

5.4 Clientele

This section describes the clients with whom the respondents worked; practice focus; how RN(EC)s allocated their time; and the respondents' perceptions of the three major health problems in the geographic region where their practice was located.

5.4.1 Client population

RN(EC)s were asked to describe the client population they worked with. The most frequently mentioned populations were low income earners (57%), the unemployed (48%), substance abusers and/or the mentally ill (39%), cultural minorities (36%), and recent immigrants (35%). Twenty-four percent of RN(EC)s worked with a "typical family practice" population.

About 32% of respondents mentioned other populations, which included: geriatric patients in long-term care facilities or in the community (n=28), woman, maternal and child care (n=21), rural populations (n=16), acute care inpatients or out-patients with complex care requirements (n=11), members of the military (n=8), adolescents (n=8), and clients at risk for violence (n=6).

RN(EC)s were most likely to work with adult clients (95%), followed by adolescents (81%), seniors (79%), and children (75%). Almost 70% of RN(EC)s worked with all four age groups.

Table 15 Client Populations and Age Groups

	n	%
Age groups of clients*	(n=336)	
Infants and children (0-12 yr)	253	75.3
Adolescents (13 to 18 yr)	273	81.3
Adults (19 to 64 yr)	318	94.6
Seniors (65 and over)	266	79.2
Client Populations*	(n=334)	
Low income earners	191	57.2
Unemployed	160	47.9
Substance / drug abusers / mentally ill	131	39.2
Cultural minorities	121	36.2
Recent immigrants	117	35.0
Aboriginal peoples	102	30.5
Patients with permanent physical disabilities	98	29.3
Homeless	87	26.0
Transient / seasonal populations	87	26.0
Family practice	81	24.3
HIV / AIDS patient	49	14.7
Other population	108	32.3

*Respondents could provide multiple responses, so percentages may exceed 100%.

5.4.2 Practice Focus

RN(EC)s were asked to indicate what types of care they focused on in their main practices. The types of care were: health promotion/disease prevention, treatment of minor illnesses, maintenance (e.g., management of stable or chronic illnesses), palliative care, and an “other” category. Respondents could indicate more than one focus. Ninety-two percent of the RN(EC)s indicated that their practices included a focus on health promotion and disease prevention and almost 90% indicated treatment of minor illnesses. Another 83% mentioned maintenance, 21% mentioned palliative care, and 27% chose the “other” category.

RN(EC)s used the “other” category to indicate: a more holistic approach to care giving; care that was more complex than indicated in the examples in the questionnaire; or care given to specific populations. Holistic care was exemplified by statements such as “provide care to full age spectrum: from prenatal, newborn, children, adolescent, etc.,” and included social care such as advocacy for the “homeless, refugees, immigrants, (and) working poor”.

Examples of more complex care included “complex assessment,” “management of unstable complex chronic illness (in collaboration with a physician),” acute care in various hospital units, or wound care. Care given to specific populations included hospital inpatients, emergency or urgent patients, clients with addictions or mental health problems, immigrants, refugees, the homeless, clients with diabetes, elderly clients in the community and in long-term care facilities, women, children, youth, and members of the military. The “other” category was also used by 11 RN(EC)s to indicate a practice focus that was not related to patient care such as administration, education or research.

Table 16 Distribution of Practice Activities of RN(EC)s

	n	%
Practice focus*	(n=335)	
Health promotion/disease prevention	308	91.9
Treatment of minor injuries	300	89.6
Maintenance/management of stable or chronic illnesses	277	82.7
Palliative care	71	21.2
Other	93	27.5

*Respondents could provide multiple responses, so percentages may exceed 100%.

5.4.3 Allocation of time in practice

To help understand what proportion of time RN(EC)s spent on patient care versus other activities, respondents were asked to estimate how much time they spent on five types of activities in an average month. The activities were: direct patient care; administration, research/scholarly work, teaching, and an “other” category.

RN(EC)s reported that they spent a mean of 75% of their working hours providing direct patient care, 12% of their time in administrative duties, about 7% teaching, 4% doing research or other scholarly work, and 3% doing “other” types of work. Other types of work mentioned included completion of forms, management activities such as hiring, scheduling or training staff, and education of clients or staff.

Table 17 Allocation of time in main practice for professional activities

Time Allocation	Mean % of time spent in activity (n=332)	(std dev)	Minimum and Maximum
Direct Patient Care	74.3	(17.5)	0.0 -100.0
Administration	11.7	(11.8)	0.0 - 90.0
Research/scholarly work	3.6	(6.7)	0.0 - 50.0
Teaching	6.9	(8.5)	0.0 - 80.0
Other	3.1	(8.6)	0.0 - 65.0

5.4.4 Major health problems

Participants were asked what they thought the three major health problems were in the geographic region where they worked. Two main types of responses were provided in the questionnaire: individual health problems and health care system issues. The five most commonly mentioned problems were: cardiovascular disease (52%), mental illness (41%), diabetes (40%), problems with health behaviours (22%) and lack of access to health care (21%).

Problems with health behaviours included such issues as obesity, malnutrition, lack of food security, smoking, lack of exercise, alcohol abuse, teenage pregnancy, sexually transmitted diseases (STDs), lack of education, addictions, lack of knowledge about prevention, and depression.

Table 18 Most commonly mentioned health & health care system problems

	n	%
Major health problems	(n=336)	
Cardiovascular disease	173	51.5
Mental illness/substance abuse	139	41.4
Diabetes & related illnesses	134	39.9
Problems with health behaviours	73	21.7
Lack of access to primary health care	71	21.1
Respiratory diseases and asthma	68	20.2
Poverty	48	14.3
Maternal, sexual and reproductive health	41	12.2
Cancer	38	9.5

5.5 Respondents' Comments

Respondents were provided with space to comment on their experience as a NP. Comments fell into three main categories: funding issues, barriers to the NP role, and satisfaction with the NP role.

5.5.1 Funding issues

Forty respondents commented on funding issues. Almost half of the comments concerned salaries. Respondents stated that there has been “no raise in salary in 4 years,” that “NP salaries need to be harmonized across the province,” and that the “annual gross income should be higher.” One respondent suggested that the “salary should be 80,000-100,000 commensurate with (the) expanding role and experience.” Another respondent said there was “very little information, (it is) difficult to find information on remuneration for similar positions,” while another felt that PHC NPs are being lost “to the acute care sector because the salaries and benefits are better.”

Respondents also said there was a lack of funded positions, either generally or for specific populations that were “often marginalized groups with high needs”. One respondent said “many NP positions are not funded as permanent positions,” while another said “(I’m) unable to secure funding to work in this full service primary care practice, previous funding seems focused on special interest groups.” Still another reported that “family MDs are aware of the NP scope in our community and would like to have on their health team, (but there is) zero funding to allow this.” Two respondents felt “NPs should have access to their budget and how the employer is spending funds.” Another stated there was a “chronic lack of funding for physician collaboration. (I) feel unsafe to practice.”

Finally, a number of respondents noted that the “most frustrating part of (the) job is related to lack of funding to provide any clerical support,” and that the “lack of funding for appropriate clerical support and collaborative physician remuneration creates stress and possible client safety issues.”

5.5.2 Barriers to the PHC NP role

Thirty respondents commented on barriers to the PHC NP role. The most frequently mentioned barrier concerned relationships with physicians or other employers who did not allow the respondent to practice to the full scope of the RN(EC) role. Several RN(EC)s were frustrated at the requirement of having “an MD co-signature for physician specialist referrals” while others said “physicians need to be educated on role of NP.” Another felt that “(the) barrier to our service delivery is the fee for service model.” Still another said it was “frustrating not to be able to function within (the) RN(EC) full scope of practice - (the) limitations (are) based on employers job description.”

The next most often mentioned barrier concerned restrictions on what RN(EC)s can prescribe. One respondent said “(My) practice is very restricted by limited drug and lab tests” and several others asked for “less restrictions on drug and diagnostic test lists.”

Lack of recognition of the PHC NP role from the public and from other health professionals was also mentioned as a barrier. One respondent felt that “few people I see for first time have ever heard of a NP” Two others said that legislative issues were creating barriers, and a third said that there was a “need to continue with political action to move the role forward.” One respondent stated that, “(It is) often difficult to fit into the culture, one is not considered a nurse, nor a physician or management,” while another said “(There is) no support from administration, maybe this should be reviewed or be part of the COUPN program to assist new NPs in accomplishing this complex endeavour.”

Other barriers mentioned included difficulty in obtaining NP coverage, presumably liability coverage. One respondent felt isolated, and said “working in rural community allows me to work to my full scope of practice, (however) I feel isolated at times, feel NPs should be employed in 2s...stretched thin.” Another “would love to work in a setting that provided a more balanced practice.”

5.5.3 Satisfaction with the PHC NP role

Twenty-five respondents had highly positive comments about their work, such as “(being an) NP is one of the most rewarding jobs I have had,” or “(my) experience as an NP very rewarding and professionally fulfilling; community has welcomed me, physician partner supportive.” A third said “NPs (are) gaining recognition in city and area; MDs and public supportive.”

5.6 Non-practicing RN(EC)s

Eight percent (n=30) of the responding PHC NPs were not providing patient care. When asked why they were not practicing as PHC NPs, about one-third gave personal reasons such as having moved to a jurisdiction that did not recognize the NP credential, health reasons, discomfort in the role, or having retired. Two were practicing as PHC NPs in other provinces.

The remaining two-thirds said they were not employed, employed as an RN, or engaged in other work such as teaching, research, administration or nursing leadership. Lack of NP positions near their home was the most frequently mentioned reason for not practicing. A few could not find the employment status they preferred such as full-time or part-time work.

A small number of respondents mentioned that poor compensation prevented them from practicing. One had “no salary increase for 3 yrs, increased workload 2 times, no benefits.” A few said they had experienced lack of acceptance from physicians or nursing management.

Of those RN(EC)s who were not currently practicing, 13 were actively looking for work as a PHC NP and 17 were not. Half of those not actively looking for work said that they

were currently employed in another position, and the majority of those were satisfied with the jobs they had. One was “in the process of participating in a collaborative nurse practitioner/physician model of care that is a new initiative,” while a second was “satisfied with new possibilities in community nursing and current management role.” A third stated “(I) enjoy teaching, and can work in the far north in the summer to keep my skills current.” The rest of those who were not seeking a PHC NP position said they had moved to jurisdictions that required PHC NPs to have a Master’s degree; they could not relocate for work for family reasons; or there were medical reasons that kept them from looking for work.

One out of every four of the non-practicing RN(EC)s said they would consider relocating to a rural or remote area to gain employment as a PHC NP. Two were willing to relocate for less than one year; one for less than two years, three were willing to relocate for more than two years, and one did not know. When asked what conditions would help them relocate, financial incentives and greater professional opportunity were the first and second most often mentioned conditions. Other conditions mentioned included: part-time work, a rural town large enough to house a high school, fewer night calls’ and the availability of a refresher course.

Table 19 Profile of Non-Practicing RN(EC)s

	n	%
Actively looking for RN(EC) position?	(n=30)	
Yes	13	43.3
No	17	56.7
Consider relocating to rural/remote area?	(n=29)	
Yes	8	27.6
No	21	72.4
Number of years willing to relocate for?	(n=7)	
Less than 1 year	2	28.5
Less than 2 years	1	14.3
More than 2 years	3	42.9
Don’t know	1	14.3

6.0 Discussion

A primary objective of this study is to describe the current population of primary health care nurse practitioners with respect to their demographic characteristics, geographic distribution, employment trends and practice profiles using the results of a mail survey.

The role of RN(EC) has been redeveloped in Ontario since the mid-1990s, and the majority of respondents have graduated since 1996. RN(EC)s average a total of 4.3 years of practice, and have practiced in their current position for an average of 3.1 years. About 3 out of 4 have a bachelor degree in nursing, while another 16% have a Master's degree in Nursing.

A large proportion of RN(EC)s worked for agencies that delivered primary health care such as community health centres, physician's offices, Aboriginal Health Access Centres or family health teams. About 13% worked for acute care hospitals, where most worked with inpatient populations. About two out of three RN(EC)s worked full-time and preferred that work status, however, about 10% preferred permanent work over contract positions, and part-time compared to full-time. Almost 70% of RN(EC)s had positions funded by the Ministry of Health and Long Term Care through their employers. Almost three out of four earned a salary, and 60% earned between \$60,000 and \$80,000, while another 25% earned between \$80,000 and 100,000. When asked to comment on their experience as a RN(EC), the most frequently mentioned theme concerned funding issues. RN(EC)s would like to see more funded positions, with higher salaries and better benefits. Some respondents thought that RN(EC)s were moving to acute care settings because they offered higher remuneration.

One out of every four RN(EC) was accountable to a nursing or medical leader within their main practice. Another 40% were accountable to a dual structure and about 23% were accountable to a non-nursing/non-medical leader.

Three out of every four RN(EC)s had clients who booked appointments with them, 58% received clients through referrals from other health care practitioners, and 55% received clients through referrals from colleagues in their practices. About two-thirds worked with a physician who worked on-site with the RN(EC), and 23% worked with a physician who was off-site. RN(EC)s saw an average of 14 patients a day, and the 25% who saw the most patients, saw over 17 a day. Almost 60% of RN(EC)s provided home visits to patients; however, and about 20% had on-call responsibilities.

RN(EC)s were most likely to have clients referred to them by family physicians, and RN(EC)s were most likely to refer clients to other allied health care professionals, physician specialists and family physicians.

Almost 60% of RN(EC)s worked in areas that they believed were designated as under-serviced in relation to family physicians. Almost 50% worked in cities with populations of 100,000 or more and about 30% worked in towns with 10,000 or fewer people. It is estimated that in 2001 about 13% of Ontario's population lived in rural and small towns

with populations of 10,000 or fewer persons (Statistics Canada, 2001). Therefore, RN (EC)s were more likely to work in small and rural towns. They were also more likely to practice in Northern Ontario than are other types of nurses. About 22% of RN(EC)s were located in the Northern Ontario as compared with about 10% of RNs and RPNs.

RN(EC)s were most likely to work with adults, followed by adolescents, seniors, and children. Over 90% focused on health promotion and treatment of minor illnesses. RN(EC)s spent an average of 75% of their time providing direct patient care.

Respondents rated cardiovascular disease, mental illness and substance abuse, diabetes and related illnesses, problems with health behaviours, and lack of access to health care as the 5 most commonly mentioned health and health care system issues.

Other identified barriers to practice included limits to full scope of practice and lack of understanding of the role of NPs by the public. However, many RN(EC)s stated that they found the role rewarding and fulfilling.

7.0 Overview of Methods: Survey of ACNPs

7.1 Defining Acute Care Nurse Practitioners (ACNPs)

In the 2004 CNO membership renewal form, ACNPs were included in the Clinical Nurse Specialist/Advanced Practice Nurse category. The Advisory Committee to the NPAO Electronic Registry Project and Workforce Survey met in the fall of 2004 to determine the most accurate definition of an ACNP and agreed to use the College of Nurses of Ontario definition. The original definition was:

A registered nurse with a minimum educational preparation that includes a master's degree from a recognized acute care nurse practitioner program in Ontario or its equivalent. The acute care nurse practitioner provides care that includes management of acute and/or chronic illness or human responses in health and illness in collaboration with clients, physicians and other health care providers.

The definition was modified slightly by CNO for the 2005 registration form.

Determining who qualifies as an ACNP is complex, since the ACNP role is not regulated in Ontario at present. There is no specific credential that identifies ACNPs in the way the RN(EC) credential identifies PHC NPs. Furthermore, since the survey took place in late 2004, ACNPs were included in the Clinical Nurse Specialist/Advanced Practice Nurse category. Therefore, a number of techniques were used to determine who were ACNPs for the purposes of this study.

First, questionnaires were sent to all nurses who had identified themselves as a Clinical Nurse Specialist/Advanced Practice/Acute Care/Specialty Nurse Practitioner. A one-page screen was included with the survey materials, which asked nurses whether they were an Acute Care Nurse Practitioner, Clinical Nurse Specialist (CNS), or neither, based on definitions given for the ACNP and CNS roles. The definition of ACNP and CNS were developed for use by the CNO, with input from members of the NPAO (see above) was used in the screen. A second screen was embedded within the survey in the form of two questions: 1) "Are you currently practicing as an ACNP?" and 2) "Are you responsible for patient care?" Respondents were also asked to report their highest degree in nursing and the year and name of the university from which they graduated as an ACNP.

Respondents who completed the questionnaire and signed the consent form were included in the analysis if they:

1. self identified themselves as an ACNP or a Clinical Nurse Specialist/Nurse Practitioner on the separate screen,
2. answered that they were currently practicing as an ACNP and responsible for patient care; and
3. had a Master's in Nursing, and reported the name of the university that they graduated from.

There were 124 respondents who met these criteria. There were also 58 respondents who did not return the separate screen, but said they were currently practicing as an ACNP and giving patient care. Of these, 48 had a Master's in Nursing and gave the name of a university that has an ACNP program. One other provided sufficient information to determine s/he met the educational requirements. These 49 were also included in the analysis, for a total of 173 practicing ACNPs.

Respondents who self-identified as an ACNP or CNS/NP, and met the educational requirements, but stated that they were not practicing as an ACNP were included in a separate analysis of non-practicing ACNPs (see Section 8.6). Twelve respondents were included in this category.

7.2 Questionnaire Development

Development of the questionnaire has been described in Section 4.2.

7.3 Website Registry Form

The development of the Electronic Registry has been described in Section 4.3. About 66% or 114 practicing ACNPs gave consent to being part of the Electronic Registry.

7.4 Study Population and Data Collection

The population of interest was all ACNPs in Ontario who were practicing as an ACNP and providing patient care in Ontario. Two lists of registered nurses were used.

1. The 2004 College of Nurses of Ontario (CNO) database of Registered Nurses who self-identified their nursing position as a Clinical Nurse Specialists/Advanced Practice Nurses/Acute Care/Specialty Nurse Practitioner (N=791)
2. The 2004 membership list of the Nurse Practitioner Association of Ontario (NPAO) which included recently lapsed members (n=269)

As mentioned in Section 4.4, the CNO houses two sets of addresses: a public registry of business addresses of nurses, and home addresses of nurses who allow CNO to release their home address for research purposes. Since the number of ACNPs in Ontario was unknown at the time of the survey, it was decided to use the home addresses since these are less likely to change than are business addresses.

The data collection methods have been described in Section 4.5. Additional details are provided as follows. ACNPs who self-identified themselves on the CNO registration form (list 1, above) were the first group to be sent surveys, beginning in December 2004. To avoid sending surveys to NPAO members (list 2) who had already received the survey through their self-identification with CNO, the NPAO membership list was cross-referenced with the CNO 2004 membership list. Duplicate names were removed, as were

the names of individuals who identified themselves as students or RN(EC)s. NPAO members who identified themselves as ACNPs or gave no identification were sent survey materials starting in April 2005.

7.5 Return Rate

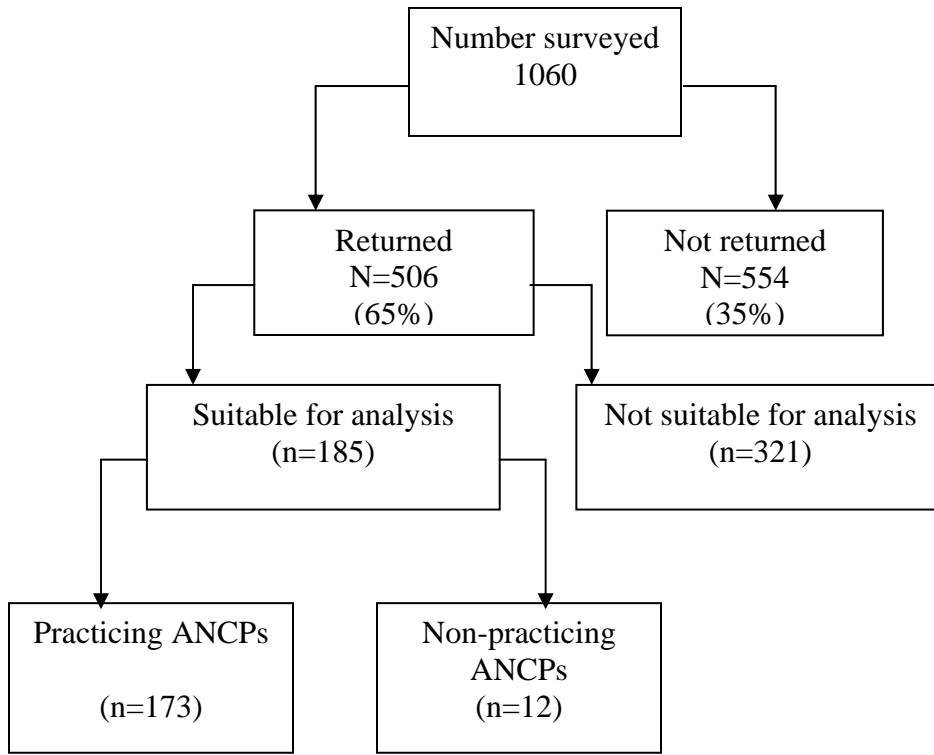
A response rate for the survey was not calculated because the total number of ACNPs practicing in Ontario is unknown. In 2005, the CNO provided RNs with the choice of identifying themselves as an ACNP in the “Position in Nursing” section of the registration form. Approximately 800 nurses indicated they were working as ACNPs. CNO examined the educational background of self-reported ACNPs and found that “there are approximately 300 nurses educated in graduate or post-graduate nurse practitioner programs practicing as ACNPs in Ontario” in 2005 (College of Nurses of Ontario 2005a).

The Acute Care Nurse Practitioner Workforce Survey was sent to 791 nurses who identified their position in nursing as a CNS/ADV/ACNP in 2004. Of these, 382 responded. Of the 269 NPAO members who were sent the questionnaire, 124 responded for a total of 506. Of these 506, 321 were not considered suitable for analysis, either because the respondent indicated s/he was not an ACNP (n=267), the survey lacked a signed consent form (n=10), or because the individual did not match the criteria described in Section 5.1 (n=44). The 185 surveys that were suitable suggests that close to two-thirds of the 300 ACNPs identified by the CNO might have responded to the survey. Figure 7.5.1 summarizes the selection process.

7.6 Data Analyses

All survey data were entered and cleaned using SPSS PC, version 12. Data were checked for accuracy. The error rate for data entry was less than 0.2 %. Closed-ended questions were analysed with SPSS. Open-ended questions were analyzed for content and coded into main themes. Coding was checked for reliability by one of the researchers and the Project Manager.

Figure 2 Returned Questionnaires: Acute Care Nurse Practitioner Workforce Survey



8.0 ACNP Workforce Survey Results

This section details survey findings for valid respondents (see Chapter 7.1 for criteria). Findings for ACNPs who are currently providing patient care are reported in Sections 8.1 to 8.5, and findings for ACNPs who are not currently practicing are given in Section 8.6.

8.1 Profile of Respondents

Respondents were asked if they were currently practicing and providing patient care as an ACNP. About 94% of respondents fit this description, and about 6% indicated that they were not practicing as an ACNP.

Respondents were also asked to indicate their highest non-nursing diploma or degree, their highest nursing degree, the year of graduation and the university from which they graduated as an ACNP. The question concerning the highest non-nursing degree was not well understood; therefore, the results from this question are not reported.

Table 20 Profile of Ontario ACNPs

	n	%
Currently practicing and providing patient care	(n=185)	
Yes	173	93.5
No	12	6.5
Highest nursing degree	(n=173)	
Bachelor of Science in Nursing (BScN)	11	6.4
Master's in Nursing	162	93.6
Years in which ACNPs graduated	(n=171)	
Before 1990	4	2.3
1990 to 1995	14	8.2
1996 to 2000	49	28.7
2001 to 2005	104	60.8
Worked as ACNP prior to current position?	(n=172)	
Yes	45	26.2
No	128	73.8

The categories for highest degree in nursing were diploma, Bachelor of Science in Nursing (BScN), Master's in Nursing, and earned Doctorate in Nursing (PhD). All the respondents reported having a Master's degree, and 93.6% reported their highest degree in Nursing was a Master's. Eleven respondents reported they had a Bachelor of Science in Nursing as their highest degree in nursing, however, all had a Master's degree from a university that offered an ACNP program and stated they were practicing as an ACNP. These eleven were included in the analysis.

Sixty percent of the respondents reported that they graduated with their Master's degree between 2001 and 2005, and close to 30% graduated between 1996 and 2000. About 12% graduated prior to 1995, and the majority of these graduated after 1990.

The fact that 88% of respondents graduated in the last decade was reflected in their mean level of experience, which was 4.6 years. Their total levels of experience varied from less than one year to 20 years. Respondents had spent an average of 3.7 years in their most current position, and their experience levels in their current position varied from less than one to 17 years. All of these figures accurately reflected the development of CNS/NP and ACNP university educational programs in Ontario. The first program in neonatology began in the mid-1980s, and programs for ACNP programs in adult and child care began in the mid-1990s.

Table 21 Years of Practice in ACNP Role

	n
Total years of practice in ACNP Role	(n=171)
Mean (std dev)	4.6 yr (3.7 yr)
Median	4.0 yr
Minimum & maximum	<1 to 20 yr
 Years of practice in current ACNP position	 (n=171)
Mean (std dev)	3.7 yr (3.2 yr)
Median	3.0 yr
Minimum & maximum	<1 to 17 yr

8.2 Employment

This section reports on employers of ACNPs; their actual and preferred employment status; how their positions are funded; whether their positions are unionized; how they are remunerated; and their annual income.

8.2.1 Employer for main practice

Respondents were asked to identify their employer using eight categories. The OHA definition for small, community, acute care teaching hospital, and paediatric teaching hospital were used, plus psychiatric hospital, long-term care facility, mental health centre, and an “other” category. Only five of the eight categories were chosen. None of the respondents indicated they had worked in a small hospital, mental health care centre, or long-term care facility.

About 60% of the respondents were employed by an acute care teaching hospital, and another 20% worked for a paediatric teaching hospital. Just fewer than 20% worked for a community hospital, and about 3% indicated they worked for a psychiatric or chronic care hospital.

Table 22 Employer for Main Practice

	n	%
Employers of ACNPs	(n=172)	
Acute care teaching hospital	101	59.1
Paediatric teaching hospital	34	19.9
Community hospital	31	18.1
Psychiatric hospital/Other	5	2.9

*Other includes ACNPs who worked for chronic care/rehab hospitals, ambulatory clinics in a teaching hospital, or were self-employed.

8.2.2 Actual and preferred employment status

Respondents were asked about their actual and preferred employment status as measured by full-time, part-time, and casual, and whether they had a permanent position or worked on contract. An “other” category was also provided for respondents whose circumstance might not fit the categories provided. Since only 3 respondents worked on a contract basis, and only one respondent preferred contract work, the permanent and contract distinctions were eliminated.

About 9 out of every 10 ACNP worked in a full-time position, and almost all the rest worked part-time. When asked what employment status they preferred, about three out of every four indicated they wanted full-time employment and the remainder indicated part-time. A handful, less than 2%, preferred casual or “other”. One ACNP preferred full-time that was “limited to 40 hours per week, instead of 47+.”

Table 23 Actual and Preferred Employment Status for ACNPs

	n	%
Present employment status	(n=173)	
Full-time	157	90.8
Part-time/Casual	16	9.2
Preferred employment status	(n=172)	
Full-time	132	76.7
Part-time/Casual	40	23.3

8.2.3 Funding, reimbursement and income

Respondents were asked a number of questions concerning funding for their positions, how they were remunerated for their work, whether their position was unionized, and their level of income.

Just over half of the respondents' positions were funded through a program budget and about a third were funded through the nursing budget. About 8% described their funding source as "other" or did not know how their position was funded, and approximately 3% were funded through a medical budget. "Other" funding sources included the Ministry of Health and Long-Term Care, combined nursing and medical budget, operational dollars, regional or provincial programs for specific conditions, and funding from a foundation, family or business.

Over half of ACNPs received a salary and 43% received an hourly rate. Fewer than five respondents used the "other" category to indicate their remuneration was "technically hourly," meaning they were paid on an hourly basis, however, they did not receive "remuneration for overtime worked." Comments from this group indicated that they considered themselves salaried, although their employers considered their remuneration to be an hourly wage.

Almost two-thirds of the respondents received between \$80,000 and \$100,000, and the other third received between \$60,000 and \$80,000. A small number of part-time ACNPs indicated that they made less than \$60,000 and a very small number made more than \$100,000.

Only 4% of ACNPs reported that their positions were unionized.

Table 24 Funding Sources for ACNP Main Positions, Type of Remuneration, and Income

	n	%
Sources of Funding for ACNPs' main position*	(n=172)	
Program budget	98	57.0
Nursing budget	69	40.1
Medical budget	5	2.7
Others/Don't know	13	7.5
Remuneration	(n=168)	
Salary	95	56.5
Hourly rate	73	43.5
Unionized	(n=173)	
Yes	6	3.5
No	167	96.5
Annual Income Group	(n=172)	
60,000 or less	6	3.5
\$60,001 to 80,000	57	33.3
\$80,001 to over 100,000	109	63.2

* Respondents could provide multiple responses, so percentages may exceed 100%.

8.3 Practice Setting and Organization

This section covers practice settings for ACNPs, to whom they are accountable, medical directives, number of physicians with whom they practice, how patients are assigned to their care, average number of patients seen per day, referrals, and geographical location of practice and size of community in which they practice.

8.3.1 Practice setting

Respondents were asked to describe the practice settings in which they work from a list of 17 choices, and an “others” category. Two choices were combined: “general internal medicine” and “medical” since both refer to adults with any medical problem.

Respondents were allowed to choose more than one practice setting. The top ten practice settings were:

1. Ambulatory care
2. Internal medicine
3. Cardiac care
4. Surgical care
5. “Others”
6. Critical care
7. Paediatrics
8. Emergency department
9. CV surgery
10. Oncology

The most commonly chosen practice setting was ambulatory care, with 40% of ACNPs choosing this option. Of these 69 ACNPs, the largest number (22) worked in an ambulatory care department and one other department, while 10 worked exclusively in ambulatory care. Six of the ACNPs who chose ambulatory care indicated that they also worked in 9 or more other departments. These typically provided services that were required in many hospital units and departments, such as pain management, wound treatment, or a hospital-wide consulting service.

About 20% of ACNPs indicated that they worked in a department other than the 17 listed. Analysis of these responses revealed that two-thirds of respondents used the “others” category to provide details about the care they provided, or because they didn’t see a category that adequately described their work. For example, several ACNPs mentioned neurology (surgical or medical) or stroke patients, since neurology was not a provided category. Several mentioned transplantation patients. Eleven ACNPs used this category to describe work that involved many departments such as pain management or consulting services. A few indicated that they worked outside a hospital setting by providing home care or outreach, or in a specialized unit that included telehealth care in a hospital.

Table 25 Practice Setting for Main Position

Practice Setting	n (n=174)	%
Ambulatory care	69	39.9
Internal Medicine	46	26.6
Cardiac Care	36	20.8
Surgical	36	20.8
Other	35	20.2
Critical care	34	19.7
Paediatrics	30	17.3
Emergency Department	28	16.2
CV surgery	28	16.2
Oncology	25	14.5
Neonatal Intensive Care Unit	17	9.8
Palliative care	16	9.2
Geriatrics	14	8.1
Mental health/Psychiatry/Addictions	11	6.4
Rehabilitation	10	5.8
Complex continuing care	7	4
Maternal/Newborn	7	4

* Respondents could provide multiple responses, so percentages may exceed 100%.

8.3.2 Accountability in main practice setting

Respondents were asked the reporting relationship in their main practice setting. The response options included nursing leader, medical leader, a dual structure (such as referring clinical matters to a medical leader and administrative matters to an administrative leader), and an “others” category. Just over half indicated that they were accountable to a dual structure, and another 40% selected nursing leader. Fewer than 1 percent of ACNPs indicated they reported exclusively to a medical leader.

About half of the respondents who chose the “others” category used it to describe dual structures of accountability that differed from the example given in the questionnaire. Most of their descriptions indicated that one of two persons to whom they were accountable was in nursing. Most of the others described their accountability structure as a matrix or tri-structure. All of these included a nursing leader or Chief Nursing Officer (CNO) and a medical leader or physician. The third person was generally an administrator.

Table 26 Structure of Accountability in Main Practice

	n	%
RN(EC) accountable to:	(n=169)	
Dual structure	87	51.8
Nursing leader	67	39.9
Others / Medical leader	14	8.3

8.3.3 Medical directives

In 1993, the *Regulated Health Professions Act* outlined 13 "controlled acts" that can only be performed by one or more of the regulated health professionals. RN(EC)s are permitted to engage in 4 modified controlled acts, including:

1. communicating a diagnosis made by a RN(EC), or results of laboratory or other tests ordered by a RN(EC);
2. prescribing allowed drugs;
3. administering a drug (by inhalation and injection) that a RN(EC) has prescribed; and
4. ordering the application of a form of energy prescribed in the regulations (i.e., diagnostic ultrasound) (College of Nurses of Ontario 2004c).

Because ACNPs are not included in the CNO's Extended Class regulatory process, they must individually apply for authorization to engage in some or all of these controlled acts. Authorization requires the creation and approval of medical directives. The College of Physicians and Surgeons of Ontario describe medical directives as "written blanket instructions" by physicians to other health care providers.

"They pertain to any patient who meets the criteria set out in the medical directive. The medical directive contains the delegation and provides the authority to carry out the treatments, interventions or procedures that are specified in the directive, providing that certain conditions and circumstances exist. In most cases, medical directives are used to ensure that health care can be delivered without a physician's direct assessment of the patient or direct supervision. Their use is especially frequent in institutional settings. The specific circumstances must exist before the directive can be implemented. (College of Physicians & Surgeons of Ontario 2004)."

The respondents were asked 9 questions about medical directives. Areas covered included whether the respondents' place of work had a medical directives policy, if respondents used medical directives and for what purposes, had they experienced difficulties using medical directives, how not having medical directives would impact their practice, and the number of physicians who had signed their medical directives.

About 95% of respondents indicated that their place of work had a medical directives policy, and two out of every three respondents used medical directives in their practice. Comments suggested that some ACNPs were developing their medical directives, that other ACNPs faced difficulties in having medical directives approved, and that some ACNPs did not require medical directives because of the nature of their practice. More detailed discussion on all of these comments is provided later in this section.

Respondents had an average of 6.6 physicians sign their medical directives. The total number of physicians who had signed respondents' medical directives ranged from a low of 0 to a high 30.

Respondents were asked which of the medical acts were covered: ordering medications; ordering diagnostic tests (including lab and radiology); performing procedures; communicating a diagnosis; and an "others" category.

Of the 122 respondents who responded, 96% were able to order diagnostic tests through their medical directives, and 95% were able to order medications. Three out of four respondents were able to perform procedures, and almost two out of every three were able to communicate a diagnosis.

About 21% indicated that their medical directives covered areas not mentioned. Consults and referrals were most often mentioned, followed by orders or activities specific to practice and patient flow. Orders specific to practice mentioned by respondents included: ordering blood work, oxygen, nutrition including external feeds (enteral), blood work, wound care products, and do not resuscitate (DNR) orders for allied professionals. Activities specific to practice included managing cardiac arrests, congestive health failure, myocardial infarction, ulcers, constipation, and urinary continence.

About 30% of the respondents indicated that they had experienced difficulties in using medical directives. In addition, 13 ACNPs who stated that they did not experience difficulties also chose to comment on medical directives.

Content analysis of the responses suggested that they fell into six categories. Three categories concerned three specific controlled acts: prescribing drugs, communicating a diagnosis, and performing procedures. The remainder concerned difficulties in obtaining medical directives, having them recognized by other professionals and their limitations.

The most frequently made comments about controlled acts concerned pharmaceuticals. They fell into two categories: those concerning restrictions on what could be prescribed and those concerning restrictions on where prescriptions could be filled.

There were two concerns expressed about limitations on prescribing. The first was that "the opiates have been removed from our medical directives because of controlled drugs and substances legislation. This requires me to now obtain physician co-signature for any opiates or benzodiazepines I order." The "lack of controlled substances is a huge issue" because it interferes with providing timely care to patients. One ACNP noted that "Many cardiac patients need opioids to control chest pain, or for pain after procedures, which is not covered by directives." The second issue mentioned was that "drugs and treatments change at a fast pace," "therefore directives must be continually changed to keep up with new evidence."

ACNPs also encountered difficulties prescribing because "directives are limited to in-hospital use only." ACNPs who worked in ambulatory clinics have found that the

“inability to write prescriptions is a major problem.” Another set of issues concerned “patients being transferred or discharged home” because “I am unable to prescribe the continued treatment from hospital to home” and “the liability to write discharge prescriptions impacts efficient use of my time, and the intern and residents time, and can and does slow discharges.” A third difficulty concerned costs, since “directives are limited to in-hospital use only, so prescriptions written can only be filled at (the) hospital pharmacy. Most patients want to fill scripts locally where they can get their refills easier and in most cases scripts are cheaper.”

Only three respondents commented on difficulties with medical directives and communicating a diagnosis or performing a procedure. One of the most frequently mentioned difficulties concerned the “process to get directives received and approved” because it was “tedious and prolonged,” “lengthy” and involved “administrative red-tape.” The “hospital requires a very detailed directive that is far too limiting,” and there was “not enough time in my day to write them, we write them ourselves.” Once written, they sometimes must pass “through various committees” that ask for “unnecessary info and hold up the procedure.” One ACNP mentioned that it “takes 6-8 months to create (medical directives), get appropriate signatures and get approval.” Other difficulties included delays in “developing the policy;” that the “official process (is) not well established;” and the “lack of (a) process for updating medical directives.” One ACNP summarized the issues by saying that the “current approval procedure (is) extremely complex and is a barrier to directive implementation.”

Another commonly mentioned difficulty was having medical directives recognized by allied professionals and, less often, hospital administrators. ACNPs reported that “RTs will not accept orders from an ACNP,” and that “nurses refuse to accept a verbal or telephone order from me.” There was “resistance from pharmacy regarding writing (an) order;” “questions from diagnostic imaging regarding validity of directives;” and “in relation to ordering diagnostic radiology exams, confusion over their acceptance.” One ACNP stated, “I have been questioned by radiology techs, physiotherapists, (and) home care regarding my ability to enact my directives.” A smaller number of ACNPs reported difficulty with acceptance of medical directives by hospital administrators. In summary, one ACNP described the difficulty as “other professions acting as 'gate keepers' when the contract is with you and the MD.”

Finally, “medical directives don't cover all situations an NP may be required to provide care;” they “don't accurately reflect my knowledge and experience base;” they “do not allow for repeat orders;” “they are restrictive” and “limiting.”

When asked to rate the impact of *not* having medical directives on their practice, 42% of respondents said the impact would be severe, 20% said moderate, and about 9% said minimal.

ACNPs were then asked to comment on how not having medical directives would impact on their practice. Comments included: descriptions of the controlled acts covered by medical directives; the impact on efficient and timely delivery of care; the impact on

quality of care (including continuity and comprehensiveness); the impact on the ability to practice (including autonomy and independence); the clarity medical directives gave to the ACNP role; liability; and the need for legislative change.

One of the most common themes mentioned were the controlled acts ACNPs used medical directives to perform. ACNPs “do procedures outside the scope of the RN on a daily basis,” “order lab and diagnostic investigations, meds, chem, etc.,” and “explain the results of diagnostic tests and assist patients to decipher the jargon and make an informed decision regarding a plan of care.” Some use directives to “transfer (patients) to other institutions or alternate levels of care,” and for ordering referrals.

Another common theme was that “timeliness of providing direct patient care would be compromised.” Inefficient delivery of care was most often associated with waiting for orders to be reviewed and signed by physicians or residents, and less often with impaired patient flow. Other consequences included decreased effectiveness, continuity, and quality of care.

Respondents who commented on the impact of medical directives on their ability to practice were mostly split between those who felt medical directives did not affect their practice and those who said they could not practice without them. Reasons given for a lack of impact included the fact that their practice was for “outpatient(s), therefore medical directives are not applicable,” because as consultants they “write orders that are suggestions only,” or because “the decisions ultimately reside with the attending physician.”

Although some felt they could function without medical directives, more said “we would not be able to practice;” “I could not practice as an NP;” or “(I) would be unable to carry out the majority of what I do with patients.” One respondent said “without medical directives, it’s like trying to do your role with your hands tied behind your back.”

Although some respondents recognized that “currently directives provide the only means to 'bridge the gap' in legislative authority for NPs to provide timely, effective and efficient patient care” a few respondents said, “It would be more beneficial to have EC status with prescriptive authority, ability to order diagnostics and communicate diagnoses.”

Table 27 Use and Impact of Medical Directives on ACNP Practice

	n	%
Place of work have medical directives policy?	(n=172)	
Yes	164	95.3
No	8	4.7
Currently use medical directives in your practice?	(n=172)	
Yes	116	67.4
No	56	32.6
Average number of physicians who have signed your medical directives	(n=112)	
Mean (std dev)	6.7 (5.5)	
Median	6.0	
Minimum and maximum	<0 to 30	
Which practice areas covered by medical directives?*	(n=122)	
Ordering diagnostic tests**	117	95.9
Ordering medications	116	95.1
Performing procedures	89	73.0
Communicating a diagnosis	76	62.3
Other	26	21.3
Experience any problems using medical directives?	(n=121)	
Yes	35	28.9
No	86	71.1
Impact on practice of having no medical directives	(n=118)	
Minimal	15	12.7
Moderate	33	28.0
Severe	70	59.3

*Respondents could provide multiple responses, so percentages may exceed 100%.

**Diagnostic tests include lab and radiology.

8.3.4 Number of Physicians with whom ACNPs worked

Respondents reported on the number of physicians with whom they worked. On average, ACNPs worked with 6.5 physicians, although that varied from a low of 0 to a high of 60.

Table 28 Average Number of Physicians ACNPs Directly Practice With

	n
Number of physicians	(n=157)
Mean (std dev)	6.5 (6.3)
Median	6.0
Minimum and maximum	0 to 60

8.3.5 Assignment of patients and number of patient visits per day

Respondents were asked to describe how patients were assigned to their care. The responses varied from ACNPs whose patients were assigned to them through a single channel, to those who received patients through multiple channels.

Respondents were most likely to be assigned patients “based on diagnosis and type of care.” They might see “primary stable patients,” or “technology dependent” patients. They might provide care for “post surgical patients,” “more complex transplant patients,” or “patients with high psychosocial needs and care coordination needs.” They might be assigned to “patients requiring comprehensive care at their visit,” or patients who “need treatment or frequent assessments.” Patients were also assigned to ACNPs because they were familiar with the patient and patient’s family, or because they possessed “the expertise needed for coordination of complexity of care.”

A common method was to receive all patients cared for by an attending physician or group of physicians. For instance, “each ACNP is assigned to work with 2 surgeons,” or “each physician runs a clinic and I see patients during their clinics.” Another common assignment method was to offer care to all those “admitted as inpatients” to a particular unit, or to individuals attending an outpatient clinic. A variation of these methods was “randomly assigned patients.” Many ACNPs said patient assignment was based on “equal distribution between staff consisting of ACNPs and residents” and that the division was sometimes based on “acuity and need,” “presenting issues,” workload, number of staff, or “to provide continuity of care.” A number of ACNPs mentioned “we work together as a team” or that they worked in a “collaborative MD/NP practice model.”

ACNPs often mentioned receiving patients “based on referral criteria.” Sometimes referrals were specifically called consultation requests, which were received from physicians, surgeons, nurses, and various community resources.

Less commonly mentioned client assignment methods were ACNPs who “self select” patients as their workload permits, “in order to provide continuity of care;” those who work for a “consultative service;” or those who have their own clinic.

Some ACNPs were assigned patients by means of only one method, but some received patients through a combination of referrals, consultation requests, admissions and clinic attendance. Many ACNPs cared for both inpatients and outpatients and a few specifically stated that they follow patients “until discharge or transfer,” through “subsequent admissions,” or “across the continuum of care.”

Respondents reported seeing an average of 11 clients per day. The least number of patients seen on an average day was one, and the highest was 35.

Table 29 Mean Patient Visits Made by ACNPs

	n
Number of client seen in a typical day	(n=163)
Mean (std dev)	10.5 (6.8)
Median	8.0
Minimum and maximum	1 to 35

8.3.6 Referrals

Respondents were asked what health professionals referred patients to them for care, and what professionals they referred patients to. The five types of professionals most likely to refer patients to ACNPs were: physicians specialists (87%), family physicians, other ACNPs, and other professionals (39% each), and social workers (21%). About 9% of ACNPs had patients referred to them from PHC NPs.

Sixty-four of the ACNPs (39%) reported that “other professionals” referred patients to them. A small number of respondents “had not developed (a) referral process yet.” The remaining 51 said they received referrals from professionals, emergency departments, clinics and programs. Professionals mentioned included staff nurses, public health nurses, Clinical Nurse Specialists, allied health care professionals (such as physical therapists, occupational therapists, and speech language pathologists), community workers (such as addiction outreach workers, social workers, and children’s aid workers), teachers, psychologists, pharmacists, residents, and telehealth.

ACNPs were most likely to refer patients to physician specialists (87%), other allied health professionals (87%), social workers (75%), other ACNPs (49%), and family physicians (49%). About 8% of ACNPs referred patients to PHC NPs.

About 20% of ACNPs reported that they referred patients to “other professionals,” including discharge planners, dieticians, specialty registered nurses, public health nurses, chiropody, chaplains, addiction specialists, speech language pathologists, infant stimulation professionals, children's mental health workers/professionals, time care case managers, psychologists, and school teachers. Referrals were also made to community care access centres (CCAC), home care services, hospice, palliative care, rehabilitation care, Children’s Aid Society, and clinics.

Table 30 Referrals To and From ACNPs*

	n	%
Professional who refer to ANCPs	(n=166)	
Physician specialists	144	86.7
Family Physicians	65	39.2
Other Acute Care NPs	65	39.2
Other professionals	64	38.6
Social workers	35	21.1
Primary Health Care NPs	15	9.0
Nutritionists	15	9.0
Mental health workers	11	6.6
Midwives	8	4.8
Professionals ACNPs refer to	(n=170)	
Physician specialists	148	87.1
Other allied health professionals	147	86.5
Social workers.	128	75.3
Other Acute Care NPs	84	49.1
Family Physicians.	83	48.8
Mental health workers.	56	32.9
Other professionals.	34	20.0
Primary Health Care NPs	14	8.2
Midwives	4	2.4

*Respondents could provide multiple responses, so percentages may exceed 100%.

8.3.7 Geographical locations of ACNP practices

Respondents were asked to indicate the region and the size of the community in which their main practice was located.

Almost 60% of the respondents reported that their main practice was in the Central East Region, followed by Southwestern Ontario (22%), Central West Ontario (15%), and Eastern Ontario (6%). None of the survey respondents were located in Northern Ontario. This pattern of geographic distribution reflects the distribution of large teaching hospitals in Ontario.

Table 31 Geographic location and community size of main practice

	n	%
Region	(n=169)	
Central East Ontario (e.g., Toronto)	96	56.8
Southwestern Ontario (e.g., London)	37	21.9
Central West Ontario (e.g., Hamilton)	26	15.4
Eastern Ontario (e.g., Ottawa)	10	5.9
Northeastern Ontario (e.g., Sudbury)	0	0
Northwestern Ontario (e.g., Thunder Bay)	0	0
Community Size	(n=170)	
City with 500,001 or more	107	63.0
City with 250,001 – 500,000	50	29.4
City with 100,001 – 250,000	8	4.7
City with 50,001 – 100,000	5	2.9

Two out of three ACNPs worked in cities with more than 500,000 people. Another 30% practiced in cities with a population of 250,000 and 500,000, while only 8% worked in cities with a population of 50,000 - 250,000.

8.4 Clientele

The section on clientele describes the patient populations ACNPs worked with by age group and specialty area of practice, and how ANCPs allocated their time.

8.4.1 Client Population

About two out of every three ACNPs worked with adults; slightly over half worked with seniors; 30% worked with infants and children, and 25% worked with adolescents.

Table 32 Client Age Groups

	n	%
Age groups of clients*	(n=173)	
Infants and children (0-12 y)	52	30.2
Adolescents (13 to 18 yr)	42	24.4
Adults (19 to 64 yr)	113	65.7
Seniors (65 plus)	99	57.6

*Respondents could provide multiple responses, so percentages may exceed 100%.

8.4.2 Specialty Area of Practice

Respondents were asked to describe their specialty area of practice. The top three choices, which included almost 50% of the respondents, were:

1. Cardiology and cardiac surgery, including transplantation,
2. Paediatrics, and
3. Medicine (adults)

Neonatology, perinatology & high risk obstetrics and adult oncology were each chosen by about 10% of ACNPs.

Table 33 Area of Specialty Practice for ACNPs

Specialty Area of Practice	Total (n=173)	Percentage
Cardiology & cardiac surgery, including transplantation	35	20.1
Paediatrics	27	16.1
Internal Medicine*	20	11.5
Neonatology, Perinatology & High Risk Obstetrics	17	9.8
Adult oncology	17	9.8
Neurology/Neurosurgery/Stroke	15	8.6
Pain management	12	6.9
Geriatrics	9	5.2
Critical care/Intensive Care/Emergency Department	8	4.6
Orthopaedics	5	2.9
Palliative care	4	2.3
Psychiatry/Mental Health	2	1.1
Rehabilitation	2	1.1

*Includes respiratory, endocrinology & diabetes, gastroenterology & general surgery, hepatology & liver transplantation, infectious diseases, nephrology & renal treatment/transplantation, vascular surgery.

8.4.3 Allocation of time in practice

The respondents estimated the percentage of time they spent in direct patient care, administration, research & scholarly work, and teaching in an average month. An “other” category was also provided.

On average they spent about three-quarters of their work hours in patient care, and estimates varied from a low of 25% to a high of 100%. Respondents averaged 8% of their time in research and teaching, and about 5% of their time in administrative duties.

Other activities that respondents allocated time to were leadership activities, committees, consultation, and collaboration. Program development and planning, and special projects were also mentioned frequently.

Table 34 Percentage of Time Spent in Professional Activities in an Average Month

	n	Mean % of time spent in activity	(std dev)	Minimum & Maximum
Time Allocation				
Direct Patient Care	170	75.4	(13.3)	25.0-100.0
Administration	169	5.2	(6.4)	0.0-40.0
Research/scholarly work	168	8.3	(6.1)	0.0-40.0
Teaching	168	8.7	(5.8)	0.0-35.0
Other	167	2.6	(6.0)	0.0-40.0

8.5 Respondents' comments

Respondents were asked to offer comments on their experiences as a nurse practitioner. Comments fell into 3 themes: concerns regarding the difference in regulations for ACNPs and RN(EC)s; comments on the difficulties ACNPs face in the workplace; and enjoyment of the role.

8.5.1 Regulation differences between ACNPs and RN(EC)s

A number of ACNPs said it was “confusing to the public and institutions having so many different categories” of nurse practitioners, and that “not having (a) license has confused public and practitioners both.” Respondents think that the “basic qualifications need to be the same: and are “eager for NPs, both primary care and acute care, to be under the same umbrella... and rolled out to the public in a way they understand.” One ANCP said “licensure would help professional accountability.”

A few ACNPs said “all nurse practitioners should have a minimum of Master’s preparation whether in an adult specialty or primary care,” and that “the title should be protected.” A few felt that “many of us have struggled in a long, lonely battle to gain acceptance of our roles. Now it is as if we didn’t even exist, only RN(EC)s.” Some felt that the ACNP position was vulnerable during budget cuts because of a lack of regulation. One respondent said that “despite the reasonable remuneration I receive, I am currently finishing the RN(EC) program because of the lack of autonomy I have in the ACNP role.”

8.5.2 Difficulties ACNPs faced in the workplace

A number of ACNPs discussed the difficulties they faced in their work place. A number indicated that they experienced “frustration derived from overwhelming clinical responsibility and not being able to produce: be it clinical pathways, teaching, or research,” and that the “role in an acute care setting is highly stressful.” Another said, “I imagine the depth of clinical work being done by some NPs would shock CNO and CPO.”

8.5.3 Enjoyment of the role

A third theme were comments that indicated that respondents “enjoy working as an NP” and the “position is well respected in our hospital.” A number saw the nurse practitioner role as “a leadership role for nurses in our organization” that “provided a clinical ladder for nurses who wish to impact patients’ lives.”

8.6 Non-Practicing ACNPs

This section describes non-practicing ACNPs. About 7% of all valid survey respondents stated that they were not practicing as an ACNP. Non-practicing respondents were asked to explain why they were not practicing. About half had experienced barriers in their attempts to practice in the ACNP role, a quarter had moved into different career paths, and a few cited personal reasons.

Comments on barriers to working in the role fell into two categories: financial barriers or lack of other types of support within the health care system. In describing financial barriers, one respondent said “there's no funding in the area I'm specialized in,” and another stated:

“I put in a proposal at my hospital and was told ‘there is no funding for that type of position. If you had you EC we could secure funding. Why don't you go back to school and get it.’ It was extremely discouraging.”

Lack of other types of support were mentioned by several ACNPs. One said “I moved to a new hospital where ACNPs were not supported,” and another stated, “I left my position after 6 months. It was not a good fit and other ACNPs in the facility are practicing as clinical nurse specialists.” Still a third commented that after 5 years of practice,

“I was becoming discouraged by my acute practice and felt I was spending more time manipulating ‘the system’ to get diagnostics & treatment done than I was really caring for patients.”

Eleven out of the 12 of non-practicing respondents were not actively looking for work as an ACNP. Reasons given were that respondents had changed their career path, that they had experienced difficulties in pursuing the role of ACNP, and for personal reasons.

These respondents were asked to comment on their experience as a nurse practitioner. Comments fell into two categories: 1) satisfaction with patients’ positive response to the role and 2) limits on role development.

Satisfaction with patients’ positive response to the role was illustrated by the following comment:

“When supported to practice within the approved scope, this is the most rewarding nursing I have ever experienced. Patients, families, and team members truly appreciate the role and in my view it is essential for the implementation of quality, comprehensive holistic care in acute care facilities.”

In discussing limits on role development, one ACNP said it is an “important role but needs regulatory support beyond what currently exists,” while another said the lack of “structural support for the role in hospitals and with College of Nurses of Ontario limits

role development.” Two respondents explicitly mentioned that the response of nursing leadership was a barrier to role development. The following illustrates the thoughts of both.

“My greatest disappointment has been the resistance I have encountered from nursing leaders at all levels of management and administration including unit managers, clinical educators, nursing directors and chief nursing officers.”

9.0 Discussion

A primary objective of this study was to describe the current population of acute care nurse practitioners with respect to their demographic characteristics, geographic distribution, employment trends and practice profiles using the results of a mail survey. Very little is known about ACNPs practicing in Ontario. The role is relatively new, they do not have legal protection of their title, or the special regulation status (the Extended Class designation) of the PHC NP. In addition, the focus on renewal of primary health care has meant that Ontario has mostly emphasized primary health care nurse practitioners.

Almost 90% of ACNPs had graduated since 1995, and six out of every ten had graduated since 2001. ACNPs averaged 4.6 years of practice overall, with 3.7 years in their current position.

About 8 out of 10 worked in a teaching hospital, whether acute care (59%) or paediatric (20%). Just over 90% worked full-time, however, about 14% of those working full-time would prefer to work part-time or casual. Funding for ACNP positions was almost all from program or nursing budgets. Over half received a salary, and almost two out of every three made between \$80,000 and \$100,000 annually. Only about 4% of ACNPs reported that their positions were unionized.

The most commonly mentioned practice setting for ACNPs was ambulatory care, followed by internal medicine, cardiac care, surgical care, and “other.” Over 90% of the ACNPs had a dual reporting structure. On average, they directly practiced with about 7 physicians.

Since ACNPs are not regulated by the College of Nurses of Ontario to perform controlled acts, they must obtain medical directives in collaboration with the physicians they work with and have them approved through their employer’s administrative process. About 95% of respondents worked for employers that had a medical directives policy, but only about 66% used medical directives in their practice. On average, those ACNPs who had medical directives had them signed by 7 physicians. For those ACNPs who used medical directives, 95% said the directives covered ordering medications, yet ordering medications was the controlled act that the respondents were most likely to say that they had experienced difficulties with. Difficulties with ordering medication fell into two broad categories: being unable to order controlled substances, and being unable to write prescriptions that patients could fill outside the hospital. Other frequently mentioned difficulties included the administrative difficulties of writing and processing medical directives, and having their directives questioned by allied health care professionals.

ACNPs saw an average of 11 patients per day, ranging from a low of 1 to a high of 35. Patients were most likely to be assigned to an ACNP for care based on their diagnosis and type of care, although some ACNPs received patients from a specific group of physicians they worked with. Referral and consultation requests were another common source of patients.

Respondents were about two times more likely to receive patients through referrals from physician specialists than they were from family physicians and other ACNPs, the second and third most often mentioned sources. Responding ACNPs were most likely to refer patients to physician specialists, other allied health care professionals and social workers.

Over half of the responding ACNPs were located in Central East Ontario, and none were located in Northern Ontario. Similarly, almost two of every three respondents were located in a city with a population of 500,000 or more.

ACNPs were most likely to work with adults and seniors, and least likely to work with adolescents. Almost half indicated that they specialized in cardiac care (including transplantation), paediatrics, and internal medicine. Respondents spend an average of 75% of their practice providing direct patient care.

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