COLLABORATIVE PRACTICE BY NURSE PRACTITIONERS AND
PHYSICIANS IN LONG-TERM CARE HOMES:
A MIXED METHODS STUDY

By

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A Thesis
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A MIXED METHODS STUDY
Abstract

Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Homes: A Mixed Methods Study

Purpose: To understand how nurse practitioners (NPs) and physicians (MDs) collaborate with one another to provide resident care in Ontario long-term care homes (LTCHs).

Methods: A sequential two-phase, mixed methods design was used. During Phase One, a mailed survey was sent to all 15 NPs working in LTCHs and the 33 MDs with whom they most frequently worked. Based on Phase One survey results, using maximal variation in the extent of and satisfaction with collaboration scale scores, one NP-MD pair and one charge nurse in each of three LTCHs were selected for Phase Two data collection. At the three LTCHs, Phase Two qualitative data collection included document analysis, interview questionnaires, and individual semi-structured interviews. Phase Two data were analyzed using Miller and Crabtree’s template approach.

Results: The Phase One quantitative survey data offered a broad understanding of the extent of and satisfaction with NP-MD collaborative practice in LTCHs. MDs reported higher scores for the extent of and satisfaction with NP-MD collaboration than did NPs. The majority of NPs and MDs agreed that collaboration was occurring and they were satisfied with it. Phase Two qualitative data provided an in-depth understanding of facilitators and barriers to collaboration, as well as recommendations to strengthen it. Collaborative practice processes, essential elements, and perceived outcomes were identified.
Conclusions: Ultimately collaboration is a choice of the individuals involved. However, there is a need for NP role clarity and integration to facilitate MD-NP collaboration. At sites where participants described clearly identified and well integrated NP roles, the extent of and satisfaction with collaboration was higher for the MDs and NPs. A Long-Term Care NP-MD Collaborative Practice Model informed this study and was revised based on study findings.
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CHAPTER ONE

INTRODUCTION

This thesis includes three manuscripts that summarize the findings from a sequential two phase mixed methods study of physician-nurse practitioner collaborative practice in long-term care homes. Each of the three manuscripts, found in chapters two to four, is in preparation for submission to peer-reviewed journals. This introductory chapter describes the literature regarding nurse and physician (MD) collaboration, research questions, purpose, definitions, theoretical framework, study design, and content of the thesis.

The residents of long-term care homes (LTCHs) are living longer than in the past with increasingly complex health care needs (Ontario Association of Non-Profit Homes and Services for Seniors, 2005). As well, the 2001 census revealed that over 3.9 million Canadians are 65 years or older and this population is expected to grow to 6.7 million by 2021 (Health Canada & Interdepartmental Committee on Aging and Seniors Issues, 2002), placing increasing demands on LTCHs. The availability of MDs to provide primary health care (PHC) in LTCHs is limited in the face of other competing professional activities such as office practices, emergency department coverage, and hospital rounds. This restricted availability is compounded by a shortage of MDs in Ontario, the fact that few MDs work in LTCHs (College of Family Physicians of Canada, Canadian Medical Association, & Royal College of Physicians and Surgeons of Canada, 2004), and the difficulty in recruiting MDs to LTCHs (S. Wilson-Carr, Central Park Lodges, personal communication, June 17, 2005).
In 1996, the first class of the Ontario Primary Health Care Nurse Practitioner Program graduated. While the primary health care nurse practitioner (NP) is a new role in Ontario, nurse practitioners have been providing PHC in the United States and internationally since the mid-1960s and have been found to be safe and effective PHC providers in general practice (Horrocks, Anderson, & Salisbury, 2002) and in LTCHs (Burl, Bonner, Rao, & Khan, 1998; Garrard et al., 1990; Intrator, Castle, & Mor, 1999; Kane, Keckhafer, Flood, Bershadsky, & Siadaty, 2003; McAiney, 2005).

NPs caring for residents in LTCHs have been found to improve access to primary care services (Aigner, Drew, & Phipps, 2004); reduce the frequency of transfers to emergency departments (Burl et al., 1998; Intrator et al., 1999; McAiney, 2005); and decrease the number of hospital admissions and length-of-stay in hospital (Kane et al., 2003). Directors of nursing in LTCHs have identified a substitutive medical and complementary nursing role for NPs in LTCHs (Melillo, 1992). These directors identified timely and prompt responses to health problems, more comprehensive assessments and evaluations, more time spent with each resident and at the LTCH, and comprehensive documentation when comparing NP care to the traditional medical model. NPs have also been found to reduce the load on MDs in LTCHs (Ouslander, 1989) and medical directors in LTCHs have reported satisfaction with NP practice (Rosenfeld, Kobayashi, Barber, & Mezey, 2004).

The combination of increasingly complex resident needs, an increase in the number of seniors living in LTCHs, limited MD availability in LTCHs, and awareness of NP role effectiveness in other jurisdictions led the MoHLTC to consider introducing NPs
into LTCHs as a partial solution to the challenges facing delivery of resident care in 
LTCHs. In 2000, the MoHLTC funded 20 NP positions, of which only 17 positions were 
originally filled (C. Crane, MoHLTC, personal communication, June 27, 2003). 
According to the MoHLTC, there has been considerable staff turnover in the NP 
positions since 2000. At the time of this study, there were 17 positions filled, with two 
NPs on maternity leave.

When these NPs were introduced into LTCHs, it was expected that the 
effectiveness of their work would rely heavily on successful collaborative relationships 
with MDs. The establishment of these relationships was not always easy, given the 
newness of the NP role in Ontario and the limited amount of time that MDs are able to 
spend in LTCHs. The MoHLTC identified the need to better understand the collaborative 
relationship between MDs and NPs in LTCHs. A greater understanding of NP-MD 
collaborative practice processes and relationships is of particular interest to the 
MoHLTC.

**Literature Review**

A thorough literature search on collaboration and collaborative practice in health 
care (Appendix A) revealed very little research regarding NP and MD collaborative 
practice in LTCHs. For the purposes of this thesis, the literature regarding teamwork was 
not reviewed, as teamwork usually involves a number of people working together, which 
is beyond the scope of collaborative practice between two health care providers.

The first paper regarding MD-nurse collaborative practice was published in 1967 
(Stein, 1967). The relationship between the two professions was portrayed as a game or
power struggle with each group using indirect communication and manipulation that was not explicit and mutually agreeable to get what they wanted to achieve. Since that time, much of the related health care literature has been editorial or speculative including the preliminary development of hypotheses or theories to describe collaboration and collaborative practice (Zwarenstein & Reeves, 2000).

Collaboration has been described in a number of ways in the literature and all relate to working together toward a common goal. Weiss and Davis (1985) characterized collaboration as “interactions among [healthcare professionals] that enable the knowledge and skills of all professionals to synergistically influence the patient care being delivered” (p. 299). Collaboration has been identified as a process of joint communicating and decision making with the stated goal of satisfying patients' healthcare needs while valuing the unique abilities of each professional (Coluccio & Maguire, 1983; Wilson, Coulon, Hillege, & Swann, 2005).

Several studies conducted in a variety of settings have shown that physicians consistently report a greater degree of collaboration with nurses than do nurses with physicians (Baggs & Schmitt, 1997; Copnell et al., 2004; Grindel, Peterson, Kinneman, & Turner, 1996; King & Lee, 1994; Stern et al., 1991; Wells, Johnson, & Salyer, 1998). Yet, Hojat and colleagues (2001) found that nurses indicated more positive attitudes toward MD-nurse collaboration than did the MDs. In preparation for professional practice, Hojat et al. suggested that collaborative education was needed for medical and nursing students to improve collaborative practice.
A number of studies have found collaboration to be a significant source of job satisfaction for nurses while conflict with MDs was a major stressor (Anderson, 1996; Astbury & Yu, 1982; Baggs et al., 1997; Baggs & Ryan, 1990; Oates & Oates, 1995). These collaboration and conflict issues appeared to be less important to MDs. Nurses and MDs were likely to view different behaviours as collaborative; for instance, MDs described their sharing of information as collaborative, whereas the nurses perceived the MDs to be giving orders (Baggs & Schmitt, 1997; Jones, 1994; Keenan, Cooke, & Hillis, 1998; Wells et al., 1998).

Most of the studies on collaboration between MDs and nurses have focused on staff nurses with only a few specific to MD collaboration with NPs and even fewer focused on MD-NP collaboration in LTCHs. Furthermore, there is a gap in knowledge regarding how NPs and MDs collaborate in LTCHs and factors associated with the collaborative relationship. Literature specific to factors related to collaborative practice, including the extent of and satisfaction with collaboration, facilitators and barriers, as well as the collaborative process, essential elements, and outcomes is incorporated into the thesis chapters that address these topics.
Research Questions

Primary Research Question

How do MDs and NPs collaborate with one another to provide primary health care services in LTCHs in Ontario?

Secondary Research Questions

What is the extent of and satisfaction with collaboration between MDs and NPs who work in Ontario LTCHs?

What are the facilitators and barriers to NP-MD collaborative practice in LTCHs at the individual, organizational, and health system levels?

What is needed to support facilitators for MD-NP collaborative practice in LTCHs at the individual, organizational, and health system levels?

What is needed to reduce barriers to NP-MD collaborative practice in LTCHs at the individual, organizational, and health system levels?

What are essential elements of MD-NP collaborative practice in LTCHs?

What are the perceived outcomes of NP-MD collaborative practice in LTCHs?

Purpose

The purposes of this study are to: 1) build on the existing collaborative practice theoretical knowledge base; 2) identify facilitators and barriers to MD-NP collaboration in LTCHs to inform recommendations to enhance this collaborative relationship; and, 3) assist policy makers to understand essential elements of NP-MD collaboration to guide future policy decisions.
Definitions

Way, Jones, and Busing (2000) defined collaborative practice as “an inter-professional process for communication and decision making that enables the separate and shared knowledge and skills of care providers to synergistically influence the client/patient care provided” (p. 3). The Way et al. definition was best suited to the purposes of this research, as it is comprehensive, including components of collaboration found in the literature, while recognizing that a process is involved in collaborative practice, rather than limiting it to interactions.

The term LTCH refers to an Ontario nursing home or home-for-the-aged where a person lives, rather than a facility focused on retirement, rehabilitation, complex continuing care, or acute care. Residents are individuals who reside in LTCHs and families are the people who are close to the resident, which could include relatives and/or friends.

The NP is a registered nurse with additional university education as a nurse practitioner and an extended practice license, who has the independent authority to perform advanced nursing skills and activities that have traditionally been associated with medicine (College of Nurses of Ontario, 2006). The MDs included in this study are licensed physicians who focus on family or general practice. They work in LTCHs and may or may not be the medical director of the LTCH. Charge nurses are licensed registered nurses (RNs) who work at the LTCH on a full-time basis, supervising and coordinating the day-to-day care of residents.
Theoretical Perspective

In 2003, I developed the NP-MD Collaborative Practice in LTC model that provides the theoretical framework for this study (Appendix B). Conceptualization of this model drew on experience, PHC and LTC collaboration models, and writings specific to NP-MD collaboration and collaborative practice. Nurse-MD collaboration and communication literature was also used.

The collaborative practice in LTC model is resident-family-NP-MD centred with the NP and MD working with each other, the resident, and family. Collaboration is depicted as a process that is central to and required for collaborative practice. The resident and/or family decide to participate in the collaborative practice model and present with an issue that is beyond the scope of practice or knowledge of the NP, requiring collaboration with the MD or vice-versa. The MD and NP are represented as equals in the model.

Collaboration occurs between the NP and MD partners as they jointly go through a process of disclosing, clarifying, developing, and knowing. Through disclosing individual philosophies and ethical perspectives of elder care, communication styles, behaviours under stress, and professional and personal areas of strength and needs in the collaborative relationship, the partners gain understanding allowing them to move to the clarifying step. Clarifying roles and individual and joint involvement is necessary for the NP and MD to progress to developing mutually effective routine and urgent communication and administrative mechanisms and shared decision-making strategies. Through disclosing, clarifying, and developing, the partners evolve to knowing each
other and how best to communicate, interact, facilitate, and support each other’s practice, moving again to disclosing through an ever-evolving collaboration process. The lack of arrows between concepts in the model indicates an open relationship suggesting that effective collaboration requires interaction at multiple levels of disclosing, clarifying, developing, and knowing.

As the collaboration process evolves, the MD and NP can extend to collaborative practice wherein they go through the process of jointly assessing the resident and family situation and preferences, each contributing from his/her own professional perspective. The NP and MD can move from joint assessing to integrated decision-making to formulate the medical and nursing diagnoses and care goals, progressing to shared planning and implementing of the care plan. Mutual evaluating of resident outcomes and the process of collaborative practice feed back to potential new resident, family, or collaborative practice issues. The collaborative practice process is depicted as a reciprocal and collective clinical problem-solving approach occurring in a repetitive loop of joint assessing, integrated decision-making, shared planning and implementing, and mutual evaluating.

Antecedent factors need to be in place to allow collaboration and collaborative practice to occur. Outcomes are purported results of collaboration and collaborative practice and include quality coordinated, comprehensive care and professional satisfaction. Facilitators of and barriers to collaboration and collaborative practice are presented at the individual, local, and societal levels.
Included are components of interactions among equals and bidirectional communication with continuous reciprocal exchanges (Arslanian-Engoren, 1995; Siegler & Whitney, 1994), as bidirectional consultation and referral are hallmarks of collaborative practice (Elisabeth Bruyere Research Institute, 2005).

**Study Design**

Mixed methods research uses both “qualitative and quantitative data collection and analysis techniques in either parallel or sequential phases” within one study to answer the research question (Teddlie & Tashakkori, 2003, p. 11). A key advantage of mixed methods research is the ability to answer both confirmatory and exploratory questions, allowing the researcher to simultaneously generate and verify theory. Mixed methods research is best suited to address complex research questions, and allows for testing of quantitatively derived hypotheses and exploration of processes in the same study. Using a sequential two phase mixed methods design (Appendix C), this study sought to understand the complexities of MD-NP collaborative practice in LTCHs and refine the NP-MD collaborative practice model, based on the findings.

During Phase One, cross-sectional, self-administered surveys were mailed to all MoHLTC-funded NPs working in Ontario LTCHs and to the MDs with whom they worked most frequently. The survey results provided quantitative data that offered a broad understanding of the extent of and satisfaction with NP-MD collaboration and collaborative practice in LTCHs. The surveys also guided the selection of three sites of MD-NP collaborative practice for Phase Two qualitative data collection. Phase Two site visits provided an in-depth understanding of collaborative practice through document
analysis, interview questionnaires, field notes, and individual semi-structured interviews with the NPs, MDs and charge nurse RNs with whom they frequently worked.

**Content of the Thesis**

This thesis includes a total of five chapters, including this introduction. The second chapter presents methods and findings from the Phase One cross-sectional surveys with a focus on the extent of and satisfaction with collaboration. Chapter 3 describes Phase Two quantitative methods and findings related to facilitators and barriers to NP-MD collaboration in LTCHs. In Chapter 4, the MD-NP collaborative practice process is described, along with essential elements of collaboration, and perceived outcomes of NP-MD collaborative practice in LTCHs. The final chapter presents a discussion of the major findings reported in the previous chapters. The contributions of this research to understanding NP-MD collaboration in LTCHs, the value of using mixed methods to address this question, and the strengths and limitations of the study are discussed. Revisions to the NP-MD Collaborative Practice in LTC model are described. Finally, recommendations for MD and NP practice, LTCH administration, education, policy, and research are presented.
CHAPTER TWO

EXTENT OF AND SATISFACTION WITH NURSE PRACTITIONER-
PHYSICIAN COLLABORATIVE PRACTICE IN
ONTARIO LONG-TERM CARE HOMES:
SURVEY RESULTS
CHAPTER TWO

Abstract

**Purpose:** To assess the extent of and satisfaction with collaboration between physicians (MDs) and nurse practitioners (NPs) working in Ontario long-term care homes (LTCHs).

**Methods:** A mailed survey was sent to all 15 NPs and the 33 MDs with whom they worked most frequently in LTCHs. Extent of and satisfaction with collaboration scales were included in the survey, measured on a Likert scale from 1 (strongly disagree or dissatisfied) to 6 (strongly agree or satisfied).

**Results:** The response rate was 93.3% (14/15) for NPs and 90.9% (30/33) for MDs, including 3 incomplete MD surveys. Forty-one individual and 26 NP-MD matched-pair survey results were analyzed. MDs scored higher on the extent of collaboration with NPs scale than did NPs on the extent of collaboration with MDs scale ($\bar{x} = 4.9$ vs $4.5$) ($p < 0.01$). MDs were more satisfied with collaboration with NPs than were NPs with collaboration with MDs ($\bar{x} = 5.3$ vs $4.4$) ($p < 0.001$). Matched-pair differences in mean scores for the extent of collaboration scale (NP score - MD score) varied from -2.67 to 2.33; 19 pairs (73.1%) differed by 1.00 or less. The difference in mean scores for satisfaction with collaboration (NP score – MD score) ranged from -2.73 to 1.45, with 17 pairs (65.4%) differing by 1.00 or less.

**Conclusions:** The MDs reported a statistically significant higher level of and satisfaction with collaboration with NPs than did the NPs rating their level of and satisfaction with collaboration with the MDs. While statistically significant, the difference in matched-pair scores was typically one point or less. It is not known if this difference in scores is
clinically important or how the difference may relate to process and outcome measures. Findings indicate that matched-pairs of NPs and MDs have similar perceptions and expectations of collaboration.
CHAPTER TWO

The care of residents with increasingly complex needs for primary health care and long-term care in long-term care homes (LTCHs) requires inter-professional skills and collaborative practice to effectively and efficiently meet these needs. The nurse practitioner (NP) role is relatively new in LTCHs in Ontario and there is an expectation that NPs and physicians (MDs) collaborate to help meet residents' healthcare needs.

Literature Review

The first published paper about MD-nurse communication and lack of collaboration appeared in 1967 with an opinion article that portrayed nurses and doctors using indirect and manipulative communication patterns in a power struggle (Stein, 1967). A Cochrane review found that between 1967 and 2000, much of the health care literature was editorial or speculative with some hypotheses and sociological theories that sought to describe collaboration and collaborative practice, but little empirical research existed (Zwarenstein & Reeves, 2000). For instance, it has been purported that prior experience or education in collaboration is particularly important in establishing collaborative processes (Henneman, Lee, & Cohen, 1995); however, no studies were found to support or refute this claim.

Two studies that were conducted in critical care settings in the United States were designed to investigate the relationship between collaboration and satisfaction with the decision-making process. In a longitudinal correlational survey, Baggs et al. (1997) used self-report instruments to assess and compare levels of nurse and MD collaboration and satisfaction with the decision-making process. Across the three critical care sites, 153
nurses, 74 medical residents, and 82 attending MDs reported on the transfer of 1432 patients. Moderate amounts of collaboration were reported across all sites, but nurses reported less satisfaction with decision making than did MDs. Collaboration was related to satisfaction with decision making for all providers, but this relationship was strongest among nurses. In a pretest/posttest study that measured collaboration before and after several interventions to improve nurse/physician collaboration in critical care units, further evidence was found of a strong correlation between reported levels of collaboration and satisfaction with decision making for nurses; however, physician perceptions were not elicited (Dechairo-Marino, Jordan-Marsh, Traiger, & Saulo, 2001).

In a number of studies specific to collaboration and collaborative practice in LTCHs, only one member of the collaborative pair was sampled. In the United States, a recent multi-method study of 135 Evercare LTC NPs, using semi-structured telephone interviews, participant observation sessions, and a focus group, found that collaborative activities associated with these NP roles included: 1) collaborating with the MD; 2) calling the MD with patient status changes; 3) collaborating with the MD for diagnosis and/or management of chronic issues; and 4) collaborating with the MD for diagnosis and/or management of acute conditions (Abdallah, Fawcett, Kane, Dick, & Chen, 2005). The extent of and satisfaction with collaboration were not investigated and the MD perspective was not included.

Rosenfeld and colleagues mailed surveys to MD members of the American Medical Directors Association (n = 546) who had NPs in their facilities and found that 90% of respondents were satisfied with NP practice and the majority reported adequate
collaboration between the NP and MD; however, collaboration measures were not described, satisfaction with collaboration was not measured, and the NP perspective was not solicited (Rosenfeld, Kobayashi, Barber, & Mezey, 2004).

In a recent prospective study conducted in southern Ontario of two NPs working in 21 LTCHs with $n = 2315$ clinical contacts over a one-year period, McAiney (2005) found the MDs referred 5% ($n = 41$) of new cases to the NP, compared with 85% of referrals from directors of care and registered nurses. The NP did not make any recommendations to the MD in 58% of all cases seen. The NPs recorded recommendations for the MD in the residents’ health records in 35% of all cases seen, consulted with the MD by telephone in 2.4% of all cases, and had a collaborative discussion with the MD regarding residents’ conditions and needs in 4% of all referred cases. Physicians were not included in this study.

Stolee and colleagues studied the NPs funded by the Ontario Ministry of Health and Long-Term Care (MoHLTC) to work in LTC in Ontario using focus group interviews with NPs, individual interviews with key informants, site visits, document review, and a survey of NP work activities (Stolee, Hillier, & aestima research, 2002). This interim evaluation of the pilot project for NPs in LTCHs revealed that the NPs’ heavy workloads compromised their ability to establish collaborative relationships. They also found that establishing collaborative relationships was challenging when individuals were hesitant or resistive and that there was a need to address fears and lack of knowledge about the role. When MDs did not support the NP role and were unwilling to work collaboratively with them, the usefulness of the NPs was compromised.

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While there was initial concern expressed by some MDs regarding replacement of the physician role by the NP, it was found that the collaborative nature of NP and MD work in LTCHs resulted in more efficient use of physician resources. MD-NP collaboration allowed MDs more time to deal with complicated medical needs of residents, whereas the NPs took care of a “large portion of referrals for medical care, such as episodic illness, wound care, and psychogeriatric assessment, and routine care such as admission and annual physicals” (Stolee et al., 2002, p. 41). The burden of responsibility for resident care was reduced for the MDs, as NPs could monitor resident conditions and consult with the MD when the issue was beyond the NP scope of practice or when collaborative advice was needed. Key informants stated that the MD-NP collaborative relationship has the potential to increase MD satisfaction and attract and retain MDs for work in LTCHs. Concern regarding MD remuneration for the time required to collaborate with the NP was noted as a potentially significant financial disincentive for working with NPs in LTCHs.

**Purpose and Hypotheses**

This was the first phase of a two phase mixed methods study designed to understand how MDs and NPs collaborate with one another to provide primary health care services in LTCHs in Ontario. The purpose of this phase of the study was to assess the extent of current collaboration and satisfaction with collaboration between MDs and NPs who work in Ontario LTCHs.

Based on the literature review, I hypothesized that within matched-pairs and between NP and MD groups: 1) MDs and NPs would report similar extents of
collaboration; 2) NPs would report a lower level of satisfaction with collaboration than the MDs; and, 3) previous experience and satisfaction with previous collaboration would be positively correlated with the extent of and satisfaction with current collaboration for MDs and NPs.

Methods

Questionnaire Design

I developed two questionnaires with input from the research team, one for NPs in LTC and the other for MDs with whom the NPs worked (Appendices D & E). Part A of both questionnaires included items designed to learn more about the participants: 1) demographics (e.g., age, sex, highest level of education, length of practice); 2) practice patterns (e.g., percentage of time spent on specific activities); 3) previous experience and satisfaction with NP-MD collaboration; 4) the perceived contributions of the NP to resident and family care; and, 5) for the MDs, method of payment for services provided in the LTCHs and the perceived impact of the NP on their income. Part B of the questionnaires included questions and statements intended to: 1) learn more about the LTCHs in which they work (e.g., number of LTCHs and the size and location of each); 2) describe the MD-NP collaborative practice structure and processes in their settings (e.g., involvement in developing the proposal for the NP position, time spent collaborating, communication methods); and 3) quantify, using existing scales (Way, Jones, & Baskerville, 2001), the extent of and satisfaction with current NP-MD collaboration.

The first of the two collaboration scales included 9 statements about the nature and extent of current collaboration between the NP and MD and was scored using a 6-
point Likert scale ranging from 1 strongly disagree to 6 strongly agree (Appendices F & G) (Way et al., 2001). The second scale included 11 statements designed to measure satisfaction with collaboration using a 6-point Likert scale ranging from 1 strongly dissatisfied to 6 strongly satisfied (Appendices H & I). A neutral stance was not offered as an option in order to determine the tendency toward agreement or disagreement with each statement.

The two collaboration scales were adapted for primary health care by Way and Jones (Way et al., 2001) from Baggs’ (1994) instrument designed to measure collaboration and satisfaction about care decisions. Previous pilot testing of the measures and subsequent use in two research studies (DiCenso, Paech, & IBM Corporation, 2003; Way et al., 2001) confirmed the scale items are understandable, relevant, and demonstrate face validity for NPs and MDs across Ontario.

Based on the review of the literature and the collaborative model described in Chapter 1, I included four additional questions regarding satisfaction with: 1) the amount of time spent consulting with the collaborating partner; 2) the availability of the collaborating partner; 3) the appropriateness of consultations initiated by the collaborating partner; and 4) the quality of care provided by the collaborating partner (DiCenso et al., 2003) (Appendices J & K). These four questions were analyzed separately from the 11-point satisfaction with collaboration scale, as the scale was an established tool and it was not known if these additional questions would or would not be consistent with or add to the understanding of satisfaction with collaboration.

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Two global questions were added to the questionnaire by the research team to test the construct validity of the two scales. Construct validity is important to test as it indicates the degree to which a measure relates theoretically to other variables, based on the logical relationships between variables (Babbie, 2004). The first question asked: *How would you describe the extent of collaboration with this NP/MD?* and was scored using a 6-point Likert scale ranging from 1 no collaboration to 6 total collaboration. The second global question asked: *How satisfied are you with the collaborative relationship with this NP/MD?* and was scored using a 6-point Likert scale ranging from 1 not satisfied to 6 extremely satisfied.

The Research Ethics Boards at McMaster and Ryerson Universities granted ethics approval for this mixed methods study (Appendices L & M). The questionnaire was subsequently piloted with three NPs and three MDs who worked in four Ontario LTCHs but who did not meet the criteria for inclusion in the study because they were not directly funded by the MoHLTC. Based on the pilot results, I revised the questionnaire by adding questions specific to acute care NP education, number of hours per month spent at the LTCH, and an open-ended question requesting a description of the NP-MD collaborative structure.
Data Collection

Through announcements and discussions at NP meetings and conferences over the past two years, I developed a preliminary list of 17 Primary Health Care NPs employed by the Ontario MoHLTC that was subsequently verified by the MoHLTC Coordinator of NPs in LTC. During February 2006, I contacted all 17 NPs by e-mail, notified them about the study, and requested that they supply the names of a family physician with whom they worked most frequently at each of their LTCH sites (many of the NPs worked at more than one LTCH). There were no instances where more than one NP identified the same MD. Over the course of four months (March to June 2006), I mailed questionnaires to the 15 NPs who were working at the time, and the 33 MDs with whom they most frequently worked, as identified by the NPs. To control for recall bias, I excluded two NPs and the MDs with whom they most frequently worked, as these NPs had been on maternity leave from their work setting for nearly 12 months.

To each NP, I mailed one copy of Part A of the survey (demographic data) and sufficient copies of Part B to complete for each MD that the NP had identified. I also mailed both parts of the survey to each of the MDs identified by the NPs (some NPs identified two MDs with whom they worked most frequently at the same LTCH). Addresses for the MDs were obtained from the NP or via an internet search. The questionnaires were coded to avoid repetitive mailings to those who had responded and to match NP-MD pairs for comparative analysis. Participants were provided with the choice of returning the questionnaire via mail or fax.
To maximize responses to the first mailing, I included a $5.00 gift certificate to a nation-wide coffee shop, a personally signed cover letter (Appendices N & O), the questionnaire (Appendices D & E), and a self-addressed stamped envelope (Edwards et al., 2002). The response rate for this initial mailing was 86.7% (13/15) for the NPs and 39.4% (13/33) for the MDs, with one “Return to Sender” from an internet supplied address and one MD declining to respond due to the extremely infrequent interaction with the NP. One MD telephoned to ask if it was appropriate for him to participate in the survey as there was infrequent interaction with the NP. Upon clarification that it would be appropriate to participate, he did complete the survey.

Two weeks later, I sent a second mailing with the cover letter and questionnaire, which increased the response rate to 93.3% (14/15 NPs) for the NPs and 57.6% (19/33) for the MDs. The “Return to Sender” questionnaire was mailed to the LTCH where the MD worked, but was again returned to sender. A current office address for this MD was then obtained from the NP. For the third mailing, sent three weeks after the second mailing, I included a brief hand-written note indicating the approximate 8 minute time required to complete the questionnaire and the importance of obtaining the MD perspective about this relatively new model of care, another $5.00 coffee shop gift certificate, the cover letter, and questionnaire. This resulted in a total MD response rate of 78.8% (26/33) and no change in the NP response rate.

Three weeks later, I sent a fourth mailing with a brief cover letter signed by a research team member who is a Medical Director in a LTCH, stating the importance of the study, the percentage of respondents to date, and notification that this would be the
final opportunity to contribute to the study (Appendix P), along with a repeat of the previously sent cover letter and questionnaire. This resulted in an MD response rate of 90.9% (30/33), including four incomplete MD surveys, with no change in the NP response rate. I contacted one of the MDs via telephone and the missing items were completed, leaving three incomplete MD surveys and a final MD response rate of completed surveys of 81.8% (27/33). Surveys were returned to me via the postal system (n = 42) or facsimile (n = 2).

The research team initially wondered if those MDs who were least satisfied or believed that little collaboration occurred were reluctant to respond; however, analysis at each response wave revealed no major differences between respondent groups, until the last two MD responses to the fourth mailing. These last two MDs, who both worked with NPs who covered multiple LTCHs answered the questions in Part A, but declined to answer the majority of items in the two scales in Part B. They provided explanatory notes stating that they had little or no contact with the NP.

**Data Analysis**

I coded and entered data from the NP and MD questionnaires into the statistical software program SPSS version 14.0 for Windows. I checked the quality of data entry by double-checking the responses with the entered data and conducting initial frequency runs. Data were analyzed with SPSS to address the study purposes. I contacted the NPs via e-mail and one MD via telephone and obtained missing survey data. However, due to challenges in contacting the MDs, missing MD scale data were excluded from the final
analyses. When three study participants provided a range, e.g., 4-5 hours per week, I selected the lower number for data analysis.

I produced frequency tables for categorical data and descriptive statistics for continuous variables. While analysis using parametric tests would be preferred with normal distributions and larger numbers of participants, due to the small population and non-normal distributions, I used non-parametric tests (Howell, 2002). Analysis by mixed modeling, which includes analysis of variance designs with one or more between-subject factors and one or more repeated measures factors, or designs with both fixed and random independent variables (Howell, 2006), would have been ideal if all of the NPs completed surveys for more than one MD; however, this was not the case.

The Wilcoxon matched-pairs signed-rank test was used to analyze level of agreement (Howell, 2002) between the NP and MD groups for each collaboration scale and to determine whether previous experience with MD-NP collaboration influenced scale scores. Probability levels were set at $p < 0.05$. The Wilcoxon matched-pairs signed-rank test might not have been the ideal test as it assumes that all the NP scores are independent with each NP working in one LTCH and identifying one MD. In this study, the NPs completed surveys for at least one MD for each LTCH in which they worked. However, discussion with a biostatistician confirmed that the Wilcoxon matched-pairs signed-rank was the better statistical test than mixed modeling, based on the population size (Dr. N. Akhtar-Danesh, personal communication, April 13, 2006).

Spearman's rho correlation analysis (Howell, 2002) was used to examine the relationship between the two scales and the global questions, as well as the correlation
between satisfaction with a previous experience with NP-MD collaboration and the two scale scores. While Pearson correlation is typically used, the better correlation test is the nonparametric Spearman’s rho ($r_s$) with this small population and the ordinal measures questionnaire (Norman & Streiner, 1999). With a small population, there is no generally accepted method for computing standard error and confidence intervals for $r_s$ (Howell, 2002).

**Results**

**LTCH Settings**

Responses indicated that 76% (22/29) of the LTCHs were for-profit nursing homes and 24% (7/29) were not-for-profit homes for the aged. There were no remote LTCHs, whereas 59% (17/29) were located in urban settings and 41% (12/29) were in rural settings. The southern area of Ontario accounted for 69% (20/29) of the LTCHs, followed by northern Ontario with 21% (6/29), and then the central area of Ontario with 10% (3/29) of the LTCHs.

**MD Survey**

In total, 30 of the 33 MDs returned a questionnaire (91%); one declined to answer and two declined to complete the majority of items on the two scales yielding a completed questionnaire response rate of 82% (27/33). Of the MDs who completed the demographic section of the survey ($n = 29$), 80% were male ranging in age from 31 to 82 years (median = 58) (see Table 1). Approximately half the MDs completed a residency program immediately following their medical education, including eleven in family medicine, one in internal medicine, and one in paediatrics, and two MDs identified
additional training in geriatrics beyond their residency program. The MDs had between 1 and 40 years (median = 17.0) of LTC experience and worked from a minimum of 1 to a maximum of 28 years (median = 8.33) in the present LTCH.
### Table 1

MD Demographics, LTC Practice Information and Time Spent Collaborating with the NP (n = 29)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Valid</th>
<th>Missing</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Std Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>29</td>
<td>0</td>
<td>0</td>
<td>56.28</td>
<td>58.00</td>
<td>58.00</td>
<td>10.77</td>
<td>31</td>
<td>82</td>
</tr>
<tr>
<td>Medical school graduation year</td>
<td>28</td>
<td>1</td>
<td>1</td>
<td>1975.93</td>
<td>1974.00</td>
<td>1974</td>
<td>11.51</td>
<td>1954</td>
<td>2000</td>
</tr>
<tr>
<td>Years practiced in LTC</td>
<td>28</td>
<td>1</td>
<td>1</td>
<td>17.00</td>
<td>17.00</td>
<td>6.00</td>
<td>11.76</td>
<td>1.00</td>
<td>40.00</td>
</tr>
<tr>
<td>Hours per month in direct resident care at this LTCH</td>
<td>29</td>
<td>0</td>
<td>0</td>
<td>27.69</td>
<td>20.00</td>
<td>40.00</td>
<td>23.52</td>
<td>2.00</td>
<td>120.00</td>
</tr>
<tr>
<td>Years worked as MD in this LTCH</td>
<td>29</td>
<td>0</td>
<td>0</td>
<td>11.26</td>
<td>8.33</td>
<td>20.00</td>
<td>8.34</td>
<td>1.00</td>
<td>28.00</td>
</tr>
<tr>
<td>Years worked with this NP at this LTCH</td>
<td>24</td>
<td>5</td>
<td>2</td>
<td>2.17</td>
<td>2.00</td>
<td>2.00</td>
<td>1.77</td>
<td>0.33</td>
<td>6.33</td>
</tr>
<tr>
<td>Hours per month collaborating with this NP</td>
<td>27</td>
<td>2</td>
<td></td>
<td>6.95</td>
<td>2.00</td>
<td>1.00</td>
<td>10.27</td>
<td>0.00</td>
<td>48.0</td>
</tr>
</tbody>
</table>
Over half the respondents, 59%, were Medical Directors. Seven MDs participated in developing the proposal for the NP position and of these, five were the Medical Directors in the respective LTCHs.

When investigating how the MDs spent their time, they spent between 2 and 120 hours per month (median = 20) in direct resident care at the LTCH (see Table 1); however, when the one outlier of 120 hours was removed, the MDs spent a mean of 24.4 hours per month at the LTCH (min = 2, max = 60, SD = 15.7). One half of the MDs spent 16 or fewer hours per month at the LTCH. The MDs spent most of their time in clinical activities outside of LTC (60%), in the specified LTCH (20%), or in other LTCHs (5%) (see Table 2). They spent negligible proportions of their time on non-clinical activities. “Other” activities specified by one MD included management and leadership in another LTCH, NP back-up, hospital and university administration, retirement, and other clinical activities including acute care, out-patient, and palliative care.
Table 2

Percentage of MD Time Spent in Role Activities ($n = 29$)

<table>
<thead>
<tr>
<th>% of time spent in:</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Std Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical role:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in this LTCH*</td>
<td>30.24</td>
<td>20.00</td>
<td>10.0</td>
<td>30.15</td>
<td>2.0</td>
<td>100.0</td>
</tr>
<tr>
<td>in other LTCHs*</td>
<td>9.72</td>
<td>5.00</td>
<td>0</td>
<td>14.52</td>
<td>0</td>
<td>60.0</td>
</tr>
<tr>
<td>outside of LTC*</td>
<td>43.55</td>
<td>60.00</td>
<td>0</td>
<td>36.42</td>
<td>0</td>
<td>90.0</td>
</tr>
<tr>
<td>Management/leadership in this LTCH*</td>
<td>2.86</td>
<td>1.00</td>
<td>0</td>
<td>3.56</td>
<td>0</td>
<td>10.0</td>
</tr>
<tr>
<td>Research*</td>
<td>.59</td>
<td>0</td>
<td>0</td>
<td>2.06</td>
<td>0</td>
<td>10.0</td>
</tr>
<tr>
<td>Education/training provision*</td>
<td>2.21</td>
<td>0</td>
<td>0</td>
<td>4.44</td>
<td>0</td>
<td>20.0</td>
</tr>
<tr>
<td>Other activity*</td>
<td>1.97</td>
<td>0</td>
<td>0</td>
<td>4.57</td>
<td>0</td>
<td>20.0</td>
</tr>
</tbody>
</table>

*Activity range = 0-100 (with 0 signifying no percentage of time spent on the activity and 100 signifying all time is spent on the activity).
Regarding financial considerations, 96.6% of the MDs were remunerated via fee-for-service. About two-fifths (43.3%) of the MDs specified the NP impacted on their income and of these, 26.7% identified the NP had a negative effect, while 16.7% indicated the NP had a positive income impact. One MD (3.4%) reported receiving reimbursement for collaborating with the NP.

**NP Survey**

A total of 93% (14/15) of the NPs returned a completed questionnaire. They were all female, ranging in age from 32 to 59 years (median = 49) (see Table 3). The study participants had a median of nearly 23 years experience working as RNs, 4 years of NP experience, and 3 years of experience in the specified LTCH. Three of the NPs had worked in LTC prior to becoming an NP.

All the NPs were employed full-time, with 93% (13/14) on a permanent basis and one contracted for three years. Four NPs were involved in developing the NP position proposals and two of those NPs also had the involvement of their corresponding MD partners.

The median number of LTCHs in which an NP worked was 2.5, with 160 beds per LTCH site (see Tables 4 and 5). They spent a median of 45 hours per month in each LTCH. The NPs worked with a median of 6 family physicians across all LTCHs in which they were employed (see Tables 4 and 6).
Table 3

NP Demographics and Experience ($n = 14$)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Std Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>47.57</td>
<td>49.00</td>
<td>51</td>
<td>7.62</td>
<td>32</td>
<td>59</td>
</tr>
<tr>
<td>Years practiced as RN including RN(EC)</td>
<td>22.53</td>
<td>22.80</td>
<td>8.00(a)</td>
<td>9.52</td>
<td>8.00</td>
<td>35.50</td>
</tr>
<tr>
<td>Years as RN in LTC before RN(EC)</td>
<td>3.00</td>
<td>0</td>
<td>0</td>
<td>7.64</td>
<td>0</td>
<td>28.00</td>
</tr>
<tr>
<td>Years practiced as RN(EC)</td>
<td>3.71</td>
<td>3.79</td>
<td>.50(a)</td>
<td>2.42</td>
<td>.50</td>
<td>7.50</td>
</tr>
<tr>
<td>Years worked in LTC as RN(EC)</td>
<td>3.09</td>
<td>2.79</td>
<td>.50</td>
<td>2.11</td>
<td>.50</td>
<td>5.92</td>
</tr>
<tr>
<td>Years in this LTC as RN(EC)</td>
<td>3.09</td>
<td>2.79</td>
<td>.50</td>
<td>2.11</td>
<td>.50</td>
<td>5.92</td>
</tr>
</tbody>
</table>

(a) Multiple modes exist. The smallest value is shown.
### Table 4

Characteristics of NP Work Settings, Years Worked with the MD, and Time Spent Collaborating with the MD ($n = 29$ LTCHs)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Std Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of LTCHs per NP</td>
<td>4.41</td>
<td>2.50</td>
<td>2.00</td>
<td>3.64</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Total number of MDs per NP</td>
<td>6.84</td>
<td>6.00</td>
<td>12.00</td>
<td>3.73</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Number of beds per LTCH</td>
<td>156.41</td>
<td>160.50</td>
<td>128.00(a)</td>
<td>61.99</td>
<td>38</td>
<td>378</td>
</tr>
<tr>
<td>Hours per month at this LTCH</td>
<td>56.20</td>
<td>45.00</td>
<td>12.00</td>
<td>45.91</td>
<td>1</td>
<td>160</td>
</tr>
<tr>
<td>Years worked with this MD at this LTCH</td>
<td>2.37</td>
<td>1.25</td>
<td>1.00</td>
<td>1.80</td>
<td>.5</td>
<td>5.92</td>
</tr>
<tr>
<td>Hours per month collaborating with this MD</td>
<td>5.75</td>
<td>2.00</td>
<td>.50</td>
<td>11.61</td>
<td>.5</td>
<td>60.0</td>
</tr>
</tbody>
</table>

*Multiple modes exist. The smallest value is shown.*
Table 5

Number of Assigned LTCHs and NP Mean Time per LTCH per Month

<table>
<thead>
<tr>
<th>LTCHs Assigned</th>
<th>Number of NPs (%)</th>
<th>Hours/Month/LTCH</th>
<th>Hours/Month Collaborating with MD (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4 (28.6)</td>
<td>129.0</td>
<td>18.4 (14.3)</td>
</tr>
<tr>
<td>2</td>
<td>6 (42.9)</td>
<td>79.0</td>
<td>5.7 (7.2)</td>
</tr>
<tr>
<td>3</td>
<td>2 (14.3)</td>
<td>52.2</td>
<td>3.0 (5.7)</td>
</tr>
<tr>
<td>4</td>
<td>1 (7.1)</td>
<td>36.3</td>
<td>0.8 (2.2)</td>
</tr>
<tr>
<td>10</td>
<td>1 (7.1)</td>
<td>12.2</td>
<td></td>
</tr>
</tbody>
</table>

* Hours per month percentage = hours per month the NP spends collaborating with the MD divided by the hours per month per LTCH.
Table 6

Total Number of MDs with Whom the NP Works on a Frequent Basis

<table>
<thead>
<tr>
<th>Number of MDs</th>
<th>NP Frequency</th>
<th>NP %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>7.1</td>
</tr>
</tbody>
</table>

All NPs had completed a baccalaureate nursing education, with 28.6% originally educated at the nursing diploma level (see Table 7). Two respondents had a master’s degree in nursing and one a master’s degree in another field. Almost all (93%) had obtained their NP education through the Ontario Primary Health Care Nurse Practitioner Council of Ontario University Programs in Nursing (COUPN) consortium program and all had successfully passed the Registered Nurse Extended Class [RN(EC)] licensure requirements of the College of Nurses of Ontario for Primary Health Care NPs.
Table 7
Nursing and NP Education (n = 14)

<table>
<thead>
<tr>
<th>Type of Education or Certification</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing Diploma</td>
<td>4</td>
<td>28.6</td>
</tr>
<tr>
<td>BScN</td>
<td>14</td>
<td>100.0</td>
</tr>
<tr>
<td>Non-nursing Baccalaureate</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td>Master’s in Nursing</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td>Non-nursing Master’s</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>PhD</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>NP education:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COUPN Certificate Program</td>
<td>10</td>
<td>71.4</td>
</tr>
<tr>
<td>Non-COUPN Certificate Program</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>COUPN Integrated BScN/NP Program</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td>Non-COUPN Degree Program</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>COUPN Transition Program</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>Acute Care NP Program</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>7.1</td>
</tr>
</tbody>
</table>

The majority of the NPs’ time (67%) was spent in clinical activities in LTC, with little time (8%) spent in clinical activities outside of LTC (see Table 8). “Other” activities specified by the NPs included corporate policy development; consultation; travel;
program development, such as wound care and pain management; administrative tasks, including producing reports, ordering supplies, and paying bills; committee responsibilities within and external to the LTCH; and community presentations.
Table 8

Percentage of NP Time Spent in Role Activities ($n = 14$)

<table>
<thead>
<tr>
<th>Percentage of time spent in:</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Std Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical in LTCH*</td>
<td>67.14</td>
<td>70.00</td>
<td>70.0</td>
<td>16.88</td>
<td>25.0</td>
<td>90.0</td>
</tr>
<tr>
<td>Clinical outside of LTCH*</td>
<td>7.93</td>
<td>0</td>
<td>0</td>
<td>13.22</td>
<td>0</td>
<td>40.0</td>
</tr>
<tr>
<td>Management/leadership in LTC*</td>
<td>4.57</td>
<td>5.00</td>
<td>5.0</td>
<td>3.82</td>
<td>0</td>
<td>10.0</td>
</tr>
<tr>
<td>Research*</td>
<td>1.93</td>
<td>0</td>
<td>0</td>
<td>2.43</td>
<td>0</td>
<td>5.0</td>
</tr>
<tr>
<td>Education/training provision*</td>
<td>7.64</td>
<td>5.00</td>
<td>5.0</td>
<td>5.20</td>
<td>0</td>
<td>20.0</td>
</tr>
<tr>
<td>Professional development*</td>
<td>4.32</td>
<td>5.00</td>
<td>5.0</td>
<td>2.95</td>
<td>0</td>
<td>10.0</td>
</tr>
<tr>
<td>Other activity*</td>
<td>5.68</td>
<td>1.00</td>
<td>0</td>
<td>11.21</td>
<td>0</td>
<td>40.0</td>
</tr>
</tbody>
</table>

*Activity range = 0-100 (with 0 signifying no percentage of time spent on the activity and 100 signifying all time is spent on the activity).
NP and MD Collaboration Scale Results

MDs scored higher on extent of collaboration with NPs scale than did NPs on extent of collaboration with MDs scale ($\bar{x} = 4.9$ vs 4.5) ($p < 0.01$) (see Table 9).

Table 9

Extent of Collaboration Scale: Comparison of NP and MD Mean Scores

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min, Max</th>
<th>Mean*</th>
<th>SD</th>
<th>$p$-value$^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPs</td>
<td>32</td>
<td>1.8, 6</td>
<td>4.49</td>
<td>1.07</td>
<td>0.003**</td>
</tr>
<tr>
<td>MDs</td>
<td>27</td>
<td>1.6, 6</td>
<td>4.90</td>
<td>1.13</td>
<td></td>
</tr>
</tbody>
</table>

$^a$ Wilcoxon matched-pairs signed rank test

* Scores range from 1 (strongly disagree) to 6 (strongly agree) with extent of collaboration.

** $p < 0.01$

Based on the satisfaction with collaboration scale results, MDs were more satisfied with collaboration with NPs than were NPs with collaboration with MDs ($\bar{x} = 5.3$ vs 4.4) ($p < 0.001$) (see Table 10).
Table 10

Satisfaction with Collaboration: Comparison of NP and MD Mean Scores

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min, Max</th>
<th>Mean*</th>
<th>SD</th>
<th>p-value a</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPs</td>
<td>32</td>
<td>1.7, 5.9</td>
<td>4.37</td>
<td>1.11</td>
<td>0.000**</td>
</tr>
<tr>
<td>MDs</td>
<td>27</td>
<td>1.9, 6</td>
<td>5.28</td>
<td>.89</td>
<td></td>
</tr>
</tbody>
</table>

a Wilcoxon matched-pairs signed rank test

* Scores ranged from 1 (strongly dissatisfied) to 6 (strongly satisfied) with current experience of collaboration.

** p < 0.001

Examination of Matched Pairs

On examination of the 26 matched MD-NP pairs, the difference in mean scores for the extent of collaboration scale (NP score - MD score) varied from -2.67 to 2.33, with 19 pairs (73.1%) differing by 1.00 or less as shown in Figure 1. Negative scores indicate that the MD scored the scale higher than did the NP.
The difference in mean scores for satisfaction with collaboration (NP score – MD score) extended from -2.73 to 1.45, with 17 pairs (65.4%) differing by 1.00 or less as shown in Figure 2. Negative scores indicate that the MD scored the scale higher than did the NP.
Figure 2. Satisfaction with collaboration mean difference scores for matched pairs:
Calculated using the equation NP mean score – MD mean score = mean difference for each pair.

Relationship Between Previous Collaboration and Current Collaboration

It has been postulated that previous experience with collaboration may contribute to positive current collaboration (Hojat et al., 2001). About 45% of the MDs (n = 12) and 50% of the NPs (n = 7) reported previous experience with NP-MD collaboration and they all rated this experience as satisfactory with no statistically significant differences between their reported levels of satisfaction ($p = 0.83$) (see Table 11). Sites where previous collaboration occurred included acute care, hospital outpatient clinics,
community health centres, and family health networks. Two MDs and none of the NPs identified previous MD-NP collaborative experience in LTCHs.

Table 11
Satisfaction with Previous NP-MD Collaboration

<table>
<thead>
<tr>
<th></th>
<th>Min, Max</th>
<th>Mean*</th>
<th>SD</th>
<th>p-valuea</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP satisfaction with previous NP-MD collaboration ((n = 7))</td>
<td>2, 6</td>
<td>4.57</td>
<td>1.62</td>
<td>0.83</td>
</tr>
<tr>
<td>MD satisfaction with previous MD-NP collaboration ((n = 12))</td>
<td>2, 6</td>
<td>4.75</td>
<td>1.14</td>
<td></td>
</tr>
</tbody>
</table>

a Wilcoxon matched-pairs signed rank test

* Scores range from 1 (not satisfied) to 6 (extremely satisfied) with NP-MD collaboration.

For the NP and MD groups who 1) did and 2) did not have any previous MD-NP collaborative experience, the mean scores for the current collaboration scale were compared using the Wilcoxon matched-pairs signed-rank test (see Table 12). The mean score for the extent of current collaboration was higher for NPs who had no previous experience with MD-NP collaboration than for those who had previous experience \((\bar{X} = 5.0 \text{ vs } 4.1)\) \((p < 0.01)\). Similarly, the mean score was higher for MDs with no previous MD-NP collaborative experience than for those with previous experience \((\bar{X} = 5.0 \text{ vs } 4.7)\), although the results were not statistically significant \((p = 0.67)\).
Table 12

Mean Scores on Extent of Current Collaboration Scale for Those With and Without Previous Collaboration Experience

<table>
<thead>
<tr>
<th>Group</th>
<th>Previous Experience* (n)</th>
<th>No Previous Experience* (n)</th>
<th>p-value&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPs</td>
<td>4.14 (19)</td>
<td>4.99 (13)</td>
<td>0.008**</td>
</tr>
<tr>
<td>MDs</td>
<td>4.73 (12)</td>
<td>5.04 (15)</td>
<td>0.67</td>
</tr>
</tbody>
</table>

<sup>a</sup> Wilcoxon matched-pairs signed rank test

* Scores range from 1 (strongly disagree) to 6 (strongly agree) with extent of collaboration.

** p < 0.01

The mean scores also were compared for the satisfaction with current collaboration scales for the NP and MD groups who had and those without previous MD-NP collaborative experience (see Table 13). The mean score for the satisfaction with collaboration scale was higher for the NPs who had no previous experience with MD-NP collaboration than for those who had previous experience ($\overline{x} = 5.0$ vs 4.0) ($p < 0.01$). As well, the mean scores were higher for the MDs with no previous MD-NP collaborative experience than for those with previous experience ($\overline{x} = 5.4$ vs 5.1); however, the results were not statistically significant ($p = 0.37$).
Table 13
Mean Scores on Current Satisfaction Scales for Those With and Without Previous Collaboration Experience

<table>
<thead>
<tr>
<th>Group</th>
<th>Previous Experience* (n)</th>
<th>No Previous Experience* (n)</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPs</td>
<td>3.95 (19)</td>
<td>4.99 (13)</td>
<td>0.005**</td>
</tr>
<tr>
<td>MDs</td>
<td>5.10 (12)</td>
<td>5.38 (15)</td>
<td>0.37</td>
</tr>
</tbody>
</table>

* Wilcoxon matched-pairs signed rank test

* Scores ranged from 1 (strongly dissatisfied) to 6 (strongly satisfied) with current experience of collaboration.

** p < 0.01

There were no statistically significant correlations between the MDs' satisfaction with previous collaboration and extent of current collaboration (r_s = 0.03, p = 0.94) or satisfaction with current collaboration (r_s = -0.33, p = 0.43). Non-significant statistical results and low correlations were also found between the NPs' satisfaction with previous collaboration and extent of current collaboration (r_s = 0.30, p = 0.21) and satisfaction with current collaboration (r_s = 0.33, p = 0.17).

Matched pairs, where both the MD and NP (n = 9) had previous experience with collaboration were compared with matched pairs where both the MD and NP (n = 8) had no prior experience with collaboration. The correlation between satisfaction with previous collaboration and extent of current collaboration was low for the NPs (r_s = 0.36, p = 0.34) and MDs (r_s = 0.03, p = 0.27) in the matched pairs. The correlation was also
low between satisfaction with previous collaboration and satisfaction with current collaboration for the NPs ($r_s = 0.41, p = 0.27$) and MDs ($r_s = -0.33, p = 0.43$) in the matched pairs. The number of matched pairs was insufficient for a statistical comparison between pairs who had previous NP-MD collaboration experience and those with no prior collaborative experience. Caution should be exercised in interpreting these results, as the small number of participants with previous experience may not be adequate to provide sufficient power to detect a statistically significant correlation, if it exists.

**Individual Item Analysis**

Scores on individual items in the extent of collaboration scale are presented in Table 14. While most item scores in this scale did not vary much between the NPs and MDs, the one item that showed the greatest difference in scores was “fully collaborate in making shared decisions about resident care”. For this item, the MDs scored higher than the NPs ($\bar{x} = 4.89$ vs 4.19) and the difference was statistically significant ($p < 0.05$).
### Table 14

MD and NP Responses to Individual Items on the Extent of Collaboration Scale

<table>
<thead>
<tr>
<th>Collaboration Scale Item</th>
<th>NP Min, Max</th>
<th>NP Mean (SD)</th>
<th>MD Min, Max</th>
<th>MD Mean (SD)</th>
<th>p-value&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan together to make decisions about the care for the residents</td>
<td>1, 6</td>
<td>4.03 (1.43)</td>
<td>1, 6</td>
<td>4.67 (1.36)</td>
<td>.074</td>
</tr>
<tr>
<td>Communicate openly as decisions are made about resident care</td>
<td>1, 6</td>
<td>4.50 (1.27)</td>
<td>1, 6</td>
<td>4.89 (1.37)</td>
<td>.217</td>
</tr>
<tr>
<td>Share responsibility for decisions made about resident care</td>
<td>2, 6</td>
<td>4.25 (1.16)</td>
<td>1, 6</td>
<td>4.52 (1.48)</td>
<td>.398</td>
</tr>
<tr>
<td>Co-operate in making decisions about resident care</td>
<td>2, 6</td>
<td>4.53 (1.16)</td>
<td>1, 6</td>
<td>4.89 (1.28)</td>
<td>.174</td>
</tr>
<tr>
<td>Consider both nursing and medical concerns in making decisions about resident care</td>
<td>2, 6</td>
<td>4.56 (1.11)</td>
<td>1, 6</td>
<td>4.93 (1.24)</td>
<td>.157</td>
</tr>
<tr>
<td>Co-ordinate implementation of a shared plan for resident care</td>
<td>1, 6</td>
<td>4.19 (1.28)</td>
<td>1, 6</td>
<td>4.63 (1.31)</td>
<td>.152</td>
</tr>
<tr>
<td>Demonstrate trust in the other's decision making ability in making shared decisions about resident care</td>
<td>2, 6</td>
<td>4.97</td>
<td>1, 6</td>
<td>5.29</td>
<td>.061</td>
</tr>
<tr>
<td>Respect the other's knowledge and skills in making shared decisions about resident care</td>
<td>3, 6</td>
<td>5.16</td>
<td>4, 6</td>
<td>5.50</td>
<td>.059</td>
</tr>
<tr>
<td>Fully collaborate in making shared decisions about resident care</td>
<td>1, 6</td>
<td>4.19</td>
<td>1, 6</td>
<td>4.89</td>
<td>.046**</td>
</tr>
</tbody>
</table>
* Wilcoxon matched-pairs signed rank test

* Scores range from 1 (strongly disagree) to 6 (strongly agree) with extent of collaboration.

** p < 0.05
All NP and MD responses to individual items in the satisfaction with collaboration scale differed more than in the extent of collaboration scale and differences on each item were statistically significant (see Table 15).
Table 15

MD and NP Responses to Individual Items on the Satisfaction with Collaboration Scale

<table>
<thead>
<tr>
<th>Satisfaction Scale Items</th>
<th>NP Min, Max</th>
<th>NP Mean* (SD)</th>
<th>MD Min, Max</th>
<th>MD Mean* (SD)</th>
<th>p-value&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with shared planning in making decisions about resident care</td>
<td>1, 6</td>
<td>4.16 (1.39)</td>
<td>1, 6</td>
<td>5.22 (1.05)</td>
<td>.002**</td>
</tr>
<tr>
<td>Satisfaction with open communication as decisions are made about resident care</td>
<td>1, 6</td>
<td>4.31 (1.33)</td>
<td>1, 6</td>
<td>5.33 (1.04)</td>
<td>.002**</td>
</tr>
<tr>
<td>Satisfaction with shared responsibility for decisions made about resident care</td>
<td>2, 6</td>
<td>4.16 (1.19)</td>
<td>1, 6</td>
<td>5.11 (1.12)</td>
<td>.003**</td>
</tr>
<tr>
<td>Satisfaction with cooperation in making decisions about resident care</td>
<td>2, 6</td>
<td>4.59 (1.16)</td>
<td>1, 6</td>
<td>5.22 (1.16)</td>
<td>.021**</td>
</tr>
<tr>
<td>Satisfaction with consideration of both nursing and medical concerns in making decisions about resident care</td>
<td>2, 6</td>
<td>4.44 (1.19)</td>
<td>1, 6</td>
<td>5.19 (1.08)</td>
<td>.013**</td>
</tr>
</tbody>
</table>

<sup>a</sup> The significance level is determined by a statistical test comparing MD and NP responses.
### Satisfaction Scale Items

<table>
<thead>
<tr>
<th>Satisfaction Scale Items</th>
<th>NP Min, Max</th>
<th>NP Mean* (SD)</th>
<th>MD Min, Max</th>
<th>MD Mean* (SD)</th>
<th>p-valuea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with coordination in implementing shared plan for resident care</td>
<td>1, 6</td>
<td>4.06 (1.29)</td>
<td>1, 6</td>
<td>5.19 (1.11)</td>
<td>.002**</td>
</tr>
<tr>
<td>Satisfaction with trust shown in one another’s decision making ability in making shared decisions about resident care</td>
<td>2, 6</td>
<td>5.06 (.95)</td>
<td>4, 6</td>
<td>5.59 (.57)</td>
<td>.016**</td>
</tr>
<tr>
<td>Satisfaction with respect for one another’s knowledge and skills</td>
<td>3, 6</td>
<td>5.09 (.89)</td>
<td>5, 6</td>
<td>5.63 (.49)</td>
<td>.011**</td>
</tr>
<tr>
<td>Satisfaction with amount of collaboration that occurs in making decisions about resident care</td>
<td>1, 6</td>
<td>3.94 (1.34)</td>
<td>1, 6</td>
<td>5.11 (1.09)</td>
<td>.001**</td>
</tr>
<tr>
<td>Satisfaction with way decisions are made, that is, the decision-making process</td>
<td>1, 6</td>
<td>3.94 (1.20)</td>
<td>1, 6</td>
<td>5.19 (1.08)</td>
<td>.000***</td>
</tr>
<tr>
<td>Satisfaction with the decisions that are made between you and MD/NP</td>
<td>1, 6</td>
<td>4.34 (1.34)</td>
<td>1, 6</td>
<td>5.30 (1.03)</td>
<td>.005**</td>
</tr>
</tbody>
</table>

* Wilcoxon matched-pairs signed rank test

* Scores ranged from 1 (strongly dissatisfied) to 6 (strongly satisfied) with current experience of collaboration.

** $p < 0.05$

*** $p < 0.001$

SD = standard deviation
With respect to the 4 additional items related to satisfaction with collaboration, MDs scored higher levels of satisfaction than NPs for all four items although the difference was statistically significant for only two: 1) *Satisfaction with amount of time you spend consulting with MD/NP*, and 2) *Satisfaction with appropriateness of consultations initiated by the MD/NP* (see Table 16).
Table 16

MD and NP Responses to Additional Items on Satisfaction with Collaboration

<table>
<thead>
<tr>
<th>Items</th>
<th>NP Min, Max</th>
<th>NP Mean* (SD)</th>
<th>NP Mean* (SD)</th>
<th>MD Min, Max</th>
<th>MD Mean* (SD)</th>
<th>MD Mean* (SD)</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with amount of time spent consulting with MD/NP</td>
<td>1, 6</td>
<td>3.88 (1.31)</td>
<td>1, 6</td>
<td>4.74 (1.26)</td>
<td>.020**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction with the availability of the MD/NP</td>
<td>1, 6</td>
<td>4.22 (1.41)</td>
<td>1, 6</td>
<td>4.89 (1.56)</td>
<td>.111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction with appropriateness of consultations initiated by MD/NP</td>
<td>1, 6</td>
<td>4.50 (1.34)</td>
<td>5, 6</td>
<td>5.52 (.51)</td>
<td>.002**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction with quality of care provided by MD/NP</td>
<td>2, 6</td>
<td>5.03 (1.12)</td>
<td>4, 6</td>
<td>5.67 (.56)</td>
<td>.078</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p-value* indicating significance:
- **p** is significant at < .05
- *Wilcoxon matched-pairs signed rank test*
- Scores ranged from 1 (strongly dissatisfied) to 6 (strongly satisfied) with current experience of collaboration.
- *Wilcoxon matched-pairs signed rank test*
Correlation of Scales and Global Questions

Global questions were included in the survey to test the construct validity of the two collaboration scales. The correlation between the global question "How would you describe the extent of collaboration with this NP/MD?" and the extent of collaboration scale was positive, strong and significant for both groups (NPs: $r_s = 0.89, p < 0.001$ and MDs: $r_s = 0.65, p < 0.001$). Similarly, the correlation between the global question "How satisfied are you with the collaborative relationship with this NP/MD?" and the satisfaction with collaboration scale was positive, strong and significant for both groups (NPs: $r_s = 0.91, p < 0.001$ and MDs: $r_s = 0.86, p < 0.001$).

Discussion

The purpose of this study was to assess the extent of and satisfaction with collaboration between MDs and NPs who work in Ontario LTCHs. To reiterate, I hypothesized that: 1) the MDs and NPs would report similar extents of collaboration; 2) the NPs would report a lower level of satisfaction with collaboration than the MDs; and, 3) previous experience and satisfaction with collaboration would be positively correlated with a higher extent of and satisfaction with current collaboration between MDs and NPs.

My hypothesis regarding MDs and NPs reporting similar levels of collaboration was not supported based on statistical results. In this study, the MDs reported a statistically significant higher level of current collaboration with NPs than did the NPs rating their level of collaboration with the MDs. However, while statistically significant, the difference in scores for matched pairs was typically one point or less, and could have
been as great as a five-point difference. It is not known if this difference in scores is clinically important or how the difference in scores may relate to process and outcome measures. This requires further study, as research has shown a correlation between nurses’ perceptions of collaboration and patient outcomes (Baggs et al., 1997; Baggs et al., 1999; Baggs, Ryan, Phelps, Richeson, & Johnson, 1992; Knaus, Draper, Wagner, & Zimmerman, 1986). As well, the MDs may define or perceive collaboration in a different way than the NPs.

For my second hypothesis, the NPs did report a statistically significant lower level of satisfaction with collaboration than did the MDs. This finding is consistent with another research study that reported higher levels of satisfaction with collaboration for MDs than nurses (Baggs et al., 1997). The third hypothesis was not supported as there were no statistically significant correlations between MD or NP extent of or satisfaction with current collaboration scores and their previous experience with collaboration or their satisfaction with previous NP-MD collaboration.

This study supports previous findings that all NPs working in Ontario LTCHs had established collaborative relationships with physicians that tended to “vary in strength but are (sic) primarily positive and strong” (Stolee et al., 2002, p. 9). Over one-half (58.6%) of the NPs identified the medical director as the MD with whom they most frequently worked, supporting the study by Stolee et al which found the majority of NPs had the strongest collaborative relationship with the medical director (Stolee et al., 2002).

Two MDs declined to answer questions specific to the extent of and satisfaction with collaboration. They did make notations on the questionnaire indicating little or no
collaboration or communication with the NP; yet, they did not specify this for the individual items on the collaboration scale and they did not indicate their level of satisfaction with this on the satisfaction scale. It is not known if these MDs’ expectations were being met; if they believed the NP was an autonomous practitioner who did not require their input for the types of problems she was treating, as is the case in a consultative or parallel practice; if they thought collaboration was a more formal process than what was occurring between them; or if they felt their responses might create problems for the NPs or themselves.

MDs reported higher levels of collaboration with NPs and higher satisfaction with their collaborative relationship. Education and socialization according to sex of MDs and NPs may have had an effect on their personal definition of and expectations for collaboration (Fagin, 1992; Knaus et al., 1986; Larson, 1999; Scott & Thurston, 2004; Siegler & Whitney, 1994; Yurkow, 1999). Physicians often have less experience with collaboration than nurses, as they have traditionally been taught to work independently in a patriarchal and hierarchical system, referring to specialists rather than sharing a care plan with other professionals (Ryan, 1999; Scott & Thurston, 2004). On average, these MDs graduated from medical school 30 years ago, likely receiving little or no education regarding collaboration and did not indicate a return to university in recent years. The NPs had between 8 and 36 years of RN experience; however, they had received recent education regarding collaboration in their NP programs at the university level, graduating 1 to 8 years ago. This more recent education and possible influence on expectations of
collaboration may partially help to explain the overall slightly lower NP scores on the scales.

Another possible reason for the slightly lower NP scores may relate to perceptions of a lack of control over their clinical role due to Ontario’s restricted NP scope of practice. For instance, an NP can order an x-ray of the leg or chest, but not the hip or abdomen. When the NPs must contact and rely on the MDs to order tests and medications and make diagnoses that are within the realm of the NP’s knowledge and skill, a negative impact on satisfaction with the NP role and the MD-NP collaborative process may occur.

Thirteen of the MDs (39.5%) wrote comments on the questionnaire indicating the NP was a well-educated person who acted as an extra pair of eyes and ears, readily available to monitor resident status and to promptly diagnose and treat common conditions. The extra pair of eyes and ears may decrease the number of telephone calls from nursing staff to the MD and increase overall MD satisfaction with the NP, particularly in sites where the MD is seldom on-site. Further investigation is warranted to explore this phenomena.

There also was little variability in scale scores for the majority of the matched pairs, indicating general agreement amongst pairs regarding the extent of and satisfaction with collaboration (Fagin, 1992; Knaus et al., 1986; Siegler & Whitney, 1994). This finding seems to indicate that matched-pairs of NPs and MDs have similar perceptions and expectations of collaboration. One explanation is that MD and NP expectations for collaboration and collaborative practice influence their perceptions, which is subsequently reflected in their scale scores.
It has been proposed in the literature that prior experience with collaboration may facilitate establishment of collaborative processes (Henneman et al., 1995); however, this hypothesis was not supported in the findings of this study. The MD and NP mean scores for extent of collaboration and satisfaction with collaboration were lower for those who had had previous experience than for those who did not and the differences were statistically significant for the NPs. It is not known if previous experience provides an accurate comparator for the current relationship. As well, the previous collaboration typically occurred in acute care, hospital outpatient clinics, community health centres, and family health networks where the MD and NP work in close physical proximity. There also may be other unexplained reasons for this difference.

In the past, Ontario MDs have expressed concern regarding a potential negative impact on income when working with an NP (DiCenso et al., 2003). In this study, less than half (43.3%) of the MDs identified that the NP affected their income, with 26.7% indicating a negative impact and 16.7% indicating a positive consequence. The positive impact on MD income is likely related to increased billing time at other sites, such as the MDs’ offices and emergency departments, as they were nearly all fee-for-service MDs. One MD, commenting on the negative impact wrote, “if the NP was not doing the annual physical examination, then I would do it” and would bill for the service. Provision of “back up for the NP” was cited by another MD as a negative impact on income; yet, this was in a LTCH in which the NP was on site less than 8 hours per week. It is not known if the NP communicated with the MD more regularly because she did not know the residents as well due to less time at the LTCH, if the minimal hours negatively influenced
acquisition or maintenance of skills required for this LTCH, or if the MD viewed collaboration as “back-up”. I considered the possibility that the negative impact on income may be particularly relevant for MDs who are semi-retired and have closed their office practice. However, one MD who was semi-retired indicated no impact and only one who indicated a negative income impact was semi-retired.

The three MDs who did not complete the scales were those who were partnered with NPs who worked in multiple LTCHs. This lends support to previous findings that the NPs who work in more than one site face unique challenges in establishing collaborative relationships with physicians across sites (Stolee et al., 2002). Excluding the NP who covers ten LTCHs, the majority of NPs (93%) spent an average of 21.7 hours per week in each LTCH and were often on site when the MD was not. Previous work indicates that communication barriers are potentially amplified in LTCHs where the physician is seldom on site (Stevenson, Kamholz, & Siegler, 1994).

Most MDs (97%) in this study spent relatively little time on site in the LTCH, and half of the MDs averaged four hours per week at the LTCH. The results of this study, with 87.5% of NPs and 85.2% of MDs indicating agreement that collaboration is occurring and 78.2% of NPs and 96.3% of MDs indicating satisfaction with collaboration, challenge the traditional idea that face-to-face, on-site communication is needed to establish and maintain a collaborative relationship. However, it is not known if face-to-face communication could further strengthen this relationship.

There were positive and strong correlations (0.65 to 0.91, \( p < 0.001 \)) between the two global questions and the respective collaboration scales indicating that the scales
have construct validity. This positive and strong correlation could indicate that the single-item global questions are sufficient for studies that do not require specific constructs of collaboration (Cunny & Perri, 1991). Nevertheless, individual item analysis did indicate significant differences between NP and MD responses for all items in the satisfaction scale and one item in the extent of collaboration scale, "fully collaborate in making shared decisions about resident care". This item analysis draws attention to similarities and differences in primary values and beliefs underlying the mean collaboration and satisfaction scores and thus helps point the way forward for individuals, administrators, and researchers to further study and improve collaborative structures and processes specific to their settings.

Four additional questions related to satisfaction with collaboration were included. Consistent with the satisfaction with collaboration scale scores, MD responses indicated higher levels of satisfaction with these items than the NPs. The differences between MD and NP responses were statistically significant for satisfaction with time spent consulting with the NP/MD ($p = 0.02$) and for satisfaction with appropriateness of consultations initiated by the other ($p = 0.002$). Differences in scores were not statistically significant for the availability of the MD/NP ($p = 0.11$) and for satisfaction with quality of care provided by the MD/NP ($p = 0.08$). The NPs were less satisfied than were MDs with the amount of time spent collaborating and the appropriateness of consultations initiated by the collaborative partner. The differences in satisfaction with the amount of time spent collaborating may relate to differing MD and NP perceptions of what constitutes collaboration; for instance, previous research has demonstrated that physicians perceive
their sharing of information as collaborative, whereas nurses characterize this information as receiving an order (Baggs & Schmitt, 1997; Jones, 1994; Keenan, Cooke, & Hillis, 1998; Wells, Johnson, & Salyer, 1998).

Strengths of the study include the high response rate that likely reflects the interest of these MDs and NPs in collaboration in LTCHs and a low participant burden to complete a relatively short questionnaire. Based on the literature review, this is the first study that includes both MDs and NPs, as well as matched pairs in collaboration or collaborative practice studies in LTC. The matched pairs provided a unique opportunity to directly compare the perspectives of the NPs and MDs who worked together.

Limitations of the study include the small numbers, even though this represents the entire population of LTC NPs who are directly funded by the MoHLTC. Another limitation was the failure to determine case loads for the NPs and MDs. I was uncertain as to the actual number of residents in each LTCH who were cared for by the MD and the NP. This knowledge may have provided additional insight into the workload of the two groups and the available time and need for collaboration. However, attempts to obtain reliable case-load data from the NPs via email following the survey illustrated the challenge with gathering such information. Two NPs who deliver programs, such as wound care in multiple LTCHs replied stating that the caseload varied week to week and they were unable to provide this information.

Rather than asking an open-ended question regarding the collaborative structure, a series of choices might have provided a better understanding of the collaborative versus consultative nature of the relationship. Two examples of these choices include: 1) the NP
is only in the LTCH on the days when the MD is not available; or, 2) the MD and NP make rounds together on a weekly basis to discuss resident needs and problem-solve complex resident issues.

In this study, I chose to focus on the MD with whom the NP had the most frequent contact. The NP role in LTCHs typically requires collaboration with many MDs (median = 6). There are many challenges to collaborating with multiple MDs given the different expectations, practice styles, philosophies of care, and personalities of the MDs; as well as differences in the amount of contact with each MD. This study did not examine those less frequent NP-MD collaborative relationships.

It is not known if the same MDs would have been identified if I had asked the NPs to nominate the MDs with whom they had the strongest collaborative relationship or worked with most closely rather than the MDs with whom they worked most frequently. However, the research team decided that “frequency” was a more objective measure than “strong” or “close”. Of the MD respondents, three (9.1%) did not complete the two scales and it is not known how this may have influenced the results. The study is small and the results cannot be generalized beyond this NP-MD population. Still, this study presents a method to investigate individual and matched-pair collaboration. The study raises many questions, the most notable of which are, how NPs and MDs collaborate in their day-to-day practice in Ontario LTCHs, and which collaborative processes are most and least helpful in establishing and maintaining a collaborative practice?
Recommendations

Even though MDs and NPs reported collaboration was occurring and they were satisfied with it, the scores did not typically reflect the highest levels for the extent of and satisfaction with collaboration. Further in-depth investigation of the specific factors, issues, and concerns that support and impede collaboration in LTCHs is needed so that a plan to strengthen collaborative practice can be developed. In keeping with the principles of collaboration, this plan would be best formulated through a collaborative planning, implementation, and evaluation program working with NPs, MDs, and their LTC partners in order to model collaborative behaviours. For example, it is not known if limitations to the implementation of the full scope of NP practice related to a specific program focus, such as wound care, enhance or inhibit the extent of and satisfaction with collaboration.

In-depth interviews are recommended to gain a better understanding of MD-NP collaborative practice structures and processes of collaboration and communication in LTCHs. Further information is needed to understand how collaboration occurs and under what circumstances (when and why). It is also not known whether the collaboration is typically restricted to the NP and MD or if others, such as the charge nurse or other health care providers, are included in the collaboration or act as intermediaries and message carriers. Interviews, either individual or in groups, could also help to further knowledge about the relationship between previous and current experiences with collaboration.

A system could be developed wherein the NP and MD partners who both scored between 5 and 6 on the Likert scales, indicating a high extent of and satisfaction with collaboration would act as mentors and advisors for MDs and NPs who are new to or
struggling with collaborative practice in LTCHs. These collaborative MD-NP partners could also assist in the development and implementation of new initiatives related to NPs in LTC, particularly strategies for facilitating collaborative practice relationships. Incentives for the NPs and MDs to participate in this system and these initiatives could come from MoHLTC sponsored programs and/or research funding to study these intervention effects.

Regarding the two collaborative practice scales, further research is needed to determine the important differences in MD and NP scores on the scales. The differences in scores could also be investigated in relation to process and outcome measures associated with MD-NP collaborative practice.

Additional research is needed to understand the complexities of collaborative practice for NPs who work with multiple MDs in LTCHs. A mixed methods study using individual interviews, dyad NP and MD interviews, and/or focus groups could provide an in-depth understanding of these complexities. Based on these results, a survey could be developed for administration to matched-pairs of MDs and NPs to gain a breadth of knowledge regarding the identified variables, as well as the extent of and satisfaction with collaboration, barriers, facilitators, and perceived outcomes of NP-MD collaboration in LTCHs.

Based on the strong correlations between the two global questions and the respective collaboration scales, it might be possible to replace the scales with the global questions. However, this study was limited to a small population in LTC. A larger study
comparing the global measures and the two scales in various types of settings as well as additional analyses such as factor analysis would better inform this decision.

Interprofessional collaboration has become an expectation in health care delivery. This study demonstrates that collaboration is occurring between NPs and MDs in Ontario’s LTCHs. The majority of the MD and NP respondents were satisfied with their collaboration. While these results are generally positive, further research is needed to understand how NPs and MDs collaborate in their daily practice in LTC, identify the perceived outcomes of this collaboration, and to single out the major facilitators and barriers to collaboration, and recommendations for the reduction or elimination of these barriers.
CHAPTER THREE
FACILITATORS, BARRIERS, AND RECOMMENDATIONS TO IMPROVE NURSE PRACTITIONER-PHYSICIAN COLLABORATIVE PRACTICE IN ONTARIO LONG-TERM CARE HOMES
CHAPTER THREE

Abstract

Purpose: To understand facilitators and barriers associated with collaboration between nurse practitioners (NPs) and physicians (MDs) in Ontario long-term care homes (LTCHs) at individual, organizational, and health system levels.

Methods: This study is part of a sequential, two-phase mixed methods design. In this qualitative second phase, semi-structured individual interviews and document analysis were planned to gain an understanding of MD-NP collaboration. Based on Phase One survey results using maximal variation, an NP-MD pair at each of three LTCHs were selected. Data were analyzed using Miller and Crabtree’s template approach.

Results: Three NPs, two MDs, and three charge nurses who frequently observed MD-NP collaboration were interviewed and a variety of documents were analyzed. Top barriers at the individual, organizational, and health system level, respectively, included unwillingness to collaborate, coverage of multiple LTCHs by the NP, and restricted scope of NP practice. Top facilitators at the individual, organizational, and health system level, respectively, were experience with collaboration and in long-term care, support for collaboration, and reduced sense of hierarchy and increased confidence in collaborating with MDs. Participants’ top three recommendations to reduce barriers included: 1) individuals making a conscious effort; 2) organizations preparing for the NP role to reduce role confusion; and 3) collaborative education.

Conclusions: Collaboration between MDs and NPs is ultimately a choice at the individual level. At the organizational level, the time limitations associated with covering...
multiple sites have impacted effective NP-MD collaboration, and access to and consistency of care. The restricted scope of NP practice in Ontario and a lack of clarity in NP role expectations are important barriers to MD-NP collaboration.
CHAPTER THREE

Introduction

In response to the Provincial Nursing Task Force Report *Good Nursing, Good Health - An Investment for the 21st Century* (Strelioff & The Nursing Taskforce, 1999), the Ontario government announced a pilot project to introduce primary health care nurse practitioners (NPs) into long-term care homes (LTCHs) in 1999 (Stolee, Hillier, & æstima research, 2002). In 2000, the Ontario Ministry of Health and Long-Term Care (MoHLTC) provided funding for 20 full-time NP positions in LTCHs for a two-year period, July 1, 2000 to June 30, 2002. The funding was subsequently extended to March 30, 2003 and has achieved continuing funding status. The NPs were originally hired to work in anywhere from one to 18 LTCHs, depending on the proposal that was submitted to the MoHLTC. Over the years, the number of multiple LTCHs per NP has decreased and they now work in one to ten LTCHs.

The NPs were expected to make a positive difference in meeting the increasingly complex needs of residents of LTCHs and improving access to primary care through the provision of advanced nursing skills (C. Crane, MoHLTC, personal communication, June 24, 2005). Because physicians (MDs) do not work full-time in LTCHs, it was expected that the NPs and MDs would collaborate closely to provide high quality care for the residents. This paper, focusing on facilitators and barriers to MD-NP collaboration, is part of the second phase of a larger mixed methods study seeking to answer the question:

- How do MDs and NPs collaborate with one another to provide primary health care services in LTCHs in Ontario?
A Phase One survey of the NPs and MDs in Ontario’s LTCHs revealed that only 26% \((n = 7/27)\) of the MDs were involved in the development of the proposal to hire the NP. Research on nurse-MD and NP-MD collaboration has revealed that these relationships often are fraught with problems, including communication breakdown (Fagin, 1992; Kendrick, 1995), inadequate coordination (Larson, 1999), disjointed care (Capewell, 1996; Hugman, 1995), and disparity between nurses’ and physicians’ opinions of patient needs or of the best way to meet those needs (Zwarenstein & Reeves, 2002). Zwarenstein and Reeves concluded that the growing autonomy and self-confidence of nurses contrasts with decreasing power and independence for physicians, contributing to MDs’ feelings of “embattlement”.

Knowing that positive health outcomes have been linked to collaboration (Baggs et al., 1999; Schmitt, 2001; Zwarenstein & Bryant, 2006), I sought to understand the facilitators and barriers associated with NP-MD collaboration in LTCHs from the individual, LTCH, and health system perspectives.

**Literature Review**

Understanding facilitators and barriers to NP-MD collaboration in LTCHs is essential to the promotion of positive collaboration and collaborative practice. Identifying ways to reduce barriers and strengthen facilitators is important to help MDs, NPs, administrators, educators, and policy makers determine effective ways to strengthen NP-MD collaborative practice. There has been only one study specific to barriers and facilitators of collaboration and collaborative practice in LTCHs, which was conducted in Ontario in 2003 (Goldfarb Intelligence Marketing & D. Dave HealthCare Solutions, 2003).
2003). In the literature review that follows, I will summarize the small number of studies that describe barriers or facilitators, as well as theoretical and conceptual writings on this topic.

**Facilitators of Collaborative Practice**

Numerous individual, LTCH, and health system facilitators influencing collaborative practice have been identified. Individual facilitators include: a shared philosophy of elder care (Ryan, 1999); proficiency in sharing decision making and responsibility (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996; Flesner & Clawson, 1998; Ryan, 1999); individual attributes of cooperation, assertiveness, responsibility, communication skills, autonomy, and coordination (Norsen, Opladen, & Quinn, 1995); capacity to evolve in the relationship (Hallas, Butz, & Gitterman, 2004; Ryan, 1999); mutual trust and respect (Flesner & Clawson, 1998; Hallas et al., 2004; Norsen et al., 1995; Ryan, 1999; Siegler & Whitney, 1994b); and similar practice styles (Flesner & Clawson, 1998; Hallas et al., 2004). Hallas et al. and Ryan concluded that maintaining competence and predictability in practice patterns is essential for establishing and maintaining trust.

Prior experience or education in collaboration may facilitate establishment of collaborative processes at the individual level (Hojat et al., 2001); however, Wells, Johnson, and Salyer (1998) found that prolonged time and practice with collaboration was associated with lower reports of collaboration, likely due to differences in provider experiences over time. Wells, Johnson, and Salyer (1998) conducted their quasi-experimental study over a 16-month period using different collaborative practice
strategies in general medicine and step-down adult care units located in hospitals in the southeastern United States. They found that the most important facilitator for collaboration was the perceived MD involvement in collaborative practice. Limitations of this study included multiple interventions to promote collaboration, which made it difficult to distinguish the effects of individual interventions, and self-reported surveys with no methods of validation.

Vazirani, Hays, Shapiro, and Cowan (2005) also used surveys to measure the impact of interventions on collaboration among doctors and nurses on a newly developed intervention unit over a two-year period. Interventions included the addition of a nurse practitioner, the appointment of a medical hospitalist, and the establishment of daily multidisciplinary rounds. A similar unit served as a control group in this tertiary care hospital in Los Angeles, California. Limitations of this study included restrictions to the usual NP scope of practice, as well as the multitude of interventions at one time, making it challenging to discern individual intervention effects. Overall, there was a positive effect on the communication between doctors and between doctors and NPs. The interventions made no difference in communication between the doctors and nurses; however, nurses reported better communication with NPs than with MDs. Based on their findings, Vazirani et al. recommended that health care institutions should establish structures to promote collaborative practice such as daily multidisciplinary rounds. Hupcey (1993) asserted that institutional standards that integrate collaboration and interdependence, such as mandatory attendance at resident care conferences for all involved in direct resident care and planning, help to support collaborative practice.
The health system level includes universities, government, and professional organizations. Interdisciplinary education that teaches collaboration between medical and nursing students (Hanson, Spross, & Carr, 2000) and between MDs and NPs facilitates the establishment of early communication and mutual understanding of roles. However, the reality is that interprofessional education is poorly developed and operationalized in undergraduate education (D’Amour & Oandasan, 2005). Within government, collaborative practice committees and joint initiatives on health care and legislative reform help to promote collaborative practice (Hanson et al., 2000). For instance, recent regulatory amendments eliminated a number of obstacles to NPs practicing within their full scope in LTCHs and offered residents the choice of an NP along with an MD to provide their health services (Ministry of Health and Long-Term Care of Ontario, 2003).

**Barriers to Collaborative Practice**

Barriers to collaboration at the individual level have been linked to poor communication related to traditional gender roles, MD and nursing education, and hierarchical structures within the health care system (D’Amour & Oandasan, 2005; Larson, 1999; Siegler & Whitney, 1994a). Stevenson (1994) concluded that communication barriers are potentially amplified in LTCHs where the MD is seldom on-site.

There has been reluctance on the part of some MDs to accept NP roles, that may relate to blurring of role distinctions, fear of role erosion and loss of professional identity, and a lack of clarity regarding the NP scope of practice (Cairo, 1996; Caprio, 2006). This reluctance is compounded by concerns regarding the loss of MD practice relevance in
LTCH practice (Caprio) and liability concerns (DiCenso, Paech, & IBM Corporation, 2003).

Quality research has demonstrated the safety and effectiveness of NP practice (Horrocks, Anderson, & Salisbury, 2002). In their systematic review of the effectiveness of NPs in delivering primary care, Horrocks et al. included 11 trials and 23 observational studies that compared NPs to physicians. They found higher levels of patient satisfaction with NP care and some evidence of improved quality of care with NP consultations, with no difference in patient health status. However, NPs had longer consultations (weighted mean difference 3.67 minutes) and ordered more investigations (odds ratio 1.22) than did physicians. The appropriateness of the investigations or length of consultations was not evaluated. No differences were found in rates of referrals, return consultations, or numbers of prescriptions. All studies in this systematic review investigated nurses, but there were some studies in which it was unclear if the nurse was licensed as an NP.

Ryan (1999) wrote about the collaboration between MDs and NPs in LTCHs. She claims that MDs often have little experience with collaboration, as they have traditionally worked independently, referring to specialists rather than sharing a plan of care with other professionals. Varying role philosophies and knowledge may inhibit collaborative practice. For instance, the NP may confuse concepts of professional autonomy, independent practice, and clinical collaboration. Some NPs may be more comfortable with a dependent relationship on the physician. Ryan also asserts that while NP or MD micromanagement of the other’s practice may be understandable initially, it should not continue, as it indicates difficulty with trust and sharing, which are barriers to
collaborative practice. Salsberry, Nickel, and O'Connell (1991) noted that nonchalance regarding regularly scheduled meetings and lack of availability in emergencies are important barriers at the individual level.

Organizational barriers may be associated with administration’s lack of awareness of the full scope of the NP role and misconceptions about collaborative practice (Torres & Dominguez, 1998). In a survey of 117 NPs (63 acute care NPs and 54 primary health care NPs) employed in Ontario hospitals and community health centres, Almost and Laschinger (2002) affirm that the absence of effective and efficient communication mechanisms and lack of timely and accurate information related to administrative plans affecting MD and NP roles are detrimental to collaboration in the hospital setting.

The current economic environment requires that organizations “do more with less”. Residents of Ontario’s LTCHs receive approximately 15 minutes of registered nursing care per day (Rubin, 2003), increasing the risk of NPs being pulled into a second job, that of RN. This potential duality could compromise the focus on NP activities and the time required for collaborative practice.

At the health system level, legislation can inhibit collaborative practice. For instance, through a lengthy process, the Ontario legislature approves all changes to the list of drugs that can be ordered or renewed by the NP. This drug list is limited, causing the NP to rely on the MD to renew many prescriptions, even though the NP is responsible for monitoring and reviewing all medications. As another example, the NP must ask the MD to order radiographs for most main body areas (e.g., the hip or spine) if a resident falls. This causes delays in care, duplication of work, increased cost to the system for NP
salary and MD billing, and slows the length of time to provide care. The lack of a mechanism to remunerate the MD for consulting with an NP has been cited as a barrier by NPs and MDs (DiCenso et al., 2003; Hanrahan, Way, Houser, & Applin, 2001).

**NP-MD Collaboration in Ontario: Recent Research**

Goldfarb Intelligence Marketing and D. Dave HealthCare Solutions (2003) were contracted by the Ontario Medical Association and the Registered Nurses Association of Ontario to conduct a qualitative study to gain insight into the overall collaborative practice between MDs and NPs in Ontario. They conducted 32 individual and joint interviews, lasting 45 minutes each, with MDs and NPs, including five interviews of MDs and NPs in Ontario LTCHs. The researchers focused on effective strategies to optimize the working relationship between NPs and MDs. Key recommendations from the LTCH NPs stressed the importance of: 1) meeting with administration and the medical staff prior to starting the job; 2) learning the routines of the LTCH prior to implementing any changes; and 3) identifying a champion, either administrative or medical, to educate others regarding the benefit of the NP in LTCHs.

While the report is not clear regarding which groups of MDs made recommendations, in general the MDs indicated that it takes time to establish trust (Goldfarb Intelligence Marketing & D. Dave HealthCare Solutions, 2003). As well, the MDs said that it takes approximately three months to know if the NP is competent, but much less time to establish incompetence; trust is based on competence, therefore it takes about three months to establish trust and build the foundation for a good relationship; it may take only a few weeks to recognize a poor relationship; and trust and respect tend to
deepen as the relationship matures. MDs did not feel a need to know the NPs’ scope of practice, rather they said that the NPs should know their own scope and practice within it. The best collaborative relationship was perceived to be a one-on-one or dyad relationship, rather than larger numbers of MDs or NPs, so that the MD can give the “consultative time required to optimize the NP’s practice” (p. 8). Other barriers identified in this study included understanding legal responsibilities, dealing with hierarchy, and the inexperience of new NPs. Both the MDs and NPs in this study stressed the importance of delivering high quality care to more people; they saw the increased access and value to care as the benefit of the NP, rather than simply cost savings. Shared values were an important component of mutual respect and collaboration. The report provided few quotations to allow the reader to determine if the data fit with the themes.

In a multi-method interim evaluation of the NPs in LTCHs in Ontario, Stolee and Hillier (2002) found initial hesitation and sometimes resistance to the NP on the part of MDs and staff in LTCHs. This was attributed to a lack of understanding of the NP role, fear of the NPs checking their work, concern about more work as a result of the NP or that the NP might take over their jobs, and/or the MDs’ fear of a reduction in income.

Facilitators of and barriers to collaboration were identified in a 2003 study of NP integration in Ontario that used NP, MD, patient, and population surveys, as well as site visits and interviews with a variety of health team members, including LTCH sites (DiCenso et al.). Facilitators of collaboration found in this study included a positive MD attitude toward the NP, MD acceptance of the NP role, and MD-NP agreement on the structure of the working relationship. DiCenso et al. also found that Ontario’s legislative
barriers, such as the limited prescription list, inhibited NP practice and increased reliance on MDs for collaboration. The NP role was less defined in LTCHs; yet, there were higher levels of NP satisfaction regarding decision-making, compared with community and emergency settings.

In summary, a substantial number of barriers and facilitators to NP-MD collaboration exist at the individual, LTCH, and health system levels. A Cochrane review recommended qualitative research to identify barriers to greater nurse-MD collaboration prior to implementing controlled trials of interventions to improve it (Zwarenstein & Bryant, 2000). The purpose of this study was to identify facilitators and barriers to MD-NP collaboration in LTCHs in Ontario and to elicit recommendations to improve their collaboration.

Research Questions

- What are the facilitators and barriers to MD-NP collaborative practice in LTCHs at the individual, LTCH, and health system levels?
- What is needed to support facilitators for MD-NP collaborative practice in LTCHs at the individual, LTCH, and health system levels?
- What is needed to reduce barriers to collaborative practice in LTCHs at the individual, LTCH, and health system levels?

Method

Mixed methods research was best suited to answer the study questions. The specific study design was a sequential mixed method (Tashakkori & Teddlie, 2003), two phase design. This paper focuses on Phase Two data collection and analysis specific to...
the facilitators and barriers to MD-NP collaboration in LTCHs and the recommendations to improve collaboration, based on individual interviews and document analysis.

Chapters One and Two include a full description of the study and Chapter Two contains a summary of findings from Phase One. It was necessary to obtain a broad picture of NP-MD collaborative practice in LTCHs to guide the interview questions and selection of study participants for this second phase of the study.

The sequential mixed method design (Tashakkori & Teddlie, 2003) was used to investigate sites with varying results from the Phase One extent of and satisfaction with collaboration scales scores. Multiple sources of evidence were used to: 1) add breadth and depth to data collection; 2) determine convergence, complementarity, or divergence of findings; and 3) contribute to the soundness of the research (Erzberger & Kelle, 2003). Dissimilar sites were selected in order to better understand the facilitators and barriers to, and recommendations for NP-MD collaboration in LTCHs (Patton, 1990). I was interested in these disparate sites, as they represented the potential for variety in collaborative practice issues and concepts and thus diversity in data. The purpose of this study is not to report on the individual sites, but rather to investigate MD-NP collaboration within the sites and then analyze and synthesize the data across the sites to answer the research questions (McDonnell, Jones, & Read, 2000).

In keeping with mixed methods research that seeks to understand complex phenomena, I used a variety of data collection techniques (Johnson & Turner, 2003; Teddlie & Tashakkori, 2003). Qualitative interviews provided the opportunity to explore results from the Phase One survey in more depth, as well as to gain an understanding of
collaborative practice from the individual perspective. Audio-recording was used for all interviews to capture the exact words, tone of voice, pauses, and inflections (Miller & Crabtree, 1999a). Charge nurses completed a demographic questionnaire prior to the interview (Appendix Q). All interview participants completed an interview questionnaire specific to important outcomes of MD-NP collaboration and important behaviours that indicate that NP-MD collaboration is occurring (Appendix R). Document analysis provided a historical and organizational context that may not have been known, remembered, or told by individuals (Hodder, 2000), as well as additional evidence of collaborative practice facilitators and barriers at the organizational level. Field notes were audio-recorded immediately following interviews and site visits for document analysis to capture my immediate impressions and thoughts (Miller & Crabtree).

**Interview Question Development**

Guiding questions, based on the literature and the NP-MD Collaborative Practice in LTC model were developed for qualitative, semi-structured individual interviews with NPs, and the MDs and charge nurses with whom they worked most frequently (Appendices S & T). The questions were reviewed for content, clarity, and applicability by two LTC NPs, MDs, and charge nurses who did not meet study eligibility requirements. No suggestions were provided for additional questions or deletion of questions, although areas of potential overlap (i.e., ‘purpose of collaboration’ is similar to ‘outcomes of collaboration’) were highlighted for my attention to avoid repetition during the interviews.
Participants and Settings

Maximum variation techniques (Patton, 1990) guided the process for Phase Two participant and site selection. Based on Phase One survey data analysis, three sites were selected, representing varying levels of matched pair MD and NP scores for the extent of and satisfaction with collaboration scales, including the matched pairs with the highest scores, the lowest scores, and the greatest variation in scores. The NP at each of the three sites was contacted via e-mail and asked to provide the name of a charge nurse who worked frequently with the NP and MD. Charge nurses are direct and indirect observers of the collaborative relationship between NPs and MDs and have the potential to provide a third party perspective that could enhance the quality and richness of data.

To be eligible for inclusion in the second phase, the NPs were all registered nurses in the extended class [RN(EC)s] in Ontario and had worked in the NP role in the LTCH with one or more collaborating MDs for at least six months. They were excluded if they were employed in the setting as an RN prior to the NP role or if their role was not directly funded by the MoHLTC. The collaborating MDs had worked with the NP for at least six months and were either family or general practice physicians; specialists were excluded. The MD did not have to be the Medical Director of the LTCH. The charge nurses were registered nurses (RNs) who had worked frequently with the MD and NP for at least six months. The requirement of working together for at least six months is based on collaboration literature which states that time is needed to establish trust, communication, and knowledge of the other provider's practice patterns (Goldfarb Intelligence Marketing & D. Dave HealthCare Solutions, 2003; Jones, Way, & Rich, 81
Prior discussions with NPs in LTCHs indicated that 6-12 months was a reasonable length of time to establish initial collaboration and collaborative practice relationships. Fluency in the English language was a requirement for participation in the second phase. This purposeful, criterion sampling strategy based upon specific eligibility criteria elicited participants who could provide rich accounts of their experiences with the barriers and facilitators to NP-MD collaboration in LTCHs (Baker, Wuest, & Stern, 1992; Patton, 1990).

Based on the selection of the three sites, the Phase Two sample size was anticipated to be three NPs, three MDs, and three charge nurses, located in three Ontario LTCH sites, which was predicted to be sufficient to reach data saturation (Morse, 1995). The sample size was small and provided diverse perspectives in order to facilitate the attainment of extensive amounts of in-depth, rich data, with thick descriptions of their experiences (Baker et al., 1992; Charmaz, 2000; Patton, 1990). If the initial sample interviews did not produce data saturation and thick, rich descriptions, strategies similar to the initial participant selection were in place to expand the number of sites and participants.

Due to the small population of NPs in Ontario’s LTCHs there is the potential that specific details about the participants or sites will reveal the identity of participants. To protect confidentiality, information regarding the participants and sites are only provided in sufficient detail to allow the reader to determine the applicability of findings to their own setting, but specific details are purposely omitted. Selected individual site
information and/or quotes are presented under themed headings that represent cross-site analysis (McDonnell et al., 2000).

Data Collection

Prior to data collection, the Research Ethics Boards at McMaster and Ryerson Universities granted ethics approval (Appendices L & M). All interviews and document analyses occurred between July and August, 2006 ensuring that legislation, regulations, and other potential external factors related to collaborative practice were relatively consistent across the sites.

Following the identification of the NP-MD pairs and their work sites, I mailed a letter to the site administrators describing the study and requesting consent to enter the LTCH, conduct on-site interviews, and access documents related to MD-NP collaboration for the purposes of the study (Edwards et al., 2002) (Appendix U). Resident health records and documents that identified individual residents were not accessed. The administrators provided a letter to me, which I gave to participants at the time of the interview, assuring them that their participation in the study would not jeopardize their job or relationship with the LTCH (Appendix U). The administrators guided the study request through internal research approval mechanisms prior to granting consent.

Following administrator consent, the NP, and the MD and charge nurse who worked frequently with the NP at each of the selected sites were mailed letters requesting their consent to participate in individual semi-structured interviews (Appendix V). Follow-up telephone calls and e-mails at two-weeks resulted in interviews at times and locations convenient for the participants, with the three identified NPs, three charge nurse
RNs, and two MDs. One MD declined to be interviewed. One charge nurse declined to participate related to other commitments and an alternate charge nurse who also worked frequently with the NP and MD was recruited.

I conducted all interviews and document analysis, with a second independent reviewer assisting with data analysis to enhance dependability of the results. Field notes were audio-recorded by me immediately following each interview, LTCH site visit, and document analysis appointment. The field notes included my thoughts and reactions to the data, feelings about the interview or documents’ content, potential themes and patterns, revisions to the interview guide, ideas for future interviews and important documents to access, contributions of the interview and document analysis to the study, participant descriptions, as well as perceptions of the physical layout of each LTCH and the types of interactions noted during my visit, such as those between the MD and NP or charge nurse and NP. This strategy was important to provide a richer context to the qualitative data and to help me to remain aware of any potential biases on my part (Miller & Crabtree, 1999a).

Four interviews were conducted in quiet meeting rooms and libraries on site at the LTCHs and four interviews were held off-site. The goal of the individual interviews was to identify and compare their understandings of and experiences with MD-NP collaboration (Miller & Crabtree, 1999b). Participants were fully informed of the interview goal, as well as the nature and purpose of the study. I verbally reviewed all information from the consent form including the audio-taping of the interview and written consent was obtained before the start of the interviews (Appendix V). All audio-
recordings were captured on a high quality digital recorder and a back-up audio-tape using a standard dictation tape recorder.

The interview included two integrated parts. In part one, I gave an interview questionnaire to participants asking them to list the three most important outcomes of MD-NP collaboration and three most important behaviours that indicate that NP-MD collaboration was occurring (Appendix R). Demographic data had been collected during the Phase One surveys from the NPs and MDs and I obtained this information from the RNs in a supplement attached to the interview questionnaire. The questionnaire was left with the participants during the interview to provide them with the opportunity to make note of important ideas. In part two, the interview consisted of broad, open-ended questions designed to draw out detailed descriptions of and experiences with MD-NP collaboration in LTC (Appendices S & T). Participants often elaborated on their responses to the interview questionnaire. The written responses to the interview questionnaires were collected following the interviews.

During the interviews, the participants defined NP-MD collaboration, identified barriers and facilitators, made recommendations to strengthen facilitators and reduce barriers, and provided a number of examples and narratives to illustrate their perspectives. They also completed the interview questionnaire before and during the interview, which provided the opportunity to verbally expand on their written statements.

Despite my efforts to avoid disruption to daily schedules, participants put forth extra effort to contribute and were extremely welcoming and forthcoming. As had been arranged in advance, participants were mailed a $50.00 cheque following the interview in
appreciation of their effort and time, and to cover any costs associated with the interview, such as fuel and parking (Edwards et al., 2002).

I used the interview guide as a template to focus on key questions, rather than a strict set of questions that must be followed; therefore, each interview was slightly different. Probes were used to encourage participants to elaborate on important points, adding to the richness of information. The probes were typically crafted to elicit detail, focusing on who, what, when, where, how, and why; as well I used clarification, elaboration, and contrast probes (Patton, 1990) and requested examples. I encouraged participants to use fictitious names for anyone mentioned during the interviews to protect anonymity. Based on the evolution of the interviews, I revised the interview guide repeatedly by adding probes as a member checking strategy, combining similar probes, and removing probes that were not generating pertinent data.

“Words collected represent a mere sample of the interviewee’s voice or ‘truth space’ (Onwuegbuzie & Teddlie, 2003, p. 369). In order to ensure that I was obtaining a representative sample of their ‘truth space’, I spent as much time as possible with each participant and verified meanings and emerging patterns and themes. The NP interviews lasted two hours, the RN interviews continued for one hour, and the MD interviews carried on for 30 minutes. The use of multiple data sources and persistent observations further added to the accurate representation of their “truth space” (Onwuegbuzie & Teddlie).

After the first three interviews, it became obvious that I was getting the same kind of information for some topics, such as the individual barriers and facilitators to
collaboration. In subsequent interviews I spent less time on those topics in order to explore in more depth the broader facilitators and barriers, and recommendations to improve collaboration (Kuzel, 1999). Verification of emerging themes, patterns, meanings, and intents occurred during the interviews.

It was evident that I had reached saturation when no new meanings, patterns, or themes were forthcoming for facilitators or barriers to collaboration and recommendations to improve collaboration (Morse, 1995). This accumulation of pertinent details from alternate viewpoints and explanations enhanced the richness of the data (Charmaz, 2000) and ensured the concept of adequacy was met (Kuzel, 1999).

To supplement the interview and questionnaire data, I accessed a variety of existing documents at each LTCH. The administrators provided me with thick files labeled with titles, such as “Nurse Practitioner”, that included the NP job description, the original proposal for the NP position, meeting minutes, e-mails and memos, letters, newspaper clippings with ads for NP positions, materials from a MoHLTC sponsored NP orientation session, and fact sheets and information from the MoHLTC. I also requested and obtained access to the Medical Director’s job description at one site. Documents were selected for analysis using a purposeful sampling technique to identify and demonstrate maximum variation (Miller & Alvarado, 2005). A limitation of document analysis is the lack of control over the records that have been retained and access to documents. However, the rich history of the NP role was evident in the files.

The audio-recorded interviews, document analysis recordings, interview questionnaire results for the open ended questions, and field notes were transcribed.
verbatim by a transcriptionist. I reviewed each transcription for accuracy, inserting descriptions of changes in tone and volume that added to the meaning, where applicable. The quality of the digital audio-recordings was excellent, so I did not need to contact participants to verify what had been said. The transcribed documents were then entered into the qualitative analysis software program NVivo version 7.0 for Windows, which facilitated data management and analysis.

**Data Analysis**

Data analysis began before all the data had been collected, as data collection, analysis and interpretation are an iterative process in sequential mixed method studies (Onwuegbuzie & Teddlie, 2003). This circular process allowed me to collect, code, and analyze data from the beginning of the data collection process.

Prior to initial coding, I used a reflexive process of asking myself a series of questions, including: Who am I? What do I believe about collaboration? How has the research and data collection process influenced and challenged my thinking? What is my vision of the ultimate NP-MD collaboration? What is my vision of the ultimate lack of NP-MD collaboration? How am I challenging my thought processes? (Miller & Crabtree, 1999c). I referred to and used this reflexive process repeatedly throughout the coding process.

Prior to analysis, I developed a codebook (Miller & Crabtree, 1999a) based on the a priori Long-Term Care NP-MD Collaborative Practice Model. The codebook was open ended, as I anticipated additions, deletions, and revisions based on the transcripts.
I was concerned that a template approach to coding using predetermined codes might result in twisting the data to fit the code. To help control for this possibility, a second independent reader who was not familiar with the model or template did initial coding to help ensure that codes were consistent with the participant and document data. When we met to discuss our respective coding, I revealed the template codes. She agreed with the template codes when she stated, “I like the way that you have structured these based on individual, LTCH, and health system categories. It really fits well with and organizes the data. I don’t see any codes that do not fit or are inconsistent with my codes.” We discussed and agreed on the naming of the codes and the coding process. The second reader then proceeded to independently code slightly more than 75% (6/8) of the interviews, including all three NP interviews, both MD interviews, and one charge nurse interview; and coding results were compared for consistency of interpretation to enhance dependability of the study. The five times that we coded citations differently, agreement was reached through discussion and consensus. There were three times when we agreed on my coding and there were two times when we agreed on the independent reader’s coding. The second reader also reviewed the themes and quotes in the thesis as a final check of the accuracy of data representation.

Data were examined line by line to identify processes and conceptualize underlying patterns (Miller & Crabtree, 1999a). Using the template technique, during initial analysis, I identified meaningful text segments in the transcripts (Miller & Crabtree, 1999a). Then each sentence and incident was coded with as many codes as possible to make certain that data had been thoroughly examined within the context of the
study. Some text fell neatly into a predetermined code while some did not. Code words were initially hand written in the margins of the text, with examples and identifiers underlined. These initial codes characterized the substance of the data and I often used the words of the participants when I was not sure how to code a text segment, such as let the NP and train the physician, while I also constructed codes based on concepts within the data, such as proposal process (Mullen & Reynolds, 1978; Stern, 1980).

These new codes were compared with those in the codebook to help reveal characteristics and relationships. Some early codes were discarded or clarified during the constant comparative analysis process. I compared these early codes with the Phase Two questionnaire results regarding the behaviours that indicated that collaboration was occurring. Following this preliminary coding, I developed initial categories according to obvious fit. Categories were then compared to ensure mutual exclusivity. I then used NVivo software for coding the transcripts according to the categories. The categories went through a process of sorting and revising.

Following the discovery of categories, I identified patterns and central themes that became apparent from the data through the connecting process (Miller & Crabtree, 1999a). In order to do this, I went back to the focus of the study and the relationship of the data to the study. I also looked at what was going on in the data; the phenomenon of NP-MD collaboration that was being addressed by the participants, not only within the context of the questions, but also within the context of collaborating and sharing with me, the researcher; and the processes that were helping the participants to deal with
collaboration and collaborative practice. This connecting process helped me to relate the original text with the explanatory framework for this study.

During this multi-level iterative process, the codes, categories, patterns, and themes were regularly reviewed with the second reader and members of the research team. A number of revisions occurred and my identification with the data and the participants was strengthened during this process.

Many of the documents were confidential, so I analyzed them on-site and audio-recorded my findings. A few non-confidential items were photocopied and compiled in a binder for later analysis. Documents were analyzed using content analysis (Miller & Alvarado, 2005) following the template technique (Miller & Crabtree, 1999a) previously described for interview, interview questionnaire, and field note analysis.

**Member Checking**

Member checking refers to examining emerging concepts, patterns, and themes with participants to draw out their reaction and elicit feedback to test for the accuracy and credibility of interpretation (Krefting, 1991). Several member checking strategies were used during this study. First, I checked with participants to clarify concepts and my thoughts and emerging ideas at the time of the interviews. Second, I used ‘interweaving’ to check information and emerging ideas from previous interviews with the next participant (Krefting). Finally, formal member checking was done by verbally reviewing barriers and facilitators to collaboration and recommendations to promote collaboration with one charge nurse and two NP participants. Due to the hectic schedules and time limitations, it was not possible to reach all participants; however, the member checking (n
that was done was confirmatory. The participants indicated agreement and added anecdotes to the patterns and themes.

Interview transcripts were not fed back to the participants for validation (McDonnell et al., 2000). The high quality of the digital recordings provided a very clear and legible voice, easing the transcription and verification of transcript processes. As well, there were potential threats to validity if participants wanted to justify their comments, remove data because their views had changed possibly related to a recent interaction, or forgot or regretted that they had said a particular statement (Sandelowski, 1993). It is not known what the impact may be of seeing what one has said in print.

During the overview of the study at the beginning of the interview, I stated that verification of statements and meanings would take place during the interview to avoid sending transcripts for validation. All respondents immediately agreed with this approach and five of the eight indicated their appreciation due to their busy schedules and multiple commitments. The five participants who briefly talked about this process viewed transcript verification as a nuisance.
Results

Participant and Site Descriptions

The eight participants were of European descent, fluent in English, articulate, and well educated. None were from visible minorities. Three NPs, three RNs, and one MD were female and the remaining MD was male. One participant was in her thirties, one in her forties, and the remaining six participants were in their fifties. This age distribution reflects the characteristics of the NPs and MDs from the Phase One survey data. For all three sites, the NP covered more than one but less than ten LTCHs.

The LTCHs had between 100 and slightly over 200 beds, although all three NPs worked in multiple sites and provided care for 300 to 500 residents. Within each NP’s LTCH group, the distance between LTCHs varied from a few to 40 kilometres impacting on NP availability and visibility within the LTCH. Highway construction and poor weather impacted on the time spent in their vehicles rather than in the LTCHs. The requirement to travel was also a safety concern during poor weather conditions. The sites were geographically diverse from northern, south central, and southwestern Ontario and were located in urban, suburban, and rural areas.

All three LTCH sites had residents with complex requirements including but not limited to dementia, stroke, obstructive respiratory diseases, neurological disorders, and other diseases, as well as end-of-life, rehabilitation, and functional needs. While the great majority of residents were elderly, there were a small number of middle-aged residents with Down’s Syndrome or other neurological disorders who were living in these LTCHs.
The province of Ontario was undergoing substantial redevelopment of long-term care which was reflected in two sites where the buildings were new and there was office space for the NP and MD located near each other and in close proximity to the residents. In these two sites, residents were outside chatting when I arrived and at one site, a resident was sweeping cigarette butts and saying that he wished “they would put the ash tray back near the door because everyone just drops their butts” indicating a home-like atmosphere and his pride in the environment of the LTCH. The third site was an older building and the parking lot came to the front door. I arrived and departed during mealtimes, so no residents were seen outside; however, they were chatting at their tables with other residents and staff. All three LTCHs were clean and well maintained.

The administrator at one site requested to be interviewed, although this was not part of the original research design. Following a signed consent, the administrator provided questionnaire responses and comments regarding NP-MD collaboration that provided key informant information that contributed to the analysis.

**Themes**

Findings presented in this paper focus on the barriers to and facilitators of MD-NP collaborative practice, as well as recommendations to strengthen facilitators and reduce barriers. Recurrent themes were identified within and across sites, as well as important concepts that may have been raised by only one or two people. In keeping with mixed methods research legitimation, similar to interpretive rigour, specific counts of the number of times a theme was mentioned and the number of sources are provided in tables to add to the meaning of the data (Onwuegbuzie & Teddlie, 2003; Sandelowski, 2001).
As well, the individual groups that contributed to each theme and the total number of sites represented are presented to enhance the reader’s understanding of the data. Themes identified by a participant in the interview questionnaire or in the individual interview are grouped together for presentation purposes.

**Barriers: Individual**

The greatest number of identified barrier themes was at the individual level. Table 1 presents specific counts of the number of times the theme was cited. The number of data sources indicates the total identified number of documents or individuals, either through the interview, interview questionnaire, or field note transcripts. The individual groups that contributed to and the total number of LTCH sites for each theme are presented to enhance understanding of the data.
<table>
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<th>Number of Times Cited</th>
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<th>RN</th>
<th>Document</th>
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<td>✓</td>
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<tr>
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<tr>
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</table>

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**Unwillingness.**

Unwillingness to collaborate was the most commonly mentioned individual barrier theme and was mentioned by all participants and in one document analysis. In two of the LTCHs, the NPs, RNs, and an MD cited instances where MDs do not permit the NP to care for “their residents”. An unwillingness to allow the NP to see residents in LTCH can result in delays in providing care, such as the story shared by a charge nurse regarding a resident who was bleeding rectally for nearly one week before the MD came to the LTCH to see the resident. However, this MD would not agree to the NP assessing or caring for the resident in the interim. An MD also shared a story regarding a resident who was very ill, but the MD colleague would not allow the NP to care for the resident. The fear of loss of control or status may relate to this unwillingness to collaborate.

The NPs all provided descriptions of unwilling MDs. One NP stated:

There was another physician and he just (pause) it was just ‘no and that’s it’. He’s not a team player, he doesn’t work well with the nurses in the facility either. So it wouldn’t be a big shock to find that he doesn’t work or want to work with nurses, another nurse regardless of what she’s called.

Another NP said:

With the physician you have to have those that are willing and motivated to work with others. You always have those who don’t want to and it’s like putting your head against a brick wall. Why put two individuals together if one is going to be unreceptive? It just it makes it very hard working conditions. They have to be willing.

**Time.**

The theme of time as a barrier to NP-MD collaboration was a theme across the sites and related to three different concepts of time: 1) not enough time to collaborate,
due to a heavy workload; 2) the time required for collaboration; and 3) choosing to come to the LTCH at times when the NP and/or charge nurse were not available.

The pattern of not having enough time to collaborate was characterized by an NP statement:

I, we feel comfortable enough that we can disagree with each other and still feel comfortable, because I know he’s worked with NPs and he knows I’m experienced. He’ll listen to me and we’ll work through disagreements, so we have a better understanding of where each other are at, and have actually a better plan of care. So we feel comfortable enough if we disagree, but that’s also time dependent. If he’s rushed and stressed and out the door, it doesn’t work very well.

The time required for collaboration was described by an NP:

I think that’s the whole thing in healthcare, we don’t take enough time to communicate. It is very time consuming.

Time requirements based on different communication styles was expressed by an MD:

Sometimes she’s just so thorough, she’s looking at every little thing and it’s almost like she can’t see the forest for the trees... So I tend to have to zero in with her on certain things because she’s just got too broad a scope. But that’s partly experience as well, with acute illness and having to make quick decisions and that type of thing. So I don’t see that as a problem. Other doctors might see that as a problem, where they think this person is just too lengthy and takes too much time and is not clear enough, or those kinds of things, but that’s a personal thing too.

Discussion occurred regarding the MD’s timing for rounds during evening hours.

This timing was perceived as a barrier to collaboration with the NP and the charge nurse, as they were not on-site during these hours.
Communication issues.

Communication issues related to barriers in NP-MD collaboration were a theme across all sites. An NP said:

Often I will write my rationale and... I write quite lengthy charts so that it’s an education piece for the nurses to understand why I’ve done this, and the physician. So they understand my rationale for it, to carry through. Rather than ‘why did she do that?’ It’s just an education piece hopefully it helps the collaboration.

A charge nurse discussed the conflicting situation resulting from the lack of communication:

At first I felt like I was being stretched you know, because I’m asked one thing by (NP name) but told another thing by Dr. (name) and finally I just said ‘I’ve had enough I’m not going to play monkey in the middle with these two any more that’s it. You two meet, you decide what you want you know. I respect both of you, but I’m not going to be your little puppet going here and back and forth’. Interviewer: So you really facilitated some of that early communication and collaboration? Respondent: I had to because I felt it was getting too far out of hand and that was just in the first 6 months.

Use of fax machines and doctor’s books as primary methods of communication was considered to be less than ideal in promoting MD-NP collaboration. An NP said:

We fax or I usually use a paper format. But if I had a relationship with another director or physician who was more receptive to a nurse practitioner, I could be done with that. We wouldn’t have to worry about all the steps, all the paper work and the system that takes so much time...The weaknesses of our formula for collaboration is basically (written) messages. Not always face to face. Not always phone, you know talking in person or on the phone. (Written) messages, we have a doctor’s book. We see something he needs to review the next time he’s in, we put it in the doctor’s book... We don’t talk very often.

Role confusion.

Role confusion overlapped with communication barriers; yet, there are distinct aspects to this barrier that are particular to new roles in the health care system and require
acknowledgement as there may be underlying expectations regarding the NP role that are not in keeping with the job description or scope of practice. When describing her focus on a wound management program, an NP said:

I’ve been doing program management too hard. You know if you take on that role and you’re capable of it, they (administration) want to keep you there. I need to move up, I need to keep my skills. I need the medical director to see that as well. I need to because if you don’t use your skills, you lose them.

A charge nurse declared:

In the first 6 months and I don’t think that Dr. (name) knew exactly what his role for our RN(EC) would be and I don’t think (NP name) realized what Dr. (name)’s expectations were.

Another charge nurse spoke about her role with the NP-MD collaboration:

Interviewer: How about the NP, MD, and the RN? Do they and you tend to collaborate together when you have complex (interruption)?

Respondent: Generally speaking no, because generally speaking (the NP) doesn’t want to get involved. I think she thinks that the physicians here do not want nurse practitioner involvement so she is very reluctant to get involved. She wants us to call the physician first. Most of us do not use her for that (complex needs). Most of us use her for wound care because we know what she said before, we know how she feels (about doing things other than wound care). I’m not sure how the physicians feel. So we basically refer to her if it’s a complex skin and wound issue, but not medical issues, very rare.

_Lack of knowledge and skills._

Lack of necessary knowledge and skills had three different meanings: 1) within the context of the knowledge and clinical skills of the NP, 2) MD knowledge and skill regarding NP-MD collaboration, and 3) MD knowledge regarding the NP role. Lack of knowledge of the role was interpreted differently than role confusion.

Regarding necessary skills, an MD stated:
Skill sets that don’t match what you need, that would make a difference. It will act as, if not a barrier, then at least a hindrance to good collaboration.

An NP stated:

How does the physician connect in terms of this? Knowing the role, being comfortable with nurse practitioners, being comfortable with having, working collaboratively with anyone.

Another NP discussed early education initiatives regarding the NP role:

Well, I found with the initial meeting that we had, we tried to set up meetings with and for the physicians primarily to do this educational piece and to encourage them. And very few of them would attend.

**Hierarchy.**

The hierarchy was another recurrent individual barrier theme. An NP and MD at one site reported to the administrator and perceived this to be a facilitator of collaboration. The NPs reported to the MD and the director of care at the two other sites and this was perceived to establish a hierarchy that was a barrier to collaboration between the NP and MD. In defining collaboration, an MD said:

It’s sort of the difference between working in a team and working in a hierarchy. Working in a team is more collaborative, working in a hierarchy is more (pause) authoritative, I guess is the other word you might use.

The use of the word “let” indicated control of the other person within a hierarchical context. An MD said: “I’m happy to let her (the NP) do that.”

An NP indicated resistance to hierarchy when she said:

It is not competition, there is a lot of work to be done and you know it is not feeling that I am the joe-boy for the physician doing these things.
A charge nurse discussed the MD’s non-verbal messages that informed the NP that she was not welcome at resident review meetings and the overall structure of the meetings:

You know Dr. (name) is the boss at the meeting. That’s basically his team so the rest we listen, we have our input, um but (pause). I think basically he’s kind of let the nurse practitioner know that, ‘this is my team and I’m going to make the decisions, And yeah you can give your opinion, but...’

Another charge nurse was discussing the hierarchical structure of the organizational chart and the MD-NP relationship. She stated:

I sometimes feel that the attending physicians should be reporting to the RN(EC)s you know. Because they’re the RN(EC)s, at least ours is, she’s a very compassionate lady. She’s very knowledgeable and she’s got a wealth of wisdom. And I just don’t think he pays much attention to her sometimes when she calls and discusses something, when he’s just kind of going, (deep voice inflection) ‘I’m the doctor.’ But she never shows that frustration. She’s always pleasant and I just think sometimes he should say, ‘what do you think?’

Practice Issues.

Issues with philosophies, priorities, and styles were typically presented in practice examples. These practice issues were challenging, as they could damage the collaborative relationship and place limits on the NP’s practice realm. One NP shared a story that was echoed in similar ways by other NPs. When doing the physical examination, she discovered a chronic health condition that had not been detected in the MD’s office a few weeks before. The family and resident were upset with the MD and the MD was embarrassed and angry. The MD no longer allows the NP to do admission physicals for residents assigned to this MD.
Differences in nursing and medical philosophies interfered at times with open and effective collaboration within the team. An NP stated:

The orders aren’t necessarily what we (the nurses) would expect them to be or doable or manageable. So many of the nurses, and particularly at this site will come to me to say ‘can you order and do this?’ And I say ‘well the physician’s involved, if I’m vetoing what the physician’s asking, that’s not going to work’. And it depends on the receptivity of the physician. I mean the physician has vetoed others, so I don’t go there.

However, there were also examples of open discussion of these philosophical and practice differences. Another NP said:

I remember asking a physician why does he want that, to do a mammogram on a 98-year-old woman who’s already had breast cancer?

**Credibility of new role.**

The time and effort required to establish credibility with the MD was cited numerous times for two sites. The lack of involvement of the NP in care conferences was provided as an example of low NP credibility by one of the charge nurses.

An NP said:

I think as a nurse practitioner I have spent an incredible amount of energy proving my credibility.

**Disrespect.**

Disrespect for the collaborative partner was inherent in the use of terms with negative tones during the interviews. For instance, the term “let” to indicate that the MD gives permission for the NP to do her job and the use of “train” to indicate that the NP was training the MD regarding how to work with an NP.
Barriers: Organizational

A number of themes emerged related to barriers to NP-MD collaboration at the organizational level. These themes included the challenges of collaborating effectively when the NP covers multiple sites, a lack of effective planning for the NP role and collaborative functions in some sites, a lack of expectations for collaboration, and resistance to change, even when the LTCH administrator had sought to implement change. Table 2 presents the number of times the theme was cited and the number of data sources for common barriers at the LTCH level. The individual groups that contributed to and the total number of LTCH sites for each theme are presented to enhance understanding of the data.
Table 2: Frequency Data for Common Organizational Barrier Themes

<table>
<thead>
<tr>
<th>Common Themes</th>
<th>Number of Times Cited</th>
<th>Number of Data Sources</th>
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<th>NP</th>
<th>RN</th>
<th>Document Sources</th>
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<td>✓</td>
<td>✓</td>
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</tr>
<tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>Lack of expectation for collaboration</td>
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<td>2</td>
</tr>
<tr>
<td>Resistance to change</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
</tbody>
</table>

**Multiple sites.**

Concerns regarding the number of LTCHs the NP was covering were raised within and across all sites. Document analysis revealed concerns cited by the LTCHs in MoHLTC reports; however, these mainly focused on the gaps in care and communication when the NP’s time was divided across multiple sites. The specific impact of these communication gaps on collaboration was not addressed in the documents. During the
interviews, the impact of multiple LTCHs on collaboration was a recurrent theme. For example, one MD said:

She carries her phone with her and we can reach her if we need to, so it’s not terrible that she’s in the two different places. The way that we worked that out is that... you talk about collaboration, in this we collaborate in writing rather than collaborating in person. So I seldom actually see her physically, but if she sees a patient of mine she’ll make sure that I’m aware of what she’s seen. Anyways, there is that kind of collaboration, I suppose.

NP comments included:

What I do is, I take on more of a consultative role because of the two sites and I work three days at one, the larger, and two days at the other. That is challenging.

I have concerns when we are divided between sites because again part of the difficulty is as how thin can you spread yourself? And in order to develop credibility, visibility, build up relationships with the physician group, with the staff, you have to be on board. I’ve always been in a dilemma being pulled between two sites you know. It is unfortunate it hasn’t worked at the other site. But in another way it is kind of good it hasn’t, because now, because of the way it has happened, I’m spending the bulk of my time at one site and making great strides.

Another concern cited by an NP was the lack of time to devote to collaborative relationships and resident care across sites:

I mean I usually do quarter hour consults basically on the run because everyone’s so very busy. It helps if you’re able to do rounds, but if you’re caught between two sites, you can’t do that. To be able to effectively develop a collaborative relationship with a medical director, you need to be on site more, rather than floating between sites.

Interviewer: Do you currently attend annuals or quarterlies, quarterly reviews?
Respondent: No, no, I don’t. No, because I don’t have time. I’m working between two sites and that’s enough as it is. If I was working on site at one facility, yes. Yeah, I would be more available to do that. That’s the benefit of having one NP per site rather than spreading really thin. Because instead, it’s just band-aid treatment, it’s just put out the fire.

Instead of playing phone tag and they’re (MDs) not available, etc. I’ve got to move to another site or my cell phone doesn’t work, because I’m between different places and the reception isn’t good here. So what happens? After (I see
the resident) we’ll fax or I’ll ask the nurses to call for me; ‘this is what the nurse practitioner says’. Isn’t that awful? But I’m offsite or I’m moving… and can’t wait for the physician to return the call.

The impact on MD-NP collaboration related to multiple sites also influenced quality of care, as discussed by an NP:

We can prevent someone from going to hospital or being transferred, or a better discharge when they return, far more effectively when we collaborate. You know, part of that has to do with their time and availability and if we’re on site. If I’m not on site, I don’t hear about it until two weeks or a week later, until there’s a problem. Communication received from the hospital is a big problem. Timely communication, we don’t receive it.

**Lack of planning for collaboration.**

Lack of planning for collaboration was an identified barrier in all three sites, at times referring to the LTCH site that was the focus of the study and at other times referring to other sites covered by the NP. An NP said:

The one site where it is working out really well, is the site that actually wrote up the proposal. It was towards the very end that it was sort of thought, ‘well you should maybe include your sister home’. So they sort of came in at the very tail end of the proposal development. And I question how much preparation they actually did to understand what this would mean in terms of change for the facility, get the physicians buy-in, that kind of thing? I have a big question mark as to whether that truly ever happened. In fact I asked the question many times and never got an answer. But I think the answer was, ‘no there wasn’t a lot of preparation. You know we signed on the dotted line and said we would go along with it, but without truly realizing what it meant.’ I really strongly believe when you are bringing in this kind of change, it is really important to do that kind of work. I think it is kind of unfair to the nurse practitioner to have to try and do that work once she is on board.

I think it comes to the preparation at the facility. I don’t know if physicians really were explained that there is a prescribing list that the nurse practitioner can do.

One site that was a focus of this study had identified their initial needs as research, education, mental health, and wound care. While this provided a clear initial
focus for the NP role, it hindered further development of the role to the full scope of practice. As well, NP-MD collaboration was not an early expectation of this NP’s role. The MD and NP each acknowledged that this lack of planning for collaboration hindered the establishment of a collaborative relationship. Each questioned if a collaborative relationship could be established later in the MD-NP association.

Within the planning process, collaboration with the MD was crucial to effective NP role implementation and NP-MD collaboration, as described by an NP:

I think the other thing that needs to happen here is that recognition has to be given to why a physician has accepted say the medical director position, because I think one of the (pause). Their payment I kind of think this is a big factor. I mean at the site where it really truly hasn’t worked, that medical director had just given up his private practice, had taken on being the medical director as his income. He is there three days a week and so the interference of the nurse practitioner or the possibility that the nurse practitioner would cut into his income base is a major concern for him. I am not faulting him for that. I mean that is his plan, that is how he was going to make his income. So now you have a nurse practitioner. His thing was well if I did the physical, he can’t get paid for it... So I think when deciding on, ‘is this a setting that is going to integrate and accept the nurse practitioner?’ I think we have to look at that factor, of the medical director.

NP role implementation and its relationship to collaboration was explained in a different context by another NP:

It depends on the degree of collaboration. Having a nurse practitioner for example here because we don’t have good collaboration, or we have a problem area there. I can still go in and perform an advanced assessment, write some orders, provide some instruction, do some bedside education, look at research idea potentials, look at program development, or we need to revamp this policy or protocol with best practice, evidence based care, etc. And be able to deal with that issue there. In terms of the physician, if it’s an outside physician or the medical director, I’ll find a way. Well can you say that I came across this with the patient, rather than unnecessarily calling him. Because they called him and he said, ‘don’t do anything about it’ and they called me in to do something about it. Or ‘I’ll do this and then I’ll call the physician.’ More often I leave it because it’s not urgent, it’s just to leave a message in the physician binder. So, no I think I can still work at the NP role, but are you working it to its full advantage? No! Are you working it
to half its advantage? No! You’re getting a skim of it, but not working it to its full potential, which could really make such a dramatic impact and difference on the facility and its residents.

The lack of specific planning for collaboration and NP role clarity was clearly articulated by a charge nurse who stated:

Well, they have to define what roles they’re playing. Like we don’t even know what the nurse practitioner’s role is here, we don’t know; I’m talking about the nurses that work here. We don’t know how she communicates with the physicians and all we see is that it’s rare communication. I would think that when you’re going to set this up that your whatever you had started, the medical advisor would get together with the physicians that are working here, have a meeting and say, ‘Okay, we’re having a nurse practitioner come in. What is this woman’s role or this person’s role going to be, what is our role going to be, and what’s the registered nurse’s role going to be? So how can we work it out to get the best care to our residents?’ But, I do not believe any of that happened. I don’t believe that the physicians here, some of them may not even be aware there’s a nurse practitioner. It’s just kind of somebody else has joined the facility and so; ‘what are we going to do with that person?’ And they just kind of – if there’s no role, I don’t see a defined role. I don’t see a defined role for the medical advisor actually because I’ve worked in other facilities and (the medical director) doesn’t do the role that I’ve seen other medical advisors do, so I’m not quite sure what his role is here either. But that’s the way it is (resigned tone). To have good collaboration, I think first of all you need to know and understand what everybody’s role is and how and what kind of system we have for communication. And the nurse needs to know who does she call, who can she call, who does she call, and (pause) there’s a procedure involved.

**Lack of expectation for collaboration.**

The lack of specific expectations for collaboration by the management in two of the LTCHs was most evident in the document analysis, but also came through in the interviews. There was no mention of collaboration in the agreement between the NP and the LTCHs or in the Medical Director job description that was reviewed at one site. A number of documents between the LTCH and the MoHLTC did not specify expectations for collaboration. While this was a requirement of the original proposal, one site provided
very few specifics and the MD report on the status of the NP project was very brief, with “yes” answers. There were no comments provided in the comments section. The minutes of meetings with managers, administrators, and NPs were typically devoted to human resource, budget, and community linkages. I could not find any discussion of collaboration and how it was functioning. The one site where collaboration was scored high by both the NP and the MD provided specific details regarding collaboration and how it would occur within the original proposal. One site had the initial NP interview questions in the folder and there was a question regarding how the NP would work with and interact with the MD.

The lack of expectations for collaboration within the LTCH was described by a charge nurse:

We don’t have scheduled rounds in this facility. Other homes have scheduled rounds with physicians and whomever is assigned whether it be, I guess sometimes it’s the nurse manager, or the charge nurse, or sometimes the medical director will actually do rounds, but we don’t have that here. So I’d say there’s a very, there’s a lot of weakness in this facility for collaboration. There’s no set defined way to collaborate with somebody. It’s hit or miss. You try and do the best you can.

The lack of expectation for MD-NP collaboration was also reflected in the work arrangements of the NP and MD in two sites. At these two sites, the MD and NP were not in the LTCH on the same days. This timing was purposely planned in order to increase access to primary care for the residents. However, it was stated by a charge nurse and the two NPs that being in the LTCHs at the same time would increase opportunities for MD-NP collaboration regarding resident needs.
Resistance to change.

There was a distinct dichotomy between statements in the NP proposal to the MoHLTC indicating that the NP would be an ‘interdisciplinary team member in the quarterly and annual resident care review meetings’, and the actual practice. The issues with covering multiple sites, such as time to attend the review meetings and the timing of the meetings may partially explain why the NPs are not typically attending these meetings. However, the participants openly discussed the resistance to change that was seen from some staff and MDs who had worked in the LTCHs for a number of years. Two charge nurses perceived that some MDs and nurses were sending non-verbal messages indicating that the NP should not attend. A need to keep things as they are was explained by an MD:

I would think speaking as a physician that if you had a policy that said you have to meet every two weeks or month or whatever it was, that might actually restrict the number of physicians who wanted to participate in the care because who needs one more meeting. We don’t need it so… I mean I think the informal on the go meetings are generally the better ones to go with.

The resistance to change was further described by an NP:

They are not happening (interdisciplinary meetings) because I think that it maintains the status quo of how nursing homes were perceived in the past. Plus the other thing is, a lot of the staff have never worked anywhere else and they are just continuing to behave like they have always behaved.

In referring to NP, MD, charge nurse, administration collaboration, a charge nurse stated:

Well (pause) we’ve had some difficulty with administration with bringing new things in. Like skills, we’ve had some issues with that. When we first started to provide IV therapy, we weren’t doing that here, if they needed that, we had to have an outside agency come in and do that. It seems to be a bit difficult when new things are suggested to the (nursing) role. To try and get it to brought in. So
we have difficulty. I don’t know if it’s coming from the management perspective or it’s coming from staff, I’m not sure. But, there has been difficulties with new things. Not with wound care and things like that. Once we get the ball rolling, it takes awhile, a lot of initiative, a lot of probing to try and get whatever we’re wanting to do in. So it seems to be sometimes a wall there that they (administration) don’t want to try and jump over that wall and try something new.

The traditional relationship of the charge nurse and MD and its effect on collaboration was described by a charge nurse:

Some of the RNs however, feel that the NP is almost stepping on their toes and they feel that they should be the ones speaking with the doctor about everything. That the NP shouldn’t really be there in the middle. And not all the time do you need the NP to get something across to the doctor or to get something changed, but sometimes you do. Sometimes it’s out of the RN’s scope and you just need that extra person there to help you. So I don’t know if it’s coming from (pause). I do believe that it’s coming from RNs who had worked for a long time and may be resistant to change.

Two NPs cited entry to practice at the post-baccalaureate, rather than the graduate level as a barrier. They expressed the need for more research knowledge and skills, and increased NP program content specific to gerontology and LTC.

**Barriers: Health System**

At the health system level, the restricted NP scope of practice was most commonly cited within and across each site. Other health system level barriers included hospital privileges limitations for the NPs at two sites; with only one to two comments regarding inadequate collaborative education in basic health care professional and continuing education, the lack of public education about NPs, and the MoHLTC proposal process. Table 3 presents the common themes that emerged and the number of times each theme was cited. The individual groups that contributed to and the total number of sites for each theme are presented to enhance understanding of the data.
Table 3: Frequency Data for Common Health System Barrier Themes

<table>
<thead>
<tr>
<th>Common Themes</th>
<th>Number of Times</th>
<th>Number of Data</th>
<th>MD</th>
<th>NP</th>
<th>RN</th>
<th>Document Cited Sources</th>
<th>Number of Sites</th>
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<tbody>
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<td>Restricted NP scope of practice</td>
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<td>√</td>
<td>√</td>
<td>√</td>
<td>3</td>
</tr>
<tr>
<td>Hospital privileges</td>
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<td>2</td>
<td>√</td>
<td></td>
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<td>2</td>
</tr>
</tbody>
</table>

**Restricted NP scope of practice.**

Describing the restricted NP scope of practice and its impact on collaboration was a recurrent theme across all sites. The comments are best characterized by the following quote from an NP who explained:

I think one of the big inhibitors to collaborative practice is the current prescribing list that we have and the current restrictions we have in terms of what x-rays can be ordered. A good example is, you are seeing an older person have a serious fall. You know that there is a broken hip or at least there is a broken bone there, but you can’t go ahead and order the x-ray. So yes you have done the assessment, you know the person has to go and have an x-ray, but now you have to call the physician. And the physician is questioning me saying, ‘Well look you know that we need an x-ray done. So yeah go ahead, but you know it is unfortunate you have to call me to do that, you know.’ So I think that it’s, I still find that’s restrictive to the collaborative practice. Physicians, I think overall would just be happy if we could just, if we are going to do the work-up do the assessment and
say an x-ray is needed, go ahead with that and then once admitted to the hospital, or needing surgery, then the physician is called in. But they kind of see it as sort of ‘Well, yeah, the x-ray is needed so why wouldn’t you just go ahead’ kind of thing. So I think there is that part and, of course, there has been all the different regulations governing the long term care sector which can be inhibiting to nurse practitioner practice.

An MD concurred, stating:

I think it’s a really good model to have an NP here, especially in long term care. I couldn’t give you details about what she should do or what she shouldn’t do. But, I find it kinda crazy that she can’t order certain x-rays, but maybe there’s a good reason for that. I don’t know.

**Hospital privileges.**

At one site the NP had hospital privileges, but the hospital had grouped the NPs with privileges under the Family Practice group. The NP stated that she and other NPs were not informed of group meetings and other significant communications. At another site, the NP did not have hospital privileges and the NP and RN did not seem to know that this was an option that the NP could pursue. The time demand of yet another site to visit, the hospital, was mentioned as a concern for this NP, who already felt stretched between multiple LTCHs.

**Facilitators: Individual**

The greatest number of facilitator comments and themes were at the individual level. Experience with gerontology, collaboration, and the NP role was cited the most frequently, followed by trust, respect, need for the NP, and confidence. While consistency, equality, and flexibility have been cited in the literature as important features of collaboration, they were each only briefly mentioned between one and four times.

Table 4 presents a summary of the common individual facilitator themes. The individual
groups that contributed to and the total number of sites for each theme are presented to enhance understanding of the data.

Table 4: Frequency Data for Common Individual Facilitator Themes

<table>
<thead>
<tr>
<th>Common Themes</th>
<th>Number of Times Cited</th>
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<th>NP</th>
<th>RN</th>
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</table>
**Experience.**

Experience, both with collaboration and in long-term care were two patterns that emerged within the experience theme. When discussing the importance of her experience with collaboration across a variety of disciplines, an NP said:

I guess it is not just with physicians. I think when I worked at (LTCH name) and then it got amalgamated with (LTCH corporation) and became the (health services corporation name), I worked on a lot of interdisciplinary committees developing multi-disciplinary policy and procedure and practice. And I think it was really at that level that the real collaborative practice started.

A charge nurse talked about the importance of NP experience in her role and collaborating with the MD:

Well just her knowledge base alone. She reads the blood work, the x-rays, the tests, the findings a lot more in depth than the RN does. So she’s able to explain that to the doctor. (pause) But a lot of it has to do with experience.

The importance of experience within LTC and geriatrics was highlighted by an MD comment:

The kind of nurse practitioner that works in long term care has to be really really clinically oriented and they have to, they have to be very good at all the nursing issues with respect to long term care. I think it is important that they have that background of simple things, management of constipation, management of bowel regimens, (pause). I think it is important they know a lot about skin. A good nurse practitioner has to be well trained and has to know the nursing issues.

**Trust.**

Trust was a resounding theme for the MDs and came through in direct dialogue and in more theoretical discussions about collaboration, as well as in document statements. A document at one site stated:
There is also the relationship of the NP with the other community physicians to consider, although they may each care for only a few residents, the NP will have to develop a trusting relationship with them as well, and ensure good communication is established regarding the provision of primary care to their clients.

When speaking about the collaborative relationship with the NP, an MD said:

I think I have just a lot of trust in her judgment (pause). The issues of trust and all those kinds of things are important

On a more theoretical level, another MD stated:

Well there has to be trust. I mean as a GP I’m used to doing most of the things myself. And to be able to trust somebody else to deal with my patients and doing things, I’ve got to be able to trust them, that they’re doing a reasonable job or going to do a reasonable job. So, yeah, of course, but that comes out of a familiarity and ability to not only understand but to respect the work that the other person does, and that familiarity is a good part of that.

The MD then later added:

I think again just in terms of building trust, building respect between the two individuals. I think… that you do need that, a face to face meeting will help with (collaboration). Because so much of what happens in any care giving facility, whether it’s a hospital or a nursing home or whatever it is, it depends on sort of the human factor.

An NP talked about the time needed to build trust:

There’s this level of trust that’s built up and that’s been really helpful.

The time requirements for trust were echoed by a charge nurse, “It takes a while to build up that trust.”

Respect.

Respect and trust are often linked in conversations and literature about collaboration and this was true in this study, as evidenced by MD quotes in the previous ‘trust’ section. When discussing NP-MD collaboration, an MD said:
It helps if you’re showing respect to all the people involved. I try to even manifest that kind of relationship with the all of the staff including housekeeping staff and everything else. And truthfully the farther we get away from the people who are actually looking after the patient, you know the more trouble we’re in as far as making health care decisions.

While conflicting statements were rare in this study, I think they are important to present to provide the reader with a broader understanding of the complexities of MD-NP collaboration. A conflicting statement about respect was provided by a charge nurse who described a non-respectful situation, followed by a statement indicating that respect was present:

The NP will come in and order (pause) ear drops and a syringe and Dr. (name) doesn’t feel that’s necessary so (NP name) will order it, he’ll unorder it. So then we discussed at (name of a therapeutics committee) what we were going to do and the end result was that (NP name) could order them, Dr. (name) would assess first and then he would say, he would give us the go ahead. Yeah. It’s a little bit of communication between the two of them. I don’t know if it’s a power with Dr. (name). I don’t know if he’s ready to let go of the control, he does give (NP name) a lot of um, a lot of respect.

**Recognized need for the NP.**

The recognized need for an NP was brought forth as a facilitator of collaboration. In reviewing my field notes, I was struck by an NP observation, following the interview, that exemplified the shift in collaboration related to the need for the NP:

The physician who is currently the medical director only cared for about 30 patients at the facility and was not keen on having her involved; however, with time and with a building up of trust and respect and a knowledge of the competence of the role, he began to accept her. When he was offered the medical directorship, he only accepted on the condition that the NP would still be working at the facility and even went so far as to ask her if she would be there until he retired. They determined that they were about the same age and she said, ‘yes she thought that would work well.’ So that collaborative practice and the presence of the NP was actually a condition for his acceptance of the medical director position.
Confidence.

An NP summarized the contribution of confidence to collaboration when she stated:

I think the collaborative practice has improved as I have gained greater confidence in my role as a nurse practitioner.

The need for confidence to enforce NP-MD collaboration was reflected in a story that was shared by an NP:

Look, we can never get a hold of the physician. You know we can’t. And the other thing is what they find is sometimes they phone; we have one particular physician who spends more time telling the nurses he’s ‘very rushed and he’s in a hurry and make it quick.’ He’s not even listening. I had to call him once because this lady was not doing well and all he wanted to do was give me a prescription. And I said, ‘just a minute here. I’m not phoning for any more sedation. The problem is this lady’s toxic from her medications. So are you going to come and see her or do I send her to the hospital?’ Awww.

The confidence in the safety of the collaborative relationship was discussed by another NP:

He feels comfortable with that and if you’re not sure about that, you have the confidence and the assurance, the safety, the security to be able to raise, to talk about conflict or a disagreement. So you can work it out or agree to disagree.

The confidence in each other’s practice and competence was exemplified by an MD statement:

The doctor and the nurse practitioner need to have some understanding of what each other’s levels of competence are and to be comfortable with that I would think.

Facilitators: Organizational

Facilitators at the organizational level were focused on support and planning for NP-MD collaboration and the NP role. Autonomy, a nonhierarchical organizational chart,
and openness to change were important concepts that emerged, but were only mentioned one to three times. Interestingly, the team approach that is an expectation of LTCHs for accreditation and of the MoHLTC was only mentioned twice. Table 5 presents the themes with number of times that the theme was cited and the number of data sources. The individual groups that contributed to and the total number of sites for each theme are presented to enhance understanding of the data.

Table 5: Frequency Data for Common Organizational Facilitator Themes

<table>
<thead>
<tr>
<th>Common Themes</th>
<th>Number of Times Cited</th>
<th>Number of Data Sources</th>
<th>Number of Sites</th>
</tr>
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<tbody>
<tr>
<td>Support for collaboration</td>
<td>11</td>
<td>8</td>
<td>√ √ √ √</td>
</tr>
<tr>
<td>Planning for NP role &amp;</td>
<td>9</td>
<td>5</td>
<td>√ √</td>
</tr>
<tr>
<td>collaboration</td>
<td></td>
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</table>

**Support for Collaboration.**

Administration support for MD-NP collaboration was a recurrent theme across all three sites and across respondent groups. A statement made by the NP, that was reflected
in the MD and charge nurse comments was “strong administrative support and management support is key and I think that is in place.” Within the context of a more extensive conversation, one MD indicated a respectful attitude and a willingness to “do what works” on the part of administration as foundational for the MD and NP to find the best methods for collaboration with the following statement:

I think truthfully the administrator at (name of this LTCH), the CEO has been respectful. I would say they just want to do what works and they know that it works to have a nurse practitioner here. They know that, I hope they know that (emphatic). If they don’t know that then they’re missing a HUGE piece of the puzzle, because that’s the truth of the matter.

Planning for the NP role and collaboration.

The need for planning for the NP role and specific involvement of the MD in the planning process was crucial for MD-NP collaboration. This need was characterized by an NP statement:

I think the biggest support and maybe the reason why it has worked so well is, before I ever came on board and before they even submitted to be part of the pilot project, is they obviously had done their homework. They were very keen on having a nurse practitioner. They had the physician, the medical director involved in that proposal, what it would mean, those kinds of things.

Facilitators: Health System

At the health system level, there were few facilitators cited by the participants. The NPs who had gone through a formal NP education program discussed the reduced sense of hierarchy and increased confidence they had in themselves and their assessment abilities when collaborating with MDs. Both MDs and all three RNs commented on the increased knowledge and ability of the NP to assess and treat resident conditions, compared to RNs. One NP commented:
I feel more equal in and I guess more certain of what I am doing and saying... I find now that with physicians, I can share my assessment and feel confident about that. And share my ideas of what I think needs to be going on with residents at a different level than when I was an RN. And even in the inter-disciplinary group, because I think it just helps even the playing field. So collaborative practice, I think for me really escalated with taking the nurse practitioner position.

While this fits with the individual facilitator and hierarchy theme, it also depicts the grounding received in the NP’s educational preparation related to knowledge and skill development in clinical care, the NP role, and collaboration.

Role support was cited four times and reflected appreciation for the MoHLTC’s work in facilitating recent changes to legislation to allow the NPs to practice within a slightly wider role and support for the NP role in interdisciplinary discussions. Support for the NP-MD collaboration was reflected in documents from the MoHLTC that provided specific expectations for collaboration and gave guidance to the LTCHs to involve the MD in the planning process for the NP role.

**Barrier Reduction: Individual**

Overall the participants more easily identified barriers than recommendations to reduce them at the individual level. As one MD said:

You know, my the problem with my comments is that I have a little bit of a skewed experience with the nurse practitioner that I’ve been working with and I’m not really good at imagining how to improve that collaboration. Cause I already feel that we have really good collaboration (laughs), you know what I mean? So it’s very hard for me to try and imagine that things needed to be different and better, and then try and think about how I would do that. I’m sorry I’m not being very helpful.

While barriers were discussed in detail, the specific number of barrier reduction recommendations was minimal. Overall, one recommendation theme emerged, making a conscious effort including the effort to maintain equality, to make time for collaboration,
and to champion MD-NP collaboration. Making a conscious effort was cited eight times and was mentioned by NPs and RNs at three sites.

Conscious effort.

An overall theme in reducing barriers was centered on making a conscious effort to be collaborative, and to make time for and work on collaboration at the individual level. One NP comment characterized the need to be aware of barriers, such as hierarchical approaches and to make a conscious effort to avoid them:

I think it is easy for a nurse practitioner to take on that omnipotent role as it is for the physicians, to be the final decision maker. That’s why I try and be very cognizant of that, so I’m not coming across as, ‘well it has to be my way or no way’ kind of thing. Yeah. I think that is key to collaboration as well.

The conscious effort to make time for collaboration was another recurrent theme that was discussed within and across sites. As another NP said:

So that is useful, so if you’re looking at something that works well for collaboration, it’s having even one-half hour or designated time even every two weeks or something to sit down. And whether you just talk about resident care, or you just talk about the process or systems, or what I’m capable of doing, or what I’m not capable of doing, or what would you do in this circumstance.

An RN stated: “I think if they (the NP and MD) were here at least one of the days together, (pause) the collaboration between those two as professionals would be much better.”

Making the conscious effort to share successes and champion NP-MD collaboration was another pattern within the conscious effort theme. One NP stated:

I wonder if it would be helpful for the physicians that have worked collaboratively to help, if there is some way of encouraging them to sell their story to the other physicians. Because I think one physician telling another
physician over drinks at the golf course that having an NP in their facility has really helped them, it makes a big difference.

When discussing the need for MD champions to make a conscious effort, another NP said:

I did have a physician champion who was excellent, who I don’t work with anymore but he was excellent and very supportive and went around and talked to the different physicians involved.

**Barrier Reduction: Organizational**

Preparing for the NP role along with the establishment of expectations for MD-NP collaboration was the predominant theme that emerged when making recommendations for reducing MD-NP collaboration barriers at the organizational level. The need to prepare for the NP role was cited twenty-two times. The individual groups that contributed to and the total number sites represented for this theme are presented to enhance understanding.

**Preparing for the NP role.**

One NP recommended that LTCHs that are thinking of hiring an NP, involve existing LTC NPs and key players in initial discussions to decide if they want to hire an NP. Preparing key players for the NP role, including the administrator, MD, director of care, and charge nurses is important in supporting the collaborative process. As one NP stated:

Say the administrator says, ‘Oh yeah this is great. Cause I went to a conference and my buddies all said the NP was great, so I want one’. But the director of care doesn’t have a clue and she’s thinking it’s just another outsider coming in and it’s just more paper work for her. You know it’s not going to work. So you’ve got to have that administrative buy-in, but you have to have that director of care educated that knows and understands. Because she’s (the director of care) going
to be the one, and if they have a charge nurse, depending on the size of the facility. But, those are the key players. They’re the ones that have a lot of contact with the physician. So if there crabbing and chewing about the nurse practitioner, the physician will pick up on that right away.

In preparing for the NP role to be effective and promote MD-NP collaboration, a recurrent recommendation was made regarding the need for the NP to have LTC or gerontology experience. One NP said:

If you can get another experienced professional, preferably experienced because there’s a training period, a coming in period. If I know he’s had a bad experience with another nurse practitioner who was new and inexperienced in long-term care, which didn’t work well (pause). So part of it is the credibility factor, experience is really important or a training period so that you don’t have to go through, ‘these are the issues in long term care’ etc. So that you’re not thrown into the lion’s den.

An MD talked about the importance of administrative planning for the initial period following the hiring of the NP:

Well you have to have administrative support in order to be able to get it, to get the person (NP) even there. You have to have some support in order to think about it. In terms of the person, particular person involved, the doctor and the nurse practitioner need to have some understanding of what each other’s levels of competence is and to be comfortable with that. I would think...So meeting face to face, yeah if you can begin to develop some understanding of where that other person is coming from and they you (vice versa), so sure face-to-face helps. But is it essential? Probably not essential, but certainly helpful.

**Barrier Reduction: Health System**

At the health system level, the overriding themes were the need for education about collaboration, education regarding the NP role, the need for proposal selection that supports collaboration and the NP role, one site per NP, and expansion of the NP scope of practice. Table 6 presents the recurrent themes, number of times cited, the number of data sources, groups who mentioned the theme, and sites that are associated with the themes regarding recommendations to reduce barriers at the health system level.
## Table 6: Frequency Data for Common Health System Barrier Reduction Themes

<table>
<thead>
<tr>
<th>Common Themes</th>
<th>Number of Times Cited</th>
<th>Number of Data Sources</th>
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<th>NP</th>
<th>RN</th>
<th>Document</th>
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<td>Education regarding the NP role</td>
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<td></td>
<td></td>
<td>√</td>
<td>3</td>
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<tr>
<td>Proposal selection and support</td>
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<td>√</td>
<td>√</td>
<td></td>
<td>√</td>
<td>3</td>
</tr>
<tr>
<td>One site per NP</td>
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<td>4</td>
<td>√</td>
<td>√</td>
<td></td>
<td>√</td>
<td>3</td>
</tr>
<tr>
<td>Expansion of the NP scope of practice</td>
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<td>√</td>
<td>√</td>
<td></td>
<td>√</td>
<td>3</td>
</tr>
</tbody>
</table>
Education about collaboration.

The need for education about collaboration in the preparation of nurses, NPs, and MDs was a strong recommendation across all three sites. Also included within this theme was the need for interprofessional education, where professionals are taught together and learn about each other’s roles, and continuing education programs related to collaboration. During document review, I found handouts and activities from an interprofessional collaborative education session provided during the MoHLTC sponsored orientation program for the NPs in LTC. One NP stated the need for practical approaches to education on collaboration:

I think the other thing with collaboration is, it is good to have actual teaching on how to collaborate. How to present, how to make your points listened to, how to be an active listener to other points of view. I guess things like that pilot project that I just participated in, which there’s an online resource on collaborative practice.

Another NP discussed the need for medical students to learn about the advantages of collaboration:

I think some of it needs to start in the classroom. They (the MD students) at least need to hear about it and hear the advantages to them. I mean if you’ve got an experienced acute care nurse practitioner or a clinical nurse specialist out there and you’re out on some clinical placement, you know they can be your best friend. They (the medical students) need to understand that from the get go. Because it’s a lot safer for your patients that they’re caring for and they’ll learn a lot more and a lot quicker. So they need to understand that being a team player is probably a good idea.

The recommendation for role models during clinical placement experiences was cited by an NP:

In clinical placement you need that role model. So if you have a physician role model who is collaborative, that’s going to make a big difference versus a
physician that says, ‘Ick, I never speak to the nurses’ or that kind of demi god-like attitude. That’s tricky because that’s (pause) how do you assess that in somebody?

An MD took a slightly different perspective about education and placement experiences for MD students:

I’m not sure that I have anything to recommend that would help to improve collaboration in a medical school. Medical students are already so stressed out, they’re just thinking of getting themselves through there. But an experience that would be useful for a medical student would be to see how well a nurse practitioner functions in an organization like a long term care institution, and to see how necessary she is. So, even at least exposing the medical student to the usefulness of an NP, rather than trying to have them learn together or something. I’m not sure, but exposing the student to a nurse practitioner who’s already in practice and is doing a good job of it might be a big eye opener for a physician.

Continuing education recommendations for practicing NPs and MDs was another component of education. Interprofessional learning needs were the focus of NPs comments, as characterized by one who said:

Ministry education projects and modules, how to work together would be very useful especially if it is a novice one (NP or MD) who was coming in trying to work. How do you work together? But even more important, a forum to talk about issues, what works and doesn’t work.

There’s a big learning curve where there has to be a lot of continuing education and understanding to allow them to build that up, without sort of, what is it? Um “eating our young” when they come out.

Another recurrent theme across all three sites was the need for knowledge about the roles in order to facilitate collaboration. The MDs, NPs, and charge nurses discussed the lack of knowledge of their counterparts’ role functions and the desire to know this as part of learning about collaboration. An RN characterized this when she said:

Something about… (pause) I wonder if the doctor actually knows what each category of NP, RN, RPN can do. So that’s something they could, I think they could learn. What exactly can, I’ve had doctors say to me, ‘well, can the nurse practitioner order that?’ ‘Well I don’t really know’.
Education regarding the NP role.

Across all three sites, there were charge nurses, MDs, and NPs who discussed the need for public and professional education about the NP role to facilitate collaboration with the MD, the charge nurse, residents, and families.

An NP stated:

Education in terms of what we’re capable of. I’m trying to think of education. Well, there’s the nurse understanding the role of a physician, and knowing the system wide barriers, and the facilitators, and who they can go to. Give us the reality. How do you cross it? How do you minimize it? It’s a problem. There’s some education about that for the nurse practitioner, more so than for the physician about the nurse practitioner. So that’s a bigger issue.

Educating about our role, legislation, the fact that they’re protected. Because they’re always concerned about professional liability.

An RN referred to the need for residents to know what an NP is and does:

When the nurse practitioner first came, they (residents and families) weren’t too sure who she was. Because all they knew was there was this new person, different from the nursing staff and the doctors. So now they’re calling her the (pause to recollect) ‘nurse doctor’ now. And they know that if the NP is coming to see them, that they are going to get worked up well. Yep.

Proposal selection and support.

These recommendations are specifically related to the MoHLTC and professional nursing and NP organizations. One recommendation was for proposal selection based on the need for primary care services within the LTCH, as those sites that have active medical directors may not really need the NP role. Where there is necessity, there is more likely to be NP-MD collaboration. As one NP said:

I think it would be very astute to assign nurse practitioners to the medically under serviced areas; to those nursing homes or homes for the aged where there is
absolute need. Where the physicals aren’t being done, where there is no monitoring of medications, those kinds of things. I think that necessity demands team work.

There is also a need to scrutinize for MD support, particularly when the proposal includes more than one site. At a site with lower levels of collaboration, an NP said:

So initially what they did, and this could be part of it, an explanation why the medical director is more hands on here and not as collaborative or feels as comfortable. At my larger site (the more collaborative site) the medical director applied for an NP. He was encouraged to split it between two sites to increase the chances for the Ministry to accept it. He’s regretting that action now.

There were also recommendations from all three NPs for MoHLTC support in terms of salary increases, and an appreciation that the LTC NP salaries were recently brought in line with other MoHLTC funded NP positions. However, the NPs also pointed out that their salaries are considerably lower than their hospital-based counterparts who have MDs and a large staff of registered nurses on-site for patient care needs, collaborative support, and sharing of responsibility. The NPs considered the complexity of resident care conditions and needs in LTC to be comparable to many hospital units, yet MDs are seldom on-site in LTCHs and the registered nurse ratio is less than hospitals. At one site, the charge nurse was responsible for over 50 residents on the day shift.

**One site per NP.**

In keeping with the barrier to MD-NP collaboration of multiple LTCH sites, there were specific recommendations to reduce the number of LTCHs that the NP covers to one site or a smaller number of residents. In a comment that was reflected across all three sites, one NP stated:

One site per NP.
sites, an NP discussed the need for one site and the resultant collaboration and role
effectiveness advantages:

If, when you have a nurse practitioner per adequate facility, you’re able to take on
all those roles, you improve the program management, you educate the staff, you
have a far better effective working operating facility with quality evidence based
care, best practice guidelines, you have all of that in place. You have access to a
physician because their time is limited as well. Because you collaborate well with
one physician, who understands the role of the nurse practitioner, you’re able to
work well with them, to streamline and make them a bit more efficient. And
there’s a comfort level in there as well. Then you don’t have as much of his
involvement, but you have it more involved when you need it, so it’s a more
efficient use and everyone’s happier. And you’re able to get the education,
advocacy, clinical, program development, all of those things.

An adequate sized LTCH was described by an NP as:

If you had a place (pause), 150 to 170 even 200 residents with a medical director
who works with you, is more involved and works with you to collaborate
effectively (said with emphasis), you could have a nurse practitioner per long term
care facility, I believe.

A LTCH administrator recommended 150-180 residents per NP.

Expansion of the NP scope of practice.

All of the NPs discussed the restricted NP scope of practice and were relieved to
know that the College of Nurses of Ontario and the MoHLTC have proposed changes to
the current scope of practice. One NP’s recommendations reflected those made by the
other NPs:

If they eliminate the list and look at the patient population and scope of practice
so you can order appropriately, then you’re not restricted. Because, you know
what? If you can’t order, if you say you’re capable of doing things and then
you’re not, they’re (the MDs) really going to question about your skill level and
your assessment, it’s a domino effect. This is a big issue, because the College is
talking about it now and it can get complicated. But the big one is saying that
‘we’re regulated and we will practice to our scope of practice’. That’s a College,
that’s a regulatory thing. If we go beyond that, the college will slap us, you can report us to the College. But I think there’s this fear that we don’t know what we’re doing or we’re going to go beyond what we’re capable of doing. But I think most of us are very careful with regard to that. Part of it is, if it’s in your scope of practice, but you don’t have the skill, knowledge, or judgment to do it, you don’t do it! That’s an understanding. Just because a nurse can do a foley catheter, if you don’t have the training to do it, you’re not going to do it. Same thing! I think there’s this misunderstanding you know. There’s accountability. We are accountable for our practice, to our College, to our patients first, our residents first, and to our College, and I think that part’s missing. They need to expand our scope of practice and trust us to practice based on our knowledge and skill within that expanded scope.

**Facilitator Supports: Individual and Organizational**

Recommendations to support facilitators at the individual and organizational levels were non-existent. The facilitators at these levels were specific to reducing barriers, which I presented earlier in the paper.

**Facilitator Supports: Health System**

Although not specific to NP-MD collaboration, the need to continue the MoHLTC sponsored LTC NP network was identified by all three NPs. One NP talked about the network providing her with strategies to improve collaboration with the MD. The support provided and received by NPs through this network is reflected in the following statement:

That’s a big part of it having the informal network to be able to find out, ‘Well, we have this issue, what are you doing about it?’

**Discussion**

The findings from this sequential mixed method study, which used maximal variation in matched-pairs of NP-MD collaboration in LTCHs, contribute to a better understanding of the facilitators and barriers to MD-NP collaboration and the
recommendations to strengthen this. Common facilitators and barriers have been described at the individual, LTCH, and health system level. The participants’ own words have been provided to illuminate the meaning of these themes. Tables have presented the number of times a theme was cited and which groups of participants mentioned the theme. In most themes, there was concurrence across groups indicating general agreement between MDs, NPs, and charge nurses regarding their perceptions of the NP-MD collaborative relationship, as well as supporting evidence in some documents. I have presented common links between and within themes and will now discuss the more complex associations for some identified facilitators, barriers, and recommendations to help provide insight into the complexities of NP-MD collaboration.

Barriers to MD-NP collaboration at the individual level included time, practice issues, unwillingness to collaborate, fear of loss of control or status, hierarchical relationships and structures, communication issues, NP role confusion, lack of knowledge of collaboration skills and the NP role, and the need to prove credibility of the new NP role. Time, as a barrier to collaboration included different concepts of time that were distinct and yet interrelated. Participants clearly identified that it takes time to communicate and effectively collaborate, that the heavy workloads of MDs and NPs have challenged their ability to find this time, and that avoidance of collaboration can be achieved through choosing to be in the LTCH at times when the other person is not available. Choosing to come to the LTCH when the collaborating partner is off-site contributes to communication barriers, as also identified by Stevenson (1994). The time required to establish and build trust was a fourth concept of time that was acknowledged.
by participants. The conscious effort to choose to make time and be together to collaborate were clear facilitators of collaboration.

Practice issues were related to differences in practice styles and philosophies of care. Maintaining competence was an important component of practice issues for these participants, supporting the findings of Hallas et al. and Ryan; however predictability in practice patterns was not as clearly defined by these participants. Only three participants (two NPs and one MD) clearly described the importance of knowing how their collaborative partner would handle a situation.

Unwillingness to collaborate was a common theme across sites. Participants identified that some MDs consciously chose to not collaborate or were unwilling to invest the time to collaborate. Unwillingness on the part of some MDs to allow the NP to care for “their residents” or to perform to the full NP scope of practice resulted in decreased access to care and was a strong barrier to collaboration. The LTCH administrators and medical directors who did not originally collaborate with the MDs to determine the need for an NP and do extensive preparation for the NP role, may have contributed to the unwillingness of some MDs to collaborate with the NPs. This was further exacerbated in those LTCHs which did not have clear expectations for MD-NP collaboration. On the flip side, the LTCH that did extensive planning for the NP role and had clear expectations for collaboration had a strong NP-MD collaborative relationship.

The unwillingness to allow the NP to care for residents or to practice to the full scope is a reflection of a hierarchical power relationship. The MDs have the power to control whether the NP will provide care for their residents in all three of these LTCHs.
This is unusual in typical nurse-resident-MD structures, as the MD does not normally have a say as to which nurses care for residents in our current health care environment. The early to mid-1900s were a period when the MD had a great deal of power over nurses. However, physicians have watched their power and control within the health care system diminish and nursing’s autonomy increase in the past thirty years (Zwarenstein & Reeves, 2002). During this time, there have been increased overlaps of health care provider roles and nurses have been increasingly responsible for activities that were previously within the sole domain of medicine.

This overlap in activities formerly linked with medicine is not unique to nursing, as fear of loss of control for MDs has also been associated with expanding the pharmacists’ role (Hughes & McCann, 2003). The fear of loss of control or status and practice issues were inherently linked to the hierarchical need on the part of some MDs to retain power and control over activities that they perceive to be within the domain of medicine and reflected a resistance to change. Making a conscious effort to overcome hierarchical barriers at the individual level was linked within the data. The hierarchical structure is maintained at the LTCH level when the organizational chart requires the NP to report to the MD, as was the case in the two LTCHs where collaboration was not as strong. The health system level also maintains the hierarchy of MD power through requirements for NPs to collaborate with MDs, but not vice-versa and restrictions in the NP scope of practice of activities that fall within their realm of knowledge and skill. Making a conscious effort to enhance the scope of practice at the health system level was seen as a facilitator to MD-NP collaboration.
Role confusion is linked to communication issues and a lack of knowledge about the NP role, which is associated with a resistance to change. A charge nurse described a situation in which the MD was unfamiliar with the NP role and chose to communicate through the charge nurse, which maintained the status quo. This same charge nurse discussed the role confusion during the first six months when the MD did not know “what his role for the NP would be” (hierarchical) and the NP did not know what the MD’s expectations were. I speculated that liability issues may be linked to lack of knowledge about the role; however, the MDs did not express concern regarding liability in this study. It is not known if liability concerns may have been more important to the MDs during the early days of the NP-MD relationships.

Multiple site coverage for the NPs further contributed to communication issues, role confusion, and lack of knowledge about the role, as the NP was seldom on-site at the same time as the MD. All three NPs worked in more than one LTCH. The MD-NP collaborative practice relationship and the effectiveness of the NP role worked well in one LTCH, but did not work as well in the other LTCH(s). While the rationale for the MD and NP being on-site on different days was to increase access to primary care for residents, it inhibits mechanisms to establish and maintain collaboration. Making a conscious effort to collaborate and communicate was clearly linked in the data. As an example, an NP recommended that designated times be established to meet with the MD and discuss resident and collaborative practice needs. Designated times had already been established at a site where collaboration was scored highly on the Phase One scales.
The absence of education about collaboration and interprofessional education is a common barrier in the collaboration literature. These participants did not cite an educational barrier; yet, education about collaboration and interprofessional education to enhance collaboration was the most commonly mentioned facilitator at the health system level. Across all three health care provider groups, the individual was perceived to be the greatest barrier and the greatest facilitator to MD-NP collaboration.

Within facilitator themes, two of the NPs had experience in geriatric care and/or LTC and this experience was linked to the MD and charge nurses’ trust and respect for the NP, likely related to perceptions of competency. Increased NP experience and confidence in the current role contributed to increased communication and collaboration. There was also a link between the NPs’ formal education program and confidence in their role, which was further enhanced by LTC experience. However, the NPs recommended increased gerontology content in the NP education program and continuing education courses that focus on advanced nursing practice in LTCHs.

The identified need for the NP was noted at both the individual and organizational level. In the sites where: 1) NP role preparation was evident, 2) the MD had expressed a need for the NP, and 3) the role and collaboration expectations were fairly well defined by the LTCH, collaboration tended to be strong. In situations where a LTCH was considerably advanced in the proposal development and another LTCH enrolled later in the process, collaboration was weak to non-existent in the second LTCH. By joining late in the process, the second LTCH did not go through the widespread preparation and extensively involve the MD in the planning process. The need for NP role clarity and
other health care providers’ knowledge of the role was an underlying theme, particularly in sites where collaboration was ineffectual.

Fear of liability for the NPs’ practice and barriers associated with the lack of remuneration for time spent collaborating with the NPs have been found to be a barrier to collaboration (DiCenso et al., 2003) and were originally included as codes. In this study, the MDs’ fear of liability related to NP practice and differing practice patterns was mentioned by all three NPs and one RN, as well as in one document. However, fear of liability for NP practice and remuneration for time spent collaborating with the NP were not mentioned as barriers or concerns by these MDs. Therefore, these predetermined codes were deleted.

Strengths of this study included the identification of sites based on maximal variations in collaboration scale scores for matched-pairs of NPs and MDs as well as site locations in diverse regions of Ontario. This diversity provided the opportunity for in-depth exploration of collaborative practice and collaboration from different perspectives. Individual interviews and assurances of confidentiality provided the participants with the freedom to discuss their individual perspectives. They would likely not have been as informative in a group interview. The use of open-ended, semi-structured questions helped to focus the interview on collaborative practice, while providing plenty of time for participants to share their perspectives. Data saturation was reached, as no new themes or concepts were forthcoming during the interviews (Morse, 1995).

As I am an NP, to avoid bias in the study’s design and implementation that I may have introduced, the research team also included an MD who is a medical director at a
LTCH, a social scientist researcher, and two nurses. The research team helped to ensure that the interpretation of data and recommendations reflected needs of MDs and NPs. Independent coding by a nurse who was not an NP also helped to reduce bias.

Prior to the interviews, I introduced myself as a PhD student and an NP. I was concerned that this knowledge may limit the discussion from the MDs and charge nurses. However, the MDs and charge nurses were very willing to share their stories and presented frank and wide-ranging perspectives on NP-MD collaboration. They may have seen me primarily as an academic.

Limitations of the study included the fact that the NPs at all three sites covered multiple LTCHs. While this selection was based on the greatest variation in scores for the extent of and satisfaction with collaboration scales, the perceptions of NPs, MDs, and charge nurses in LTCHs where the NP only works in one site are not known. While data saturation was reached, it is not known what information might have been contributed by the MD who declined to be interviewed.

The study restrictions also excluded the perspectives of MDs who collaborate with the NP less frequently, compared to the MDs who participated in the study. The study questions focused on the MD-NP dyad based on the most frequent interaction. Therefore, minimal data were obtained regarding the complexity and challenges for NPs who collaborate with a large number of MDs with varying personalities, practice styles, and expectations. The participants in this study focused their contributions on MD-NP collaborative practice in Ontario LTCHs. The study findings cannot be necessarily generalized to other health care settings, provinces, or countries. While protecting
confidentiality in this small population, I attempted to provide sufficient detail for others to determine if the findings may apply to their situation.

**Recommendations**

Collaboration between MDs and NPs is ultimately a choice at the individual level. One can choose to make the time and take the effort to collaborate or one can choose to try to resist change by ignoring the NP role and/or actively avoiding the other professional. The MD and nursing staff’s individual willingness to collaborate and past evidence of interprofessional collaboration are important components in the LTCH’s consideration for hiring an NP. A culture of collaboration is important in the LTCH in order for an individual in a new role to be a successful participant in collaboration.

If the MD and nursing staff are uncertain about the NP role and how it will work in the LTCH, the opportunity presents itself to educate them about the role and agree on specific role functions and collaborative mechanisms. For instance, regularly scheduled team meetings could be established to help prepare the proposal for the NP position. An NP who currently works in a LTCH could provide consultation and guidance regarding a needs assessment and role development. The opportunities for dialogue about the position would increase “buy-in” for the role and enhance role clarity prior to the NP being hired.

As personality was a recurrent facilitator for effective collaboration that was mentioned by all participants, it is recommended that the MD take part in interviewing NP applicants or vice versa if an MD is being hired to work with an established NP. This would provide the opportunity for the MD and NP to initially assess their “collaborative personality fit” with one another, as well as their practice styles and philosophies. It is
further recommended that the interview process include a complex resident situation case study that requires NP-MD collaboration, with an actual collaborative discussion between the MD and NP to determine the best approach to the situation. This type of interaction at the time of the interview allows the NP and MD to get a better idea of their collaboration and communication styles, provides opportunities to discuss collaboration and philosophies of care, and establishes an expectation for collaborative practice.

Perceptions that the MD has more power and status were reinforced in LTCHs that had a hierarchical organizational chart with the NP reporting to the MD. It is therefore recommended that the NP and the MD report to the administrator of the LTCH.

The identification of an MD who acted as an NP champion when talking with other MDs was recognized by NPs as being helpful in their MD-NP collaborative relationships. The champion concept was also cited by NPs in referring to administrators and directors of care for easing the transition into the LTCH. Identification of MD, administrator, and nursing champions at the proposal development level who will advocate for the NP is recommended to facilitate NP-MD collaboration.

The champion concept can be extended to champions for collaboration. It is recommended that the MoHLTC and/or the LTCH associations establish a pool of NPs, nurses, and MDs who currently work in LTCHs and are collaborating at a high level to provide consultation and education for those sites that are considering hiring an NP or are experiencing challenges with collaboration.

Consideration should be given to eliminating the MD’s power to decide if the NP can provide care for the resident. The autonomous nature of the NP role and the quality
of care processes, such as delayed and decreased access to care may be sufficient reasons for administrators to open resident access for NP care, similar to other nursing care. There is no reason that the MD cannot repeat an admission physical examination that has already been done by an NP. This has been common practice in the past and present, when an RN has already done an admission history and physical and the MD repeats components of the examination.

It is recommended that the MoHLTC more heavily weight the MD-NP collaborative component of the proposal, as effective NP-MD collaboration is an important factor for access to and quality of care (Aigner, Drew, & Phipps, 2004; Kane, Flood, Bershadsky, & Keckhafer, 2004; Schmitt, 2001), as well as success of the NP role in LTCHs (Goldfarb Intelligence Marketing & D. Dave HealthCare Solutions, 2003). Specific expectations and/or standards for NP-MD collaboration in the LTCHs are also recommended to provide MDs, NPs, directors of care, charge nurses, and administrators with clear guidelines for considering and evaluating the collaborative relationship.

The time limitations of covering multiple sites impacted effective NP-MD collaboration, and access to and consistency of care. It is recommended that the MoHLTC give higher preference to proposals that have only one LTCH, or two small LTCHs which are in close proximity to each other and total approximately 150-200 residents. In the United States, where there are larger numbers of NPs, the recommendation is 60 to 120 residents, depending on acuity of needs. The caseload may go as low as 25 subacute residents per NP (Mezey et al., 2005) with multiple NPs per LTCH. Further research is needed to determine the optimal number of residents per NP,
based on resident needs (e.g., severe dementia, social/family, and complex mental health and physical needs).

Limitations to the NP scope of practice and its impact on NP-MD collaboration was a recurrent theme in this study. It is recommended that the College of Nurses of Ontario, in collaboration with the MoHLTC and Ontario College of Physicians and Surgeons continue to develop efficient mechanisms that allow for the NP scope of practice to readily adapt to changes in the health care system in order to promote effective MD-NP collaboration and efficient use of NPs.

Education regarding collaboration and interprofessional collaborative learning initiatives is needed. It is recommended that university programs implement interprofessional learning in courses where similar content is taught, such as assessment and therapeutics courses and in clinical settings. Problem-based approaches to learning with mixed professional groups can contribute to a collaborative approach to meeting patient needs. Opportunities for interprofessional presentations and panels related to specific patient situations and conditions that incorporate collaborative behaviours should be facilitated on a frequent and regular basis. Content could be included early in each semester specific to collaboration and then incorporated into weekly content in the classroom and clinical placements to solidify collaborative knowledge and skills. It is recommended that educators and regulators develop and implement examinations that evaluate individual health care providers’ knowledge and skills regarding interprofessional collaboration (Daly, 2004). An initiative is underway to establish an academic teaching unit in a LTCH to promote interprofessional learning and
collaboration through the Elisabeth Bruyere Research Institute in Ottawa, Ontario. Research is needed to determine the effectiveness of this initiative related to NP-MD collaboration and determine the feasibility of expanding this initiative to other LTCHs.

Continuing education programs that include LTC NPs and MDs are currently in the early stages in Ontario (Elisabeth Bruyere Research Institute, 2006). It is recommended that these programs continue and be evaluated to determine the most effective mechanisms for practicing NPs and MDs to learn about and strengthen their collaborative skills, preferably through active participation in the same programs. Consideration should be given to including the RNs and registered practical nurses who are regularly collaborating and consulting with the MDs and NPs in LTCHs.

The development of collaborative practice toolkits, with collaboration exercises and other education strategies, for NPs and MDs in LTCHs has the potential to increase knowledge about collaboration. However, toolkits may have limited application to skill development unless both partners agree to actively use the toolkit content when learning to collaborate. It is likely that the best use for collaborative practice toolkits will be to provide them in conjunction with workshops or courses that are attended by NP-MD partners. The toolkit could then be used as a reference and guide for further development of the collaborative relationship following the workshop or course. Further investigation is needed to determine the optimal design and use for toolkits that focus on developing collaboration.

In conclusion, research is needed to understand the MD-NP collaborative process and outcomes of collaboration in dyads in LTCHs, as well as in situations where one NP
works with multiple MDs. A similar study of collaboration and collaborative practice between MDs, NPs, and nurses could strengthen our understanding of the complexities of collaboration among multiple providers. Through an understanding of NP-MD collaboration and the barriers and facilitators of collaboration, intervention measures can be implemented and evaluated to strengthen collaboration in Ontario’s LTCHs.
CHAPTER FOUR

NURSE PRACTITIONER-PHYSICIAN COLLABORATIVE PRACTICE IN
ONTARIO LONG-TERM CARE HOMES:
PROCESSES, ESSENTIAL ELEMENTS, AND OUTCOMES
CHAPTER FOUR

Abstract

Purpose: To describe the processes, essential elements, and perceived outcomes of collaborative practice between nurse practitioners (NPs) and physicians (MDs) in Ontario long-term care homes (LTCHs).

Methods: This study is part of a larger sequential, two-phase mixed methods research design. In this qualitative second phase, semi-structured individual interviews, interview questionnaires, and document analysis were completed to gain an in-depth understanding and a historical context for MD-NP collaborative practice. Based on Phase One survey results using maximal variation, one NP-MD pair at each of three LTCH sites were selected. Data were analyzed using Miller and Crabtree’s template approach and were mixed with relevant data from Phase One surveys.

Results: Three NPs, two MDs, and three charge nurses who frequently observed MD-NP collaboration were interviewed and completed interview questionnaires. A variety of documents were analyzed. Findings revealed that a number of communication methods were used in collaborative practice, the telephone being most frequent. Collaboration most often occurred on an “as-needed” basis, rather than in planned meetings. NPs reported considerably more written messages and less working side-by-side than did the MDs. Essential elements of collaborative practice included: willingness to collaborate, sharing, personality fit, and effective interpersonal skills. Perceived outcomes of MD-NP collaborative practice included improvements in: access to care, quality of care, quality of life, and teamwork; as well as enhancements in cost savings, resident and family
satisfaction, and provider satisfaction. MDs’ and NPs’ descriptions of collaborative practice processes were similar.

**Conclusions:** The process for collaborative practice includes: joint assessing, integrated decision making, shared planning and implementing, and mutual evaluating for consensus decision-making. Collaboration is the essence of collaborative practice and is resident-centred. The process for collaboration includes components of: knowing, sharing, clarifying, and developing to facilitate communication and the establishment of organizational processes to support collaborative practice.
CHAPTER FOUR

Introduction

Nurse practitioners (NPs) have been working in Ontario long-term care homes (LTCHs) since 2000 (C. Crane, MoHLTC, personal communication, June 27, 2003). As identified in Chapter Two of this thesis, the NPs are working in one to ten LTCHs with a median of six physicians (MDs) per NP. The NP role requires a collaborative practice arrangement with an MD for collaboration, consultation, and referral regarding complex client situations that are beyond the knowledge and skill or the scope of practice of the NP (College of Nurses of Ontario, 1998). Little is known about NP-MD collaborative practice from the perspectives of MDs and NPs who work in LTCHs and the charge nurses who frequently work with them.

Literature Review

Collaborative practice is defined as “an inter-professional process for communication and decision making that enables the separate and shared knowledge and skills of care providers to synergistically influence the client/patient care provided” (Way, Jones, & Busing, 2000). A review of the literature focused on NP or nurse and MD collaboration and collaborative practice (Appendix A) revealed few studies specific to collaboration in LTCHs. Collaborative practice relationships are typically depicted as satisfying interpersonal associations that take time to develop (Corser, 1998; Siegler & Whitney, 1994; Sullivan, 1998). In collaborative practice, resources can be used in timely and efficient ways (Evans, Yurkow, & Siegler, 1995; Pugh et al., 1999); mistakes and duplication of services are reduced (Dechairo-Marino, Jordan-Marsh, Traiger, & Saulo,
2001; Nunez, Armbruster, Phillips, & Gale, 2003); and the expertise of various health practitioners is mobilized (Dechairo-Marino et al., 2001; Way, Jones, Baskerville, & Busing, 2001b).

**Collaborative Practice Processes**

There has been little research that directly investigates and describes collaborative processes. Leadership, communication, coordination, problem solving/conflict management, and team culture have been identified as dimensions of nurse-MD collaborative relationships (Boyle & Kochinda, 2004; Shortell et al., 1994). In a critical care unit study, Baggs and Schmitt (1988) found that shared decision-making, problem-solving, and goal-setting processes characterized nurse-MD collaboration. These study results led to the development of their measures of the extent of and satisfaction with collaboration scales with a focus on decision making and problem solving (Baggs, 1994). In a more recent study, Baggs and Schmitt (1997) identified working together, a patient focus, and sharing as the core processes of nurse-MD collaboration in a nurse-physician collaboration model. Boyle and Kochinda used a complex client simulation to examine nurse-physician communication in the context of collaboration in two intensive care units. The communication process included stages of opening, clarifying, developing, agreeing, and checking for understanding.

Bailey, Jones, and Way (2006) conducted a narrative analysis of stories told by NPs and MDs who worked together in community primary care settings in rural Ontario. The study was part of a larger study that focused on an educational intervention to improve collaboration, comparing the results at two intervention sites and two control
sites (Way et al., 2001b). The narrative interviews were completed with 13 family MDs and five NPs at the four sites and lasted between ten and 45 minutes per interview. The questions focused on the nature of their collaborative practice experiences. "The participants' stories of consultation and referral practices with one another, behaviours, such as shared decision-making (sic), communication practices and attitudes regarding mutual trust and respect were understood as a proxy for effective collaboration" (p. 388). However, the results of the study did not describe these processes. Rather, the study findings focused on barriers to NP role implementation and collaborative practice in these primary care settings.

Corser (1998) developed a model of collaborative nurse-MD interaction that focused on influences related to the interaction, which consisted of "(a) the complementary management of the pertinent organizational/professional and personal/interpersonal influences that are experienced by the nurse and physician; and, (b) a mutual respect for each others' professional roles, abilities, and respective patient care contributions" (p. 334). The model also included concepts of power symmetry and influences which the nurse and MD may not be aware of or appreciate. The actual collaborative interaction process was not described.

The Elisabeth Bruyere Research Institute (2005) has developed the Structured Collaborative Practice Model specifically focused on long-term care (LTC). In this model, "the caregivers use their separate and shared professional knowledge and skills and their individual experience to deliver comprehensive care. Care is centred on the resident, their family and the community" (p. 1). Independent and parallel practice
patterns are typical for most resident needs, while interdependent collaborative care and co-provision of care are needed when the resident's needs become more complex. Concepts of synergistic decision-making, respect for unique contributions, and bidirectional consultation and referral are inherent within the model. This Structured Collaborative Practice Model is based on work related to collaboration, primarily that of Way, Jones, and Baskerville's (2001a) who have studied collaborative practice in primary care. Likely due to the recent development of this model, it has not yet been evaluated.

In the Philadelphia Veterans' Administration (VA) facility, one MD and one NP work collaboratively sharing the care of 35 LTC residents (Stevenson, Kamholz, & Siegler, 1994). The MD visits the unit one to two half days per week. The NP manages most day to day care; however, the MD and NP evaluate complex clients and jointly develop the care plan. The NP is readily available to nursing staff, reducing the load for the MD, a benefit also cited by Ouslander (1989). An extensive review of the literature (Appendix A) did not reveal an evaluation of this VA model or other MD-NP collaborative practice models specific to LTCHs.

**Essential Elements of Collaboration**

While essential elements of collaboration have been identified, few are based on research evidence. Corser (1998) developed a collaboration model based on a review of the literature and found that “regular nurse-MD interaction” is considered necessary to support and adapt the relationship. Baggs and Schmitt (1988) identified “coordination, cooperation, and sharing” as vital elements of collaboration. In a subsequent grounded
theory study in the critical care setting, Baggs and Schmitt (1997) deduced that “availability, receptivity, and knowledge” were antecedents to “working together”, which was the fundamental collaboration process. Having the “will to collaborate”, “putting the necessary time aside”, and “having the knowledge of each other’s area of responsibility” were identified as critical factors for collaboration in a hospital based survey of 91 professionals in Norway (Eilertsen, Reinfjell, & Vik, 2004). In their quasi-experimental, before-after study, Way, Jones, and Baskerville (2001a) used an educational intervention to improve collaboration in primary care. They compared the results at two intervention sites with two control sites in Ontario. Using both qualitative and quantitative methods, they identified seven essential elements of collaboration: 1) cooperation, 2) assertiveness, 3) responsibility/accountability, 4) autonomy, 5) communications, 6) co-ordination, and 7) mutual trust and respect.

**Collaborative Outcomes**

Collaborative practice has the potential to improve patient outcomes (Corser, 1998; Ryan, 1999; Zwarenstein & Bryant, 2006). The goal of a successful collaborative practice relationship is to provide high quality patient-centred care (Martin & Coniglio, 1996; Resnick & Bonner, 2003). In the United States, Baggs, Ryan, Phelps, Richeson, and Johnson (1992) used a prospective, descriptive, correlational design with self-report instruments to examine the association between nurse-physician collaboration and patient outcomes in three intensive care units. The patient outcomes included death or readmission to intensive care. They found a positive association between the nurses’
reports of collaboration and patient outcomes, as well as between unit-level
organizational collaboration and patient outcomes across the three units.

Collaborative practice outcomes research in LTC is very limited given that "usual
care" varies across LTCHs with respect to constitution, availability, and roles of the
conducted a study of billing records for 700 residents in a life-care community facility
with both residential and nursing beds in California. They concluded that collaboration
between geriatricians and MD extenders, such as NPs, can reduce overall expenditures
partially through the provision of interdisciplinary primary health care. Individual
components or processes of collaboration that were effective or ineffective were not
identified.

Professional and personal gratification experienced by the health care providers,
residents, and families has been cited as an outcome of collaborative practice in health
care (Goldfarb Intelligence Marketing & D. Dave HealthCare Solutions, 2003; Hallas,
Butz, & Gitterman, 2004; Melillo, 1993). However, other studies that compared MD-only
with MD-NP care found no statistically significant difference in resident or family
satisfaction (Garrard et al., 1990; Rauckhorst, 1989), although the NP was only in the
LTCH approximately two times per month in the Rauckhorst study and had been in the
role for less than one year.

Finding studies that clearly link collaboration and outcomes in healthcare is
difficult, as there are often conceptual and methodological challenges in linking
collaboration with improved care (Schmitt, 2001). Collaboration is a multidimensional
construct that may be present in varying degrees. Outcome research associated with collaboration has typically not clearly defined the components of collaboration being measured. In addition to the difficulties cited above in determining the impact of individual health care providers versus collaborative partners, Schmitt wrote that it is often challenging to determine if the study is interested in the overall concept of collaboration, or with a specific component, such as communication or shared-decision making. There are also difficulties in ascertaining if and which structural elements are being studied, such as formal versus informal communication between professions. The process of collaboration is another area for study, such as interprofessional functioning, problem-solving processes, and decision-making processes. Intermediate outcomes can be investigated, such as better care plans or improvements in coordination of care versus long-term outcomes, such as mortality. Schmitt asserts that “a theoretical argument should be articulated linking aspects of the structure, process, or intermediate outcomes of collaboration with quality of care outcomes” (p. 51). Careful consideration is required in designing research that investigates outcomes associated with MD-NP collaborative practice.

We conducted this study to address the following research questions:

- How do MDs and NPs collaborate with one another to provide primary health care services in LTCHs in Ontario?
- What are the essential elements of MD-NP collaborative practice in LTCHs?
- What are the perceived outcomes of NP-MD collaborative practice in LTCHs?
Methods

This study sought to understand how MDs and NPs collaborate with one another to provide primary health care services in LTCHs in Ontario. A sequential, two-phase, mixed methods study design (Tashakkori & Teddlie, 2003) was used to gain both a broad representation and an in-depth understanding of MD-NP collaborative practice in LTCHs. After receiving ethics approval from McMaster and Ryerson Universities’ Ethics Review Boards, I used a variety of data collection techniques to help understand the complexities of collaborative practice (Johnson & Turner, 2003; Teddlie & Tashakkori, 2003). Quantitative and qualitative data were gathered using surveys, individual interviews, interview questionnaires, document analysis, and field notes. This paper provides a brief overview of methods; however, a more detailed description of the Phase One survey methods is provided in Chapter Two of this thesis and the Phase Two qualitative methods are more fully described in Chapter Three.

During Phase One of this study, a survey was mailed to all 15 NPs working in LTCHs, who were directly funded by the Ministry of Health and Long-Term Care (MoHLTC) and to the 33 MDs with whom they most frequently worked. Ten of the NPs worked in more than one LTCH; consequently, surveys were sent to the MD with whom they most frequently worked at each LTCH, as identified by the NP. Using scales adapted by Way and Jones (Way, Jones, & Baskerville, 2001a), the quantitative survey measured the MDs’ (n = 27) and NPs’ (n = 14) extent of and satisfaction with collaboration.

Based on varying extents of and satisfaction with collaboration scale scores, one NP-MD pair at each of three sites was selected to participate in Phase Two qualitative
individual interviews. A charge nurse at each site, who was a registered nurse and worked frequently with the NP and MD was also interviewed to provide a third party perspective that could enhance the quality and richness of data. In total, three NPs, two MDs, and three charge nurses participated in audio-recorded individual interviews that lasted between 30 minutes and two hours. They also completed interview questionnaires with open-ended questions that asked the three most important outcomes of collaboration and the three behaviours that indicated collaboration was occurring (Appendix R). Data saturation was reached when no new themes or concepts were offered (Morse, 1995). Member checking occurred with all participants at the time of the interview and again with two NPs and a charge nurse approximately four weeks after the interviews (Krefting, 1991). Document analysis provided a historical and organizational context that may not have been known, remembered, or told by individuals (Hodder, 2000). The analyzed documents included the original proposals for the NP positions, job descriptions, reports to the MoHLTC, meeting minutes, letters, and other documents that were specific to each LTCH.

Using the template technique for coding (Miller & Crabtree, 1999), a priori codes were developed, based on the NP-MD Collaborative Practice in LTC Model that provided the theoretical foundation for this study. Transcriptions of the audio-recorded interviews, interview questionnaire answers, and document analysis were coded. A second independent coder helped to ensure the quality and validity of coding. The codes were adapted to accurately reflect data. NVivo qualitative software was used to organize data. Coding led to the development of patterns and central themes.
Due to the small population of NPs in Ontario’s LTCHs there is the potential that specific details about the participants or sites could reveal the identity of participants. To protect confidentiality, information regarding the participants and sites is only provided in sufficient detail to allow the reader to determine the applicability of findings to their own setting, but specific details are purposely omitted. Selected individual site information and/or quotes are presented under themed headings that represent cross-site analysis (McDonnell, Jones, & Read, 2000).

This chapter focuses on data from Phase Two interview questionnaires and individual interviews with NPs, MDs, and charge nurse RNs, as well as document analysis, field notes, and relevant Phase One survey data. The data provide a description of NP-MD collaborative practice processes, along with essential elements of collaboration, and perceived outcomes of NP-MD collaborative practice in LTCHs.

**Results**

*Participant and Site Descriptions*

The eight interview participants were of European descent, fluent in English, articulate, and well educated. Three NPs, three RNs, and one MD were female and the remaining MD was male. One participant was in her thirties, one in her forties, and the remaining six participants were in their fifties. This age distribution reflects the characteristics of the NPs and MDs from the Phase One survey data, as described in Chapter Two. For all three sites, the NP covered more than one, but less than ten LTCHs.
The administrator at one site requested to be interviewed, although this was not part of the original research design. Following a signed consent, the administrator supplied key informant information regarding NP-MD collaboration that contributed to the analysis.

The LTCH sites had between 100 and slightly over 200 beds. However, all three NPs worked in multiple sites and provided care for 300 to 500 residents. The distance between LTCHs for each NP varied from a few to 40 kilometres impacting on NP availability and visibility within the LTCH. Poor driving conditions due to highway construction or weather influenced the time spent in their vehicles, rather than in the LTCHs. The sites that were visited for this study were geographically diverse from northern, south central, and southwestern Ontario and were located in urban, suburban, and rural areas. The sites all had residents with complex requirements, including but not limited to dementia, stroke, obstructive respiratory diseases, neurological disorders, and other diseases, as well as end-of-life, rehabilitation, and functional needs. A complete description of the sites is included in Chapter Three.

**Themes**

Findings presented in this paper focus on three aspects of MD-NP collaboration, specifically, collaborative practice processes, essential elements, and perceived outcomes of collaborative practice. I identified recurrent themes within and across sites, as well as important concepts that may have been raised by only one or two people, but have been found in the literature to be vital to collaboration. In keeping with mixed methods research legitimation, similar to interpretive rigour, specific counts of the number of
times a theme was mentioned, the number of sources from which the theme arose, the individual groups who contributed to the theme, and the total number of sites represented are provided in tables to add to the meaning of the data (Onwuegbuzie & Teddlie, 2003; Sandelowski, 2001). Themes identified by a participant in the interview questionnaire or in the individual interview are grouped together for presentation purposes in the tables. Relevant data from Phase One survey results were also incorporated in the results to better understand particular themes.

**Collaborative Practice**

Participants provided thick, rich descriptions of collaborative practice between NPs and MDs in LTCHs. Themes and sub-themes were identified that were consistent with and illuminate the definition of collaborative practice, “an inter-professional process for communication and decision making that enables the separate and shared knowledge and skills of care providers to synergistically influence the client/patient care provided” (Way et al., 2000). The themes and sub-themes are presented in Table 1.
Table 1: Frequency Data for Collaborative Practice Themes

<table>
<thead>
<tr>
<th>Themes</th>
<th>Number of Times Cited</th>
<th>Number of Data Sources</th>
<th>MD</th>
<th>NP</th>
<th>RN</th>
<th>Document</th>
<th>Number of Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexible communication methods</td>
<td>44</td>
<td>15</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>Process for collaborative practice</td>
<td>40</td>
<td>11</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>Work together</td>
<td>11</td>
<td>8</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>Process for collaboration:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clarifying roles and functions</td>
<td>22</td>
<td>10</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>Building on strengths</td>
<td>16</td>
<td>8</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>Knowing</td>
<td>14</td>
<td>6</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Sharing</td>
<td>14</td>
<td>6</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>2</td>
</tr>
<tr>
<td>Resident &amp; family centred</td>
<td>14</td>
<td>5</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Acceptance of contribution</td>
<td>7</td>
<td>5</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
Flexible communication methods.

The most frequently mentioned theme related to collaborative practice was flexible communication methods. An NP said:

There is this idea that you can only collaborate if you are meeting face to face and I think collaboration happens many ways. I know I collaborate a lot and most of it is by phone, or by fax, or by written communications, so that when that person’s back in (pause). So I think we have to be very flexible on how collaboration works.

Specific methods of communication were discussed during the interviews and they coincided with the methods included in the survey questionnaire in Phase One. The questionnaire item asked the ways that communication/interaction occurred between the MD and NP in the practice setting. Overall, there was agreement between the MDs and NPs regarding their patterns and methods of communication and/or interaction. However, the NPs reported considerably more written messages and less working side by side. The frequency and percentage of the 33 NP and 27 MD responses to the survey items are included in Table 2.
Table 2: Frequency of Communication/Interaction Methods Reported by NPs ($n = 33$ NP Part B survey responses) and MDs ($n = 27$ MDs)

<table>
<thead>
<tr>
<th>Communication/Interaction</th>
<th>MD (%)</th>
<th>NP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone</td>
<td>23 (85)</td>
<td>31 (94)</td>
</tr>
<tr>
<td>As needed</td>
<td>22 (82)</td>
<td>24 (73)</td>
</tr>
<tr>
<td>Unplanned communication</td>
<td>21 (64)</td>
<td>20 (61)</td>
</tr>
<tr>
<td>Review chart/orders</td>
<td>17 (63)</td>
<td>18 (55)</td>
</tr>
<tr>
<td>Messages via staff</td>
<td>13 (41)</td>
<td>18 (55)</td>
</tr>
<tr>
<td>Work side by side</td>
<td>11 (41)</td>
<td>5 (15)</td>
</tr>
<tr>
<td>Regular meetings</td>
<td>8 (30)</td>
<td>7 (21)</td>
</tr>
<tr>
<td>Written messages</td>
<td>4 (15)</td>
<td>19 (58)</td>
</tr>
<tr>
<td>E-mail</td>
<td>4 (15)</td>
<td>3 (9)</td>
</tr>
<tr>
<td>Other: “MD book”, fax, and voice mail</td>
<td>4 (15)</td>
<td>5 (15)</td>
</tr>
</tbody>
</table>
According to the Phase One questionnaire responses, there were a number of communication patterns and methods used by the NPs and MDs and these were explained in greater depth during the interviews. The most frequently listed method for communicating with the collaborative partner was the telephone. This was validated during the interviews, as the majority of NP and MD participants carried a mobile telephone and/or a pager and were often called during the interviews. The second most frequently indicated pattern or reason for communication was as needed, followed by unplanned communication and review chart/orders. These three reasons for communicating typically related to a change in a residents' condition or a chance meeting at the LTCH. Messages via staff came next in order of frequency of communication methods. Participants described examples of message exchange via the charge nurse as a strategy to keep the nurses involved in the interaction and reduce feelings of “stepping on toes” as described in Chapter 3. There were also times when the nurse was the message bearer as the NP was leaving for another LTCH and would not be on-site to take the MD’s return phone call. None of the participants expressed concern about the inclusion of a third person as a message bearer.

Working side-by-side with face-to-face communication was the next most frequently cited method of communication. Working together side-by-side was typically described in the context of an “as needed” rather than regular communication method. Descriptions of side-by-side work typically focused on issues associated with a highly complex resident need or an organization wide need, such as a scabies outbreak, rather than regularly scheduled resident rounds. Regular meetings were only discussed at one
site where collaboration is strong. The MD and NP discussed meeting on a weekly basis to review resident needs and evaluate care plans. NPs and MDs used written messages in the health record or in the “doctor’s book”. The “doctor’s book” is a notebook designed to allow staff to leave non-urgent messages for the MD regarding resident concerns and reminders, to be dealt with at the next MD visit to the LTCH. At one site with lower levels of collaboration, the NP typed summaries of assessments and interventions and faxed them to the MD, as electronic records are not typically available in LTCHs. Email was seldom used as a communication method by the NPs and MDs.

For these health care providers, the terms consult and consultation were used as a component of collaboration, indicating the initiation of purposeful action to seek out the collaborative partner’s input. The participants infrequently used the term consult to refer to external consultants, such as gerontologists. The use of these terms by these participants is consistent with meanings from previous research wherein consultation referred to the reciprocal sharing and valuing of MD and NP knowledge and experiences in a collaborative practice agreement and the MD being available for patient evaluation (Maxwell, 2002).

**Process for collaborative practice.**

An NP described collaborative practice as “consensus decision-making regarding the plan of action; who is going to do what.” A variety of lengthy examples were given that demonstrated components of the collaborative practice and collaboration process and related directly to the Long-Term Care NP-MD Collaborative Practice Model (Appendix B). Components of the collaborative practice model include: joint assessing, integrated
decision making, shared planning and implementing, and mutual evaluating. These elements are included in the following excerpt from my field notes, which captured a discussion with an MD that occurred after the recording equipment had been packed away:

There was a situation with a resident who had requested and was receiving palliative care for a bowel obstruction. Rather than the old traditional drainage tubes and intravenous drips, there was a new treatment approach and different medications to use for this situation. The physician had recently been to a workshop regarding this new approach and shared the information with the nurse practitioner. Together they met, discussed the information, assessed whether this might be a good approach for this resident, made decisions about goals and developed a plan of care, which they implemented and evaluated in order to improve the resident’s quality of life.

The need for collaborative discussion about the philosophy of care and specific resident issues and goals is particularly important early in the collaborative relationship, along with an understanding of the collaborative partner’s thought process, rationale, and practice patterns related to decisions. An NP stated:

I constantly... you’re always asking questions to find out the rationale. And it’s not because you doubt their (the MDs’) credibility, you just want more information for yourself, so you know what to do in this, in this particular case so you don’t have to keep calling them. So you know what this is, what his standard is, this is what he’d do, so he will support me in this. So it (talking and asking questions) expedites things tremendously.

The need for the frequency of collaborative discussion related to commonly occurring resident issues decreases over time with an established collaborative practice relationship, likely due to knowledge of each other’s practice patterns as described by another NP:

There is less and less discussion over the years because it is almost like at this point we’re (several) years into it and I know more or less what his practice is like. He knows more or less what my practice is like. And unless you get a new nurse that doesn’t, hasn’t worked with a nurse practitioner and doesn’t know how
things are run, that initial few weeks to get them up to speed, you tend to know what’s going on lots of times.

As collaborative practice is established, the need for bilateral communication for complex resident issues continues and micromanagement of more routine situations decreases. The less complex and routine situations are typically dealt with autonomously by the MD or NP and communicated via the health record, as explained by an NP:

What I do is, when I see a resident and they have a physician and its good practice. You see the thing is collaborative care, you shouldn’t have to immediately call the physician and say ‘well I saw your resident or your patient and I did this’. I mean sure if they’re not going to be aware of this, but the assumption is they’re going to go to the chart and they’re going to see that collaborative approach, just like the physiotherapist, the dietician, they’re not going to call the physician immediately unless they need an answer in terms of an order. They’re going to go to the chart and the physician should read the chart. That’s part of it, part of collaboration.

*Working together* was a common sub-theme for most participants and relates to collaborative practice. An MD characterized this:

Working side by side rather than working in parallel on a particular concern, rather than working in series. So it’s not that, just usually not that a nurse practitioner would do this and then I would carry on from there, sometimes it’s that, but it’s also in terms of nurse practitioners, it’s a thing of both dealing with the patient… Making sure that we both deal with the patient, (pause) at similar points in the patient’s journey and provide what we can towards that patient’s well being.

*Process for collaboration.*

Collaboration is the essence of collaborative practice. Therefore it is important to understand the collaboration process. Participants discussed examples of *clarifying roles and functions*, *building on strengths*, and *knowing* activities within the process of collaboration theme. *Knowing* your own and your collaborative partner’s professional and personal areas of strength and needs is important in the collaborative relationship.
Knowing is needed for building on one another’s strengths. *Knowing, clarifying roles and functions, and building on strengths* is inherent in the collaboration process. An MD described components of this process:

I mean certainly in terms of my own strengths and weaknesses. One of the things that happens in my institution is that I’m not very good on wound care and she’s much better on wound care, so we share in that way... You know your own weaknesses and that’s, you know, that’s the way it is.

All groups of participants described the need for *clarifying roles and functions*, and *sharing* individual and joint functions in order to organize tasks to best meet needs. This perspective also came through in the document analysis and interview questionnaires. In an NP proposal that had extensive MD involvement in its development, the document stated:

The nurse practitioner will share care with the physician. Admission assessments will be completed by both the physician and NP. NP assessments will include lifestyle choices, social work, family history, health prevention, activities, diet history/choices, review of systems, goals of care, issues and concerns regarding the admission. The interdisciplinary health care team will then be able to utilize the data in planning the care and establishing goals for the client.

An MD shared:

I reserve one morning a week to see my patients at (LTCH name). During that morning I will usually meet first of all with the nurse practitioner and then we’ll go through patients that she has some concerns about on each of the floors. At the same time, I’ll be doing my usual routine work, which would involve the every three-month drug reviews and things like that. But it’s really the nurse practitioner that helps to figure out who needs the attention, and she’ll usually have done an assessment on those patients ahead of time so that I don’t have to do that whole assessment. It’s already been looked at and the key points are brought to my attention. So the nurse practitioner is doing assessments. She also does physicals for the patients every year. Every person requires an annual physical and she will do that because it does require, again more time commitment than is usually available to me. (pause) And she’ll summarize the patient problems. That doesn’t happen at all institutions, but in ours the nurse practitioner does that.
An NP at a different site described a meeting to determine an admission protocol:

We actually had at the one larger site with the medical director, we (the NP and MD) sat down with another health provider to figure out the admission protocol, to write it down. So that was a good collaborative piece. Well this is what I need because of this, this is what we have. (pause) So that worked out well.

There was consensus regarding the need to define NP and MD roles early and repeatedly in the collaborative relationship, as described by an RN, “they have to define what roles they’re playing.” Only one participant, an NP, mentioned the existence of a collaborative practice agreement with the MD. Another important concept is bilateral communication and feedback. For example, one NP stated that she sought and received annual performance feedback from the collaborative partner MDs, but was not asked for bilateral feedback on their performance.

Clarifying roles and individual and joint involvement in the collaborative process to develop mutually effective routine and urgent communication and administrative mechanisms and shared decision-making strategies was further described by an NP:

‘Well, I can deal with this issue and that issue and that issue but you do understand that I’ll be calling you for this, this, and this if I see this’. Part of it is a willingness, being able to sit down and saying ‘this is what I’m capable of, this is what is realistic, let’s start small and move up.’ Knowing yourself, both the nurse practitioner and physician it goes both ways, very much so.

An NP expressed an integrated approach to knowing each other and how best to communicate, interact, facilitate, share, and support each other’s practice. She summarized this lengthy description with:

But I think it’s that whole sharing, but you know we don’t get to sit at a table to discuss, okay. A lot of it is just integrated knowing as you go along.
A resident and family centred collaboration philosophy and practice was described by most participants. An NP said:

I like doing admission physicals and I like to meet or least speak with the Power of Attorney or the family or whoever’s going to be involved in their care. Sometimes there’s nobody involved and you just gotta live with that. But as much as possible, I like to meet the residents, talk to them and the families, do the admission physical examination. So, just to try to get us off on a good level. If you develop that rapport (pause)...if you have an involved family and you develop that rapport it can really, it’s sort of an investment in time at the beginning but it can pay big dividends down the road, because you don’t get the issues the same.

Acceptance of the contribution of the other was inherent in many comments. However, explicit statements were typified in an NP comment:

He feels comfortable with that (disagreement). And if you’re not sure about something, you have the confidence and the assurance that, the safety, the security, to be able to raise, to talk about conflict or a disagreement. So you can work it out or agree to disagree... Accept each other and what each offers.

An RN added to the acceptance of contribution information when she shared the following three way communication:

When you’re calling the physician whether it be the NP or if it is the RN, often I’ll speak with her (NP) and we’re on the same page and she gives the go ahead, I give the doctor a call. And a lot of the doctors now are asking, ‘What dosage should we start at?’ And we’ll (the RNs) say, ‘This is what the NP is suggesting to start at this dosage’ and they go along with it.

Essential Elements

All participant groups and a number of documents identified essential elements of collaboration. A basic assumption across all sources was the need for interaction in order for collaboration to occur. The themes that emerged from a question regarding the most essential elements of collaborative practice, as well as essential elements identified throughout the interviews and documents are presented in Table 3.
Table 3: Frequency Data for Essential Elements of Collaborative Practice Themes

<table>
<thead>
<tr>
<th>Themes</th>
<th>Number of Times Cited</th>
<th>Number of Data Sources</th>
<th>MD</th>
<th>NP</th>
<th>RN</th>
<th>Document</th>
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<tr>
<td>Willingness to</td>
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<td>✓</td>
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<td>3</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing</td>
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<td>7</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Personality fit</td>
<td>12</td>
<td>5</td>
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<td>✓</td>
<td>✓</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Effective</td>
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<td>6</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
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<tr>
<td>interpersonal skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Willingness to Collaborate

The most commonly mentioned essential element of collaborative practice was a *willingness to collaborate*. This theme also was identified in the MD’s participation in the development of the proposal at the site that scored highly for collaboration on the Phase One survey scales. *Willingness to collaborate* was also identified as an antecedent for collaborative practice, as one needs to be willing to collaborate before collaboration can occur. One NP’s comments captured many of the *willingness to collaborate* statements when she said:
Over the years I’ve worked with a lot of physicians, young and old, male and female, you name it. And some of them are more team oriented you know. They are more trusting, or will work with you and gain that trust and respect, and you can work with them. Others, I don’t know. For whatever reason, they don’t.

**Sharing**

*Sharing* is essential to collaborative practice, as it includes the elements of communication and disclosure. *Sharing* was portrayed as an essential process element for, rather than an antecedent to collaboration. An NP described sharing as: “open exchange of information and ideas (free exchange) (the NP emphasized the word free).” A shared philosophy of care was essential for resident situations that involved ethical decision making, such as palliative care. At a site where collaboration was perceived to be strong, the NP and MD described a variety of resident situations that highlighted their shared philosophy of care, such as an emphasis on quality of life and palliative measures for end-of-life care, rather than the desire to prolong life at all costs. *Sharing* also included the ability and availability to share decision making and responsibility. The telephone was the most frequent method to enhance availability for the MDs and NPs in order to share and discuss resident needs and reach decisions.

**Personality Fit**

A *personality fit* was identified as critical to collaboration and was also identified as an antecedent to collaborative practice. An NP said: “Personality. I mean it’s a good fit, that’s part of it as well, you know, working relationships.” The comments were further reflected in a discussion with an MD:

As well, personality differences or people that you just don’t like for one reason or another. It could become a barrier at some point, you just don’t want to deal with them.
Interviewer: That’s interesting, personality has been coming out consistently.

Respondent: Well it matters. It matters in any kind of collaborative work. Whether that’s with my receptionist or whether that’s with my patients at the (LTCH) or whether it’s with the nurse practitioner. I mean those things matter. You know we are human beings and it’s all part of the game.

**Effective Interpersonal Skills**

The need for *effective interpersonal skills* was also identified as an essential element and antecedent for collaboration. “Able to communicate well, effectively” was said by an NP, and this phrase captures the essence of the remaining comments. There were two references respectively to: 1) the need for a collaborative culture in the LTCH, with open communication and problem-solving between professionals and between staff and administration, and 2) the necessity of knowing the residents’ and families’ needs and desires in order to collaborate effectively.

Throughout the exemplars and responses there was an overall endorsement of most of the seven essential elements of collaboration identified by Way, Jones, and Baskerville (Way et al., 2001a). There were strong elements of: 1) cooperation, 2) assertiveness, 3) responsibility/accountability, 4) autonomy, 5) communication, and 6) co-ordination. However, Way et al. also identified trust and respect as an essential element of collaboration. The participants in this study described the need for time and collaborative two-way communication in order to establish mutual trust and respect. They described situations where collaborative discussions occurred early in the NP’s employment, prior to the establishment of trust and respect. Mutual trust and respect were
typically depicted as an indicator of a more mature collaborative practice relationship, as described by an MD:

There has to be trust. Because I mean as a GP I’m used to doing most of the things myself. And to be able to trust somebody else to deal with my patients and doing things, I’ve got to be able to trust them, that they’re doing a reasonable job, or going to do a reasonable job. So yeah of course, but that comes out of a familiarity and ability to not only understand, but to respect the work that the other person does, and that familiarity is a good part of that.

**Perceived Outcomes**

Interviews with study participants and review of documents revealed a number of outcomes believed to be influenced by MD-NP collaborative practice in LTC. These included improved access to care, quality of care, quality of life, and teamwork as well as cost savings and higher levels of satisfaction among residents and families and among MDs, NPs and other members of the health care team. These outcomes are based on perception and at this time, the LTCHs have not collected data to measure the specific influence of the NP-MD team on these outcomes. However, the identification of these outcomes may inform future research to evaluate NP-MD collaboration in these LTCHs. Details regarding the number of times a perceived outcome was mentioned, the total number of sources, the groups who identified the outcome, and the number of sites are presented in Table 4.
<table>
<thead>
<tr>
<th>Themes</th>
<th>Number of Times Cited</th>
<th>Number of Data Sources</th>
<th>MD</th>
<th>NP</th>
<th>RN</th>
<th>Document</th>
<th>Number of Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to care</td>
<td>62</td>
<td>15</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>Quality of care</td>
<td>55</td>
<td>16</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Quality of life</td>
<td>24</td>
<td>14</td>
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<td>✓</td>
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</tr>
<tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
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<td>30</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>Resident &amp; family</td>
<td>18</td>
<td>9</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>satisfaction</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>MD, NP, staff</td>
<td>15</td>
<td>8</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Access to care.

Access to care was raised across all sites and for all participants. The theme, access to care included statements and examples of timely access to care, as well as access to new services, such as palliative care, psychogeriatric assessment, and advanced wound care that were a direct result of the NP-MD collaborative practice and adding the NP to the LTCH. In describing access to care, an MD said:

There are times for instance when I was not able to get there to assess one of my patients or another doctor’s patients. And the NP is able to get there and do an assessment and either at least acts as eyes and ears for a doctor at the other end of the telephone, and often act independently and be able to prescribe and deal with the problem as it comes up... The nice thing about the nurse practitioner is more than just the eyes and ears, it’s partly that, but it’s also having some more experience and training and also frankly the ability to prescribe, which makes it a lot nicer for me because I don’t have to then prescribe, think about what to prescribe, and go through it and sometimes go to the LTCH and write down the prescriptions. So yeah, it’s more than just eyes and ears, but that’s part of it certainly.

An NP described her collaboration with the MD to establish a palliative care program and then discussed the benefit for staff, residents, and families. The NP stated:

Since I have come on board, we (the MD, NP, and staff) now have our palliative services organized. Prior to that, often the person was transferred out for palliative care, but now working with the staff, they are giving the palliative care.

Quality of care.

There were a number of statements that were specific to NP-MD collaborative practice and its impact on quality of care. An MD said: “Patients receive good medical care with combined input from the NP and MD.” An RN said:

We’ve gone away from using two sometimes three medications of the same classification. We were using sometimes up to two or three anti-psychotics (for the same resident) and so that’s gotten better. We’re doing, we’re titrating up for
pain medications, starting with Tylenol plain and moving up to extra strength and different narcotics after that. So that’s improved.

As well as polypharmacy reduction outcomes, other examples of improved quality of care related to: a) management of chronic diseases, such as the reduced number and frequency of hypoglycemic incidents for residents with diabetes; b) prompt management of acute conditions that decrease the progression to more serious conditions, such as bowel obstruction secondary to fecal impaction; c) better assessment and management of confusion and differentiation between depression, delirium, and dementia; d) decreased resistive and aggressive behaviours associated with dementia; e) reduction in number and frequency of falls, particularly falls associated with anti-psychotics and anti-anxiety medications; and f) continuity of care, for instance with palliative services provided in the LTCH, rather than transferring the resident to the hospital or accessing community services.

Quality of life.

Quality of life was discussed by all participants and was found in documents. Quality of life was viewed from a broad perspective, as the participants described situations in which the improved quality of life for the resident also increased the quality of life for the family. An NP described the addition of the palliative care services at the LTCH and said:

Families know there is really good pain management. Because that is one thing I do a lot of is assess for pain, monitor responses, monitor the pain break through, work with pain symptom management, the physician, the pharmacist to get that symptom management turned around. And families feel really very happy with the end of life care services.
An MD stated:

It’s got to be the most important outcome and if you look at them (outcomes) and you can define that in lots of different ways. I mean it’s not just longer life, but also better life, and I think if we can keep the bed sores down and if we can get faster diagnosis and more appropriate diagnosis, then the nurse practitioner is helping in those ways.

Teamwork.

The influence of MD-NP collaboration improved team functioning, as well as quality of care. An RN described this:

We were very resident focused before, but I think we were missing the ball on a lot of things like the medications and their medical issues, and so I think their care has really improved. The working together as a team, I feel that we’re more in it together, or more of a solid team playing group together.

Cost savings.

Examples of cost savings were offered by all participants and found in all documents. There is a high financial cost to transfer residents to the emergency department for assessment of acute conditions when the MD is not available to come to the LTCH. With the NP on-site, she does the assessment and collaborates with the MD as needed, thereby saving the transportation cost of traveling to the hospital and the emergency department costs for this to be done. Issues with arranging for transportation and the associated costs were illustrated in a document:

An additional benefit of the nurse practitioner doing the initial assessment is the decreased cost for transportation, not only for the facility, but also for the family. Transportation difficulties when using wheel chairs or other mobility devices, it’s available only minimally within city limits, not available to rural clients, which creates a difficulty for them. If a staff escort is required, additional costs are incurred by the client or family. At a minimum a resident may be charged $176.00 for transportation for medical follow-up out of town. The alternate transportation mode would be to use the local ambulance service for non-urgent transfers at a cost in
excess of $300.00 per trip. A paid escort would still be required. (These are 1999 cost figures.)

Frequently cited cost savings related to: 1) decreased transfers to the emergency department; 2) reduced hospital admissions; 3) shortened lengths of stay in hospital; 4) decreased palliative needs from external agencies; 5) less time and money spent on wound care, as wounds no longer progress to stage three or four, requiring prolonged treatment with costly dressings and staff time for complex wound management; 6) decreased numbers of laboratory tests related to staff education regarding practice guidelines for sending urine and wound swabs for culture and sensitivity; and 7) reductions in staff time spent attempting to contact the MD who is busy in the office practice.

**Resident and family satisfaction.**

The addition of the NP to the LTCH and the MD-NP collaboration were believed to positively influence satisfaction. The health care providers offered their perceptions of improved resident and family satisfaction as outcomes of NP-MD collaboration. Resident and family satisfaction examples often linked with other outcome themes, for example access to care. As described by an RN:

They (the residents and families) know they don’t have to wait for the two weeks until the doctor comes in. They know that if they have a concern, they’re going to be able to voice that concern. Not all the time does the doctor have the time to listen to every detail. Their physicals are done by the NP now and they’re wonderful physicals. The residents learn things, the staff learn things about the residents they never knew about before. Yeah. So I do think that the residents feel very secure.
MD, NP, staff satisfaction.

Satisfaction of the MDs, NPs, and staff was reflected across all sites. All groups of participants made comments affirming the improved satisfaction related to NP-MD collaboration. A document described benefits for the MD: “depending on the physician, this (the NP-MD collaboration) could assist them with their patient load and relieve them of routine checks, routine physical assessments, and allow for data collection and assessment in urgent situations.” The quality of nursing assessment and management of resident needs improved, with an associated reduction in the number of telephone calls to the MD and increased quality of information communicated to the MD by the nurses. The change in the quality of nursing assessment communication was reflected by an MD:

If you get a call from a nurse saying, ‘This person’s a little more agitated than usual’, well how far is that going to get you? Like you need somebody to say, ‘Well can you please assess the patient? When was their last bowel movement? Do they appear to be in pain?’ It’s not going to do you any good if the person’s calling and saying, ‘Would you prescribe Ativan?’ or something like that. No. You need a good assessment.

Interviewer: So has the NP made a difference in the quality of calls you receive?

Respondent: Oh I think (name of NP) has made a tremendous difference (emphatic tone). She has made a tremendous difference in just… training the staff as to what to call the doctor with… To make sure that when you’re calling you have the right information and all. Oh she’s done a lot of training I think with the staff and it has made a difference, yeah.

An NP discussed her collaborative practice relationship with the MD and its influence on her satisfaction with the NP role. She said: “I have better professional development, increased professional understanding and acceptance.” When asked how this MD-NP collaboration affected the charge nurse role, an RN said:
I feel a lot more supported. I feel supported in the decisions that I’ve, that I’m making. If I need someone with, to consult with them and I’m just not too sure about something but I think I’m on the right path. I can give the NP a call and it’s like a sounding board and tell her what I think is going on here. She can give me some input on things that I might be missing, so I feel really supported. I feel more confident in my abilities as an RN.

**Discussion**

This paper summarizes quantitative and qualitative data collected from NPs and MDs in collaborative relationships in LTCHs as well as qualitative data from charge nurse RNs, document analysis, and field notes. The data analysis has provided a description of MD-NP collaborative practice processes, along with essential elements of collaboration, and perceived outcomes of NP-MD collaborative practice in LTCHs.

Within this study, collaborative practice and collaboration processes were similar for the MDs and the NPs. They understood collaboration in much the same way and generally described positive experiences with collaboration. The codes, subcategories, and themes were consistent across data sources. The consistency of understandings differs from previous collaboration studies that found MDs and nurses had different perceptions of collaboration. For instance, Baggs and Schmitt (1997) found that an MD may provide a brief explanation and view this as collaborative, yet the nurse might perceive this as receiving an order.

*Collaborative practice* was described as consensus decision-making to develop a plan of action based on mutual assessing, diagnosing, planning, and evaluating for optimal resident care, similar to the problem-solving approach of the nursing process. *Collaboration* was viewed as a process that was central to collaborative practice; and
facilitated communication and the establishment and revision of organizational and professional processes to support collaborative practice. The resident and family, rather than the disease process, were the focus of and central to collaboration. Independent and parallel care was provided for common resident needs, but complex needs required both care providers to collaboratively and creatively combine their knowledge and skills to find the best and most efficient ways to meet resident needs. Tasks were assigned based on provider skill rather than professional title. As the collaborative practice matured and the NP gained experience in the role, the frequency of interactions decreased. This decrease in the frequency of interactions seemed to be associated with increased knowledge of the collaborative partner’s practice style and expectations and increased NP confidence. The data in this study were not sufficient to inform a theory of a continuum or series of stages for collaboration.

The explicit collaborative practice and collaboration processes found in this study expand on previous work. Baggs and Schmitt (1997) found that working together was the core process of nurse-MD collaboration and included concepts of team, a patient focus, and sharing; however, they did not depict how this could be enacted. The Structured Collaborative Practice Model (Elisabeth Bruyere Research Institute, 2005) for LTC also identifies components of collaborative practice, yet fails to link these components in a meaningful process for those who are new to or struggling with collaborative practice. The major contribution of this study lies in its development and refinement of collaborative practice and collaboration processes that create a conceptual whole, one that is ready for implementation and further research to test its applicability to a variety of
LTCH sites. It is not known if or how these processes could be used in other health care settings.

The study participants identified *willingness to collaborate, sharing, personality fit*, and *effective interpersonal skills* as essential elements of collaboration. These participants also described the essential elements as antecedents to collaboration, except for sharing. This indicated that a *willingness to collaborate* and *effective interpersonal skills* are individual characteristics that one must have in some state of development in order for collaboration to be successful. These essential individual characteristics indicate that collaboration is an individual (Eilertsen et al., 2004), as well as a collective responsibility.

Commitment has been identified as an important antecedent to collaborative practice (Hanson, Spross, & Carr, 2000; Robert Wood Johnson Foundation, 1999). Both individuals must commit to work at the process because without commitment, there is no collaboration. However, the health care providers must be *willing to collaborate* in order to commit to the process. Competence, excellent interpersonal skills, respect for other professions, acceptance of different approaches to patient care, maturity (Campbell, 1998), being available, and being receptive (Baggs & Schmitt, 1997; Siegler & Whitney, 1994) have also been identified as precursors to collaboration. While previous literature has identified *excellent* interpersonal skills as essential to collaboration, the participants in this study tended to describe *effective* interpersonal skills; *effective* indicating a slightly
lower level of communication skill and a possible reflection of the continuing quest for communication excellence.

Sharing was recognized as an essential component of collaboration. Sharing included elements of communication which have been identified previously (Hallas et al., 2004), such as a free and open exchange of information, and the ability to listen to others and consider their opinion; however, disclosure has not previously been identified as an essential element of collaboration. Disclosure includes elements of revealing a secret or laying something open to view (Thatcher & McQueen, 1992). Free disclosure and exchange of information (communication) were essential to collaboration for these participants.

Personality fit has not been previously identified as an essential element of collaboration. The participants identified that there was no formula to define the “fit”. One participant compared the personality fit to the choice of a spouse or partner and asked why some personalities seem to fit and others do not. The importance of a personality fit was highlighted by all participants and indicates the need for the NP or MD who is working in the LTCH to be involved in the interview and hiring process of a new collaborative partner. A case example that requires the MD and NP to collaborate during the interview can provide a slightly more in-depth view of the collaborative personality fit than just asking questions about collaboration. Although an interview does not give a full picture of personality fit, there is an opportunity for some initial impressions.
Perceived outcomes of collaboration that were identified by the participants in this study included *access to care, quality of care, cost savings, satisfaction,* and *teamwork.* Many of these outcomes are consistent with outcomes that have been measured in studies evaluating the introduction of NPs into LTCHs. For instance, NPs in LTCHs have been shown to increase ‘medical’ attention for residents in the form of increased frequency of visits and access to care (Aigner, Drew, & Phipps, 2004; Kane et al., 1989); improve quality of care for residents with acute confusion, acute urinary incontinence, diabetes and congestive heart failure (Kane et al., 1989); save costs associated with decreased hospital admissions (Buchanan et al., 1990; Burl, Bonner, & Rao, 1994; Kane et al., 1989); reduce length of hospital stay and emergency department transfers (Buchanan et al., 1990; Burl et al., 1994; Burl, Bonner, Rao, & Khan, 1998); and increase staff satisfaction (Buchanan et al., 1990). The influence of NP-MD collaboration on *teamwork* has not yet been studied.

For the most part, the descriptions of the perceived outcomes related to the presence of the NP in the LTCH. The ability to be most effective in the role was dependent on a collaborative MD. Without a collaborative MD, such as those who refused to allow the NP to see the resident, the NP was ineffective. New services, such as palliative care were added after the NP was hired, but collaboration with the MD was essential to expand this service. There were no high quality studies, as determined by the quality criteria set forth by DiCenso, Guyatt, and Ciliska (DiCenso, Guyatt, & Ciliska, 2005), that investigated nurse or NP-MD collaboration related to outcomes in LTCHs; however, intensive care unit nurses’ reports of positive collaboration have been
associated with positive patient outcomes related to mortality and morbidity (Baggs et al., 1999; Baggs, Ryan, Phelps, Richeson, & Johnson, 1992) and staff satisfaction (Baggs et al., 1997; Baggs & Ryan, 1990). This study has helped to identify perceived outcome measures that should be included in studies that evaluate the effectiveness of NPs in LTCHs and in collaborative practice studies.

**Recommendations**

Dissemination of this information provides the opportunity to foster positive MD-NP collaborative relationships. As NP and MD partners discuss this study’s findings, there is an opportunity to compare the findings with their collaborative relationship and explore ways to strengthen collaboration and collaborative outcomes, and ultimately excellence in the delivery of resident care.

Education about collaboration is particularly important to provide health care professionals with the knowledge and early skills to establish collaborative processes (Henneman, Lee, & Cohen, 1995). It is recommended that components and processes of collaboration and collaborative practice be taught in medical, nurse practitioner, and nursing programs, as well as continuing education courses. An understanding of the components of collaboration and collaborative practice processes allows for the development of course content and educational strategies to consolidate the processes into student learning.

Interprofessional education, with member of different professions learning together provides opportunities to learn the roles of other professions and effective ways to communicate on an interprofessional basis. The MDs and NPs in this study
recommended that medical students and those in their residency training work with NPs to increase their appreciation of and knowledge about the NP role. It is also recommended that NPs use this as an opportunity to gain an increased understanding of the many demands that are placed on MDs. Interprofessional continuing education workshops that focus on both knowledge and skill development can enhance collaboration. A demonstration of effective MD-NP collaborative practice and opportunities for practice in collaborating, using actual resident situations, with coaches to guide the process is recommended to develop collaboration skills for practicing MDs and NPs.

Zwarenstein et al. (2000) completed a Cochrane review designed to consolidate the findings of high quality studies that measured the effects of interprofessional education interventions on collaborative practice and health care outcomes. Based on their inability to find studies that met their inclusion criteria, Zwarenstein and Reeves (2006) are currently conducting a large randomized trial on 20 medical units in Toronto, Ontario. The purpose of the study is to examine the impact of interprofessional education and collaboration interventions on interprofessional relationships, health care processes (including evidence-based practice), and patient outcomes. Their research will help to understand the relationship between and within professions regarding interprofessional education, knowledge, skill, and actual application of that knowledge and skill.

The processes for collaboration identified in this study provide a basis for health care providers, educators, and researchers to understand the steps in and linkages between concepts within collaborative practice. Further research is needed to determine the
developmental phases of collaboration; is it a continuum or does it occur in developmental stages, such as the novice to expert model developed by Benner (Benner, 1984)?

Based on the findings in this study, further investigation is needed to determine the similarities and differences between essential elements and antecedents of collaboration. Research studies should be designed to specifically determine the prerequisites versus the essential individual, structural, and process elements of collaboration. This additional knowledge will assist decision makers in ensuring that staffing and resource decisions can be made to increase the proficiency and efficiency of MD-NP collaborative practice.

An antecedent to collaborative practice that came up several times over the course of the interviews was the need for the LTCH to prepare for the NP role and collaboration. The administrator, director of care, MD, and charge nurse representative(s) need to meet several times in order to plan and complete an environmental scan and prepare for the NP role. This environmental scan should include a needs assessment to determine if there is a requirement for the NP, the organization’s acceptance of change, and if the organization and MDs are ready for an NP. This scan of the organization and the needs assessment can then be used to guide the definition of the role and the development of clear and measurable goals for the position (Bryant-Lukosius & DiCenso, 2004).

Research regarding the outcomes of collaborative practice is important in this current health care climate that focuses on outcomes and cost savings. Yet the direct effects of collaboration are difficult to measure, as there are many variables that may
affect outcomes (Schmitt, 2001; Zwarenstein & Bryant, 2005). It is also difficult to quantify the differences in outcomes associated with NP-only practice versus the direct influence of MD-NP collaborative practice. It is likely that large scale collaborative practice research cannot happen in Ontario in the near future, due to the small number of NPs in LTCHs. However, when a sufficient number of LTC NPs are employed and work in similar role contexts, a large multi-centre study is needed to evaluate NP-MD collaborative practice in LTCHs. In the meantime, a smaller study could be done using a controlled before-after design, with clear links between the processes and concepts of collaboration and the outcomes. As well, a study could be conducted to compare outcomes in LTCHs where NP-MD collaboration is and is not working well; which could test the concept of ‘synergy’, as used in the collaborative practice definition, to determine if collaborative practice does produce outcomes that are different and/or better than those produced by health care providers who work independently from one another.

Collaboration and collaborative practice are “hot topics” in Ontario, as evidenced by publications sponsored by the Registered Nurses Association of Ontario (2006) and the Ontario College of Family Physicians (Way et al., 2000); as well as the letters of support for this study from the Nurse Practitioner Association of Ontario (Appendix W), Ontario Long-Term Care Physicians (Appendix X) and the Ontario Association of Non-Profit Homes and Services for Seniors (Appendix Y). In addition, the Working Together in Long-Term Care project has developed a model for and is investigating NP-MD and interdisciplinary collaboration in LTCHs (Elisabeth Bruyere Research Institute, 2005).
This information contributes to the ongoing dialogue between and among professional associations, health care providers, decision makers, educators, and researchers.
CHAPTER FIVE

THESIS CONCLUSIONS
CHAPTER FIVE

Collaboration between MDs and NPs in LTCHs provides the opportunity for enhanced resident and family care, as well as improved teamwork and provider satisfaction. In this study I sought to address the gap in knowledge regarding how NPs and MDs collaborate in LTCHs and factors associated with the collaborative relationship.

This thesis consists of three papers in which I report the findings from a two phase sequential mixed methods study designed to answer the question: How do physicians and nurse practitioners collaborate with one another to provide primary health care services in LTCHs in Ontario? Mixed methods research was the methodology best suited to answer the research question through the use of quantitative and qualitative methods, as well as the mixing of data and findings. Quantitative data from the Phase One survey questionnaire provided a broad picture of collaboration and collaborative practice, including the extent of and satisfaction with MD-NP collaboration, and provided data for Phase Two participant selection. Phase Two qualitative data were obtained through individual interviews with MDs, NPs, and charge nurses; interview questionnaires using open-ended questions; document analysis; and field notes. These data were analyzed to provide an in-depth understanding of NP-MD collaboration. The number of times each theme was mentioned and the sources of data for each theme were provided to enhance the reader’s conception of the theme. Where applicable, Phase One quantitative data were mixed with Phase Two qualitative data to enrich data analysis. The overall findings, inferences, and recommendations from this study relied primarily on Phase Two qualitative data.
Detailed study methods and results are presented in Chapters Two, Three, and Four. In this final chapter, I present a brief summary of the findings from this study. I then relate the findings to the Long-Term Care NP-MD Collaborative Practice Model and suggest revisions to the model. Finally, a summary of the strengths and limitations of the study and a description of the recommendations for NP and MD practice, administration, education, policy, and research are presented.

**Summary of Findings**

In Chapter Two, I have provided the methods, results, and recommendations associated with Phase One of this study. Phase One included a survey designed to collect demographic and institutional information, and perceptions of the extent of and satisfaction with collaboration from MDs and NPs working in Ontario LTCHs. Overall, MDs reported higher scores for the extent of collaboration and greater satisfaction with collaboration than did the NPs. The majority of NPs and MDs agreed that collaboration was occurring and they were satisfied with the collaboration. In general, the MD-NP matched pairs reported similar scores, within a one-point difference, for the extent of and satisfaction with collaboration. Satisfaction with previous NP-MD collaboration did not influence the extent of or satisfaction with current collaboration for MDs or NPs.

In Chapter Three, I have summarized the methods, results, and recommendations associated with Phase Two of this study. In Phase Two, qualitative data were collected regarding first, the barriers and facilitators associated with NP-MD collaborative practice and second, recommendations to strengthen the facilitators and address the barriers. The NPs, MDs, and charge nurses who participated in this study identified barriers to
collaborative practice at the individual level, including: 1) *unwillingness to collaborate*, 2) *time*, 3) *communication issues*, 4) *role confusion*, 5) *lack of knowledge*, 6) *hierarchical power perceptions*, 7) *practice issues*, 8) *perceived liability fears*, 9) *credibility*, and 10) *disrespect*. At the organizational level, *coverage of multiple sites* by the NP was identified as a barrier to MD-NP collaboration, as well as *lack of planning for the NP role*, *lack of specific expectations for collaboration*, and a *desire to maintain the status quo* within the organization. From a health systems standpoint, barriers arose from the *restricted NP scope of practice*, and issues with obtaining *hospital privileges* and being included in the family practice department structure associated with the hospital privileges.

Facilitators of NP-MD collaboration were identified at the individual level including: 1) *experience in LTC and/or gerontology*, 2) *trust* in the collaborative partner, 3) *respect* for the collaborative partner, 4) *need for the NP as perceived by the MD*, and 5) *confidence*. LTCH facilitators included *support for collaboration* and *planning for the NP role and collaboration*. The knowledge, skill, and confidence obtained through *NP education* and the *role support* provided by the MoHLTC were the recurrent themes associated with health systems facilitators.

Participant recommendations to reduce barriers and support facilitators are also found in Chapter Three. *Making a conscious effort* to maintain equality, *making time for collaboration*, and *championing NP-MD collaboration* were recommended as strategies to reduce barriers at the individual level. Participants expressed the need for organizations to *prepare for the NP role* in order to support MD-NP collaboration, *hire*
NPs with LTC and/or gerontology experience when possible, and provide support for the NP role and collaboration after the NP is hired. At the health systems level, participants recommended education about collaboration and interprofessional education to enhance knowledge and skills; public education regarding the NP role to enhance health care professional, resident, and family awareness; MoHLTC selection of proposals that specify expectations and support for NP-MD collaboration; one LTCH site per NP; and expansion of the NP scope of practice. There were no participant recommendations to support facilitators at the individual and organizational level. At the health systems level, the NPs identified the need to continue the LTC NP network as an important mechanism to support the role and discuss strategies to enhance collaboration and resident care.

Collaboration and collaborative practice processes, essential elements, and outcomes identified by participants are presented in Chapter Four. Collaborative practice focused on 1) communication methods used by the NP and MD to keep connected and 2) process for collaborative practice including joint assessing, integrated decision making, shared planning and implementing, and mutual evaluating. The third theme focused on collaboration as the essence of collaborative practice. Participants discussed examples of disclosing, clarifying, developing and knowing activities. Themes within collaboration included: 1) clarifying and organizing roles and functions, 2) building on strengths, 3) knowing, 4) sharing, and 5) a resident and family centred focus. Working together to agree on and implement a plan of action was a recurrent theme for all participants, whereas acceptance of contributions was identified by the charge nurses and NPs, but was missing from the MD interviews and document analysis.
Essential elements of collaborative practice were identified by all groups of participants. The elements perceived as essential for collaborative practice consisted of the following themes: 1) *willingness to collaborate*, 2) *sharing*, 3) *personality fit*, and 4) *effective interpersonal skills*. Willingness to collaborate, personality fit, and effective interpersonal skills were categorized as antecedents to collaborative practice. Chapter Four also includes the perceived outcomes of collaboration suggested by study participants. These include *access to care; quality of care; quality of life; teamwork; cost savings* through reductions in emergency department transfers, hospital admissions, and reduced length of hospital stays; *increased resident and family satisfaction*, and *MD, NP, and staff satisfaction*.

In reviewing the findings and recommendations in each chapter, I deduced that ultimately *collaborative practice is a choice* of the individuals involved. The antecedents to and processes for collaboration and collaborative practice are at the individual-dyad level, in conjunction with the resident and family, and require the participants to choose to take action to collaborate. While organizational and health system supports are important to facilitate collaboration and reduce barriers, the organization and the health system cannot force two individuals to collaborate. An NP-MD dyad can choose to collaborate, even in those situations in which the organizational and health system influences are not very supportive.

The second overall finding is *the need for NP role clarity and integration to facilitate NP-MD collaborative practice*. At the sites where the NPs practiced within the full scope of practice and the LTCHs carefully planned for and implemented the role,
collaborative practice was perceived to be strong and highly satisfactory for both the NP and MD. At the sites where the NPs focused on specific aspects of the role, such as wound management, and the LTCHs joined late in the planning and proposal development process, the survey scale scores and interview data indicated less satisfaction with and lower levels of collaboration.

**Relating Findings to the Model**

The Long-Term Care NP-MD Collaborative Practice Model was used to inform this research study (Appendix B). When comparing the study results to the model, I found a number of consistencies and some differences that require refinements to the model. Starting with the core of the model, the findings support the resident and family as central to and collaborating with the MD and NP.

The NP-MD collaboration process requires revisions. The study participants described the need to know one’s self, e.g., personal strengths and limitations, communication styles, and how one reacts to stressful situations; as well as professional knowledge prior to being able to disclose or share that information with another. Therefore, *knowing* becomes the first step in collaboration. Participants were more likely to use the word *sharing* and provided examples of sharing, which is a broader concept than disclosing; for these reasons the term *sharing* replaces *disclosing*. *Sharing* individual philosophies and ethical perspectives of elder care, communication styles, behaviours under stress, and professional and personal areas of strength and needs in the collaborative relationship, the partners gain knowledge and understanding allowing them to move to the clarifying step. *Clarifying* roles and individual and joint involvement is
necessary for the NP and MD to progress to *developing* mutually effective routine and urgent communication and administrative mechanisms and shared decision-making strategies. Through *sharing, clarifying,* and *developing,* the partners progress once more to *knowing* self and each other at a higher level and how best to communicate, interact, facilitate, and support each other’s practice, moving again to *sharing, clarifying,* and *developing* through an ever-evolving collaboration process. The study findings supported the model’s collaborative practice process, consisting of *joint assessing, integrated decision making, shared planning and implementing,* and *mutual evaluating.*

Antecedents to collaborative practice were supported, with minor revisions. A *willingness to collaborate* is required even before a *commitment* to collaborate, suggesting that both *willingness* and *commitment* are antecedents. *Competence, respect for other professions, acceptance* of other approaches, and personal and professional *maturity* were not specifically cited as antecedents by the participants. However, these were underlying themes in their examples of collaboration and/or the identified barriers to collaboration (e.g., *practice issues*) that provided justification for keeping these concepts in the antecedents section of the model. As well, there is strong support for these antecedents in the collaboration literature (1997; Eilertsen, Reinfjell, & Vik, 2004) (Campbell, 1998; Siegler & Whitney, 1994). Rather than *excellent interpersonal skills* as has been cited as an antecedent in the literature (Campbell; Siegler & Whitney), these participants identified *effective interpersonal skills* as essential to and an antecedent of collaboration. *Personality fit* is a new antecedent that was identified by all three groups of participants. This was added to the model.
Because people typically read from top to bottom, the positioning of barriers at the top of the model might indicate an emphasis on barriers, which could convey a negative approach. Instead, to place a positive emphasis on the facilitators, they were placed at the top of the model. Barriers were moved to the bottom, below the antecedents, process, and outcomes.

I compared the category headings (individual, organizational, and health system) and lists of facilitators and barriers found in this study with those in the model. The individual level category heading was consistent with facilitators and barriers findings. The local heading was changed to organizational to better reflect the LTCH structure and to avoid confusion with other local concepts, such as community. The term government was changed to health system to include government and professional associations, health care and research organizations, and educational institutions that teach health care providers.

Individual facilitators of collaborative practice found in the model include: assertiveness, cooperation, consistent practice style, and trust in the collaborative partner. These concepts were supported in this study and four more were added: the individual’s perceived need for the NP; confidence to be assertive in the collaborative relationship, as well as confidence in each other’s practice and competence; making a conscious effort to collaborate; and experience in LTC and/or gerontology.

Organizational facilitators of collaboration were reinforced by this study’s findings, except for the team approach, which was not a strong facilitator of or component of MD-NP collaborative practice for these participants. On close examination,
team approach was similar to working together. Therefore, team approach was removed from the model. While caution was raised regarding the imposition of mechanisms that may not be compatible with the MD and NP’s collaborative approach, there was overall backing of expectations for and standards of collaborative practice, such as the recommendations for the NP and MD to participate in quarterly reviews and annual resident evaluation team meetings. Provision of opportunities for interprofessional education within and external to the LTCH was also cited by participants.

Interprofessional is a term that has increasingly replaced interdisciplinary in the education literature (D’Amour & Oandasan, 2005) and the model was revised to reflect this change. Support for collaboration that is dependent on the needs of the MD and NP and capabilities of the organization was added as a facilitator of collaborative practice. Provision of communication options such as email or cellular telephones was important for timely communication and was added to the model. Preparation for the NP role and for NP-MD collaboration through careful planning and a collaborative approach to NP role definition, planning, and implementation was another finding that was added to the model.

Two additions to organizational facilitators of collaborative practice included the provision of multiple modes of communication to provide effective ways for NPs and MDs to collaborate and planning for collaboration and the NP role to reduce barriers associated with role confusion. There was overall support for professional endorsement of NP-MD collaboration. However, these participants specifically discussed the need for public education regarding the NP role as a facilitator in helping the MD, resident,
family, and other health care providers to collaborate with the NP. An *NP proposal selection* process that emphasizes the importance of MD-NP collaborative practice was recognized as a facilitator. While *joint practice committees* and *shared planning and advisory committees* were not specifically addressed by these study participants, there was no indication that these should be deleted from the model.

A comparison of the model and the study results revealed the need to revise a few of the barriers to collaborative practice. For instance, at the individual level the term *role blurring* was changed to *role confusion*. The overlap or blurring of traditional medical functions was not an identified barrier for these participants, rather *role confusion* and lack of knowledge regarding the role of the NP created obstacles to MD-NP collaborative practice. The participants in this study agreed with the individual barriers of *ineffective communication, misconceptions* about collaborative practice, *varying philosophies* of practice and elder care, and *unavailability* of the collaborative partner. *Lack of knowledge* regarding collaboration, *hierarchical power perceptions, practice issues, lack of credibility, disrespect* for the collaborative partner were added to individual barriers list. While the *time* required for collaboration was perceived as a barrier early in the collaborative practice process, there were indicators that less time is needed as the collaborative relationship develops. There was general agreement that NP-MD collaboration saves time in the long term; providing increased time for MDs to attend to residents with more complex medical needs and office practice requirements. For these reasons, time was not included as an individual barrier to collaborative practice.
Barriers to MD-NP collaborative practice at the organizational level were generally supported by these participants, including: knowledge deficit regarding the NP role and collaborative practice; inefficient communication mechanisms; and lack of feedback, recognition, and encouragement for further development of the collaborative process. Fiscal constraints that increase the risk of NPs being pulled into two jobs, that of registered nurse and NP were not supported or refuted in this study. However, there was not sufficient evidence to remove fiscal constraints as a barrier to NP-MD collaborative practice. The NP covering multiple sites is an important barrier that was mentioned by all groups of participants. As well, a lack of preparation for MD-NP collaboration and the NP role, resistance to change within the LTCH, and lack of expectations for collaboration are additional barriers that were added to the model.

At the health system level, there was support for inclusion in the model of barriers regarding funding for NP roles and recognition of the time required for collaboration; restrictive NP scope of practice legislation, as well as regulations that prevent direct referral of residents to specialists; and research related to NP-MD collaboration that has been lacking in Canadian LTCHs. Entry to practice at the post-baccalaureate, rather than the graduate level was cited as a barrier by two NPs who expressed the need for more research knowledge and skills, and increased NP program content specific to gerontology and LTC. Lack of hospital privileges was identified as a barrier to collaborative practice. There was a situation in which one NP had hospital privileges within the Family Practice group, but was not provided notice of meetings or educational sessions. This prevents the MD and NP from learning together and discussing application of the new knowledge to
resident specific or other collaborative situations. Quasi-acceptance of the NP role was not identified as a barrier to collaborative practice by these participants; however, it is not known if this may be a reason for lack of willingness to collaborate on the part of some MDs. Therefore, quasi-acceptance of the NP role was maintained in the model.

The outcomes identified in the model are broad and include: quality, coordinated, comprehensive care and professional satisfaction. The perceived outcomes identified by these participants that fit within quality, coordinated, comprehensive care included improvements in: access to care, quality of care, quality of life, teamwork, cost savings, and resident and family satisfaction. While the participants in this study were qualified to speak to enhancements in their professional satisfaction, their perceptions of other outcomes have not been objectively measured. Further research is needed to determine actual outcomes associated with NP-MD collaborative practice prior to inclusion of specific outcomes in the model.

Other model revisions included the incorporation of a feedback loop from outcomes to antecedents, facilitators, barriers, and processes to depict the overall iterative process of NP-MD collaborative practice. The revised model is presented in Appendix Z. Further research is needed to determine: 1) if there are developmental stages or a continuum that reflects maturity of the collaborative practice relationship, 2) the need for a multi-dimensional or phased model to represent the resident and family collaboration with the MD and NP, and 3) the applicability of the model to other pairings of health care professionals and to interprofessional groups.
**Strengths and Limitations of the Study**

I have discussed the strengths and limitations of Phases One and Two in the respective chapters of this thesis. The following discussion addresses the strengths and limitations of the mixed methods study.

Together, the two phases addressed limitations that are common to collaborative practice literature, particularly in LTCHs. For instance, there were no studies that investigated matched pairs of MDs and NPs in LTCHs, and collaborative practice was not consistently well defined and clearly linked to data collection tools. In this study, a system was devised to conduct a survey of matched pair MDs and NPs in LTCHs. The term *collaborative practice* was clearly defined, using the definition that was developed by Way and Jones (Way, Jones, & Busing, 2000). Congruity was established between the definition and the survey tool when two scales, developed by Way and Jones (Way, Jones, & Baskerville, 2001), were incorporated. The survey questionnaire was pilot tested with LTC NPs and MDs to strengthen face and content validity. The survey results provided a broad picture of MD-NP collaborative practice in Ontario’s LTCHs. Based on survey results, individual interviews were conducted with matched pair NPs and MDs from three sites, as well as the charge nurses with whom they most frequently worked, to provide an in-depth understanding of NP-MD collaborative practice in LTCHs. Among collaborative practice researchers, there is a recognized need for qualitative research regarding collaboration between MDs and nurses in order to inform future intervention studies to strengthen collaboration (Zwarenstein & Bryant, 2000). The collaborative
practice definition was re-examined and compared to data at each step of analysis and was found to be congruent with the study findings.

Collaborative practice was approached from the perspective of NP-MD dyads, charge nurses who worked closely with the dyads, and from groups of MDs and NPs to provide both broad knowledge and in-depth understanding. Previous collaboration studies have typically focused on groups of MDs and nurses (Baggs, Ryan, Phelps, Richeson, & Johnson, 1992; Baggs & Schmitt, 1997; Goldfarb Intelligence Marketing & D. Dave HealthCare Solutions, 2003; Hojat et al., 2001; Price Waterhouse Coopers, 2001). Focusing this study on MD-NP pairs who were discussing their collaborative relationships facilitated my efforts to understand how NPs and MDs collaborate with one another. This broad and in-depth understanding allowed me to make specific recommendations, based on the study findings and inferences.

The assistance and cooperation provided by decision-makers at the MoHLTC was an additional strength of this study. The support provided by Sue Matthews, Chief Nursing Officer, and Rosanne Jabbour, Senior Policy Analyst, Nursing Secretariat; and Cathy Crane, Project Coordinator, Primary Health Care Nurse Practitioners and Long-Term Care was instrumental in identifying research questions that were relevant to decision and policy makers, as well as health care providers.

The main limitation of this study is the small population of NPs who work in Ontario LTCHs and the relative newness of the NP role in Ontario. Rather than selecting a sample from the population, with one exception (one NP did not return the survey), the small sample constituted the entire LTC NP population. As the population of LTC NPs
grows and the role is entrenched in the health care system, the role confusion and need for public education will likely diminish. Further research will be needed to understand how new roles differ from established roles in collaborative practice and to inform adaptation of the LTC NP-MD Collaborative Practice Model.

**Recommendations**

*Recommendations for NP and MD Practice*

The findings in this study are closely linked to MD and NP practice in LTCHs. It is recommended that NPs and MDs discuss these findings as a bridge to delve into their collaborative practice structure and relationship. Discussion of their particular processes, barriers, facilitators, and perceived outcomes can lead to ways to strengthen their collaborative practice. As well, it is recommended that MDs and NPs attend and participate in quarterly and annual reviews of resident needs and care planning. This time can provide structured and planned opportunities for collaborative practice and contribute to coordinated resident care. The results of this research study, the NP-MD collaborative practice model, and findings from previous research can be used to inform the development and/or revision of practice guidelines to establish and foster collaborative practice.
Recommendations for LTCH Administrators

Differing ideas about the organizational and resident needs and conflicting expectations regarding the NP role have interfered with MD-NP collaborative practice in LTCHs. To help avoid this confusion in future, it is recommended that LTCH administrators and organizational leaders complete a comprehensive assessment of their residents’ and organizations’ needs and determine if the NP is the best role to meet those needs. There are a number of NPs currently working in Ontario LTCHs who could act as resources during this needs assessment and decision-making process. Once the decision is made that an NP is the best role to meet the identified needs, clear goals are established, and a job description is developed, it is recommended that an extensive education program be implemented regarding this new role. This educational program should target every employee, MD, and consultant who is directly involved in resident care, as well as residents and family members. These educational sessions can provide content and dialogue regarding how the new role will impact on the organization. Existing employees and MDs will need opportunities to discuss how the new NP role will interact with and impact on their roles. Early and active involvement of the MD who has the greatest number of residents and/or will be working most closely with the NP is needed to promote acceptance of the role in the LTCH.

Those who will work most closely with the NP, including MD, RN, and registered practical nurse representatives should participate in: 1) providing these educational sessions, 2) exploring collaborative practice structures to work with the NP, 3) hiring of the NP to help ensure the personality fit between the individuals, particularly between the
MD and NP, and 4) orienting the NP to the LTCH and the role description. As replacement or additional MDs or NPs are considered, the collaborating partner should be involved in the recruitment, hiring, and orientation process. These shared approaches to hiring an NP or MD help to promote a collaborative culture in the LTCH, where people work together through specific processes for the common good of the residents and people associated with the organization.

Recommendations for Education

The initial education of MDs, NPs, and nurses should include content specific to collaboration and collaborative practice processes, with the concepts interwoven throughout the curriculum to entrench collaborative practice thinking, skills, and action into these health care providers. Secondly, interprofessional education, where two or more professions learn together and from other professions, is an important component of learning about collaboration and should be implemented into the healthcare education system. Opportunities should be planned for MD and NP students to work together in LTCHs during their clinical practica to provide for early development of collaborative practice skills.

The learning needs and styles may be different for MDs and NPs who are already practicing in LTCHs. Interprofessional approaches to teach them about collaboration and collaborative practice and to build on an existing relationship are recommended. This content can be overt and directly related to collaborative practice and/or it can be integrated into other topic areas that require a collaborative approach, such as palliative care or chronic disease management.

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**Recommendations for Policy**

There are a number of key recommendations at the policy level to enhance NP-MD collaborative practice in LTCHs. The first set of recommendations relate directly to the NP role in LTCHs. Consideration should be given to reducing the number of sites that an NP covers. Traveling across sites impacts on the time spent with residents, residents' access to care, and the availability of the NP for collaboration with the MD. If the NP must cover multiple sites, the NP should plan to be in the LTCH on the same day as the MD to promote collaborative practice. Secondly, the NP scope of practice should be based on the knowledge and skill of the NP within a broad set of practice guidelines such as currently exists for RNs, rather than restrictive lists. Thirdly, public education is needed to inform residents, families, and health care providers about the NP role. Knowledge about the role has the potential to decrease barriers associated with confusion about the role and increase acceptance of the NPs by the MDs.

From a collaborative practice perspective, a system for mentoring NP-MD dyads should be developed. MD-NP pairs with a strong collaborative relationship could mentor those new to or struggling with collaboration. As well, the development and implementation of new ventures regarding NP-MD collaborative practice are needed, such as multiple NPs collaborating with one MD in a LTCH or the establishment of an interprofessional family health team practice in a LTCH. In this type of arrangement, the family health team would be on-site to provide care for residents and for members of the community from the same building. This arrangement would increase resident access and reduce nursing time spent attempting to contact the MD and NP.
Recommendations for Research

Recommendations for research have been included where relevant in each chapter. An additional recommendation relates to clarifying the outcomes associated with the MD-NP collaborative practice. This could be accomplished through an observational study, such as a cohort design that compares measured outcomes between MDs working alone versus highly collaborative NP-MD pairs versus LTCH sites where NPs and MDs have low extents of collaborative practice. A cohort study would provide opportunities to gather data regarding process measures, such as quality of care and enhanced teamwork; outcome measures, such as cost savings, quality of life, satisfaction, and access to care; as well as minimally important clinical differences in the extent of and satisfaction with collaboration scales that were used in Phase One of this study. A well designed economic evaluation is needed that clearly links MD-NP collaborative practice with economic outcomes.

There is a need for research that clarifies the role of the NP in LTCHs and the reasons for the major discrepancies found in this study, with some NPs focusing on wound care whereas others are working to their full scope of practice. Along with knowledge about the role, there is a need for research to determine reasonable case loads for the NP. Mixed methods research is likely the best method to address both of these studies with data obtained from NPs, MDs, nurses, administrators, directors of care, policy makers, and the health care providers who work closely with the NPs, such as the pharmacists and registered dieticians. There is a need to look back to the original role development, whether a needs assessment was done and how it was done, if the NP role
was the best role to meet the needs, and how the role was planned for and implemented. The PEPPA framework, a “participatory, evidence-based, patient-focused process for guiding the development, implementation, and evaluation of advanced practice nursing” roles would be the ideal model to guide these studies (Bryant-Lukosius & DiCenso, 2004, p. 530).

Longitudinal quantitative and qualitative research studies are needed to determine the influence of interprofessional and/or collaborative education on NP-MD collaborative practice in LTCHs over time. Other research that is recommended specific to collaborative practice in LTCHs includes intervention studies to determine the most effective and efficient mechanisms to establish and maintain collaborative practice, and a quantitative longitudinal study regarding the time actually required for NP-MD collaborative practice versus the time saved or reallocated over the long run.
CHAPTER REFERENCES
Chapter One

References


http://www.oanhss.org/StaticContent/StaticPages/about/Current_Issues/FandE_submission_jan1405.pdf


Chapter Two

References


University of Ottawa Department of Family Medicine and School of Nursing


Chapter Three

References


Chapter Four

References


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Chapter Five

References


APPENDICES
Appendix A

Search Strategy

Electronic Search Databases

CINAHL
Medline and Premedline
Registry of Nursing Research
Web of Knowledge
Sociological Abstracts
Social Services Abstracts
Ageline
Psychinfo
Annual Reviews Social Sciences
Health Star
Science Direct
Ebsco Search Elite
Embase

Search Terms (individual and combined)

Nurse Practitioner
NP
Long-term care
Nursing Home(s)
Home(s) for the aged
Collaboration
Collaborative practice
Appendix B

Long-Term Care NP-MD Collaborative Practice Model
Barriers

- Individual
  - Ineffective communication
  - Misconceptions
  - Role blurring
  - Varying philosophies
  - Unavailability

- Local
  - Knowledge deficit
  - Inefficient communication
  - Lack of feedback
  - Economic constraints

- Governmental
  - Entry to practice
  - Quasi acceptance
  - Funding
  - Legislation
  - Research

Antecedents

- Commitment
- Competence
- Interpersonal skills

- Respect
- Acceptance
- Maturity

- Individual
  - Assertiveness
  - Cooperation
  - Consistent practice style
  - Trust

- Local
  - Standards
  - Team Approach
  - Interdisciplinary education

Facilitators

- Local
- Standards
- Team Approach
- Interdisciplinary education

Outcomes

- Quality
  - Coordinated, comprehensive care

- Professional satisfaction

- Governmental
  - Joint practice committees
  - Shared planning & advisory committees
  - Supportive legislation
  - Professional endorsement
Appendix C

Two-Phase Sequential Mixed Methods Design

Research Design

Mixed Methods

Phase One
- Quantitative

Phase Two
- Qualitative

Inferences & Meta-Inferences
Appendix D
Survey Questionnaire: Physicians

Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Facilities: A Mixed-Methods Study

Faith Donald and Alba DiCenso
McMaster University

Physician Survey
Collaboration with the Nurse Practitioner in Long-Term Care

March 2006

Throughout this survey, we are using the terms "Nurse Practitioner" and "NP" for those nurses who have obtained their extended class (EC) certificate (certification by the College of Nurses of Ontario to function as an NP). The term "MD" refers to physicians who are general practitioners or family physicians.

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### Part A - Demographics and Experience

1. What is your gender?
   - □ Male
   - □ Female

2. What is your age in years?

3a. What is the highest degree you have obtained?

3b. At which university was your medical program located?

3c. What year did you graduate from medical school?

3d. Did you complete a specialty residency program?
   - □ Yes
   - □ No (If no, proceed to question 4)

3e. If yes, what was the specialty, where did you take the program and in what year did you graduate?
   - Specialty:
   - Location:
   - Year:

4. How long have you practiced in long-term care (LTC)?

5. How are you paid for the LTC services you provide?
   - □ Fee-for-service
   - □ Capitation
   - □ Salary

6. What percentage of your time is spent in each activity?
   - □ Clinical in this LTC facility
   - □ Clinical in other LTC facilities
   - □ Clinical outside of LTC
   - □ Management/leadership in this LTC facility
   - □ Research
   - □ Education/Training provision
   - □ Other (please specify)

7. How much time is spent per month in direct resident care at this facility?

8a. Have you had previous experience with MD-NP collaboration?
   - □ Yes, proceed to 8b
   - □ No, proceed to Part B

8b. If yes, please describe the most recent collaboration other than the current relationship with the NP in this LTC setting in terms of the type of primary care setting and the duration.

8c. Practice setting(s) for previous collaboration (e.g., community health centre, nursing home):

8d. Duration of previous collaboration: ________ months

8e. How satisfied were you with the collaborative relationship with the previous NP? (please circle one number)
   - □ Not satisfied
   - □ Extremely satisfied

### Part B - Collaborative Experience with the LTC Nurse Practitioner [RN(EC)]

Please complete the following information for the long-term care facility in which you work with the NP:

1. Name of long-term care facility:

2. How long have you worked as a physician in this facility?

3. Are you the Medical Director of this facility?
   - □ Yes
   - □ No
<table>
<thead>
<tr>
<th>Code:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4. Were you involved in developing the proposal for this NP position?</strong></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td><strong>6. Please identify the NP with whom you work most frequently at this facility.</strong></td>
<td>NP's Name:</td>
</tr>
<tr>
<td><strong>6. How would you describe the extent of collaboration with this NP? (please circle one number)</strong></td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>No collaboration</td>
<td>Total collaboration</td>
</tr>
<tr>
<td><strong>7. How satisfied are you with the collaborative relationship with this NP? (please circle one number)</strong></td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>Not satisfied</td>
<td>Extremely satisfied</td>
</tr>
<tr>
<td><strong>8. How long have you worked with this NP at this facility?</strong></td>
<td>months</td>
</tr>
<tr>
<td><strong>9a. How much time per month is currently spent collaborating with this NP on specific resident issues?</strong></td>
<td>hours</td>
</tr>
<tr>
<td><strong>9b. Do you receive reimbursement for collaborating with this NP?</strong></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td><strong>9c. Does your work with this NP impact on your income?</strong></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td><strong>9d. If yes, is the income impact positive (e.g., more time in your office practice) or negative (less time in your office practice)? Comments:</strong></td>
<td>□ Positive □ Negative</td>
</tr>
<tr>
<td><strong>10. Please identify the ways you communicate with the NP in the LTC facility (check ALL that apply).</strong></td>
<td></td>
</tr>
<tr>
<td>Discussions on the telephone</td>
<td></td>
</tr>
<tr>
<td>Unplanned communication (e.g. meeting in the hallway)</td>
<td></td>
</tr>
<tr>
<td>As needed - e.g. we seek each other out when there are questions about a resident</td>
<td></td>
</tr>
<tr>
<td>Regular meetings</td>
<td></td>
</tr>
<tr>
<td>Work side by side with the NP</td>
<td></td>
</tr>
<tr>
<td>Review charts/orders</td>
<td></td>
</tr>
<tr>
<td>E-mail</td>
<td></td>
</tr>
<tr>
<td>Written messages (not in the residents' charts)</td>
<td></td>
</tr>
<tr>
<td>Messages via staff</td>
<td></td>
</tr>
<tr>
<td>Other (please describe)</td>
<td></td>
</tr>
<tr>
<td><strong>11. List the three most important contributions the NP makes to resident and/or family care at this facility.</strong></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td><strong>12. Please briefly describe the collaborative structure (i.e., how collaboration occurs with the NP) at this facility.</strong></td>
<td></td>
</tr>
</tbody>
</table>
PART B1: MEASURE OF CURRENT COLLABORATION

Consider your current experience of collaborative practice between you and the nurse practitioner you have named above and rate your level of agreement or disagreement with each statement, using a check mark (V).

Please check the one best answer for each statement below. Strongly Disagree, Disagree, Slightly Disagree, Slightly Agree, Agree, Strongly Agree.

<table>
<thead>
<tr>
<th>The nurse practitioner and you:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Plan together to make decisions about the care for the residents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Communicate openly as decisions are made about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>3. Share responsibility for decisions made about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Co-operate in making decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Consider both nursing and medical concerns in making decisions about resident care</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6. Co-ordinate implementation of a shared plan for resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Demonstrate trust in the other's decision making ability in making shared decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Respect the other's knowledge and skills in making shared decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Fully collaborate in making shared decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

PART B2: PROVIDER SATISFACTION IN CURRENT COLLABORATION

Consider your current experience of collaboration with the nurse practitioner you have named above and rate your current level of satisfaction or dissatisfaction with each statement, using a check mark (V).

Please check the one best answer for each statement below. Strongly Dissatisfied, Dissatisfied, Slightly Dissatisfied, Slightly Satisfied, Satisfied, Strongly Satisfied.

What is your current level of satisfaction with:

| 1. The shared planning that occurs between you and the nurse practitioner while making decisions about resident care |   |   |   |   |   |   |
| 2. The open communication between you and the nurse practitioner that takes place as decisions are made about resident care |   |   |   |   |   |   |
| 3. The shared responsibility for decisions made between you and the nurse practitioner about resident care |   |   |   |   |   |   |

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## PhD Thesis – F. Donald McMaster - Nursing

<table>
<thead>
<tr>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Dissatisfied</td>
<td>Dissatisfied</td>
<td>Slightly Dissatisfied</td>
<td>Slightly Satisfied</td>
<td>Satisfied</td>
<td>Strongly Satisfied</td>
<td></td>
</tr>
</tbody>
</table>

### What is your current level of satisfaction with:

1. The cooperation between you and the nurse practitioner in making decisions about resident care
2. The coordination between you and the nurse practitioner when implementing a shared plan for resident care
3. The trust shown by you and the nurse practitioner in one another's decision making ability in making shared decisions about resident care
4. The respect shown by you and the nurse practitioner in one another's knowledge and skills
5. The amount of collaboration between you and the nurse practitioner that occurs in making decisions about resident care
6. The way that decisions are made between you and the nurse practitioner about resident care (that is, with the decision making process, not necessarily with the decisions)
7. The decisions that are made between you and the nurse practitioner about resident care

Thank you for taking the time to complete this survey. Please return it in the enclosed self-addressed, stamped envelope or fax to Faith Donald at [redacted] by June 15, 2006, or as soon thereafter as possible.

[Copyright 2001 by Jones, Wey and Associates. All rights reserved. Used with permission from Jones, Wey and Associates (Wey, Jones, & Bascomo, 2001). Adapted using 'resident' instead of 'patient' and 'slightly disagree' and 'slightly agree' instead of 'neutral' and 'not applicable'; added questions 12-15, by Faith Donald and Alba DiCicco.]

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Appendix E

Survey Questionnaire: Nurse Practitioners

Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Facilities: A Mixed-Methods Study
Faith Donald and Alba DiCenso
McMaster University

Nurse Practitioner Survey

Collaboration with the Physician in Long-Term Care

March 2006

Throughout this survey, we are using the terms "Nurse Practitioner" and "NP" for those nurses who have obtained their extended class (EC) certificate (certification by the College of Nurses of Ontario to function as an NP). The term "MD" refers to physicians who are general practitioners or family physicians.
**Part A - Demographics and Experience**

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. What is your educational background?</td>
<td>Nursing Diploma, BScN, Non-nursing Baccalaureate, Master of Nursing, Non-nursing Masters Degree, PhD</td>
</tr>
<tr>
<td>1b. How did you obtain your Nurse Practitioner education?</td>
<td>COUPN certificate program, Non-COUPN certificate program, COUPN integrated BScN/NP program, Non-COUPN degree program, COUPN transition program, Acute Care NP Program, Other</td>
</tr>
<tr>
<td>1c. How did you become licensed as an RN (EC)?</td>
<td>Completed COUPN program, Wrote CNO registration exam, Completed Non-COUPN program, Completed the CNO three step process, Other</td>
</tr>
<tr>
<td>2. What is your age in years?</td>
<td>___________ years</td>
</tr>
<tr>
<td>3a. In total, how long have you practiced as a registered nurse (including as an RN(EC))?</td>
<td>_______ years _____ months</td>
</tr>
<tr>
<td>3b. How many years did you practice as an RN in long-term care (LTC) before becoming an RN(EC)?</td>
<td>_______ years as an RN in LTC</td>
</tr>
<tr>
<td>3c. In total, how many months have you practiced as an RN(EC)?</td>
<td>_______ months</td>
</tr>
<tr>
<td>3d. How many months have you worked in LTC as an RN(EC)?</td>
<td>_______ months</td>
</tr>
<tr>
<td>3e. How many months have you worked in this LTC setting as an RN(EC)?</td>
<td>_______ months</td>
</tr>
<tr>
<td>3f. Have you worked in this LTC setting in another capacity (e.g., RN prior to your NP role)?</td>
<td>□ Yes □ No</td>
</tr>
</tbody>
</table>

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<table>
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</table>

| 4a. Are you currently practicing | □ Full-time  □ Casual  □ Part-time  □ Contract (specify length of contract) years |
| 4b. Please describe your work experience since becoming an NP, other than your current long-term care position? (e.g., 13 months in a CHC, 22 months in a regional geriatric program, etc.) |
| 5a. Would you classify your work location as | □ Remote  □ Rural  □ Urban |
| 5b. In what area of Ontario is your work setting located? | □ Northern  □ Southern  □ Central |
| 5c. Within how many long-term care facilities do you currently work? | ____ Long-term care facilities |
| 6a. How many GPs or family MDs do you work with on a frequent basis, taking into consideration all the LTC facilities in which you work? | ____ MDs |
| 6. What percentage of your time is spent in each activity? | □% Clinical in long-term care  □% Clinical outside of LTC  □% Management/leadership in long-term care  □% Research  □% Education/Training provision  □% Professional development  □% Other (please specify) |
| 7a. Have you had previous experience with MD-NP collaboration? | □ Yes, proceed to 7b  □ No, proceed to Part B |
| 7b. If yes, please describe the type of practice setting and duration of the MD-NP collaboration immediately prior to your current MD-NP collaboration. |
| 7c. Practice setting(s) for previous collaboration (e.g., community health centre, nursing home): | |
| 7d. Duration of previous collaboration: | ____ months |

| 7e. How satisfied were you with the past collaborative relationship with the MD? (please circle one number) | 1 2 3 4 5 6 |
| 7f. Extremely satisfied |  |
| 7h. Not satisfied |  |

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# Part B - Collaborative Experience with the LTC Physician

Please complete the following information for each long-term care facility in which you work.

1. Name of long-term care facility:

2. Number of beds:

3. Type of facility:
   - Nursing Home
   - Home-for-the-aged
   - Other

4. Were you involved in developing the proposal for your NP position in this LTC facility? 
   - Yes
   - No

5. How many hours per month do you work at this facility?

6. How long have you worked with this MD at this facility?

7. How would you describe the extent of collaboration with this MD? (please circle one number)
   - No collaboration
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - Total collaboration

8. How satisfied are you with the collaborative relationship with this MD? (please circle one number)
   - Not satisfied
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - Extremely satisfied

9. How much time per month is currently spent collaborating with this MD on specific resident issues?

10. Please briefly describe the collaborative structure (i.e., how collaboration occurs) at this facility.
10. Please describe the ways you communicate/interact with this MD in your practice setting (check ALL that apply).

- Discussions on the telephone
- Unplanned communication (e.g., meeting in the hallway)
- As needed — e.g., we seek each other out when there are questions about a resident
- Regular meetings
- Work side by side with the MD
- Review charts/orders
- E-mail
- Written messages (not in the residents' charts)
- Messages via staff
- Other (please describe)

11. List the three most important contributions that you make, as an NP, to resident and/or family care at this facility.

1. 
2. 
3. 

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### PART B1: MEASURE OF CURRENT COLLABORATION

Consider your current experience of collaborative practice between you and the physician you have named above and rate your level of agreement or disagreement with each statement.

<table>
<thead>
<tr>
<th>Please check the one best answer for each statement below</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>The general practitioner or family physician and you:</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Slightly Disagree</td>
<td>Slightly Agree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>1. Plan together to make decisions about the care for the residents</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Communicate openly as decisions are made about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Share responsibility for decisions made about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. Co-operate in making decisions about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. Consider both nursing and medical concerns in making decisions about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. Co-ordinate implementation of a shared plan for resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. Demonstrate trust in the other’s decision making ability in making shared decisions about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. Respect the other’s knowledge and skills in making shared decisions about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. Fully collaborate in making shared decisions about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### PART B2: PROVIDER SATISFACTION IN CURRENT COLLABORATION

Consider your current experience of collaboration with the physician you have named above and rate your current level of satisfaction or dissatisfaction with each statement.

<table>
<thead>
<tr>
<th>Please check the one best answer for each statement below</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your current level of satisfaction with:</td>
<td>Strongly Dissatisfied</td>
<td>Dissatisfied</td>
<td>Slightly Dissatisfied</td>
<td>Slightly Satisfied</td>
<td>Satisfied</td>
<td>Strongly Satisfied</td>
</tr>
<tr>
<td>1. The shared planning that occurs between you and the physician while making decisions about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. The open communication between you and the physician that takes place as decisions are made about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. The shared responsibility for decisions made between you and the physician about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Please check the one best answer for each statement below:

<table>
<thead>
<tr>
<th>Code</th>
<th>Strongly Dissatisfied</th>
<th>Dissatisfied</th>
<th>Slightly Dissatisfied</th>
<th>Slightly Satisfied</th>
<th>Satisfied</th>
<th>Strongly Satisfied</th>
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</thead>
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<tr>
<td>4.</td>
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<td>5.</td>
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<td>9.</td>
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<td>11.</td>
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</tr>
<tr>
<td>12.</td>
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<td>0</td>
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<tr>
<td>13.</td>
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<tr>
<td>14.</td>
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<tr>
<td>15.</td>
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</tr>
</tbody>
</table>

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Thank you for taking the time to complete this survey. Please return it in the enclosed self-addressed, stamped envelope or fax to Faith Donald at June 15, 2006, or as soon thereafter as possible.
Appendix F

Extent of Collaboration Scale: Physicians

MD MEASURE OF CURRENT COLLABORATION

Consider your current experience of collaborative practice between you and the nurse practitioner you have named above and rate your level of agreement or disagreement with each statement, using a check mark (√).

<table>
<thead>
<tr>
<th>The nurse practitioner and you:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Plan together to make decisions about the care for the residents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Communicate openly as decisions are made about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Share responsibility for decisions made about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Co-operate in making decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Consider both nursing and medical concerns in making decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Co-ordinate implementation of a shared plan for resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please check the **one best answer** for each statement below.
Please check the **one best answer** for each statement below.

<table>
<thead>
<tr>
<th>The nurse practitioner and you:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate trust in the other's decision making ability in making shared decisions about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Respect the other's knowledge and skills in making shared decisions about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Fully collaborate in making shared decisions about resident care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

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Appendix G

Extent of Collaboration Scale: Nurse Practitioners

NP MEASURE OF CURRENT COLLABORATION

Consider your current experience of collaborative practice between you and the physician you have named above and rate your level of agreement or disagreement with each statement.

<table>
<thead>
<tr>
<th>The general practitioner or Family physician and you:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Plan together to make decisions about the care for the residents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Communicate openly as decisions are made about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Share responsibility for decisions made about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Co-operate in making decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Consider both nursing and medical concerns in making decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Co-ordinate implementation of a shared plan for resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Demonstrate trust in the other's decision making ability in making shared decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statement</td>
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<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>-----------</td>
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<td>---</td>
<td>---</td>
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</tr>
<tr>
<td>8. Respect the other's knowledge and skills in making shared decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Fully collaborate in making shared decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Appendix H

Satisfaction with Collaboration Scale: Physicians

MD PROVIDER SATISFACTION IN CURRENT COLLABORATION
Consider your current experience of collaboration with the nurse practitioner you have named above and rate your current level of satisfaction or dissatisfaction with each statement, using a check mark (√).

<table>
<thead>
<tr>
<th>What is your current level of satisfaction with:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The shared planning that occurs between you and the nurse practitioner while making decisions about resident care</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>2. The open communication between you and the nurse practitioner that takes place as decisions are made about resident care</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3. The shared responsibility for decisions made between you and the nurse practitioner about resident care</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>4. The cooperation between you and the nurse practitioner in making decisions about resident care</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>5. The consideration of both nursing and medical concerns as decisions are made about resident care</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Please check the one best answer for each statement below.

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<table>
<thead>
<tr>
<th>What is your current level of satisfaction with:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. The coordination between you and the nurse practitioner when implementing a shared plan for resident care</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>7. The trust shown by you and the nurse practitioner in one another’s decision making ability in making shared decisions about resident care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. The respect shown by you and the nurse practitioner in one another’s knowledge and skills</td>
<td></td>
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</tr>
<tr>
<td>9. The amount of collaboration between you and the nurse practitioner that occurs in making decisions about resident care</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>10. The way that decisions are made between you and the nurse practitioner about resident care (that is, with the decision making process, not necessarily with the decisions)</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>11. The decisions that are made between you and the nurse practitioner about resident care</td>
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</tr>
</tbody>
</table>

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Appendix I

Satisfaction with Collaboration Scale: Nurse Practitioners

NP PROVIDER SATISFACTION IN CURRENT COLLABORATION

Consider your current experience of collaboration with the physician you have named above and rate your current level of satisfaction or dissatisfaction with each statement.

<table>
<thead>
<tr>
<th>Please check the one best answer for each statement below</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your current level of satisfaction with:</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. The shared planning that occurs between you and the physician while making decisions about resident care</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>2. The open communication between you and the physician that takes place as decisions are made about resident care</td>
<td></td>
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</tr>
<tr>
<td>3. The shared responsibility for decisions made between you and the physician about resident care</td>
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</tr>
<tr>
<td>4. The cooperation between you and the physician in making decisions about resident care</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5. The consideration of both nursing and medical concerns as decisions are made about resident care</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6. The coordination between you and the physician when implementing a shared plan for resident care</td>
<td></td>
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</tbody>
</table>
Please check the one best answer for each statement below.

<table>
<thead>
<tr>
<th>What is your current level of satisfaction with:</th>
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</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>7. The trust shown by you and the physician in one another's decision making ability in making shared decisions about resident care</td>
</tr>
<tr>
<td>8. The respect shown by you and the physician in one another's knowledge and skills</td>
</tr>
<tr>
<td>9. The amount of collaboration between you and the physician that occurs in making decisions about resident care</td>
</tr>
<tr>
<td>10. The way that decisions are made between you and the physician about resident care (that is, with the decision making process, not necessarily with the decisions)</td>
</tr>
<tr>
<td>11. The decisions that are made between you and the physician about resident care</td>
</tr>
</tbody>
</table>

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Appendix J

Four Additional Survey Questions Regarding Satisfaction: Physicians

<table>
<thead>
<tr>
<th>Please check the one best answer for each statement below</th>
<th>1 Strongly Dissatisfied</th>
<th>2 Dissatisfied</th>
<th>3 Slightly Dissatisfied</th>
<th>4 Slightly Satisfied</th>
<th>5 Satisfied</th>
<th>6 Strongly Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What is your current level of satisfaction with:</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. The amount of time you spend consulting with the nurse practitioner</td>
<td>□ □ □ □ □ □</td>
<td></td>
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</tr>
<tr>
<td>13. The availability of the nurse practitioner</td>
<td>□ □ □ □ □ □</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. The appropriateness of consultations initiated by the nurse practitioner</td>
<td>□ □ □ □ □ □</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>15. The quality of care provided by the nurse practitioner</td>
<td>□ □ □ □ □ □</td>
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</tbody>
</table>
Appendix K

Four Additional Survey Questions Regarding Satisfaction: Nurse Practitioners

<table>
<thead>
<tr>
<th>What is your current level of satisfaction with:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. The amount of time you spend consulting with the physician</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>13. The availability of the physician</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>14. The appropriateness of consultations initiated by the physician</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>15. The quality of care provided by the physician</td>
<td>□</td>
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Appendix L

McMaster University Research Ethics Board Approval

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<tr>
<th>APPLICATION STATUS: NEW: [R] RENEWAL [□] ADDENDUM [□] REB#: 2005 169</th>
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<tr>
<td>TITLE OF RESEARCH PROJECT: Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Facilities: A Mixed-Methods Study</td>
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The application in support of the above research project has been reviewed by the MREB to ensure compliance with the Tri-Council Policy Statement and the McMaster University Policies and Guidelines for Research Involving Human Participants. The following ethics certification is provided by the MREB:

- The application protocol is approved as presented without questions or requests for modification.
- The application protocol is approved as revised without questions or requests for modification.
- The application protocol is approved subject to clarification and/or modifications as appended or identified below.

COMMENTS & CONDITIONS:

Continuously provision of evidence of approval with the tri-council REB + all correspondence with that Board.

DATE: DEC 13 2005 Dr. D. Maurer, Chair, REB:

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Appendix M

Ryerson University Research Ethics Board Approval

To: Dr. Faith Donald
School of Nursing

From: Alexander Karabanow on behalf of Nancy Walton, Ph.D.
Chair, Research Ethics Board

Re: REB 2006 - 001: Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Facilities: A Mixed-Methods Study

Date: January 18, 2006

Dear Dr. Donald,

The review of your protocol REB File #2006-001 is now complete. The project has been approved for a one year period. Please note that before proceeding with your project, compliance with other required University approvals/certifications, institutional requirements, or governmental authorizations may be required.

This approval may be extended after one year upon request. Please be advised that if the project is not renewed, approval will expire and no more research involving humans may take place. If this is a funded project, access to research funds may also be affected.

Please note that REB approval policies require that you adhere strictly to the protocol as last reviewed by the REB and that any modifications must be approved by the Board before they can be implemented. Adverse or unexpected events must be reported to the REB as soon as possible with an indication from the Principal Investigator as to how, in the view of the Principal Investigator, these events affect the continuation of the protocol.

Finally, if research subjects are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and approvals of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research.

Please quote your REB file number (REB-2006-001) on future correspondence.

Congratulations and best of luck in conducting your research.

for Nancy Walton, Ph.D.
Chair, Research Ethics Board
Appendix N

Cover Letter to Accompany Physician Survey

Date of McMaster University Research Ethics Board Approval: 2005/12/13
Date of Ryerson University Research Ethics Board Approval: 2006/01/20

March 17, 2006

Dear Dr.,

You are being invited to participate in a research study regarding MD-NP collaborative practice in long-term care settings, Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Facilities: A Mixed Methods Study. The researchers include Faith Donald and Alba DiCenso. Faith Donald is an Assistant Professor, School of Nursing, Ryerson University, and a PhD student at McMaster University. This research study is required as the thesis component of Ms. Donald’s graduate nursing program. Alba DiCenso, PhD is a Professor in the School of Nursing, McMaster University and is Ms. Donald’s thesis supervisor for this study.

This study has the support of Sue Matthews, Provincial Chief Nursing Officer, Cathy Crance, Project Coordinator, and Gail Pacch, Assistant Deputy Minister, from the Ministry of Health and Long-Term Care; as well as the Ontario Long-Term Care Association; the Ontario Association of Non-Profit Homes and Services for Seniors; the Ontario Long-Term Care Physicians Association; the Nurse Practitioner Association of Ontario; and the Gerontological Nursing Association. Your name was obtained from the nurse practitioner at the long-term care facility where you work.

This research study has two phases. In this first phase, Ministry funded nurse practitioners (NPs) who work in long-term care facilities (LTCFs) and physicians (MDs), with whom they work most frequently, are invited to complete a survey to help us explore the broad perspective of collaboration and the collaborative practice relationship between NPs and physicians MDs in LTCFs. In the second phase, MDs, NPs, and charge nurses in some of the LTCFs will be invited to participate in interviews to provide the researchers with an in-depth perspective of collaboration and collaborative practice in long-term care.

We would very much appreciate it if you would complete the attached survey to help us learn about the extent of and satisfaction with MD-NP collaboration in your LTCF. There are two scales that measure the extent of and satisfaction with collaboration at the end of the survey. The survey should take no longer than 15 minutes to complete. It is important
that you and the nurse practitioner complete the surveys independently and without
discussion because we are interested in your individual rather than collective responses.

Participation in the research study is voluntary and you are under no obligation to
participate in this study. You may choose to withdraw from the study at any time, without
penalty, or loss of relationship or standing with the researchers, McMaster University, or
Ryerson University. The decision to participate, or not, or withdraw from the study will
not be communicated to the Ministry of Health and Long-Term Care, the universities,
your employer, or colleagues. Your individual responses will be kept confidential. If you
withdraw from the study, any information provided prior to that time can be used for data
analysis, unless you request that the data not be used. If the results of the study are published, all identifying information will be
removed. Ethics approval has been received from McMaster University and Ryerson
University. If you have any
questions regarding your rights as a research participant or wish to withdraw from the
study at any time without penalty or loss of relationship with the researchers, you may
contact the McMaster Research Ethics Board Advisor at , the
Ryerson Research Ethics Board at or Faith Donald or Alba
DiCenso at the telephone numbers or emails listed below.

NP-Physician collaborative practice in long-term care settings has not been studied in
Canada. The results of this research study will help us understand the nature of NP-
Physician collaboration and the factors that influence collaboration, and will inform
strategies to support and promote MD-NP collaboration in long-term care settings. The
results of this study will assist facilities, organizations, and policy makers in
understanding the factors that optimize MD-NP collaboration in LTCFs. We may contact
you again to request your participation in Phase 2 of this study.

Please return the completed survey in the self-addressed stamped envelope by March 31,
2006 or fax to attention of Faith Donald at a small token of our
appreciation for your completion of the survey, we are enclosing a Tim Horton’s gift
certificate.

Thank you for your consideration of our request.

Sincerely,

Faith Donald  Alba DiCenso
Doctoral Student, McMaster University  Professor, McMaster University
Assistant Professor, Ryerson University  Doctoral Supervisor
Appendix O

Cover Letter to Accompany Nurse Practitioner Survey

Date of McMaster University Research Ethics Board Approval: 2005/12/13
Date of Ryerson University Research Ethics Board Approval: 2006/01/20

March 17, 2006

Dear,

You are being invited to participate in a research study regarding MD-NP collaborative practice in long-term care settings, Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Facilities: A Mixed Methods Study. The researchers include Faith Donald and Alba DiCenso. Faith Donald is an Assistant Professor, School of Nursing, Ryerson University, and a PhD student at McMaster University. This research study is required as the thesis component of Ms. Donald’s graduate nursing program. Alba DiCenso, PhD is a Professor in the School of Nursing, McMaster University and is Ms. Donald’s thesis supervisor for this study.

This study has the support of Sue Matthews, Provincial Chief Nursing Officer, Cathy Crane, Project Coordinator, and Gail Paech, Assistant Deputy Minister, from the Ministry of Health and Long-Term Care; as well as the Ontario Long-Term Care Association; the Ontario Association of Non-Profit Homes and Services for Seniors; the Ontario Long-Term Care Physicians Association; the Nurse Practitioner Association of Ontario; and the Gerontological Nursing Association. Your name was obtained from Cathy Crane, Project Coordinator, Primary Health Care Nurse Practitioners and Long-Term Care, Ministry of Health and Long Term Care.

This research study has two phases. In this first phase, Ministry funded nurse practitioners (NPs) who work in long-term care facilities (LTCFs) and physicians (MDs), with whom they work most frequently, are invited to complete a survey to help us explore the broad perspective of collaboration and the collaborative practice relationship between NPs and physicians MDs in LTCFs. In the second phase, MDs, NPs, and charge nurses in some of the LTCFs will be invited to participate in interviews to provide the researchers with an in-depth perspective of collaboration and collaborative practice in long-term care.
We would very much appreciate it if you would complete the attached survey to help us learn about the extent of and satisfaction with MD-NP collaboration in your LTCF. The survey should take about 30 minutes to complete. There are two scales that measure the extent of and satisfaction with collaboration at the end of the survey. Please identify the general practitioner (GP) or family MD with whom you work most frequently at each LTCF and complete the scales while thinking of your collaborative relationship with that particular MD. Please complete these two scales for each long-term care facility where you work.

To help us identify the physicians to survey, we contacted you by telephone or email to ask you to identify the physician with whom you work most frequently in each LTCF in which you work. It is important that you and the physician complete the surveys independently and without discussion because we are interested in your individual rather than collective responses.

Participation in the research study is voluntary and you are under no obligation to participate in this study. You may choose to withdraw from the study at any time, without penalty, or loss of relationship or standing with the researchers, McMaster University, or Ryerson University. The decision to participate, or not, or withdraw from the study will not be communicated to the Ministry of Health and Long-Term Care, the universities, your employer, or colleagues. Your individual responses will be kept confidential. If you withdraw from the study, any information provided prior to that time can be used for data analysis unless you request that the data not be used. In this case all of your data will be purged from the data set. If the results of the study are published, all identifying information will be removed. Ethics approval has been received from McMaster University and Ryerson University. If you have any questions regarding your rights as a research participant or wish to withdraw from the study at any time without penalty or loss of relationship with the researchers, you may contact the McMaster Research Ethics Board Advisor at , the Ryerson Research Ethics Board at (416) , or Faith Donald or Alba DiCenso at the telephone numbers or emails listed below.

NP-Physician collaborative practice in long-term care settings has not been studied in Canada. The results of this research study will help us understand the nature of NP-Physician collaboration and the factors that influence collaboration, and will inform strategies to support and promote MD-NP collaboration in long-term care settings. The results of this study will assist facilities, organizations, and policy makers in understanding the factors that optimize MD-NP collaboration in LTCFs. We may contact you again to request your participation in Phase 2 of this study.

Please complete the survey and return it in the self-addressed stamped envelope by March 31, 2006 or fax to attention of Faith Donald at As a small token
of our appreciation for your completion of the survey, we are enclosing a Tim Horton’s gift certificate.

Sincerely,

Faith Donald, RN(EC), MN
Doctoral Student, McMaster University
Assistant Professor, Ryerson University

Alba DiCenso, RN, PhD
Professor, McMaster University
Doctoral Supervisor
Appendix P

Survey Cover Letter from Research Team Physician to Accompany Fourth Mailing

(Physician Office Letterhead)

Dr. (name)
(Address)

June 5, 2006

Dear Dr. (name),

As a member of the research team studying the Collaborative Practice of Nurse Practitioners and Physicians in Long-Term Care Facilities, I am writing to encourage you to please complete the attached brief survey. The survey is very short, requiring about 8 minutes to complete.

We currently have 78.8% of the physician responses and would like to get this as close to 100% as possible. This is particularly desirable as there are so few physicians who work with nurse practitioners in long-term care. This is also likely to be the final reminder letter and your last chance to contribute to this worthwhile study.

Your perspective is very important to understanding this new model of care and the complex relationship of collaborative practice. Please consider completing the survey and returning it by fax or in the self-addressed stamped envelope no later than June 15th.

Thanks for considering this request.

With best wishes,

Michael Stephenson, MD, MSc
Medical Director
(name of LTCF)
Appendix Q

Charge Nurse Demographic Questionnaire
Appendix R

Interview Questionnaire

10. What are the three most important behaviours that indicate the MD and NP are practicing collaboratively?

1. 

2. 

3. 

11. What are the three most important outcomes of effective MD-NP collaboration?

1. 

2. 

3. 

For the purposes of the $50.00 reimbursement for your participation in this study, what is your social insurance number?

__________________________
Appendix S

Semi-Structured Individual Interview Guide: MD or NP

INTRODUCTION

1. Introductions.
2. Review purpose of interview: obtain data regarding current collaboration.
3. Interview mechanics:
   • 60-90 minutes maximum in length,
   • Will occasionally check the clock and the tape recorder.
4. Interview process:
   • Allow you to talk about your collaboration and collaborative practice,
   • My role to listen and if needed to prompt from my check-list of questions to ensure that all necessary areas are covered,
   • Please ask for clarification if needed.
5. Reassurance regarding confidentiality:
   • Specific content of the questionnaire and taped interview is confidential,
   • Content is only for the use of the research team.
   • When using names of residents or colleagues, please use fictitious names.

QUESTIONS

1. Tell me about yourself:
   • Educational preparation where and type of program,
   • Previous medical, nurse practitioner, or nursing experience, describe,
   • Previous experience with collaboration, including in your education. Describe.
2. Tell me about your practice:
   • How complex is the practice?
   • Who do you see the most? E.g., Age groups/gender.
   • What are the most common reasons for seeing residents?
3. Tell me about how you and the (nurse practitioners or physicians) work together. If resident names are used, please use fictitious names.
   • Tell me about how you and the (MD) (NP) make decisions together.
   • How do you share your philosophies of care and how does that affect the decision-making process?
   • When you make decisions together, how do you decide who will be responsible for the care?
   • If you disagree about a diagnosis or treatment, how do you resolve that disagreement?
   • How do you make decisions about who will see which resident?
   • How would you describe your communication with one another?
• How do you communicate during urgent situations? How would you rate these communication methods for effectiveness on a scale of 1-10, with 1 being least effective and 10 being most effective?
• What are your routine communication mechanisms? How would you rate these communication methods for effectiveness on a scale of 1-10, with 1 being least effective and 10 being most effective?
• Do you trust one another’s ability to make decisions? Could you expand on how the trust (is or is not) demonstrated?
• Do you respect one another’s knowledge and skills? Could you expand on how respect (is or is not) demonstrated?
• How do you facilitate and support one another’s practice?
• How would you define collaboration?
• How would you define collaborative practice?

4. What is most important to or best supports collaborative practice? Please consider this at the individual, local, and governmental levels. What could be done to strengthen supports for collaborative practice?

5. What are barriers to MD-NP collaborative practice that you have encountered or of which you are aware? Please consider this at the individual, local, and governmental levels. What could be done to reduce or eliminate barriers to collaborative practice?

6. What did you learn about collaborative practice in your education program? Has this learning been helpful in actual application? What collaborative practice education strategies would you recommend be included in physician and NP education programs?

7. What are the most important outcomes of MD-NP collaborative practice?

8. Is there any other information you want to give me about your current MD-NP collaboration that we haven’t already talked about?

9. Please write down on this piece of paper, the three most important behaviours that indicate the MD and NP are practicing collaboratively.

[Adapted by Faith Donald from Jones, Way and Associates. All rights reserved. Used with permission from Jones, Way and Associates.]
Appendix T

Semi-Structured Individual Interview Guide: Charge Nurse

INTRODUCTION
1. Introductions
2. Review purpose of interview: obtain data regarding current MD-NP collaborative practice and collaboration.
3. Interview mechanics:
   - 60-90 minutes maximum in length,
   - Will occasionally check the clock and the tape recorder.
4. Interview process:
   - Allow you to talk about your observations and experiences with MD-NP collaboration,
   - My role to listen and if needed to prompt from my check-list of questions to ensure that all necessary areas are covered,
   - Please ask for clarification if needed.
5. Reassurance regarding confidentiality:
   - Specific content of the questionnaire and taped interview is confidential,
   - Content is only for the use of the research team.
   - When using names of residents or colleagues, please use fictitious names.

QUESTIONS
1. Tell me about yourself:
   - Educational preparation: where and type of program,
   - Previous nursing experience, describe,
   - Previous experience with collaboration, describe.
   - What did you learn about collaborative practice in your education program?
2. Tell me about your nursing practice:
   - How complex is the practice?
   - Who do you see the most? E.g., Age groups/gender.
   - What are the most common reasons?

Please answer the following questions based on your own experience and perceptions regarding MD-NP collaboration as it is practiced in your agency.

3. How would you define or describe MD-NP collaboration?
4. What is the purpose of MD-NP collaboration related to the work of your facility?
5. What are its strengths?
6. Which administrative policies and practices best support MD-NP collaboration?
   - Please mention at least four supportive factors.
7. What are other facilitators of MD-NP collaboration in your facility?
8. Which administrative policies and practices interfere with or constrain MD-NP collaboration?
   - Please mention at least four interfering or constraining factors.
9. What are other barriers to MD-NP collaboration in your facility?
10. What helps maintain MD-NP collaboration in your facility?
11. How does MD-NP collaboration affect the quality of services provided at the facility?
12. How does MD-NP collaboration affect success at your facility?
13. What are the limitations to MD-NP collaborative practice in your facility?
14. What needs to change to support MD-NP collaboration in your facility?
16. In what ways does MD-NP collaboration facilitate integration/co-ordination with other parts of the health system?
17. How can MD-NP collaboration contribute to cost-effective service delivery?
18. What kind of changes can occur as a result of MD-NP collaboration?
19. How has MD-NP collaboration affected your role as the charge nurse?
20. What impact does MD-NP collaboration have on resident care?
21. What impact does MD-NP collaboration have on long-term care?
22. What collaborative practice education strategies would you recommend be included in physician and NP education programs?
23. What are the most important outcomes of MD-NP collaborative practice?
24. Is there anything else you wish to tell me about MD-NP collaboration?
25. Please write down on this piece of paper, the three most important behaviours that indicate the MD and NP are practicing collaboratively.
Appendix U

Administrator Letter, Consent, and Participant Protection from Employment Repercussions Letter

(name)
Administrator
(name of LTCF)
(address)

May 18, 2006

Dear (name);

You are invited to participate in a research study to examine MD-NP collaboration in long-term care facilities (LTCFs), Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Facilities: A Mixed Methods Study. The researchers include Faith Donald and Alba DiCenso. Faith Donald is an Assistant Professor, School of Nursing, Ryerson University, and a PhD student at McMaster University. This research study is required as the thesis component of Ms. Donald’s graduate nursing program. Alba DiCenso, PhD is a Professor in the School of Nursing, McMaster University and is Ms. Donald’s thesis supervisor for this study.

This study has the support of Sue Matthews, Provincial Chief Nursing Officer, Cathy Crane, Project Coordinator, and Gail Paech, Assistant Deputy Minister, from the Ministry of Health and Long-Term Care; as well as the Ontario Long-Term Care Association; the Ontario Association of Non-Profit Homes and Services for Seniors; the Nurse Practitioner Association of Ontario; the Ontario Long-Term Care Physicians Association; and the Gerontological Nursing Association.

The results of this study will assist facilities, organizations, and policy makers in understanding the factors that optimize MD-NP collaboration in LTCFs.

Our research team has selected some LTCF sites in order to analyze documents to identify collaborative practice facilitators; and we will invite MDs, NPs, and charge nurses in these LTCFs to participate in interviews to provide the researchers with an in-depth perspective of collaboration and collaborative practice in long-term care. We will be contacting you during the next week to request your permission to analyze your facility’s documents that relate to collaborative practice, such as the original NP funding request, follow-up NP funding requests, policies, procedures, and annual reports that may relate to collaborative practice. The identification and provision of these documents will be handled through you or your designate. It is anticipated that your time for retrieval and
return of the documents may require up to 60 minutes. We will also require a small quiet space for document review.

There will also be an individual interview with the NP in your facility as well as with one MD and a charge nurse (RN) who work most frequently with the NP and MD. These interviews will be scheduled at their convenience to avoid disruption to your work setting. A separate consent form will be sent to each of these individuals. They will be assured that they are under no obligation to participate in the study based on your consent. A sample letter is appended that states that there will be no employment repercussions for NP, MD, or charge nurse participation in the study. If you agree to participate in the study, a copy of the appended letter with your signature will be provided to the participants from your facility.

Permission is also being sought to use an enclosed, private meeting room or office for the individual interviews, if the NP, MD, or charge nurse wishes to be interviewed in the work setting. Should any resident examples be shared during the interviews, the participants will be requested to use fictitious names and absolute confidentiality will be maintained by the interviewer and research team.

Participation in the study is voluntary and due to the small number of participants, we encourage you to keep your participation private. You may choose to not participate or withdraw your facility from the study at any time, without penalty, loss of relationship or standing with the researchers, McMaster University, or Ryerson University. The decision to participate, or not, or withdraw from the study will not be communicated to the Ministry of Health and Long-Term Care, the universities, your employer, or colleagues. If you withdraw from the study, any information provided by you prior to that time can be used for data analysis, unless you request that the data not be used. In this case all of the data provided by you will be purged from the data set. We would be pleased to participate in any Quality Council or ethics approval processes required by your facility.

There is a small risk that your facility may be identified due to the small number of NPs working in long-term care in the province. All responses will be kept confidential and identifying information will be removed. As well, you will receive drafts describing how your facility is presented and quoted. Any concerns that you may have will be attended to through consultation with yourself, the research team, and an ethics advisor prior to publication of findings. Ethics approval has been received from McMaster University and Ryerson University. If you have any questions regarding your rights as a research participant you may contact the McMaster Research Ethics Board Advisor at Faith Donald or Alba DiCenso at the telephone numbers or emails listed below.

Nurse Practitioner-Physician collaborative practice in long-term care settings has not been studied in Canada and is important for understanding collaboration between different members of the health care team. The results of this study will assist
organizations and policy makers in making decisions to support and promote MD-NP collaboration in long-term care settings.

We respectfully request permission for access to documents and the use of a meeting room or private office to conduct this important research study. Thank you for your consideration of our request.

Sincerely,

Faith Donald  
Doctoral Student, McMaster University  
Assistant Professor, Ryerson University

Alba DiCenso  
Professor, McMaster University  
Doctoral Supervisor
PhD Thesis – F. Donald McMaster - Nursing

Consent

Date of McMaster University Research Ethics Board Approval: December 13, 2005
Date of Ryerson University Research Ethics Board Approval: January 18, 2006

I have read and understood the above statements. I agree to researchers entering this long-term care facility to conduct the research study Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Facilities: A Mixed Methods Study by accessing documents provided by me or my designate and using a private area to interview the nurse practitioner, physician, and charge nurse, as explained to me. The nurse practitioner, physician, and charge nurse will be free to give or withhold their individual consent to participate.

I understand that I am free to withdraw permission for research study participation at any time, without penalty. I know that I may contact the researchers through the provided telephone numbers and e-mail addresses if I have questions about the study or wish to withdraw from the study.

Participant (print) ____________________ Participant (sign) ______________________

Date ______________________________

Facility Name and Address

__________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

Telephone (______) ______________________________
Fax (______) ______________________________
E-mail _______________________________________

Please return the completed consent via fax to Faith Donald

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Letter from Administrator to the NP, MD, and RN Study Participants

(Long-Term Care Facility Letterhead)

(Date)

This letter provides assurance that there will be no employment or negative repercussions for the nurse practitioner, physician, or charge nurse resulting from participation in the research study Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Facilities: A Mixed Methods Study.

Sincerely,

Administrator

(Name of Facility)
Appendix V

Interview Participant Letter and Consent

(name)
(address)

July 5, 2006

Dear (name),

We are conducting the second phase of the research study to examine physician (MD) and nurse practitioner (NP) collaboration in long-term care facilities (LTCFs), Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Facilities: A Mixed Methods Study. The researchers include Faith Donald, Alba DiCenso, Dr. Michael Stephenson, Kevin Brazil, and Ann Mohide. Faith Donald is an Assistant Professor, School of Nursing, Ryerson University, and a PhD student at McMaster University. This research study is required as the thesis component of Ms. Donald’s graduate nursing program. Alba DiCenso, PhD is a Professor in the School of Nursing, McMaster University and is Ms. Donald’s thesis supervisor for this study. Dr. Stephenson is Medical Director at Wellington Nursing Home. The results of this study will assist organizations and policy makers in making decisions to support and promote MD-NP collaboration in long-term care settings.

This study has the support of Sue Matthews, Provincial Chief Nursing Officer, Cathy Crane, Project Coordinator, and Gail Paech, Assistant Deputy Minister, from the Ministry of Health and Long-Term Care; as well as the Ontario Long-Term Care Association; the Ontario Association of Non-Profit Homes and Services for Seniors; the Nurse Practitioner Association of Ontario; the Ontario Long-Term Care Physicians Association; and the Gerontological Nursing Association. Ethics approval has been received from McMaster University and Ryerson University. The results of this study will assist facilities, organizations, and policy makers in understanding the factors that optimize MD-NP collaboration in LTCFs.

You are invited to participate in the second phase of this study, which requires an individual audio taped interview. It is expected that the interview will last approximately 60-90 minutes and will be scheduled at a place and time of your convenience to avoid disruption to your work day and to ensure your confidentiality.

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Recognizing the value of your time and any costs associated with travel or parking, a $50.00 honorarium will be provided to you following the interview. This honorarium will be provided if you decide to withdraw from the study at any time prior to completion of the interview. If you withdraw from the study, any information provided prior to that time can be used for data analysis unless you request that the data not be used. In this case all of your data will be purged from the data set. A light meal will be provided, should it be necessary to conduct the interview during a meal break.

The data collected will be used to:
- examine MD-NP collaborative practice in LTCFs;
- identify facilitators and barriers to MD-NP collaborative practice in LTCFs;
- identify essential elements of MD-NP collaborative practice in LTCFs.

Participation in the study is voluntary. Potential benefits of participating in the study may include the satisfaction from knowing you have contributed to research that will add to the body of knowledge on collaboration and collaborative practice in long-term care facilities. This participative experience and exploration of collaborative practice may increase awareness of the collaborative relationship between physicians and nurse practitioners in long-term care facilities through the process of reflection, explanation, and clarification. Although there are no known harms from participating in the research, if you at any time become upset during the interview, the interviewer will pause to provide time for recovery.

You may choose to withdraw from the study at any time, without penalty, or loss of relationship or standing with the researchers, McMaster University, or Ryerson University. The decision to participate, or not, or withdraw from the study will not be communicated to the Ministry of Health and Long-Term Care, the universities, your employer, or colleagues. Your employment will not be jeopardized by participation or non-participation in this study, or by any particular statements you may make during the interview.

There is a small risk that you may be identified by your co-workers through your responses to the open-ended questions due to the small number of nurse practitioners working in long-term care in the province. Should any specific resident, personal, or professional information be shared during the interview that could identify you or another person, absolute confidentiality will be maintained by the interviewer and research team. A secretary who is not involved in the interview process will transcribe the tape. No identifying information will be typed into the written transcript. The transcript will be reviewed and responses will be analyzed. The audiotape and written transcript will be kept in a secure area to further protect confidentiality for you and your facility.

You will receive a transcript of your interview to review for accuracy, the removal of any identifying information, and identification of sections that you prefer not be used in direct
quotes when reporting the study. The researchers will verify understandings of meaning and content during and following the interview. If you have any questions regarding your rights as a research participant or wish to withdraw from the study, you may contact the McMaster Research Ethics Board Advisor at [contact information], the Ryerson Research Ethics Board at [contact information], or Faith Donald or Alba DiCenso at the numbers or e-mail listed below.

Faith Donald, RN(EC), MN
Assistant Professor, Ryerson University

Alba DiCenko, RN, PhD
Professor, McMaster University
Consent for Interviews

I have read and understood the above statements. I freely agree to participate in the 60-90 minute interview session for the research study *Collaborative Practice by Nurse Practitioners and Physicians in Long-Term Care Facilities: A Mixed Methods Study*. I do not have to answer any questions that I do not want to answer and am under no obligation to participate.

I understand that I may contact the ethics office or the researchers through the provided telephone numbers and e-mail addresses if I have questions about the research study or wish to withdraw from the study. I know that I am free to withdraw permission at any time, without penalty or loss of relationship with the research team.

Participant (print) ____________________________________________________________

Participant (sign) ____________________________________________________________ Date ________

Please return the completed consent in the enclosed envelope or by fax to Faith Donald (‘) ____________________________

July 16, 2006
Appendix W

Letter of Support: Nurse Practitioner Association of Ontario

March 1, 2004

Canadian Health Services Research Foundation

Dear Members of the Review Panel;

The Nurse Practitioners' Association of Ontario (NPAO) is pleased to provide this letter of support for the proposal "Collaborative Service Delivery by Primary Health Care Nurse Practitioners and Physicians in Long Term Care Facilities." NPAO, an interest group of the Registered Nurses Association of Ontario, represents the professional interests of all NPs in Ontario. The almost 800 NPAO members across Ontario advocate for accessible, high quality health care for Ontarians through the integration of NPs across the health care system.

Long-term care facilities are one of the newer practice settings for collaborative service delivery by interdisciplinary teams of primary health care nurse practitioners and physicians. In addition to increasing our general knowledge of collaborative practice models, the proposed study will provide an opportunity to examine how these collaborative practices work in different service delivery models within long term care. These findings will be valuable for decision makers in Provinces and Territories across Canada.

Among the most frequently asked questions of NPAO, by both NPs and policy decision makers, are questions about practice models (e.g., what is the ideal model in terms of patient caseload, physician relationships, ability to develop programs, etc.). Research findings that provide these types of parameters will significantly contribute to both the quality and effectiveness of NP practice in long term care facilities, today and in the future.
The experience at 17 project sites in Ontario has provided anecdotal evidence that primary health care delivered by interdisciplinary teams of family physicians and nurse practitioners to elders in long-term care decreases the number of emergency department visits, hospital admissions and days in hospital. This research will provide the opportunity to assess in greater depth the impact of practice models on the delivery of care to this particular population.

Despite the fact that nurse practitioners are the most researched profession, our members are excited about the opportunity to evaluate their practice and determine the most effective models of delivery of primary health care. On behalf of the Executive Committee of NPAO and nurse practitioners across Canada, I look forward to the results of this essential research study. Please do not hesitate to contact me if further information is needed.

Sincerely,

Theresa Agnew, RN(EC)
Chair, Nurse Practitioners' Association of Ontario
Appendix X

Letter of Support: Ontario Long-Term Care Physicians

FafthDanstcL
RN,(ECXMS,PhD
Asst. Brofasor, ftjp u fy

ONTARIO LONG TERM CARE PHYSICIANS

8 March 2004

Dear Mr. Donald,

The OLTCP is pleased to support the above research project. Virtually 100% of care provided in-

house to residents of long term care (LTC) facilities in Canada is provided by primary care physicians
(GPs). Physicin v have talked to from across Canada providing this care all have a special interest and

passion in our institutionalized elderly. Most other workers in long term care e.g. nurses, RNPs,

Physiotherapists, Occupational Therapists, and RN (BN) share the expertise and passion.

The morbidity of the resident population in LTC institutions across Canada has changed
dramatically in the past 5 years. In Ontario alone the acuity of residents has increased such that the average

number of diagnoses upon admission is seven, and the number of prescribed medications now average

8.2, and appears to be rising. The complexity of care is increasing so rapidly that the Case Mix Index has to

be adjusted annually to reflect a new affordable "metric".

Just as nurses have developed Extended Class registration to assure expertise in geriatric care, so

have physicians, therapists, social workers, RNPs, and others. Some national and Provincial colleges have

special recognition of expertise in these areas. Regardless, the collaboration and interdisciplinary

cooperation within the facility is crucial in providing wholistic care.

This project offers a greatly needed opportunity to examine the process whereby MDs and NPs

work together in different models. It has the opportunity to highlight barriers and achievements in order to

stimulate the positive, and minimize the negative in future expansion of this concept care model.

The OLTCP looks forward to reviewing the results, and wishes to be involved as a key

stakeholder in Nurse Practitioner initiatives in Canada.

Sincerely,

Norman R. Flett BA, MD, CCFP, ECD, CWC
President, OLTCP

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Appendix Y

Letter of Support: Ontario Association of Non-Profit Homes and Services for Seniors

OANHSS
ONTARIO ASSOCIATION OF NON-PROFIT HOMES AND SERVICES FOR SENIORS
7050 Weston Rd. Suite 700, Woodbridge, Ontario L4L 8G7 • Tel: (905) 851-8621 • Fax: (905) 851-0744 • Web: www.oanhs.org

February 23, 2004

Canadian Health Services Research Foundation
1565 Carling Avenue Suite 700
Ottawa, ON K1Z 8R1
c/o Faith Donald
Assistant Professor
School of Nursing
Ryerson University

Dear Professor Donald:

Re: MOH/TC Primary Care Reform RFP

The Ontario Association of Non-Profit Homes and Services for Seniors (OANHSS) is a provincial, non-profit organization representing close to 300 long term care facilities, seniors housing, and community agencies that provide care and services on a not-for-profit basis. OANHSS is pleased to support the research project: Collaborative Service Delivery by Primary Health Care Nurse Practitioners and Physicians in Long-Term Care Facilities. Primary health care is an increasingly important area of research in long-term care settings and has not been adequately studied in Canada.

The outcomes of this research study will potentially be helpful in understanding nurse practitioner and physician collaborative models and identifying the “best fit” for collaborative practice in long-term care across the country. As residents in long-term care settings live longer and have increasingly complex challenges, understanding how different professions collaborate will assist in making future decisions regarding multi-disciplinary teams. We look forward to the results of this important study to help guide our decision making within the next three to five years and to future research partnerships with members of this research team.

Sincerely,

Donna Rubin
Chief Executive Officer

Leaders Responding to Seniors’ Needs

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Appendix Z

Revised Long-Term Care NP-MD Collaborative Practice Model
Long-Term Care NP–MD Collaborative Practice Model

**Individual**
- Assertiveness
- Cooperation
- Consistent practice style
- Trust
- Perceived need for the NP
- Confidence
- Conscious effort
- Experience

**Facilitators**
**Organizational**
- Standards
- Expectations for collaboration
- Interprofessional education
- Preparation & support for collaboration
- Communication options
- Preparation & support for NP role

**Health System**
- Joint practice committees
- Shared planning & advisory committees
- Supportive legislation
- Professional endorsement
- Interprofessional education
- Collaboration education
- NP proposal selection
- Education re: NP role

**Antecedents**
- Willingness
- Commitment
- Competence
- Interpersonal skills
- Respect
- Acceptance
- Maturity
- Personality fit

**Barriers**
**Organizational**
- Knowledge deficit
- Inefficient communication
- Lack of feedback
- Fiscal constraints
- Multiple LTCFs per NP
- Resistance to change
- Lack of expectations

**Health System**
- Entry to practice
- Quasi acceptance
- Lack of funding
- NP scope of practice legislation
- Lack of research
- Hospital privileges

**Outcomes**
- Quality coordinated, comprehensive care
- Professional satisfaction

* indicates additions associated with thesis