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Primary Care Nurse Practitioners and Organizational Culture

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This is to certify that the doctoral study by

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Abstract

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MSN, University of Victoria, 2008

BSN, University of British Columbia, 2006

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Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

Nurse practitioners (NPs) were introduced to the British Columbia healthcare system 12 years ago. Integration challenges related to infrastructure and relationships between administrators and physicians continue. The purpose of this project was to understand how nurse practitioners, working in primary care roles, experience the organizational climate within their healthcare agency. Kanter's empowerment theory guided this project. Data were collected using the Nurse Practitioner Primary Care Organizational Climate Questionnaire. A total of 64 NPs relayed their degree of perceived organizational support. NPs scored highest on Autonomy and Independent Practice (Mean [M] = 3.54, Standard Deviation [SD] = 0.59). Organizational Support and Resources and NP-Physician Relations were comparable (M = 3.00, SD = 0.86; M = 2.98; SD = 0.73). NPs scored lowest on Professional Visibility (M = 2.74, SD = 0.76) and NP-Administration Relations (M = 2.63, SD = 0.79). Recommendations included optimization of NPs as advance practice nurses, establishing adequate administrative and clinical support, provision for interprofessional team development and function, distribution of standardized information about the NP role across and within institutions, and further exploration of NPs' experiences related to work hours and agency culture. Positive social change was supported as the NP practice model was extended throughout the current health care system, contributing to the shifting health care narrative/culture (from illness-focused care to wellness-focused care), and demonstrating full appreciation of patient/client-centeredness

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Dedication

I would like to dedicate this project to my husband who encouraged me from the beginning, walked with me for the entire journey, and whose support, patience, and love helped ensure I made it to the finish line. Thank you, Chris, with all my heart.

Acknowledgments

I would like to acknowledge the support I received from my Chair, Dr. Diane Whitehead, whose knowledge, flexibility and insight contributed to my success. I would like to thank my committee members, Dr. Robert McWhirt and Dr. Amelia Nichols, for their support and guidance during the completion of my doctoral study. I would like to thank Dr. Sara Witty, my Form and Style editor, who helped me polish my paper. I would like to thank Dr. Lusine Poghosyan for providing permission to use her research instrument. I would like to thank my colleagues, for without you, I would not have had the opportunity to complete this work. I would like to thank all who freely shared their time and wisdom, informing this project. I would like to thank my preceptor whose passion and creativity nurtured my doctoral journey. Finally, I would like to extend a special thank you to my family, who have supported me with their patience and understanding of the time, attention and effort needed to complete such a task.

Table of Contents

. List of Tables

Section 1: Overview of the Evidence-Based Project

Introduction

Nurse practitioners (NP) were introduced to the British Columbia (BC) healthcare system to address escalating, provincial primary care needs. Despite the introduction of NPs over a decade ago, smooth and successful integration remained rife with opportunities for enhancement at the system and individual level. Stakeholder knowledge and understanding of the NP role, as well as team member relations and NP professional capacity were examples of individual level factors, while sociopolitical environment, institutional culture, and adequacy of financial support exemplified system level concerns. With appreciation for the complex nature of NP role implementation and integration within an established healthcare system, further exploration could reveal areas of strength (contributing to empowerment) and areas that would benefit from additional supports (capacity building initiatives), thereby minimizing impediments and maximizing support for successful integration. The purpose of this doctoral project was to examine factors associated with NP integration into primary care practice roles in BC. The implications of this practice project were intended to inform stakeholders of the benefits and barriers to the current NP integration model.

Problem Statement

Nurse practitioner implementation and integration in BC began in 2005 (Sangster-Gormely & Canitz, 2015). At the time this project was implemented, a College of Registered Nurses Association (CRNBC) representative reported that there were 437 registered NPs in the province of BC. Despite the abundance of evidence acknowledging

the competence, cost effectiveness, and quality patient outcomes associated with NP care integration, barriers remained (American Association of Nurse Practitioners [AANP], 2015a; AANP, 2015b; AANP, 2015c; DiCenso et al., 2010b; Hansen-Turton, 2015; Martin-Misener, 2010; Martin-Misener et al., 2015; Swan, Ferguson, Chang, Larson & Smaldone, 2015). Some key themes of practice obstacles included comprehension, relationships and administration.

Impediments to practice were identified as insufficient stakeholder preparation and understanding of the role, resistance to collaboration, and administrative challenges (Sangster-Gormley, Martin-Misener, Down-Wamboldt & DiCenso, 2011; Poghosyan et al., 2013b; Sangster-Gormley et al., 2015). Further barriers to integration and implementation of NPs as primary care providers in the province, included political environment, conflicting agendas, and individual characteristics (Burgess & Purkis, 2010; Donelan, DesRoches, Dittus & Buerhaus, 2013; Sangster-Gormley, 2014; Sangster-Gormley et al., 2015). Healthcare governance style impacted successful integration of NPs (DiCenso, Bryant-Lukosius, 2010a; Poghosyan, Boyd & Knutson, 2014a; Sangster-Gormley, Martin-Misener & Burge, 2013), as did "leadership vision and commitment" (Sangster-Gormley, 2014, p. 26). Consequently, it is of the utmost importance that a thorough examination and evaluation of the structure in which NPs are introduced be ongoing.

An equally important aspect to consider is clinician job satisfaction and care outcomes. As reported by Poghosyan, Nannini, Finkelstein, Mason and Shaffer (2013a) "organizational climate impacts the integration of providers into their organizations and

influences both individual performance and organizational outcomes" (p. 326), while degree of NP job satisfaction may inform primary care initiatives (Poghosyan & Aiken, 2015; Ryan & Ebbert, 2013). Of note, how clinicians experience their work environment was found to impact care delivery (Grant, Guthrie, Entwistle & Williams, 2014; Hutchinson & Glazier, 2013; Sibbald, McPherson & Kothari, 2013; Vedel et al., 2013). The degree of administrative (organizational) support, as perceived and experienced by NPs, therefore, warranted further exploration.

The British Columbia Nurse Practitioner Association (BCNPA) is the provincial agency responsible for NP advocacy and support (BCNPA, 2016a). The BCNPA is a non-profit organization that was established in 2005; it is run by NPs with a mission to "support and advance the professional interests of BC NPs by promoting a social, economic, and political climate in which NPs can provide accessible, efficient and effective health care that meets the highest professional standards and scope of practice" (BCNPA, 2016a, p. 10). According to a BCNPA representative, as of April 27, 2017, there were 232 active members in the organization.

Purpose

The purpose of this project was to reveal agency factors influencing NP implementation and integration in the province of British Columbia. Sangster-Gormley et al. (2013) emphasized that "there remains a need to research factors influencing [NP] implementation at a systems and organizational level….[because] without strong organizational leadership, this new role…is at risk of failure" (p. 11). Project objectives included the identification of modifiable, systemic variables that contribute to the

successful NP implementation and integration so that specific interventions can be identified and incorporated to assist with full and unfettered integration of the NP into BC's primary care environment. The following question guided this study:

1. What is the NP perception of the organizational climate related to their primary care role?

Nature of the Doctoral Project

Sources of evidence included a synthesis of current, scholarly, evidence-based literature exploring organizational structure and culture and this relationship to primary care NP practice. I collected data from an on-line survey using the Nurse Practitioner-Primary Care Organizational Climate Questionnaire (NP-PCOCQ) that was distributed to NPs by the BCNPA communications representative. I used the NP-PCOCQ, developed by Poghosyan et al. (2013a) to capture NPs' responses to system structures that influence their practices. The overarching purpose of this project was to reveal modifiable agency factors influencing NP implementation and integration, adding to what local scholars and clinical leads had documented, therefore informing system changes currently underway within the province.

Significance

Potential implications for positive social change are far reaching as the discipline of nursing is ubiquitous within BC's primary care landscape. Both Canada and the United States were urgently requesting nurses' active participation in healthcare reform (Canadian Nurses Association [CNA], 2009; Institute of Medicine [IOM], 2011). The Canadian Nurses Association (CNA, 2009) emphasized the critical role nurse leadership

and institutional culture have on the well-being of nurses, their patients and the "entire health system" (para. 1). As clinicians' personal capacity, organizational leadership and climate have the potential to influence healthcare provision, nurse-supervisor-patient experiences, health outcomes, and the health care system as a whole (CNA, 2009), exploring NPs' organizational environment has significance for both the nursing profession, and all healthcare providers and recipients.

In addition, even though the provincial goal was to ensure all British Columbians had access to a primary care provider (General Practice Services Committee [GPSC], 2015), to date only 64% of British Columbians are attached to a specific general practitioner (MoH, 2017). The need to address organizational factors that inhibit or facilitate NP integration is crucial so that these professionals can fully participate as primary care providers (Poghosyan, Lucero, Rauch & Berkowitz, 2012a; Poghosyan, Liu, Shang & D'Aunno, 2016b). This work may assist with exposing system strengths and weaknesses to program leaders responsible for NPs, thereby providing opportunity for adjustment and augmentation as appropriate.

In terms of significance and study quality, this project is in keeping with criteria required for excellence, as outlined by the American Association of Colleges of Nursing (AACN, 2015). As an example of a quality improvement initiative, these findings may inform the work of various stakeholder groups (i.e. educational, government and health authorities). In summary, with primary health care reform underway and urgently shifting to an enhanced patient focused care model, NPs are perfectly situated to assist with this transition, while increasing access to primary care services. Several elements contribute

to how this new care provider is received by the system, however. To understand the dynamics at play, I invited provincial NPs, providing primary care in their current role, to complete a survey intended to uncover organizational elements influencing their practice.

Summary

As the need for primary care services continues to rise, while NPs remain an underutilized provider, it is socially responsible to explore factors, both impeding and contributing, to their integration. To contextualize this project, in the next section I outline the current healthcare environment, using a socio-political lens, and describe the theory and concepts informing this study.

Section 2: Background and Context

Introduction

After 12 years, NP implementation in BC remains slow, and integration difficult with several factors related to inadequate/insufficient support (i.e. relationship and/or infrastructure), identified as impediments to complete integration. The purpose of this project, therefore, was to explore NPs' perceptions of their practice environment through the administration of the NP-PCOCQ. In the following section, I will describe the theory informing this instrument, define key terms, and summarize current evidence describing healthcare context and advance practice nurses (APNs), specifically NPs. Finally, I will clarify my role as the researcher of this study.

Concepts, Models, and Theories

Theory of Structural Empowerment

The development of the NP-PCOCQ was informed by Kanter's theory of structural empowerment (Kanter, as cited in Poghosyan, Nannini, Stone & Smaldone, 2013c). The foundation of this theory was "that social and organizational structures in the workplace often impact employee performance more than personal characteristics" (Kanter, as cited in Poghosyan, Nannini & Clarke, 2012b, p. 135). In addition, the quality of professional affiliations was associated with care excellence, where collegial relations were associated with improvement in care outcomes (MacNaughton, Chreim & Bourgeault, 2013; Poghosyan & Liu, 2016a). Finally, as NPs' experiences are imbedded in the institution's culture (Poghosyan et al., 2015), using this theory to examine the extent to which the environment influences NPs' perceptions, was appropriate.

Definition of Terms

The following terms and their definitions were used to guide this project:

Nurse Practitioner: Nurse practitioners were understood to be APNs who obtain advanced education and clinical training preparing them to contribute to the health and wellbeing of individuals, families and communities (CNA, 2008). In BC, NPs were prepared at the master's or doctoral level to be autonomous primary care providers (BCNPA, 2012).

Organizational Structure/Environment/Culture/Climate: This concept was defined as environmental characteristics that contribute to the experience of those working within the institution, in keeping with Kanter's definition above.

Relevance to Nursing Practice

In addition to local policy papers and general literature obtained from previous DNP course work, sources of evidence included current literature (within the last 5 years) that explored organizational structure as it related to NPs working in primary care roles. I used the following databases to procure literature for this study: CINAHL Plus Full, MEDLINE with Full Text, PsycINFO, SocINDEX, Academic Search Complete, Proquest Health & Medical Collection and Proquest Nursing & Allied Health Database with Full Text. I used the following search terms: (a) *nurse practitioner*, (b) *organizational climate OR organizational environment OR organizational culture OR organizational structure, OR practice climate OR practice culture OR practice structure OR practice environment*, and (c) *primary care*. I used the John Hopkins Nursing Evidence-based Practice Rating

Scale (JHNEBP) (Table 1), to analyze the strength of the evidence, and organized the literature in Appendix A.

Table 1

JHNEBP Evidence Rating Scale

Level 1	Experimental study/randomized controlled trial (RCT) or meta-analysis of RCT
Level II	Quasi-experimental study
Level III	Non-experimental study, qualitative study, or meta-analysis
Level IV	Opinion of nationally recognized experts based on research evidence or expert consensus panel (systematic review, clinical practice guidelines)
Level V	Opinion of individual expert based on non-research evidence. (Includes case studies; literature review; organizational experience e.g. quality improvement and financial data; clinical expertise, or personal experience)

Note. Adapted from "Johns Hopkins Nursing Evidence-Based Practice Model," by John Hopkins Medicine (n.d.).

I conducted a simultaneous search using CINAHL Plus Full, MEDLINE with Full Text, PsycINFO, SocINDEX, and Academic Search Complete which revealed 44 articles that were narrowed by relevance to seven ProQuest Health & Medical Collection captured 290, which was narrowed by relevance to eight, and Proquest Nursing & Allied Health Database with Full Text revealed 113, which was narrowed by relevance to five. Four duplicates were removed from the latter two lists, and the remaining articles were graded as follows: 13 (Level III) and seven (Level V).

Local Background and Context

Healthcare Crisis

With appreciation of the complex nature of healthcare (Verma, Petersen, Samis, Akunov & Graham, 2014), it was critical to name and explore the concepts that surround the environment within which clinicians work (Poghosyan, Norful & Martsolf, 2017; Tubbesing & Chen, 2015). I identified several components simultaneously stressing the provincial healthcare system: (a) an aging, and often ill population (MoH, 2015a; Verma et al., 2014), (b) a growing primary care access crisis (MoH, 2015b; Prodan-Bhalla & Scott, 2016), (c) a retiring physician group with new residents choosing specialty practice over family medicine (British Columbia Medical Association [BCMA], 2011; Canadian Resident Matching Service, as cited in BCMA, 2011), and (d) a financially strained healthcare system (Health Systems Matrix, as cited in MoH, 2015b; Jones, 2014; MoH, 2015b). In addition, multiple stakeholders attempt to influence healthcare reform by moving their often-conflicting agendas forward (thus attempting to preserve the status quo) (Lazar, 2013; Ridenour & Trautman, 2009; Van de Ven & Sun, 2011), while inter-professional care (focusing on wellness), begins to replace single clinician care (focusing on illness) (Curran, 2005; Dunham-Taylor & Edwards, 2015; MoH, 2015b). Finally, the MoH (2015c) supports building leadership capacities within organizations to facilitate this transition.

Although this rich, diverse, and fluctuating context may be disturbing to some individuals as they grapple to find their footing and reground themselves in a new and emerging system (Grossman & Valiga, 2013; Kaplan et al., 2010; Smith & Donze, 2010;

Swanson et al., 2012; Willis et al., 2016), Cronhom et al. (2013) emphasize the need to shift collective thinking to realize and accommodate successful transformation. Leadership within this environment, therefore, requires flexibility and adaptation, using a relational approach, in keeping with how NPs function (Kinchen, 2015; Kutzleb et al., 2015; Nurse Practitioner Association of Ontario [NPAO], 2014). The NPAO (2014) summarized:

> Nurse practitioners work as consistent, available, peacemakers who bridge professions and focus on patient care. The relationships that nurse practitioners develop with other professions, their frequent communication, and the timely engagement of their expertise supports: 1) smoother patient transitions, 2) timely and safer patient care, and 3) efficiency of other professions. (p. 2)

It was timely, therefore, to further explore the NP practice context so that this profession could be adequately supported to help meet community health needs now and in the future.

Organizational Climate

In terms of organizational climate as it related to structural empowerment (and NP practice), Kanter stressed the importance of ensuring "access to information, support, resources needed to do the job and opportunities to learn and grow" (Spence-Laschinger, Wong, Grau, Read, & Stam, 2012, p. 4). Niezen and Mathijssen (2014) stated that the "organizational environment is more difficult for NPs to influence, yet has a strong influence on NPs' ability to perform their tasks" (p. 164). There is ample research that demonstrates how agency and healthcare system attributes influence the degree to which

NPs were successful. For example, insufficient administrative support (i.e. medical office assistance), restrictive regulations, role confusion, exclusion from administrative decisions, and billing challenges continue to impede, and often jeopardize full integration and implementation of NPs (i.e. efficiency and quality) (Brazil, Wakefield, Cloutier, Tennen & Hall, 2010; Liu, Finkelstein & Poghosyan, 2014; Poghosyan, Nanni, Stone, & Smaldone, 2013c). In contrast, collegial relations with administration and physicians, preservation of autonomous practice, awareness of the role, and access to sufficient resources were all positively associated with NPs' professional enjoyment (job satisfaction) and ability to practice to full scope (Faraz, 2017; Hall, Brazil, Wakefield, Lerer, & Tennen, 2010; Poghosyan et al., 2016b; Poghosyan et al., 2012b; Poghosyan et al., 2015). Finally, collaboration (team practice) was supported when NPs engaged in independent practice (McNaughton et al., 2013; Poghosyan et al., 2014a; Poghosyan et al., 2016a).

Local challenges to NP integration continue, whether related to clinician personal capacity or organizational support (Burgess et al., 2010; Sangster-Gormley, 2014; Sangster-Gormley et al., 2013; Sangster-Gormley et al., 2011). In addition, the following was revealed during informal interviews with NPs conducted by a provincial clinical lead: (a) inadequate infrastructure to support NP practice, (b) difficult relationships with physician colleagues, (c) lack of understanding about the NP role, (c) NP over-time hours, (d) lack of coverage (i.e. holiday relief), (e) inadequate processes to support diagnostic reviews when away from office, (f) NP engagement in non-clinician activities, (g) underutilization of the NP role (i.e. scope not fully realized, little to no patient panel),

(h) sense of isolation, (i) job dissatisfaction, and (j) lack of administrative (leadership) engagement/support. Implementing this DNP project provided me with an opportunity to formally explore NP perceptions within BC as they related to organizational climate in primary care settings.

Nurse Practitioner Governance

By ensuring NPs have ample supports in place to promote their ability to practice to their full capacity, this profession could contribute more fully to healthcare reform initiatives (Liu & D'Aunno, 2012; Poghosyan et al., 2015; Roots & MacDonald, 2014), and enact their leadership competencies, critical to full implementation of the role (O'Rourke, 2016). To assist with this process, provincial health authorities are currently developing NP governance structures (BCNPA, 2016b). According to a health authority representative, provincial credentialing and privileging of NPs depend on agencies situating NPs within an established department and under Medical Affairs, along side midwives, dentists and physicians. In addition, a MoH delegate emphasized the following as a priority: to explore strategizes to develop, support and promote NPs as primary care providers, while addressing specific factors associated with the role (i.e. quality assurance, practice volume, number of patients seen/day, funding challenges).

Best practices could be realized when attributes of structural empowerment were taken up by organizations (Clavelle & Goodwin, 2016; Lankshear, Kerr, Spence-Laschinger, & Wong, 2013; Wilson et al., 2015), thereby promoting "nursing autonomy,…positive nurse-physician relationships, high levels of organizational support,…[and] evidence of nurse control over practice" (Clavelle, O'Grady, &

Drenkard, 2013, pp. 569-570). In addition, these factors necessitate solid leadership (Clavelle & Drenkard, 2012; Fields & Jenkins, 2016; Regan, Laschinger & Wong, 2016; Wong & Laschinger, 2013), and are critical to successful NP integration (DiCenso et al., 2010a; Liu et al., 2014; Poghosyan, Shang, Liu, Poghosyan, Liu & Berkowitz, 2014b; Sangster-Gormley, 2014). Considering this dynamic, and potentially receptive environment, data collected from provincial NPs working in primary care about their practices and agency culture could help inform these developing governance models, organizational structures and policy initiatives.

Advance Practice Nurse History

In Canada, the APN movement, which included both clinical nurse specialists (CNS) and NPs, began in the 1960s (Kaasalainen et al., 2010). The NP debut followed several factors including: (a) the establishment of the public healthcare system, (b) believed insufficient number of physicians, (c) renewed focus on primary care, and (d) fewer physicians entering family medicine (de Witt & Ploeg, 2005). However, due to lack of sustainable funding and physician support, role implementation halted (de Witt et al., 2005; Kaasalainen et al., 2010). Role advancement gained momentum again in the 1980s, and continued to grow in response to the escalating health needs of the Canadian population (Kaasalainen et al., 2010).

Overall, the APN was introduced into the Canadian healthcare system to help meet population needs (DiCenso et al., 2010b; Kaasalainen et al., 2010; Staples & Ray, 2016). However, this profession remains an important and underutilized human resource that could be contributing significantly to healthcare reform with adequate support

(DiCenso et al., 2010b; Donald et al., 2010; Sangster-Gormley et al., 2013). In summary, four APN categories exist in Canada: CNS, primary healthcare nurse practitioners (PCNP), acute care nurse practitioners (ACNP) and a CNS/NP (DiCenso et al., 2010b). Finally, Dunham-Taylor et al. (2015) stress:

> This is a time in the development of our healthcare system when nursing leadership is of paramount importance. Nurses represent the lived reality of the system; they see and hear on a daily basis patients' stories of both healing and unnecessary complications. Nursing knowledge and leadership are critical to improving our healthcare system and ensuring access, cost, and quality are for all. (pp. 392-393)

As access to primary care services remains a significant focus during healthcare reform, inviting NPs to participate in the conversation by speaking to their practice issues was timely and critical. More specifically, their involvement could help shape current and future care provision, ensuring a patient/person-centred approach would lead the way.

Nurse practitioners are autonomous APNs with an expanded scope, and ability to provide comprehensive, holistic care to a variety of patient populations (CNA, 2008; Kutzleb et al., 2015; Prodan-Bhalla et al., 2016; Waite, Nardi & Killian, 2013). These healthcare professionals are educated to provide primary care services, much like their physician colleagues, however, within a nursing philosophy and care model (CNA, 2008; Kinchen, 2015; Prodan-Bhalla et al., 2016). Despite NPs' proven value (AANP, 2015c; DiCenso et al., 2010a; Hansen-Turton, 2015; Liu et al., 2014; Martin-Misener et al., 2015; Prodan-Bhalla et al., 2016), their introduction to the Canadian healthcare system

occurred sporadically, over the last six decades (DiCenso et al., 2010a; Kaasalainen et al., 2010). Their implementation was influenced by healthcare policy, political will, and stakeholder agenda (DiCenso et al., 2010a; DiCenso et al., 2010b; Kaasalainen et al., 2010; Martin-Misener, 2010). I focused this project on NPs working in primary care roles.

With the escalating primary care crisis, addressing organizational elements that potentially inhibit or facilitate NP integration, is crucial (Poghosyan et al., 2012a; Poghosyan et al., 2015; Poghosyan et al., 2016a; Prodan-Bhalla et al., 2016). As stakeholders transition the provision of healthcare to patient/person-centred, team-based care models (MoH, 2015a), and the philosophy of nursing reflects whole-person care (Kinchen, 2015; Weyer & Riley, 2017), encouraging and supporting nurse involvement in health reform activities could assist with reshaping the health of our population (CNA, 2012) and address current primary care needs. In summary:

> Registered nurses are deeply engaged in system transformation because they care about human health and about delivering responsible health care. But more than caring, it is the professional and social responsibility of nurses to take a strong leadership stand on behalf of Canadians. (CNA, 2012, p. 3)

It is critical that we examine how institutional culture shapes the expression and development of the nursing profession (and specifically NP practice), as our healthcare system depends on it (Chulach & Gagnon, 2016; Frenk et al., 2010). Chulach et al. (2016) emphasized "a broader, power structure analysis…[and consideration of] how colonial assumptions operating within our current healthcare system entrench, expand

and re-invent, as well as mask the structures and practices that serve to impede nurse practitioner full integration and contributions" (p. 1). By implementing this DNP project, I provided an opportunity for provincial NPs to bring voice to these concerns.

Role of the DNP Student

As a DNP student, I was privileged to complete my clinical hours with one of the provincial health authorities. I am also an employee of one of these agencies and belong to the BCNPA. As part of my practicum I had the opportunity to share several evidence-informed research papers, and lead a small working group. The focus of these activities was to enhance stakeholder knowledge of the NP as primary care provider, and invite consideration of a practice design that uses these clinicians as primary care providers. Although I was the primary investigator in this DNP project, the BCNPA communication lead deployed the surveys to members; this strategy assists with attending to credibility.

My motivation for conducting this project stemmed from my continued observations of NP implementation and integration challenges related to infrastructure support and/or NP personal capacity. In addition, my exploration of personal and systemic factors associated with NPs in primary care was timely, as according to a provincial administrator, the MoH now fully appreciates NPs as primary care providers. My intention for conducting this project, therefore, was to formally document challenges and opportunities so that appropriate stakeholders could update their knowledge of the circumstances surrounding NP implementation, and adjust their supportive measures as necessary.

Summary

As NP integration issues continue within the province, and challenges appear multifactorial, to help further inform this process and reveal areas amenable to improvement, I invited NPs to complete a survey that provided them with an opportunity to speak to their perceptions of environmental support. In the following section, I summarize the methodology that I used to guide this quality improvement study.

Section 3: Collection and Analysis of Evidence

Introduction

Nurse practitioners could assist with addressing the provincial primary care crisis, if adequately supported by decision makers within the MoH and respective health authorities. The current trend, however, is the underutilization of this valuable care provider due mostly to organizational and systemic issues and barriers. Identifying factors that contribute to complete role implementation could inform current and future health reform discussions and direct policy formation. In the following section, I restate the primary research question, and describe participant recruitment, the survey instrument, and current literature that informed this work. Finally, I discuss the analysis and synthesis of the data.

Practice-focused Questions

As provincial stakeholders advance and support NPs as primary care providers, continued exploration of factors that impact their practices, is essential. I invited NPs in primary care roles to complete one survey, to further examine these concerns. The following question directed this project:

1. How do nurse practitioners, working in primary care roles, experience the organizational climate within their healthcare agency?

Sources of Evidence

Participants

I focused this project on provincial NPs working in primary care roles, and their perceptions of their organizational climate. I obtained participants from the provincial

agency responsible for supporting the profession, the BCNPA. At the time of survey deployment, the BCNPA executive reported 232 active members, and a CRNBC administrator reported 399 registered practicing NPs, working in a variety of settings across the province. The BCNPA communications representative emailed a letter of invitation to active members (nonprobability sampling). The letter of invitation included information about the project, access to the survey, and acted as consent. Weekly reminder emails were sent the same way over three weeks (from April 3rd to May 4th, 2017). The inclusion criterion for participating in the project was that only NPs who self-identified as providing primary care within their current role, could complete the survey; those that did not, were disqualified and excluded.

Procedures

I invited BCNPA practicing members to complete the NP-PCOCQ. The survey included questions related to demographics, practice characteristics and job satisfaction. Poghosyan et al., (2013a) developed the NP-PCOCQ to address agency factors impacting primary care NP practice This instrument was developed combining evidence found in the literature, with qualitative data obtained from interviews with NPs (n = 16) (Poghosyan et al., 2013c). The NP-PCOCQ was "field tested…with practicing [primary care] NPs [n = 278)] to establish its face and content validity and internal consistency reliability….All subscales in the NP-PCOCQ had high internal consistency reliability with Cronbach alphas ranging from .87 to .95" (Poghosyan et al., 2014a, p. 473). Likert scale values from the NP-PCOCQ, and their corresponding Cronbach Alpha Coefficient

scores are displayed in Table 2. I obtained permission to use the NP-PCOCQ from Dr. Lusine Poghosyan (Appendix B); a copy of this instrument is found in Appendix C.

Table 2

Nurse Practitioner Primary Care Organizational Climate Questionnaire Subscales and Corresponding Cronbach Alpha Coefficients

Professional Visibility	(α=.87)
NP-Administration Relations	(α=.95)
NP-Physician Relations	(α=.90)
Independent Practice and Support (α=.89)	(α=.89)

Note. Adapted from "Development and Psychometric Testing of the Nurse Practitioner Primary Care Organizational Climate Questionnaire," by L. Poghosyan, A. Nannini, S. R. Finkelstein, E. Mason, and J. A. Shaffer, 2013a, *Nursing Research, 62*(5), p. 332.

Analysis and Synthesis

Data Collection

I collected the data using Survey Monkey, and analyzed it using Statistical Package for the Social Sciences (SPSS) Version 21. I used descriptive statistics to capture variable proportions, and displayed data summaries in both narrative and table formats.

Protection

The BCNPA communication representative invited active members to participate in this project via e-mail. The surveys were available on-line and participation was voluntary; consent to participate was confirmed by login. The survey contained no participant identification, and confidentiality was maintained as I stored the data on a password protected computer and reported the results in aggregate data. The Institutional Review Board (IRB) for Walden University reviewed and approved of this study prior to commencement. The approval number is 04-10-17-0450395.

Summary

Provincial stakeholders are developing an appreciation for NPs as primary care providers, and healthcare is transitioning through the introduction of person-centered, inter-professional care teams. It is timely and critical, therefore, to invite NPs to speak to their experiences, exposing modifiable factors that contribute to their successful integration, as well as system change. I have summarized the study findings and offered recommendation in the next section.

Section 4: Findings and Recommendations

Introduction

As I reviewed some of the system factors in play, it appears that the status quo is being preserved. More specifically, the illness-focused health care system is being sustained by the MoH's resistance to initiate and secure sustainable funding for NPs in primary care roles, despite a retiring physician population, high prevalence of chronic disease, and an increasing number of people who reported that they are not attached to a specific medical provider. Local inquiry revealed on-going practice barriers related to infrastructure, relationships, role awareness, politics and power. I implemented this project to further expose the broader issues related to NP practice, and to capture the practice/climate perceptions of NPs who practiced in primary care. The following question guided the project: How did nurse practitioners, working in primary care roles, experience the organizational climate within their healthcare agency?

Prior to implementing this project, I conducted a literature review, capturing current research (from within the last 10 years) related to NPs in primary care, and organizational climate/environment/culture/structure. Most relevant to this project, was the work of principal investigator, Dr. Lusine Poghosyan (Columbia University), and colleagues; they developed the NP-PCOCQ (in 2013) as a tool to be used to examine factors contributing to primary care NP practice. Poghosyan et al. (2013a) identified several elements critical to complete implementation and integration of NPs as primary care providers: NP-physician relations, organizational support and resources, autonomy and independent practice, NP-administration relations and professional visibility. In

addition, provincial and federal nurse scholars noted that system (i.e. sociopolitical environment) and individual (i.e. professional relationships and clinician capacity) factors can stilt robust utilization of NPs as primary care providers, and need exploring, in order to secure sustainability of the profession (Burgess et al., 2010; DiCenso et al., 2010a; DiCenso et al., 2010b; Donelan et al., 2013; Martin-Misener, 2010; Martin-Misener et al., 2015; Sangster-Gormley et al., 2011; Sangster-Gormley et al., 2013; Sangster-Gormley et al., 2014; Sangster-Gormley et al., 2015). DNP project findings, therefore, added to this growing body of knowledge.

To address the above practice-focused question, I invited provincial NPs (who were active members of the BCNPA at the time of invitation, and who self-identified as providing primary care in their current role), to complete the on-line survey. This survey included the NP-PCOCQ, as well as questions related to demographics, practice information, and satisfaction. I uploaded these items to Survey Monkey and entered the data into SPSS-21; I completed the analysis using descriptive statistics.

Findings and Implications

Out of the 232 active BCNPA members, 79 NPs responded to the survey. The first question (intended to be both a qualifier and disqualifier) required respondents to self-identify as providing primary care within their current role; those who did not, were disqualified (12). I removed three incomplete surveys; this yielded a sample size of 64, almost 28% of the total accessible population.

Demographic and Work Characteristics

The population demographics, computed using frequency data, are displayed in Table 3. The largest age range was between 35 and 44-years-old (40.6%), and most NPs were female (90.6%). The majority of NPs were master's prepared. There were three times as many DNP prepared NPs as PhD prepared NPs. The literature also revealed that the highest portion of NPs were mastered prepared and female, while the average age was approximately 50-years-old (Poghosyan et al., 2014a; Poghosyan et al., 2014b; Poghosyan et al., 2015; Poghosyan et al., 2016a).

Table 3

Demographics

Characteristic	*n* = 64
Age (range), % (n)	
24-34	12.5 (8)
35-44	40.6 (26)
45-54	23.4 (15)
55-64	23.4 (15)
Sex, % (n)	
Female	90.6 (58)
Male	9.4 (6)
Highest nursing degree, % (n)	
Master's Degree	82.8 (53)
Post -Master's Certificate	10.9 (7)
Doctor of Nursing Practice	4.7 (3)
Doctor of Philosophy	1.6 (1)

A summary of work characteristics is displayed in Table 4. The largest portion of NPs were in their current position 5 years or less (62.5%), in contrast to the literature where the majority reported more than 6 years of experience (Poghosyan et al., 2014a; Poghosyan et al., 2014b; Poghosyan et al., 2015; Poghosyan et al., 2016a). Most NPs

worked in a community health center (81.3%), which was dissimilar to the literature in which it was stated that most worked in a physician's office (Poghosyan et al., 2014a; Poghosyan et al., 2014b; Poghosyan et al., 2015; Poghosyan et al., 2016a). The majority of NPs (68.8%) worked in an urban/suburban setting, which aligned with the research (Poghosyan et al., 2014b; Poghosyan et al., 2015; Poghosyan et al., 2016b). In terms of NP co-location, a similar number of NPs reported working without a NP colleague on site (32.8%), as with one other (39.1%), and fewer NPs worked with two or more NP colleagues (28.1%). These findings contrasted the literature in which most NPs reported working with 1-6 other NPs (Poghoysan et al., 2014b; Poghoysan et al., 2015; Poghosyan et al., 2016a).

Table 4

Work Characteristics

Work Characteristics, % (*n*)	
Years in current position	
<1	15.6 (10)
1-3	26.6 (17)
3-5	20.3 (13)
5-10	25.0 (16)
>10	12.5 (8)
Average hours worked/week	
<20	3.1 (2)
21-30	9.4 (6)
31-40	42.2 (27)
>40	45.3 (29)
Main practice site	
Community health centre	81.3 (52)
Physician's office	9.4 (6)
Hospital-based clinic	9.4 (6)
Number of NPs in clinic	
1	32.8 (21)
2	39.1 (25)
3	15.6 (10)
4	9.4 (6)
>4	3.1 (2)
Practice location	
Urban/suburban	68.8 (44)
Rural/remote	31.3 (20)

Nurse Practitioners as Independent Providers and Satisfaction

The majority of respondents had their own patient panel (71.9%), and reported enough time to complete their clinical and administrative duties (62.5%) and evaluate the impact of their care (87.5%). The literature highlighted shared care (Poghosyan et al., 2014a; Poghosyan et al., 2015; Poghosyan et al., 2016a), with similar trends in reported ability to measure outcomes (Poghosyan et al., 2014a). Finally, Poghosyan et al. (2014a) noted that NPs were more likely to report enough time to complete direct patient care than indirect patient care. The data is displayed in Table 5.

Table 5

Nurse Practitioners as Independent Providers

Items % (*n*)	
Independent provider	
Own panel of patients	71.9 (46)
Shared care with another provider	26.6 (17)
Consultative role	1.6 (1)
Able to evaluate impact of care	
Yes	87.5 (56)
No	12.5 (8)
Adequate time for both administration & clinical activities	
Yes	62.5 (40)
No	37.5 (24)

Most NPs reported being moderately to very satisfied in their current position (78.2%), a smaller portion claimed a degree of dissatisfaction (21.9%); this finding was also noted in the literature (Poghosyan et al., 2015). A visual display of this information is found in Table 6.

Table 6

Nurse Practitioner Satisfaction-

NP Satisfaction, % (*n*)	
Satisfied with current job	
Very dissatisfied	14.1 (9)
A little dissatisfied	7.8 (5)
Moderately satisfied	39.1 (25)
Very satisfied	39.1 (25)

Nurse Practitioners and Organizational Climate

To answer the project question, I asked the participants to complete the NP-PCOCQ. This questionnaire was composed of 35 Likert-scale questions that query respondents on their level of agreement with the 35 statements, scored low to high where: 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. I placed the questions under the appropriate subscale, in keeping with the work of Poghoysan et al. (2013a); aggregate scores are found in Appendix D. In general, the higher the score the more positive that concept was in the practice setting. In summary, NPs scored highest on Autonomy and Independent Practice (AIP) (M = 3.54, Standard Deviation [SD] = 0.59), and Organizational Support and Resources (OSR), and NP-Physician Relations (NP-PR) were comparable (M = 3.00, SD = 0.86; M = 2.98; SD = 0.73). NPs scored lowest on Professional Visibility (PV) (M = 2.74, SD = 0.76) and NP-Administration Relations (NP-AR) (M = 2.63, SD = 0.79). Comparing this data to the literature, scores were slightly lower in all subscales except AIP: AIP (M = 3.55), OSR (M = 3.21), NP-PR (M = 3.28), PV (M = 3.06), and NP-AR (M = 2.83) (Poghosyan et al., 2013a; Poghosyan et al., 2014a; Poghosyan et al., 2014b; Poghosyan et al., 2016b). Table 7 is a summary this data.

Table 7

Nurse Practitioners and Organizational Climate

Subscale	Mean	SD
Autonomy and Independent Practice	3.54	0.59
Organizational Support and Resources	3.00	0.86
Nurse Practitioner-Physician Relations	2.98	0.73
Professional Visibility	2.74	0.76
Nurse Practitioner-Administration Relations	2.63	0.79

Note. SD = Standard Deviation

Unanticipated Limitations

It should be noted that perhaps the letter of invitation (that doubled as consent), over emphasized the target population/issue: NPs in primary care roles, and the primary care crisis. This provided an opportunity for an individual's perception to influence their level of engagement. More specifically, potential participants could have deselected themselves prior to beginning the survey and missed the opportunity to answer the first question (both a qualifier and disqualifier). This insight was gained as some invitees questioned their eligibility at the onset, and later some NPs shared that they did not participate as they did not believe they were providing primary care services in their current role. This suggested that some NPs identified their role as a function of their job title. These factors could have contributed to a smaller sample size.

Implications

As the provincial health system leaders realize NPs can help ease the primary care crisis, identifying modifiable factors that enable and/or hamper complete use of this

capable clinician group, have far reaching implications. For example, enhancing NP awareness of their collective practice environment perceptions, could help encourage their active participation in finding solutions to practice barriers. As NP's perceptions (of themselves, others, and their environment), may contribute to their level of engagement in professional advocacy by becoming politically active and/or fully partnering with communities, this work would direct attention to areas needing further support. In addition, a thorough exploration of factors influencing the success of the provincial NP movement, could inform strategic planning at the institution (health authorities, primarily responsible for hiring NPs), and system (MoH, responsible for funding NPs) levels. Finally, as NPs are considered high quality, cost-effective primary care providers (AANP, 2015b), and system level leaders continue to completely incorporate and support NPs in this capacity, community members will have increased access to primary care services.

In terms of potential implications for positive social change, attending to issues stunting complete utilization of NPs as independent primary care providers capable of caring holistically for a population longitudinally, has the potential to accelerate the cultural shift already underway. More specifically, as more and more NPs take on the role of primary care provider, this practice model could infuse the current health care system, contributing to the shifting health care narrative (from illness-focused care to wellness-focused care), while demonstrating full appreciation of patient/client-centeredness.

Recommendations

In the following discussion, I made recommendations for scores less than three, in the NP-PCOCQ subscales, representing a practice setting that is less favorable in a certain condition. In addition, I suggested several activities that address key items within the categories of NP Work Characteristics, Independent Providers and Satisfaction.

Autonomy and Independent Practice

The respondents scored highest in the domain of autonomy and independent practice, where approximately 88.5% of NPs indicated high autonomy and ability to practice independently. These results suggested that administrators supported NPs to work to full scope and apply their knowledge and skills independently. While acknowledging this positive finding, recommendations include: (a) continued assurance that NPs are fully supported to operationalize their expertise through activities such as identifying and removing practice barriers, (b) attendance to NP requests to provide services that they are not yet able to provide, due to scope or privileging restrictions, and (c) support for NPs' acquisition of additional knowledge and training, as self-identified by them. These activities support optimization of the NP role while attending to population health needs.

Organizational Support and Resources

Approximately 75% of NPs reported having adequate infrastructure to support their practices. Of the questions found within this subscale the two with lowest scores were: adequate ancillary staff to prepare patients, and equal support for care management as physicians. Recommendations include: (a) continued development and expansion of

the NP clinical lead roles within the provincial health authorities, (b) assurance that sufficient clinical and administrative supports are established prior to role implementation (i.e. NPs have adequate office and clinical space and supplies, as well as clerical staff [such as a medical office assistant and/or receptionist]), (c) establishment of off and/or onsite access to NP colleagues for consultations as needed, and (d) support for NPs' ability to time manage.

Nurse Practitioner-Physician Relations

Approximately 75% of the NPs reported collegial relationships with their physician colleagues. Of the questions within this subscale, those that scored lowest related to physicians seeking NP consultation, and NP sense of team, both relationally situated, requiring interpersonal strategies to address. For example, inter-disciplinary team learning enhanced collaboration (Apramian, Reynen, & Berlin, 2015; Canadian Interprofessional Health Collaborative [CIHC], 2010; Registered Nurses Association of Ontario [RNAO], 2013; Tubbesing et al., 2015; Virani, 2012), and application of the Primary Care Team Dynamics Survey assisted with critiquing and supporting team performance (Song et al., 2015). Additionally, skilled facilitators helped clinicians navigate change during healthcare transformation, while supporting group cohesion (Chreim, Williams, Janz & Dastmalchian, 2010; Godfrey, Andersson-Gare, Nelson, Nilsson & Ahlstrom, 2014; Lessard et al., 2016). Recommendations, therefore, include: (a) implementation of formal (university curricula, conferences, seminars etc.) and informal (case reviews, team-process critique etc.) inter-professional learning opportunities to promote clinicians' understanding of each other's roles, while

participating in joint learning events, (b) formal evaluation of interdisciplinary collaboration, and (c) implementation of a practice/team coach to support inter-professional team processes.

Professional Visibility

Approximately 69% of NPs reported adequate professional visibility within their organization. The lowest scores were related to organizational inclusion, role comprehension and impact. Recommendations include: (a) continued establishment of NP departments within each health authority, (b) continued establishment of NP credentialing and privileging programs within each health authority, (c) promotion and support of the NP role as an APN by ensuring the unique clinical and non-clinical (leadership, educational, research, professional development) attributes of the role are realized, and (d) identification and implementation of APN evaluative measures (i.e. NP-sensitive outcomes).

NP departments, credentialing and privileging processes are already underway in most of the health authorities. According to a provincial health administrator, these initiatives are predicted to facilitate NP practice within organizations, secure and strengthen reporting structures, and clarify processes and outcomes as they relate to NP practice.

To support the value of the APN qualities, Bryant-Lukosius, DiCenso, Browne and Pinelli (2004) emphasized:

> The extent to which medically driven and illness-oriented health systems permit these dimensions of care is a challenge for developing innovative APN roles.

> Therefore, the process of role introduction must include strategies to promote social change consistent with the fundamental values of APN. (p. 526)

Finally, Bryant-Lukosius et al. (2016) provided APN outcome examples, under each of the following groups, in their supporting document: "patient and family, healthcare provider and stakeholder, quality of care, organization, and health care use and costs" (p. 5).

Nurse Practitioner-Administration Relations

Nurse practitioners scored lowest in administrative relations, where approximately 66% of NPs reported favourable experiences with their supervisors/organizational leads. Within this domain, areas that need addressing include role comprehension and inclusion (in organizational activities). Recommendations include: (a) dissemination of a comprehensive, current, evidence-based document about NP practice, role and function to provincial stakeholders, and (b) continued implementation of NP clinical leads within each health authority. These activities will contribute to supporting and monitoring NP practices. I created an example of an informative document during NURS 8410, NURS 8400, NURS 8500 and NURS 8510 that culminated in the following unpublished paper: British Columbia's Nurse Practitioners: Primary Care Providers, Leaders and Partners in Person-Centered Care (Rowand, 2017).

NPs: Work Characteristics, Independent Providers and Satisfaction

In the following discussion I report recommendations that address the following findings: (a) almost half of NPs (45.3%) worked more than full time hours, (b) most

(62.5%) had sufficient time for administrative and clinical activities, (c) most (87.5%) were able to evaluate the impact of their care, (d) most (71.9%) worked with one or no other NP colleague, (e) most (71.9%) had their own patient panel, and (f) almost a quarter (21.9%) reported being a little to very dissatisfied in their current position. Recommendations include: (a) further exploration and examination of NP activities as they relate to work hours, administrative and clinical duties, and evaluation (i.e. determine facilitators to overtime, differentiate between time spent on direct and indirect patient care, and identify current evaluative tools used by NPs), (b) co-location of NPs to facilitate professional and practice support, (c) promotion of NPs as autonomous primary care providers capable of rostering their own patient panel, and (d) further exploration and examination of NP job satisfaction.

Strengths, Limitations and Recommendations

Strengths

A strength of this doctoral project was that its implementation provided me an opportunity to partner with BCNPA, and acquire a substantial participant pool. At the time of this study, according to a CRNBC representative, 399 active NPs were registered, however only 165 accepted 3rd party research requests, potentially limiting my participant pool, had I partnered with them. As a result, I obtained an adequate sample size where the total number of respondents was approximately 28% of the participant pool (232, accessible population through BCNPA), and 16% of the total number of practicing NPs (399, target population through CRNBC). I identified the statistical relevance of this sample size by using a sample size calculator and applying the total population of 399

practicing NPs, and an end sample of 64; this translated to a confidence level of 95%, with an 11.3 for a confidence interval (Survey Monkey, 2017). This means with 95% certainty, the results obtained from this study would be obtained by sampling the entire NP population, with a margin of error of 11.3%.

By implementing this project, I was afforded an opportunity to learn about NP self-perceptions, as only NPs self-identifying as providing primary care in their current role, could complete the survey. In addition, NPs' responses to this qualifying (and disqualifying) question triggered conversations between CRNBC and BCNPA administrators, and me. For example, the BCNPA executive shared their consideration to partnering with CRNBC to mutually determine useful data to collect from provincial NPs upon registration.

Another strength of the study was its design. Using surveys and SPSS allows investigators to capture and analyze large amounts of information. Finally, survey completion time was less than 10 minutes, ensuring minimal participant burden.

Limitations

A limitation of this project was the design itself, as noted by Lobiondo-Wood and Haber (2002), surveys do not capture information that is rich in depth. NPs also reported that they would have appreciated an option to make a comment. Another limitation was reliance on NP perception as it relates to role identification. For example, some NPs did not begin the survey as they did not believe they were providing primary care in their current role; they identified with their specialty title (seniors, addiction/mental health etc.), rather than their enacted role. This potentially limited sample size. Another

limitation was how I formatted one item. I created a compound question with two concepts: adequate time for administrative and clinical activities. This error made it impossible to determine time spent on each activity, and limited understanding of NPs' time management, a critical factor, as almost 50% reported working more than fulltime hours. Of note, Poghosyan et al. (2014) separated these items in their work.

Recommendations

Based on the limitations noted above, recommendations include: (a) establishing a working definition of primary care/primary health care to reduce confusion, (b) inviting all practicing NPs to participate, while identifying their specialty area, (c) separating the compound question, and (d) adding a comment section at the end of each section/the survey to permit respondents to add additional information related to their practice setting.

Section 5: Dissemination Plan

Dissemination Plan

As these practice challenges are experienced by NP across the province, and were revealed, thanks to the efforts of BCNPA members, I shared preliminary project findings with NPs and stakeholders at the BCNPA Annual Conference on June 1-3, 2017 via poster exhibit (Appendix E). The BCNPA executive also agreed to upload the final project onto their website which will have an even wider audience. In addition, as health authorities are responsible for implementing and integrating NPs into practice, a formal presentation of this work was offered to the provincial NP leads. Finally, my plans for dissemination also include presentation at the Sigma Theta Tau International Honor Society of Nursing (STTI) fall webinar, as well as submission to an APN journal.

Analysis of Self

As I reflect on this experience, I note that I struggled with simultaneously situating myself in the role of colleague (practitioner) and project manager. For example, with attendance to ensuring objectivity, yet fielding requests and clarification from potential participants as they contemplated completing the survey, I often questioned my degree of involvement and disclosure, for fear of influencing their level of engagement and responses. That said, it was an opportunity to step into the role of scholar, demonstrating the "scholarship of application….[which] involves the translation of research into practice and the dissemination and integration of new knowledge" (AACN, 2006, p. 11). In summary, implementation of this project provided me with the opportunity to: (a) identify and review a practice issue, (b) apply theory to expand my

understanding of the dynamics surrounding it, (c) partner with the BCNPA to access my target population, (d) use SPSS to analyze the data, and (e) share results with the BCNPA and other stakeholders. Project results could be used to inform current and future strategic planning dialogue, helping shape the healthcare narrative, and assist with the advancement of the NP profession. In addition, participating in this work helped focus my attention on the following areas, for potential future study: interdisciplinary teams, NP leadership, community engagement and NP integration (discussed further below).

I used the Institute of Medicine (IOM) to inform the following discussion. As I look forward, acknowledge the past, and appreciate the developing present, I note that some interprofessional team members struggle with appreciating and understanding the role of others. The IOM (2011) recommended: "identification of the main barriers to collaboration between nurses and other health care staff in a range of settings" (p. 275). This issue prompts the application of systems theory to examine team processes with a focus on transition and function. In addition, as stakeholders begin to embrace holistic care practices, nursing has an opportunity to contribute significantly. Therefore, exploring NPs' self-perception as leaders, could help inform this process, while actioning another IOM recommendation through "identification of the personal and professional characteristics most critical to leadership of health care organizations" (p. 277).

The IOM also advised that "teams need to include patients and their families, as well as a variety of health professions" (p. 270). As I reflect on my DNP student clinical activities, I note that the conversations around healthcare seemed to be void of consumer input; the value of identifying ways to engage community members in healthcare reform

discussions, therefore, is critical. Finally, as provincial NP governance structures develop and strength, and the numbers of NPs working in primary care grow, there will be further opportunities to explore NP practices.

Summary

Implementation of this project provided an opportunity for me to explore the perceptions of NPs working in primary care roles in British Columbia. Overall, NPs' perceptions of their organizational climate related to their primary care role, were positive. Their reporting also revealed practice areas that need further examination. With the expansion of interdisciplinary teams, and deployment of NPs as primary care providers, it is critical to continue monitoring the experiences of all healthcare professionals, as well as the healthcare recipient. Social change, within the context of healthcare, requires a collaborative approach, as we make meaning of our experiences, learn together, and collectively transform our shared healthcare system.

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Appendix A: Literature Summary with Level of Evidence

Reference	Research Method	Main Findings	Level of Evidence
American Association of Colleges of Nursing (2015). Outstanding dissertation and DNP project awards. Retrieved from http://www.aacn.nche.edu/membership/awards/excellence-in-advancing-nursing	Consensus Statement	An organization that supports the advancement of nursing.	Level IV
American Association of Nurse Practitioners (2015a). Nurse practitioner cost-effectiveness. Retrieved from https://www.aanp.org/images/documents/publications/costeffectiveness.pdf	Position Statement	Nurse Practitioners (NPs) are a proven response to the evolving trend towards wellness and preventive health care driven by consumer demand. A solid body of evidence demonstrates that NPs have consistently proven to be cost-effective providers of high-quality care for almost 50 years. Examples of the NP cost-effectiveness research are described in this article.	Level IV
American Association of Nurse Practitioners (2015b). Nurse practitioners in primary care. Retrieved from https://www.aanp.org/images/documents/publications/primarycare.pdf	Position Statement	With 89% of the nurse practitioner (NP) population prepared in primary care and over 75% of actively practicing NPs providing primary care, NPs are a vital part of the U.S. primary care workforce. Evidence supports the high quality and cost-effectiveness of NP care and the continued interest of the discipline to contribute to solving the primary care dilemma.	Level IV
American Association of Nurse Practitioners (2015c). Quality of nurse practitioner practice. Retrieved from https://www.aanp.org/images/documents/publications/qualityofpractice.pdf	Position Statement	Nurse practitioners (NPs) provide high-quality primary, acute and specialty health care services across the life span and in diverse settings, including patients' homes, community-based clinics, schools, colleges, prisons, hospitals, and long-term care facilities.	Level IV
Apramian, T., Reynen, E., & Berlin, N. (2015). Interprofessional education in Canadian medical schools. Retrieved from https://www.cfms.org/files/position-papers/2015%20CFMS%20Interprofessional%20Education.pdf	Position Statement	Delivering health care has become a complex team effort. From family physicians in solo rural practice to subspecialized interventionists in quaternary care hospitals, providing health care to patients now requires physicians to be capable of communicating and collaborating with professionals from a wide variety of health disciplines. This position paper outlines the evolution of health care from an individual practice to a team-based one, describes some of the research on the effectiveness of that evolution, and highlights a few of the most effective interventions designed to prepare medical students to work in interprofessional teams.	Level IV
Brazil, K., Wakefield, D. B., Cloutier, M. M., Tennen, H., & Hall, C. B. (2010). Organizational culture predicts job satisfaction and perceived clinical effectiveness in pediatric primary care practices. *Health care management review*, *35*(4), 365-371.	The purpose of this cross-sectional study was to examine the relationship of organizational culture on provider job satisfaction, and perceived clinical effectiveness in primary care pediatric practices	Hierarchical linear models using a restricted maximum likelihood estimation method were used to evaluate whether the practice culture types predicted job satisfaction and perceived effectiveness. Group culture was positively associated with both satisfaction and perceived effectiveness. In contrast, hierarchical and rational culture were negatively associated with both job satisfaction and perceived effectiveness and job satisfaction	Level III
British Columbia Medical Association (2011). Doctors today and tomorrow. Planning British Columbia's	Policy Paper/Position Statement	Prominent recommendations to address physician supply include: • Establishing a multi-stakeholder provincial committee led by the	Level IV

physician workforce. Retrieved from https://www.doctorsofbc.ca/sites/default/files/physicianworkforce_paper_web.pdf		BCMA, Ministry of Health, and the health authorities to direct and coordinate the development of physician resource plans and to identify short- and long-term-physician resource priorities. • Developing a provincial analytical framework for needs-based physician resource planning. • Creating a provincial physician workforce database to form the basis of physician resource planning.	
British Columbia Ministry of Health (2011). Self-management support: A health care intervention. Retrieved from https://www.livinghealthynortheast.ca/Portals/0/Documents/Self-Management%20Support%20healt%20care%20intervention%20BC%20MOH%202011.pdf	Position statement.	The Primary Health Care Charter (2007) was developed by the Ministry of Health in consultation with multiple stakeholders representing the provincial philosophy for primary care to achieve the outcomes of better health, improved experience for professionals and patients at a sustainable cost. Since then provincial efforts have been aligned with the three priorities for Patients as Partners: 1 patients as partners in individual healthcare; 2 patients as partners in redesign; 3 and bringing in the community. This document provides a synopsis of this ten-year journey. The first section describes how self-management is defined and explains how it interfaces with The Expanded Chronic Care Model.	Level IV
British Columbia Ministry of Health (2013). Patients as partners. The patient and health care provider experience. Retrieved from http://www2.gov.bc.ca/assets/gov/health/about-bc-s-health-care-system/primary-health-care/patients-as-partners-annual-report-2012-2013.pdf	Annual report.	MoH document discussing patients as partners framework.	Level IV
British Columbia Ministry of Health (2015a). Delivering a patient-centred, high performing and sustainable health system in B.C.: A call to build consensus and take action. Message from the Minister of Health. Retrieved from http://www.health.gov.bc.ca/library/publications/year/2015/delivering-patient-centred-health-BC.pdf	Position Statement	Minister of Health's summary of provincial healthcare reform priorities: The B.C. health sector, along with other heath sector jurisdictions, has framed its efforts to improve health care around three overarching goals (developed through the Institute of Health Improvement and known as the Triple Aim): • Improving the health of populations; • Improving the patient experience of care (including quality and satisfaction), to which B.C. has recognized the additional requirement of improving the experience of delivering care for providers and support staff as critical to patient-centred care built on efforts of those who deliver and support health services; and • Reducing the per capita cost of health by focusing on quality (especially effectiveness and appropriateness) and the efficiency of health care delivery	Level IV
British Columbia Ministry of Health (2015b). Primary	Position Statement	A provincial organization's report on healthcare reform directives informed by	Level IV

and community care in BC: A strategic policy framework. Retrieved from http://www.health.gov.bc.ca/library/publications/year/2015/primary-and-community-care-policy-paper.pdf		Triple Aim standards. A focus to inter-professional teams, care continuity, primary and community care.	
British Columbia Ministry of Health (2015c). The British Columbia patient-centered care framework. Retrieved from http://www.health.gov.bc.ca/library/publications/year/2015_a/pt-centred-care-framework.pdf	Position Statement	Ministry's definition of patient-centred care to inform healthcare system changes.	Level IV
British Columbia Ministry of Health (2017). Percent of population attached to a GP practice. Percent of population attached to a specific general practitioner. British Columbia and health authority, fiscal year 2011/12 to 2014/16. Retrieved from (pending)	Program Evaluation	Document summarizes population attached to a general practice and a specific physician.	Level V
British Columbia Nurse Practitioner Association (2012). Position statement. Nurse practitioners in primary care. Retrieved from https://bcnpa.org/wp-content/uploads/Nurse-Practitioners-in-Primary-Care-Position-Statement.pdf	Position statement	Description of nurse practitioners as primary care providers	Level IV
British Columbia Nurse Practitioner Association (2016a). 2015/2016 Annual report. Retrieved from https://bcnpa.org/wp-content/uploads/2015-16-Annual-Report_FINAL_160529_web.pdf	Case report.	Annual report summarizing goals, accomplishments including a financial report.	Level V
British Columbia Nurse Practitioner Association (2016d). Nurse practitioners. Create positive change in the health of all British Columbians. Retrieved from https://bcnpa.org/wp-content/uploads/Infographic_FINAL_161202.pdf	Position Statement	Infographic summarizing nurse practitioners in British Columbia	Level IV
Bryant-Lukosius, D., DiCenso, A., Browne, G., & Pinelli, J. (2004). Advanced practice nursing roles: development, implementation and evaluation. *Nursing and Health Care Management and Policy*, *48*(5), 519-529. doi: 10.1111/j.1365-2648.2004.03234.x	Expert Opinion	Challenges associated with the introduction of APN roles suggests that greater attention to and consistent use of the terms of the terms advanced nursing practice, advancement and advanced practice nursing is required. Advanced nursing practice refers to the work or what nurses do in the role and is important for defining the specific nature and goals for introducing new APN roles. The concept of advancement further defines the multi-dimensional scope and mandate of advanced nursing practice and distinguishes differences from other types of nursing roles.	Level V
Bryant-Lukosius, Spichiger, E., Martin, J., Stoll, H., Kellerhals, S. D., Fliedner, M.,…De Geest, S. (2016). Framework for evaluating the impact of advanced practice nursing roles. *Journal of Nursing Scholarship*, *48*(2), 201-209. doi: 10.1111/jnu.12199	Consensus	A framework to evaluate different types of APN roles as they evolve to meet dynamic population health, practice setting, and health system needs was created. It includes a matrix of key concepts to guide evaluations across three stages of APN role development: introduction, implementation, and long-term sustainability. For each stage, evaluation objectives and questions examining APN role structures, processes, and outcomes from different	Level IV

		perspectives (e.g., patients, providers, managers, policy-makers) were identified.	
Burgess, J., & Purkis, M. E. (2010). The power and politics of collaboration in nurse practitioner role development. Nursing Inquiry, 17(4), 297-308. doi: 10.1111/j.1440- 1800.2010.00505.x	Participatory Action Research; qualitative study exploring themes related to NP practice; n = 17	Leadership and political acumen enhance nurse practitioner practice integration.	Level III
Canadian Interprofessional Health Collaborative (2010). A national interprofessional competency framework. Retrieved from https://www.cihc.ca/files/CIHC_IPCompetencies_Feb 1210.pdf	Consensus report	This document describes an approach to competencies that can guide interprofessional education and collaborative practice for all professions in a variety of contexts.	Level IV
Canadian Nurses Association (2008). Advanced nursing practice. A national framework. Retrieved from https://www.cna-aiic.ca/~/media/cna/page-content/pdf-en/anp_national_framework_e.pdf	Consensus Statement	Describes ANP – NP and CNS role, regulation, competencies, education, impact.	Level IV
Canadian Nurses Association (2009). Nursing leadership. Retrieved from https://www.cna-aiic.ca/~/media/cna/page-content/pdf-en/nursing-leadership_position-statement.pdf?la=en	Position Statement	Describes nursing leadership	Level IV
Canadian Nurses Association (2012). A nursing call to action. The health of our nation, the future of our health system. Retrieved from https://www.cna-aiic.ca/~/media/cna/files/en/nec_report_e.pdf	Consensus Statement	Statements, recommendations, rationale for supporting the nursing voice in healthcare reform.	Level IV
Chreim, S., Williams, B. B., Janz, L., & Dastmalchian, A. (2010). Change agency in a primary health care context: The case of distributed leadership. *Health care management review*, *35*(2), 187-199.	A qualitative, longitudinal case study allowed us to map the evolution of a successful model of leadership	The findings point to the importance of the distributed change leadership model in contexts where legitimacy, authority, resources, and ability to influence complex change are dispersed across loci. Distributed leadership has both planned and emergent components, and its success in bringing about change is associated with the social capital prevalent in the site	Level V
Chulach, T., & Gagnon, M. (2016). Working in a 'third space': a closer look at the hybridity, identity and agency of nurse practitioners. *Nursing inquiry*, *23*(1), 52-63. doi: 10.1111/nin.12105	An analysis of NPs using postcolonial theory	Analysis reveals importance of a broader, power structure analysis and illustrates how colonial assumptions operating within our current healthcare system entrench, expand and re-invent, as well as masks the structures and practice that serve to impede nurse practitioner full integration and contributions.	Level V
Clavelle, J. T., & Drenkard, K. (2012). Transformational leadership practices of chief nursing officers in Magnet organizations. *The Journal of Nursing Administration*, *42*(4), 195-201. doi: 10.1097/NNA.0b013e31824ccd7b	Descriptive study to address the paucity of research, with the question "What are the TL practices of CNOs in Magnet organizations?" (n = 384)	Enabling others to act and modeling the way are top practices of Magnet CNOs. Those 60 years or older and those with doctorate degrees scored significantly higher in inspiring a shared vision and challenging the process. There was a significant positive relationship between total years as a CNO and inspiring a shared vision and between total scores on the LPI and number of beds in the organization	Level III
Clavelle, J. T.., O'Grady, T. P., & Drenkard, K. (2013). Structural empowerment and the nursing practice environment in Magnet organizations. *Th Journal of Nursing Administration*, *43*(11), 566-573.	Descriptive study with level II correlation design.	In Magnet organizations, the primary governance distribution is shared governance, with most subscales in the IPNG within the shared governance range. Total and subscale scores on the NWI-R ranged from 1.35 to 1.48, with significant, positive correlation between total IPNG score and total NWI-R	Level III

doi: 10.1097/01.NNA.0000434512.81997.3f		score (r = 0.416, P G .001),	
Clavelle, J. T., & Goodwin, M. (2016). The Center for Nursing Excellence: A Health System Model for Intentional Improvement and Innovation. *The Journal of Nursing Administration*, *46*(11), 613-618.	Expert opinion.	An innovative Center for Nursing Excellence model that supports structural empowerment and the achievement of exemplary nursing, patient, and organizational outcomes were implemented in 2 separate health systems in the western United States. Formal leadership roles for nursing practice, research, professional education, and Magnet. A continual readiness are aligned to ensure that Magnet designation is attained and maintained in system hospitals	Level V
Cronhom, P. F., Shea, J. A., Werner, R. M., Miller-Day, M., Tufano, J., Crabtree, B. F., & Gabbay, R. (2013. The patient centered medical home: Mental models and practice culture driving the transformational process. *Journal of General Internal Medicine, 28*(9), 1195-1201. doi: 10.1007/s11606-013-2415-3	Qualitative study (*n* = 118)	Three central themes emerged from the data related to changes in practice culture and mental mAACNodels necessary for PCMH practice transformation: 1) shifting practice perspectives towards proactive, population- oriented care based in practice–patient partnerships; 2) creating a culture of self-examination; and 3) challenges to developing new roles within the practice through distribution of responsibilities and team-based care. The most tension in shifting the required mental models was displayed between clinician and medical assistant participants, revealing significant barriers towards moving away from clinician-centric care.	Level III
Curran, V. (2005). Interprofessional education for collaborative patient-centred practice. Retrieved from https://www.med.mun.ca/getdoc/58a756d2-1442-42ed-915b-9295b6d315c6/Curran--Resarch-Synthesis-Paper.aspx	The research team prepared a comprehensive research report detailing the results of the literature review, surveys and interviews which were conducted. The report prepared by the research team contained the following objectives to: -deliver a clear understanding of the evidence of interdisciplinary care and interdisciplinary education as it relates to improved patient outcomes; - identify policies and infrastructure that both help and hinder implementation and sustenance of interdisciplinary education and practice; -identify and understand the educational processes that foster and aid the development of interdisciplinary patient	Findings supported a comprehensive and multifactorial approach and was summarized within micro, meso and macro levels and included the following: interdisciplinary education, professional beliefs and attitudes, teaching and institutional factors, educational and professional system components, government policies and social and cultural values.	Level IV

	care for health care providers at all levels of the system as lifelong learners; and -understand and identify how to foster networks that will promote collaborative knowledge sharing and resource development		
de Witt, L., & Ploeg., J. (2005). Critical analysis of the evolution of a Canadian nurse practitioner role. *Canadian Journal of Nursing Research, 37*(4), 116-137	Expert opinion: analysis of the evolution of NPs in Canada by examining Ontario	Evolution occurred in stages. Current barriers to the full integration of NPs within primary health care include the lack of a workable and stable funding plan for NPs, restrictions on scope of practice, work-related tensions between physicians and NPs, and lack of public and professional awareness of the role. Nurses can address these barriers through advocacy, lobbying, and public education.	Level V
DiCenso, A., & Bryant-Lukosius, D. (2010a). Clinical nurse specialists and nurse practitioners in Canada. A Decision support synthesis. Retrieved from http://www.cfhi-fcass.ca/migrated/pdf/10-CHSRF-0362_Dicenso_EN_Final.pdf	To develop a better understanding of the roles of APNS, the context in which they are currently being used, and the health system factors that influence the effective integration of advanced practice nursing in the Canadian healthcare system, the authors completed a synthesis of literature and conducted interviews with key informants.	While great strides have been made over the past 40 years in the development and deployment of advanced practice nursing, the full contribution of APNs has yet to be realized. Considerable opportunity exists to more clearly define roles, to improve integration, and to maximize APNs' contribution to the Canadian healthcare system, thereby improving the quality and delivery of healthcare.	Level IV
DiCenso, A., Martin-Misener, R., Bryant-Lukosius, D., Bourgeault, I., Kilpatrick, K., Donald, F.,….Charbonneau-Smith, R. (2010b). Advanced practice nursing in Canada: Overview of a decision support synthesis. *Nursing Leadership, 23*(Special Issue), December.	Decision support synthesis to identify and review published and grey literature and to conduct stakeholder interviews to (1) describe the distinguishing characteristics of CNS and NP role definitions and competencies relevant to Canadian contexts, (2) identify the key barriers and facilitators for the effective development and utilization of CNS and NP roles and	The findings of the synthesis demonstrate (1) the yet unfulfilled or unrealized contributions APNs could make to address important gaps in maximizing the health of Canadians through equitable access to high-quality healthcare services, (2) the important interplay and influence of dynamic and often competing values, beliefs and interests of provincial and national governments, healthcare administrators and health professions on the policies and politics that shape the education, regulation and ad hoc deployment of advanced practice nursing roles, and (3) the continued vulnerability of advanced practice nursing roles to changes in health policies and economic conditions.	Level III

	(3) inform the development of evidence-based recommendations for the individual, organizational and health system supports required to better integrate CNS and NP roles into the Canadian healthcare system and advance the delivery of nursing and patient care services in Canada		
Donald, F., Martin-Misener, R., Bryant-Lukosius, D., Kilpatrick, K., Kaasalainen, S., Carter, N.,…DiCenso, A. (2010). The primary healthcare nurse practitioner role in Canada. *Nursing Leadership, 23*(Special Issue), 88-113.	Scoping review and qualitative inquiry to develop a better understanding of APN roles, their current use, and the individual, organizational and health system factors that influence their effective development and integration in the Canadian healthcare system.	Based on the synthesis findings…three important challenges to their (PHCNP] integration and long-term viability: restrictive legislation and regulation inconsistencies in educational preparation across Canada and working relationships between PHCNPs and family physicians.	Level III
Donelan, K., DesRoches, C., Dittus, R. S., Buerhaus, P. (2013). Perspectives of physicians and nurse practitioners on primary care practice. *The New England Journal of Medicine, 368*(20), 1898-1906. doi: 10.1056/NEJMsa1212938	National survey (n = 972)	Physicians reported working longer hours, seeing more patients, and earning higher incomes than did nurse practitioners. A total of 80.9**%** of nurse practitioners reported working in a practice with a physician, as compared with 41.4% of physicians who reported working with a nurse practitioner. Nurse practitioners were more likely than physicians to believe that they should lead medical homes, be allowed hospital admitting privileges, and be paid equally for the same clinical services When asked whether they agreed with the statement that physicians provide a higher-quality examination and consultation than do nurse practitioners during the same type of primary care visit, 66.1% of physicians agreed and 75.3% of nurse practitioners disagreed	Level III
Faraz, A. (2017). Novice nurse practitioner workforce transition and turnover intention in primary care. *Journal of the American Association of Nurse Practitioners, 29*, 26-34. doi: 10.1002/2327-6924.12381	A descriptive, cross-sectional study using a survey (n = 177) to explore workforce transition and turnover intention of novice nurse practitioners in primary care	Results revealed that greater professional autonomy in the workplace is a critical factor in turnover in novice NP in the primary care setting	Level III
Fields, B., & Jenkins, M. (2016). Structure and	Expert opinion.	The authors review system structures to support success in achieving Magnet	Level V

suggestions for system Magnet designation. *Journal of Nursing Administration, 46*(3), 116-119. doi: 10.1097/NNA0000000000000308		designation.	
Frenk, J., Chen, L., Bhutta, Z. A., Choen, J., Crisp, N., Evans, T.,…Zurayk, H. (2010). Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *The Lancet, 376*(9756), 1923-1958. doi: 10.1016/S0140- 6736(10)61854-5	Commission recommendations for interprofessional educational processes to include development of a vision for education	Commission recommends cross-discipline education and health services-educational institution collaboration so as to support comprehensive, holistic approaches to health care delivery.	Level IV
Godfrey, M., Andersson-Gare, B., Nelson, E. C., Nilsson, M., & Ahlstrom, G. (2014). Coaching interprofessional health care improvement teams: the coachee, the coach and the leader perspectives. *Journal of Nursing Management, 22*, 452-464. doi: 10.1111/jonm.12068	Mixed methods sequential exploratory study design, including quantitative and qualitative data from interprofessional improvement teams who received team coaching.	Coachees, coaches and unit leaders in both collaboratives reported generally positive perceptions about team coaching. Four categories of coaching actions were perceived to support improvement work: context, relationships, helping and technical support. All participants agreed that regardless of who the coach is, emphasis should include the four categories of team coaching actions.	Level III
Grant, S., Guthrie, B., Entwistle, V., & Williams, B. (2014). A meta-ethnography of organizational culture in primary care medical practice. *Journal of Health Organization and Management, 28*(1), 21-40. doi: 10.1108/JHOM-07-2012-0125	A systematic search and synthesis using techniques of meta-ethnography involving translation and re-interpretation.	A total of 16 papers were included in the meta-ethnography from the UK, the USA, Canada, Australia and New Zealand that fell into two related groups: those focused on practice organisational characteristics and narratives of practice individuality; and those focused on sub-practice variation across professional, managerial and administrative lines. It was found that primary care organisational culture was characterised by four key dimensions, i.e. responsiveness, team hierarchy, care philosophy and communication. These dimensions are multi-level and inter-professional in nature, spanning both practice and sub-practice levels.	Level III
Hall, C. B., Brazil, K., Wakefield, D., Lerer, T., & Tennen, H. (2010). Organizational culture, job satisfaction, and clinician turnover in primary care. *Journal of primary care & community health, 1*(1), 29-36.	The purpose of this study (using the Primary Care Organizational Questionnaire) was to examine how organizational culture and job satisfaction affect clinician turnover in primary care pediatric practices.	All 8 measured organizational factors from the PCOQ, particularly perceived effectiveness, were associated with job satisfaction. Five of the 8 organizational factors were also associated with clinician turnover. The effects of the organizational factors on turnover were substantially reduced in a model that included job satisfaction; only 1 organizational factor, communication between clinicians and nonclinicians**PAM**, remained significant (P = .05). This suggests that organizational culture affects subsequent clinician turnover primarily through its effect on job satisfaction. Organizational culture, in particular perceived effectiveness and communication, affects job satisfaction, which in turn affects clinician turnover in primary care pediatric practices. Strategies to improve job satisfaction through changes in organizational culture could potentially reduce clinician turnover.	Level III
Hutchison, B., & Glazier, R. (2013). Ontario's primary care reforms have transformed the local care landscape, but a plan is needed for ongoing improvement. *Health Affairs, 32*(4), 695-703. doi: 10.1377/hlthaff.2012.1087	Expert opinion	With primary care reform underway the authors recommend consideration to development and implementation of performance measures	Level V

Institute of Medicine (2011). The future of nursing: Leading change, advancing health. Retrieved from http://www.nap.edu/catalog/12956/the-future-of-nursing-leading-change-advancing-health	IOM report with recommendations to support nursing within the context of healthcare reform.	IMO recommends supporting nurses in the following areas: practice to full scope, leadership, enhanced education, and improved oversight of human resource development.	Level IV
Jones, R. (2014). Oversight of physician services. Office of the Auditor General of British Columbia. Retrieved from http://www.bcauditor.com/sites/default/files/publications/2014/report_11/report/OAG%20Physicians%20Services_FINAL.pdf	Auditor General's examination of the value of physician services in BC.	The Auditor General found Government is not ensuring that physician services are achieving value for money. Government is unable to demonstrate that physician services are high-quality and cannot demonstrate that compensation for physician services is offering the best value. Furthermore, there are systemic barriers that are hampering Government's ability to achieve value for money with physician services. This report contains six recommendations to improve the oversight of physician services and assist Government with demonstrating that physician services are high quality and providing value for British Columbians. This includes clarifying the roles and accountabilities of the entities involved with physician services and rebuilding the physician compensation model so that it aligns with the delivery of high-quality, cost-effective physician services. Although Government has taken some steps to address a few of the issues presented in this report, we believe that significant work is still needed.	Level IV
Kaasalainen, S., Martin-Misener, R., Kilpatrick, K., Harbman, P., Bryant-Lukosius, D., Donald, F., & Carter, N. (2010). A historical overview of the development of advanced practice nursing roles in Canada. *Nursing Leadership, 23*(Special Issue), 35-60.	Review of literature (n = 468), and qualitative (n = 62) study. Examining history and influencers of the Advance Practice Nurse role in Canada.	APN role formally introduced in 1967; integration process occurred in waves based on health system needs; sustainable funding and physician resistance slowed progress.	Level V
Kaplan, H. C., Brady, P. W., Dritz, M. C., Hooper, D. K., Linam, W., Froehle, C. M., & Margolis, P. (2010). The influence of context on quality improvement success in health care: a systematic review of the literature. *Milbank Quarterly*, *88*(4), 500-559.	The business and health care literature was systematically reviewed to identify contextual factors that might influence QI success; to categorize, summarize, and synthesize these factors; and to understand the current stage of development of this research field	Findings revealed consistent with current theories of implementation and organization change, leadership from top management, organizational culture, data infrastructure and information systems, and years involved in QI were suggested as important to QI success. Other potentially important factors identified in this review included: physician involvement in QI, microsystem motivation to change, resources for QI, and QI team leadership.	Level III
Kinchen, E. (2015). Development and testing of an instrument to measure holistic nursing values in nurse practitioner care. *Advances in Nursing Science, 38*(2), 144-157. doi: 10.1097/ANS.0000000000000072	Quantitative study that describes the development and testing of a survey examining client experience of nurse practitioner practice in the domains of patient-centredness, co-creation of care, and	Results validated the holistic nature of nurse practitioner practice and revealed high reliability with recommendations to test on other populations.	Level III

	spirit/mind (n = 176)		
Kutzleb, J., Rigolosi, R., Fruhschien, A., Reilly, M., Shaftic, A. M., Duran, D., & Flynn, D. (2015). Nurse practitioner care model: Meeting the health care challenges with a collaborative team. *Nursing Economics, 33*(6), 297-305.	Implementation of an evidence-based project (NP Care Model) to address the following question: In patients with chronic disease, does a NP-directed patient-education program improve disease self-management and reduce readmissions compared to usual medical management?	Findings include: 1) The Healthy Heart Initiative program coordinated by the NP addressed targeted causes of rehospitalisation (lifestyle, medication and diet noncompliance, and lack of self-care disease management). 2) The program objective of improved financial performance was met by reducing the 30-day readmission rate. 3) Operational effectiveness and quality patient outcomes were met through the design and implementation of the NP Care Model, and overall patient reported satisfaction.	Level III
Lankshear, S., Kerr, M. S., Spence-Laschinger, H. K., & Wong, C. A. (2013). Professional practice leadership roles: The role of organizational power and personal influence in creating a professional practice environment for nurses. *Health Care Management Review, 38*(4), 349-360. doi: 10.1097/HMR.0b013e31826fd517	Nonexperimental, descriptive correlational	Results indicate that there is a direct and positive relationship between PPL organizational power and achievement of PPL role functions, as well as an indirect, partially mediated effect of PPL influence tactics on PPL role function. There is also a direct and positive relationship between PPL role functions and nurses' perceptions of their practice environment. The evidence generated from this study highlights the importance of organizational power and personal influence as significantly contributing to the ability of those in PPL roles to achieve desired outcomes	Level III
Lessard, S., Bareil, C., Lalonde, L., Duhamel, F., Hudon, E., & Goudreau, J., & Levesque, L. (2016). External facilitators and interprofessional facilitation teams: a qualitative study of their roles in supporting practice change. *Implementation Science, 11*(97). doi: 10.1186/s13012-016-0458-7	Qualitative analysis of a 1-year process of practice change implementation	Facilitation is an approach used by appointed individuals, which teams can also foster, to build capacity and support practice change. Increased understanding of facilitation roles constitutes an asset in training practitioners such as organizational development experts, consultants, facilitators, and facilitation teams. It also helps decision makers become aware of the multiple roles and dynamics involved and the key competencies needed to recruit facilitators and members of interprofessional facilitation teams	Level III
Liu, N., & D'Aunno, T. (2012). The productivity and cost-efficiency of models for involving nurse practitioners in primary care: A perspective from queueing analysis. *Health Services Research, 47*(2), 594-613. doi: 10.1111/j.1475-6773.2011.01343.x	Financial evaluation using a queueing analysis to generate formulas and values for two performance measures: productivity and cost-efficiency	Employing an NP, whose salary is usually lower than a primary care physician, may not be cost- efficient, in particular when the NP's capacity is under-utilized. Besides provider service rates, workload allocation among providers is one of the most important determinants for the cost-efficiency of a practice model involving NPs. Capacity pooing among providers could be a helpful strategy to improve efficiency in care delivery	Level V
Liu, N., Finkelstein, S. R., & Poghosyan, L. (2014). A new model for nurse practitioner utilization in primary care: Increased efficiency and implications. *Health care management review*, *39*(1), 10-20.	The aim of this article was to compare the productivity and cost efficiency of NP utilization models implemented in primary care sites with and without medical assistant (MA) support.	The productivity and cost efficiency of these models improve significantly if NPs have access to MA support in serving patients. On the basis of the model parameters we use, the average cost of serving a patient can be reduced by 9%Y12% if MAs are hired to support NPs. Such improvements are robust across practice environments with different variability in provider service times. Improving provider service rate is a much more effective strategy to increase productivity compared with reducing the variability in provider service times.	Level III

MacNaughton, K., Chreim S., & Bourgealut, I. L. (2013). Role construction and boundaries in interprofessional primary health care teams: a qualitative study. *BMC Health Services Research, 13*(486). Retrieved from http://www.biomedcentral.com/1472-6963/13/486	Comparative case study (*n* = 26)	The findings indicate that role boundaries can be organized around interprofessional interactions (giving rise to autonomous or collaborative roles) as well as the distribution of tasks (giving rise to interchangeable or differentiated roles). Different influences on role construction were identified. They are categorized as structural (characteristics of the workplace), interpersonal (dynamics between team members such as trust and leadership) and individual dynamics (personal attributes). The implications of role construction were found to include professional satisfaction and more favourable wait times for patients. A model that integrates these different elements was developed.	Level III
Martin-Misener, R. (2010). Will nurse practitioners achieve full integration into the Canadian health-care system? *CJNR (Canadian Journal of Nursing Research), 42*(2), 9-16	Systematic review of RCT since 1980	11 trials were included. In four trials of alternative provider ambulatory primary care roles, nurse practitioners were equivalent to physicians in all but seven patient outcomes favouring nurse practitioner care and in all but four health system outcomes, one favouring nurse practitioner care and three favouring physician care. In a meta-analysis of two studies (2689 patients) with minimal heterogeneity and high-quality evidence, nurse practitioner care resulted in lower mean health services costs per consultation (mean difference: −€6.41; 95% CI −€9.28 to −€3.55; p<0.0001) (2006 euros). In two trials of alternative provider specialised ambulatory care roles, nurse practitioners were equivalent to physicians in all but three patient outcomes and one health system outcome favouring nurse practitioner care. In five trials of complementary provider specialised ambulatory care roles, 16 patient/provider outcomes favouring nurse practitioner plus usual care, and 16 were equivalent. Two health system outcomes favoured nurse practitioner plus usual care, four favoured usual care and 14 were equivalent. Four studies of complementary specialised ambulatory care compared costs, but only one assessed costs and outcomes jointly.	Level 1
Martin-Misener, R., Harbman, P., Donald, F., Reid, K., Kilpatrick, K., Carter, N.,…DiCenso, A. (2015). Cost-effectiveness of nurse practitioners in primary and specialized ambulatory care: systematic review. *BMJ open, 5*(6), p.e007167. doi: 10.1135/bmjopen-2014-007167	A systematic review that included randomized controlled trials that evaluated nurse practitioners in alternative and complementary ambulatory care roles and reported health system outcomes.	Nurse practitioners in alternative provider ambulatory primary care roles have equivalent or better patient outcomes than comparators and are potentially cost-saving. Evidence for their cost-effectiveness in alternative provider specialised ambulatory care roles is promising, but limited by the few studies. While some evidence indicates nurse practitioners in complementary specialised ambulatory care roles improve patient outcomes, their cost-effectiveness requires further study.	Level IV
Niezen, M. G., & Mathijssen, J. J. (2014). Reframing professional boundaries in healthcare: A systematic review of facilitators and barriers to task reallocation from the domain of medicine to the nursing domain. *Health policy, 117*(2), 151-169.	A systematic literature review of PubMed and Web of Knowledge supplemented a snowball research method. The principles of thematic	Results revealed the 13 identified relevant papers address a broad spectrum of ask reallocation (delegation, substitution and complementary care). Thematic analysis revealed four categories of facilitators and barriers: (1) knowledge and capabilities, (2) professional boundaries, (3) organizational environment, and (4) institutional environment.	Level III

	analysis were followed. The aim of the study was to explore the main facilitators and barriers to task reallocation (medicine to nursing)		
Nurse Practitioner Association of Ontario (2014). Fact sheet: Nurse practitioner practice, integration, and outcomes study. Retrieved from https://npao.org/wp-content/uploads/2014/03/Study-Fact-Sheet-Final.pdf	Mixed method (n = 225)	This research study describes the interprofessional activities of nurse practitioners and how they contribute to interprofessional care. Knowledge from this study can be used to improve nurse practitioner role clarity and recognize role value. The study also outlines how nurse practitioners interact with interprofessional team members to influence interprofessional care. The knowledge of how nurse practitioners interact is valuable for practicing nurse practitioners and their educators to influence purposeful engagement in interprofessional care.	Level III
Poghosyan, L., Lucero, R., Racuh, L., & Berkowitz, B. (2012a). Nurse practitioner workforce: A substantial supply of primary care providers. *Nursing Economics, 30*(5), 268-294.	Expert opinion.	Factors contributing to NP integration are discussed. The NP workforce represents a valuable supply of primary care providers to combat workforce shortages. To be able to use this workforce in the most productive way, uniform scope of practice regulations across states, payment policies based on services provided, and better work environments are necessary. Utilizing the NP workforce to its fullest capacity is key to meeting the increased demand for primary care	Level V
Poghosyan, L., Nannini, A., & Clarke, S. (2012b). Organizational climate in primary care settings: Implications for nurse practitioner practice. *Journal of the American Association of Nurse Practitioners, 25*(3), 134-140. doi: 10.1111/j.1745-7599.2012.00765.x	Review of research related to nurse practitioner environmental influences	Results revealed the importance of considering organizational aspects as they related to NP practice including autonomy, NP-physician relations, and professional visibility	Level III
Poghosyan, L., Nannini, A., Finkelstein, S. R., Mason, E., & Shaffer, J. A. (2013a). Development and psychometric testing of the nurse practitioner primary care organizational climate questionnaire. *Nursing Research, 62*(5), 325-334. doi: 10.1097/NNR.0b013e3182a131d2	Instrumental design model (non-experimental).	The development and testing revealed face and content validity. Nurse Practitioner Primary Care Organizational Climate Questionnaire had face and content validity. The content validity index was .90. Twenty-nine items loaded on four subscale factors: professional visibility, NP-administration relations, NP-physician relations, and independent practice and support. The subscales had high internal consistency reliability. Cronbach's alphas ranged from.87 to .95.	Level III
Poghosyan, L., Nannini, A., Smaldone, A., Clarke, S., O'Rourke, N. C., Rosato, B. G., & Berkowitz, B. (2013b). Revisiting Scope of Practice Facilitators and Barriers for Primary Care Nurse Practitioners A Qualitative Investigation. *Policy, Politics, & Nursing Practice, 14*(1), 6-15.	This study utilized qualitative descriptive design to investigate NP roles and responsibilities as primary care providers in Massachusetts and their perceptions about barriers and facilitators to their scope of practice (n = 23)	Results revealed NPs take on similar responsibilities as physicians to deliver primary care services; however, the regulatory environment and billing practices, lack of comprehension of the NP role, and challenging work environments limit successful NP practice.	Level III

Poghosyan, L., Nannini, A., Stone, P. W., & Smaldone, A. (2013c). Nurse practitioner organizational climate in primary care settings: Implications for professional practice. *Journal of Professional Nursing, 29*(6), 338-349. doi: 10.1016/j.profnurs.2013.07.005	Qualitative descriptive design exploring NP perception of organizational support (n = 16)	Results revealed the following themes: NP–physician relations, independent practice and autonomy, organizational support and resources, NP–administration relations, and professional visibility	Level III
Poghosyan, L., Boyd, D., & Knutson, A. R. (2014a). Nurse practitioner role, independent practice, and teamwork in primary care. *The Journal for Nurse Practitioners*, *10*(7), 472-479.	This study conducted a survey of NPs (*n* = 278) in New York state to better understand NPs' role, independent practice, and teamwork in primary care organizations.	Results revealed forty-two percent of NPs had their own patient panel. The mean score of the Autonomy and Independent Practice scale was higher than that of the Teamwork scale. These scales were positively correlated, suggesting that NP independent practice may improve teamwork.	Level III
Poghosyan, L., Shang, J., Liu, J., Poghosyan, H., Liu, N., & Berkowitz, B. (2014b). Nurse practitioners as primary care providers: Creating favorable practice environments in New York State and Massachusetts. *Health care management review*, *40*(1), 46-55.	The purpose of this cross-sectional study was to investigate NP practice environments in two states. Massachusetts (MA) and New York State (NY), and determine the impact of state and organization on NP practice environment (*n* = 569)	Results revealed nurse practitioners reported favorable relationships with physicians, deficiencies in their relationships with administrators, and lack of support. Nurse practitioners from MA reported better practice environments. Nurse practitioners from hospital-affiliated practices perceived poorer practice environments than did NPs practicing in physician offices and community health centers.	Level III
Poghosyan, L., & Aiken, L. H. (2015). Maximizing nurse practitioners' contribution to primary care through organizational changes. *Journal of Ambulatory Care Manager, 38*(2), 109-117. doi: 10.1097/JAC.0000000000000054	Cross-sectional survey examining NP perception of organizational support (n = 592) using the Nurse Practitioner Primary Care Organizational Climate Questionnaire	Results revealed inadequate infrastructure, difficult administrative relations and insufficient clinical resources	Level III
Poghosyan, L., & Liu, J. (2016a). Nurse practitioner autonomy and relationships with leadership affect teamwork in primary care practices: a cross-sectional survey. *Journal of General Internal Medicine, 31*(7), 771-777. doi: 10.1007/s11606-016-3652-z	Cross-sectional survey examining whether there is a relationship between NP autonomy and leadership relations, and collaboration between NPs and physicians (n = 163 practices)	Results revealed a positive correlation between NP agency and leadership relations, and collaboration	Level III
Poghosyan, L., Liu, J., Shang, J., & D'Aunno, T. (2016b). Practice environments and job satisfaction and turnover intentions of nurse practitioners: Implications for primary care workforce capacity. *Health care management review*. doi: 1	The authors examined NP practice environments in primary care organizations and the extent to which they were associated with NP retention measures	Results revealed NPs rated the relationship between NPs and physicians favorably, contrary to the relationship between NPs and administrators. All subscales measuring NP practice environment had similar influence on the outcome variables. With every unit increase in each standardized subscale score, the odds of job satisfaction factors increased about 20% whereas the odds of intention of turnover decreased about 20%. NPs from organizations with	Level III

0.1097/HMR.0000000000000094	through data collected from a mail survey (n = 314 NPs within 163 health organizations)	higher mean scores on the NP-Administration subscale had higher satisfaction with their jobs (OR = 1.24, 95% CI [1.12, 1.39]) and had lower intent to leave (OR = 0.79, 95% CI [0.70, 0.90])	
Poghosyan, L., Norful, A., & Martsolf, G. R. (2017). Primary care nurse practitioner practice characteristics. Barriers and opportunities for interprofessional teamwork. *Journal of Ambulatory Care Management, 40*(1), 77-86. doi: 10.1097/JAC.0000000000000156	Mixed method (n = 330)	We identified NP-physician and NP-administration relationships; organizational support and governance; time and space for teamwork; and regulations and economic impact as important. Practice and policy change addressing these factors is needed for effective interprofessional teamwork	Level III
Prodan-Bhalla, N., & Scott, L. (2016). BCNPA. Primary care transformation in British Columbia. A new model to integrate nurse practitioners. Retrieved from https://bcnpa.org/wp-content/uploads/BCNPA_PHC_Model_FINAL-November-2-2016.pdf	A policy paper summarizing recommendations for NP funding. Completed for the MoH at their request.	Funding Options: Option A: Health Authority Affiliated NP – This model is already relatively successful across the province, although funding has not been ongoing, and did not provide for adequate infrastructure support. Option B: Non-Health Authority Affiliated NP – This model will place the NP outside of the HA framework where most primary care is delivered, yet position the NP to link back to HA services for continuity of care.	Level IV
Regan, S., Laschinger, H. K., & Wong, C. A. (2016). The influence of empowerment, authentic leadership, and professional practice environments on nurses' perceived interprofessional collaboration. *Journal of nursing management*, *24*(1), E54-E61.	A predictive non-experimental design was used to test the effects of structural empowerment, authentic leadership and professional nursing practice environments on perceived interprofessional collaboration (IPC). A random sample of experienced registered nurses (n = 220) in Ontario, Canada completed a mailed questionnaire. Hierarchical multiple regression analysis was used.	Higher perceived structural empowerment, authentic leadership, and professional practice environments explained 45% of the variance in perceived IPC (Adj. R^2 = 0.452, F = 59.40, P < 0.001). Results suggest that structural empowerment, authentic leadership and a professional nursing practice environment may enhance IPC.	Level III
Registered Nurses' Association of Ontario (2013). Developing and sustaining interprofessional health care: Optimizing patient, organizational and systems outcomes. Retrieved from http://rnao.ca/sites/rnao ca/files/DevelopingAndSustainingBPG.pdf	Practice guidelines	This best practice guideline, Developing and Sustaining Interprofessional Health Care: Optimizing patients/clients, organizational, and system outcomes is intended to foster healthy work environments. The focus in developing this guideline was identifying attributes of interprofessional care that will optimize quality outcomes for patients/ clients, providers, teams, the organization and the system	Level IV
Ridenour, N., & Trautman, D. (2009). A primer for nurses on advancing health reform policy. *Journal of Professional Nursing*, *25*(6), 358-362.	Authors offer their experience to suggest best practices that nurses can use to lend voice to [health reform] discussions that are underway.	Strategies where nursing's voice can inform reform conversations include chronic disease management, prevention and health promotion, community based care, nurse-managed care, interdisciplinary education, safety and quality, use of health information technology, and testing the comparative effectiveness of interventions and delivery systems.	Level V
Roots, A., & MacDonald, M. (2014). Outcomes	Case studies (n = 28).	The results showed that NPs affected how care was delivered, particularly	Level III

associated with nurse practitioners in collaborative practice with general practitioners in rural settings in Canada: a mixed methods study. *BioMed Central, 12*(1). Retrieved from http://human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-12-69		through the additional time afforded each patient visit, development of a team approach with interprofessional collaboration, and a change in style of practice from solo to group practice, which resulted in improved physician job satisfaction. Patient access to the practice improved with increased availability of appointments and practice staff experienced improved workplace relationships and satisfaction. At the community level, access to primary care improved for harder-to-serve populations and new linkages developed between the practice and their community. Acute care services experienced a statistically significant decrease in emergency use and admissions to hospital ($P = 0.000$). The presence of the NP improved their physician colleagues' desire to remain in their current work environment.	
Ryan, M. E., & Ebbert, D. W. (2013). Nurse practitioner satisfaction: Identifying perceived beliefs and barriers. *The Journal of Nurse Practitioners, 9*(7), 428-434. doi: 10.1016/j.nurpra.2013.05.014	Descriptive non-experimental survey	Job satisfaction scores revealed minimal global satisfaction. Highest scores included time for direct patient care, autonomy, and challenge. Dissatisfying factors involved reward opportunities, bonus availability, and research involvement.	Level III
Sangster-Gormley, E., Martin-Misener, R., Downe-Wamboldt, B., & DiCenso, A. (2011). Factors affecting nurse practitioner role implementation in Canadian practice settings: An integrative review. *Journal of Advanced Nursing, 67*(6), 1178-1190. doi: 10.1111/j.1365-2648.2010.05571.x	Integrative review exploring NP implementation with Canada and contributory factors	Results revealed the following themes: stakeholder involvement, role acceptance, and role purpose	Level III
Sangster-Gormley, E., Martin-Misener, R., & Burge, F. (2013). A case study of nurse practitioner role implementation in primary care: what happens when new roles are introduced? *BioMed Central*, 12. Retrieved from http://www.biomedcentral.com/1472-6955/12/1	Explanatory case study examining NP role implementation (n = 16)	Results confirmed the importance and inter-relatedness of stakeholder involvement, role acceptance and role purpose	Level III
Sangster-Gormley, E. (2014). A survey of nurse practitioner practice patterns in British Columbia. Retrieved from http://www.uvic.ca/research/projects/nursepractitioners/assets/docs/NP%20Practice%20Patterns%20Report.pdf	Survey to examine NP practice patterns in BC (n = 96)	Results revealed, some practice variance, overtime without compensation, inadequate infrastructure support and role understanding, challenging relations with physician colleagues, legislative restrictions and insufficient funding. Practice facilitators include NP agency and stakeholder support	Level III
Sangster-Gormley, E., & Canitz, B. (2015). An evaluation of the integration of nurse practitioners into the British Columbia healthcare system (Report). Retrieved from http://www.msfhr.org/sites/default/files/HSPRSN_MOH_UVIC_Evaluation_of_Integration_of_NP_into_BC_Healthcare_System.pdf	Multi-phase, mixed methods study examining NP integration (*n* = 418)	To summarize, NPs are geographically disbursed throughout the Province and are well represented in rural and remote communities. The majority are practicing in community based settings, again aligning with the MOH's expectation that NPs' practice be based in primary care. They are caring for groups identified by the MOH as high needs populations with complex health conditions and multiple social issues such as First Nations people in remote settings, homeless, frail seniors, and new immigrants. Finally, with the exception data management and legislation, NPs are satisfied with their practice	Level III

		supports and resources	
Sibbald, S. L., McPherson, C., & Kothari, A. (2013). Ontario primary care reform and quality improvement activities: an environmental scan. *BMC Health Services Research*, *13*(209). Retrieved from http://www.biomedcentral.com/1472-6963/13/209	Mix-methods (literature review plus interviews)	The environmental scan identified many activities (n = 43) designed to strategically build QI-PHC capacity, identify promising QI-PHC practices and outcomes, scale up quality improvement-informed primary healthcare practice changes, and make quality improvement a core organizational strategy in health care delivery, which were grouped into clusters. Cluster 1 was composed of initiatives in the form of on-going programs that deliberately incorporated long-term quality improvement capacity building through province-wide reach. Cluster 2 represented activities that were time-limited (research, pilot, or demonstration projects) with the primary aim of research production. The activities of most primary health care practitioners, managers, stakeholder organizations and researchers involved in this scan demonstrated a shared vision of QI-PHC in Ontario. However, this vision was not necessarily collaboratively developed nor were activities necessarily strategically linked.	Level III
Smith, J. R., & Donze, A. (2010). Assessing Environmental Readiness: First Steps in Developing an Evidence- Based Practice Implementation Culture. *The Journal of perinatal & neonatal nursing*, *24*(1), 61-71.	This article provides practitioners with an understanding of how to evaluate environmental readiness for implementation of EBP within their organization.	To successfully implement EBP, it is important to recognize the interaction between these 3 levels [interdisciplinary team level, organizational level and within nursing] and to highlight the important role nurses play as interdisciplinary team members in supporting an EBP environment.	Level V
Song, H., Chien, A. T., Fisher, J., Martin, J., Peters, A. S., Hacker, K., ... & Singer, S. J. (2015). Development and validation of the primary care team dynamics survey. *Health services research*, *50*(3), 897-921. doi: 10.1111/1475-6773.12257	Cross-sectional survey	It is possible to measure primary care team dynamics reliably using a 29-item survey. This survey may be used in ambulatory settings to study teamwork and explore the effect of efforts to improve team-based care. Future studies should demonstrate the importance of team dynamics for markers of team effectiveness (e.g., work satisfaction, care quality, clinical outcomes).	Level III
Spence-Laschinger, H. K., Wong, C. A., Grau, A. L., Read, E. A., & Pineau-Stam, L. M. (2012). The influence of leadership practices and empowerment on Canadian nurse manager outcomes. *Journal of Nursing Management*, *20*(7), 877-888.	A cross-sectional study using secondary analysis of data collected using non-experimental, predictive mailed survey design. Data from 231 middle and 788 first-line Canadian acute care mangers was used to test the hypothesized model using path analysis in each group.	The results showed an adequate fit of the hypothesized model in both groups but with an added path between leadership practices and support in the middle line group. Overall, transformational leadership practices of senior nurses empower middle- and first-line nurse managers, leading to increased perceptions of organizational support, quality care and decreased intent to leave.	Level III
Swan, M., Ferguson, S., Chang, A., Larson, E., & Smaldone, A. (2015). Quality of primary care by advanced practice nurses: a systematic review. *International Journal of Quality in Health care*, *27*(5), 396-404. doi: 10.1093/intqhc/mzv054	Systematic Review	The seven RCTs include data for 10 911 patients who presented for ongoing primary care (four RCTs) or same-day consultations for acute conditions (three RCTs) in the primary care setting. Study follow-up ranged from 1 day to 2 years. APN groups demonstrated equal or better outcomes than physician groups for physiologic measures, patient satisfaction and cost. APNs generally had longer consultations compared with physicians; however, two studies reported that APN patients required fewer consultations over time.	Level 1

Swanson, R. C., Cattaneo, A., Bradley, E., Chunharas, S., Atun, R., Abbas, K. M., ... & Best, A. (2012). Rethinking health systems strengthening: key systems thinking tools and strategies for transformational change. *Health Policy and Planning*, *27*(suppl 4), iv54-iv61.	The authors recommend a systems approach to health care reform.	The authors propose key 'systems thinking' tools and strategies that have the potential for transformational change in health systems. Three overarching themes span these tools and strategies: collaboration across disciplines, sectors and organizations; ongoing, iterative learning; and transformational leadership. The proposed tools and strategies in this paper can be applied, in varying degrees, to every organization within health systems, from families and communities to national ministries of health.	Level V
Tubbesing, G., & Chen, F. M. (2015). Insights from exemplar practices on achieving organizational structures in primary care. *Journal of the American Board of Family Medicine*, *28*(2), 190-194. doi: 10.3122/jabfm.2015.02.1401	Qualitative study (n = 80)	Primary themes with high interprofessional practice (IPP) were coordination of care and mutual respect. Four key organizational features were associated with these 2 themes: independent responsibilities for each professional; organizational structures for providers to learn about each other's roles; a structure and culture promoting accessible, frequent communication about patients; and strong leadership in IPP-supportive values.	Level III
Van de Ven, A. H., & Sun, K. (2011). Breakdowns in implementing models of organization change. *The Academy of Management Perspectives*, *25*(3), 58-74.	To address this gap, this paper examines common breakdowns in implementing four process models of organization change: teleology (planned change), life cycle (regulated change), dialectics (conflictive change), and evolution (competitive change)	The authors recommend consideration to the following, when navigating organizational change: First, a process model of change is a strategic choice, and making this choice implies knowledge of alternative models from which to choose. A second strategy for dealing with breakdowns is to reflect on and revise the model to one that better fits the process of change unfolding in the organization. Finally, we need research that examines the learning cycle of acting to correct an organization to fit one's model of change, and reflecting on how one's model might be revised to better fit the processes unfolding in the organization.	Level V
Vedel, I., Ghadi, V., De Stampa, M., Routelous, C., Bergman, H., Ankri, J., & Lapointe, L. (2013). Diffusion of a collaborative care model in primary care: a longitudinal quality study. *BMC Family Practice, 14*(3). Retrieved from http://www.biomedcentral.com/1471-2296/14/3	Longitudinal case study.	Diffusion curves showed that 3.5 years after the start of the implementation, 100% of nurses and over 80% of PCPs [primary care providers] had adopted the CTM [collaborative team model]. The dynamics of the CTM's diffusion were different between the PCPs and the nurses. The slopes of the two curves are also distinctly different. Among the nurses, the critical mass of adopters was attained faster, since they adopted the CTM earlier and more quickly than the PCPs. Results of the semi-structured interviews showed that these differences in diffusion dynamics were mostly founded in differences between the PCPs' and the nurses' perceptions of the CTM's compatibility with norms, values and practices and its relative advantage (impact on patient management and work practices). Opinion leaders played a key role in the diffusion of CTM among PCPs. patient management and work practices).	Level III
Verma, J., Petersen, S., Samis, S., Akunov, N., & Graham, J. (2014). Healthcare priorities in Canada: A backgrounder. Retrieved from http://www.cfhi-fcass.ca/sf-docs/default-source/documents/harkness-healthcare-priorities-canada-backgrounder-e.pdf?sfvrsn=2	Healthcare Priorities in Canada: A Backgrounder was prepared by the Canadian Foundation for Healthcare Improvement (CFHI) for the 2014 Harkness Canadian Health Policy Briefing Tour. It was	The document provides an overview of healthcare in Canada and highlights seven priority areas central to healthcare policy, practice and public dialogue.	Level IV

	produced with a financial contribution from The Commonwealth Fund. This backgrounder is not exhaustive and aims to provide an introduction to the healthcare landscape in Canada.		
Virani, T. (2012). Interprofessional collaborative teams. Retrieved from http://www.cfhi-fcass.ca/Libraries/Commissioned_Research_Reports/Virani-Interprofessional-EN.sflb.ashx	Research report	This paper aims to explore and explain the use of models of care delivery that optimally utilize the role of nurses in primary healthcare, community-based care and other non-acute care contexts such as chronic disease management, long-term care, continuing care, health promotion and disease prevention. Additionally, exemplar models of care, as case studies, are identified to highlight essential elements of effective service delivery models and strategies for successful application. Ultimately, this paper aims to inform the Canadian Nurses Association's efforts to address policy priorities for a renewed health accord in Canada.	Level IV
Waite, R., Nardi, D., & Killian, P. (2013). Context, health, and cultural competence: Nurse managed health care centers serving the community. *Journal of Cultural Diversity, 20*(4), 190-194.	Expert opinion	Review of N role with emphasis on supporting development of social justice thinking in practice, education, research, as well as policy and management	Level V
Weyer, S. M. & Riley, L. (2017). The direct observation of nurse practitioner care study: An overview of the NP/patient visit. *Journal of the American Association of Nurse Practitioners, 29*(1), 46-57. doi: 10.1002/2327-6924.12434	Observational research (22 NPs were observed with 245 patients)	Visits to NPs were 18 min on average, and were most frequently for new/acute problems (45.1%) or routine chronic problems (30.2%). Overall, NPs spent the most time planning treatment, history taking, and providing health education. Topics that NPs frequently provided health education about included medication action and side effects, disease process education, diet, and nutrition	Level III
Willis, C. D., Saul, J., Bevan, H., Scheirer, M. A., Best, A., Greenhalgh, T., ... & Bitz, J. (2016). Sustaining organizational culture change in health systems. *Journal of health organization and management*, *30*(1), 2-30.	The authors conducted a literature review informed by rapid realist review methodology that examined how interventions interact with contexts and mechanisms to influence the sustainability of cultural change. Reference and expert panelists assisted in refining the research questions, systematically searching published and grey literature, and helping to identify interactions between interventions, mechanisms and contexts	Findings revealed six guiding principles were identified: align vision and action; make incremental changes within a comprehensive transformation strategy; foster distributed leadership; promote staff engagement; create collaborative relationships; and continuously assess and learn from change. These principles interact with contextual elements such as local power distributions, pre-existing values and beliefs and readiness to engage. Mechanisms influencing how these principles sustain cultural change include activation of a shared sense of urgency and fostering flexible levels of engagement.	Level V

Wilson, M., Sleutel, M., Newcomb, P., Behan, D., Walsh, J., Wells, J. N., & Baldwin, K. M. (2015). Empowering nurses with evidence- based practice environments: Surveying Magnet®, Pathway to Excellence®, and Non- Magnet facilities in one healthcare system. *Worldviews on Evidence- Based Nursing*, *12*(1), 12-21.	A descriptive cross-sectional survey (*n* = 2,441)	RNs employed by facilities designated by the American Nurses Credentialing Center (ANCC) as Magnet® or Pathway to Excellence® reported significantly fewer barriers to EBP than those RNs employed by non-designated facilities. RNs in Magnet organizations had higher desire for EBP than Pathway to Excellence or non-designated facilities. RNs educated at the baccalaureate level or higher reported significantly fewer barriers to EBP than nurses with less education; they also had higher EBP ability, desire, and frequency of behaviors. A predictive model found higher EBP readiness scores among RNs who participated in research, had specialty certifications, and engaged in a clinical career development program.	Level III
Wong, C. A., & Laschinger, H. K. (2013). Authentic leadership, performance, and job satisfaction: the mediating role of empowerment. *Journal of Advanced Nursing*, *69*(4), 947-959. doi: 10.1111/j.1365-2648.2012.06089.x.	Non-experimental, predictive survey (*n* = 280)	The final model fit the data acceptably. Authentic leadership significantly and positively influenced staff nurses' structural empowerment, which in turn increased job satisfaction and self-rated performance.	Level III

Appendix B: Permission to Use NP-PCOCQ

Hello Dr. Poghosyan,

I am a Family Nurse Practitioner completing my Doctor of Nursing Practice with Walden University; I work in British Columbia (BC), Canada.

Nurse practitioners were introduced to BC in 2005, and there is still much to learn about their implementation and integration. To that end, I have an interest in exploring this issue further in my Capstone Project and was excited to learn of your NP Primary Care Organizational Climate Questionnaire. Would it be possible to use your questionnaire to inform my Capstone?

Thank you Dr. Poghosyan, I look forward to hearing from you.

All the best,

Leanne Rowand

Poghosyan, Lusine 12/17/15

to me

Dear Leanne,

Of course! Keep me posted about your project. Would love to hear what you find.

Please let me know if I can help.
Lusine

Appendix C: NP-PCOCQ

Nurse Practitioner Primary Care Organizational Climate Questionnaire (NP-PCOCQ)

For each item, please indicate the extent to which you agree that the following items are present in your practice site. Indicate your degree of agreement by selecting **ONE** option that best applies to you.

		Strongly Agree 4	Agree 3	Disagree 2	Strongly Disagree 1
1.	In my organization, NP role is well understood.	❑	❑	❑	❑
2.	I feel valued by my organization.	❑	❑	❑	❑
3.	Physicians support my patient care decisions.	❑	❑	❑	❑
4.	NPs are represented in important committees in my organization.	❑	❑	❑	❑
5.	NPs are an integral part of the organization.	❑	❑	❑	❑
6.	Physicians ask NPs for suggestions.	❑	❑	❑	❑
7.	In my practice setting, staff members have a good understanding about NP roles in the organization.	❑	❑	❑	❑
8.	In my organization, there is a system in place to evaluate my care.	❑	❑	❑	❑
9.	I feel valued by my physician colleagues.	❑	❑	❑	❑
10.	In my organization, NPs and physicians collaborate to provide patient care.	❑	❑	❑	❑
11.	In my organization, physicians and NPs practice as a team.	❑	❑	❑	❑
12.	I regularly get feedback about my performance from my organization.	❑	❑	❑	❑
13.	Physicians in my practice setting trust my patient care decisions.	❑	❑	❑	❑
14.	Physicians may ask NPs for their advice to provide patient care.	❑	❑	❑	❑
15.	Administration is open to NP ideas to improve patient care.	❑	❑	❑	❑
16.	Administration takes NP concerns seriously.	❑	❑	❑	❑
17.	Physicians seek NPs' input when providing patient care.	❑	❑	❑	❑
18.	I do not have to discuss every patient care detail with a physician.	❑	❑	❑	❑
19.	Administration shares information equally with NPs and physicians.	❑	❑	❑	❑

		Strongly Agree 4	Agree 3	Disagree 2	Strongly Disagree 1
20.	Administration is well informed of the skills and competencies of NPs.	❑	❑	❑	❑
21.	In my organization, I freely apply all my knowledge and skills to provide patient care.	❑	❑	❑	❑
22.	Administration treats NPs and physicians equally.	❑	❑	❑	❑
23.	Administration informs NPs about changes taking place in the organization.	❑	❑	❑	❑
24.	Administration makes efforts to improve working conditions for NPs.	❑	❑	❑	❑
25.	In my organization, there is constant communication between NPs and Administration.	❑	❑	❑	❑
26.	My organization does not restrict my abilities to practice within my scope of practice.	❑	❑	❑	❑
27.	In my organization, I can provide all patient care within my scope of practice.	❑	❑	❑	❑
28.	Physicians and NPs have similar support for care management (e.g., help with patient follow-up, referrals, labs, etc.).	❑	❑	❑	❑
29.	My organization creates an environment where I can practice independently.	❑	❑	❑	❑
30.	In my practice setting, I have colleagues who I can ask for help.	❑	❑	❑	❑
31.	I independently make patient care decisions within my area of competency without input from a physician.	❑	❑	❑	❑
32.	In my practice setting, I have enough resources to provide patient care.	❑	❑	❑	❑
33.	There are enough ancillary staff to prepare my patients (e.g., height, weight, bring patient to examining room) for their visit.	❑	❑	❑	❑
34.	During visits, I have enough scheduled time with each patient.	❑	❑	❑	❑
35.	In my organization, NP competencies are well understood.	❑	❑	❑	❑

Appendix D: Nurse Practitioners and Organizational Climate

Subscale and Abbreviated Questions	Mean	SD
Autonomy and Independent Practice	3.54	0.59
Does not restrict	3.38	0.70
Creates environment	3.33	0.71
Do not have to discuss	3.80	0.41
Scope of practice	3.47	0.67
Independently make decisions	3.75	0.44
Freely apply knowledge	3.55	0.59
Organizational Support and Resources	3.00	0.86
Enough ancillary staff	2.39	1.08
Enough resources	3.16	0.67
Have colleagues	3.39	0.77
Enough time	3.22	0.75
Similar support	2.84	1.04
Nurse Practitioner-Physician Relations	2.98	0.72
Physicians support	3.28	0.63
Valued of my physician colleague	3.08	0.72
Physician and NPs as team	2.83	0.88
Physicians may ask	2.73	0.70
Physicians ask NPs for suggestions	2.92	0.76
NPs and physicians collaborate	3.03	0.76

Physicians seek NPs' input	2.72	0.75
Physicians trust	3.22	0.60
Professional Visibility	2.74	0.76
Performance feedback	2.38	0.66
Represented in committees	2.70	0.75
Staff member understanding	3.00	0.78
Integral part	2.72	0.86
Feel valued	3.02	0.79
Evaluate care	2.53	0.73
NP role understood	2.86	0.77
Nurse Practitioner-Administration Relations	2.63	0.79
Administration informs	2.72	0.72
Administration makes efforts	2.70	0.79
Administration takes NP concerns	2.72	0.79
Constant communication	2.47	0.73
Administration shares	2.66	0.93
Administration is open	3.00	0.82
Administration treats	2.17	0.83
Administration is well informed	2.63	0.74

Note: SD = Standard Deviation

Appendix E: Poster Presentation

NURSE PRACTITIONERS IN PRIMARY CARE AND ORGANIZATIONAL CULTURE

Leanne C. Rowand, RN, MSN (Family Nurse Practitioner), DNP (c)
Walden University, Minnesota

ABSTRACT

As British Columbia (BC) struggles with ensuring citizens have consistent access to a primary care services, nurse practitioners (NP), prepared as primary care providers, remain underutilized. Several systemic factors contribute to this dilemma. This Doctor of Nursing Practice (DNP) Project focused on exploring these issues by surveying provincial NPs self-identifying as providing primary care in their current role.

Note: Due to the timing of data analysis and poster development, a comprehensive reporting of findings and recommendations is not included here. Instead, further information will be provided by the author at the time of presentation.

CONTACT

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PROBLEM

Problem -Although NPs were introduced to the BC healthcare system twelve years ago, integration challenges, related to structure (infrastructure) and process (relationships), continue. With healthcare reformation underway in BC, and an urgent need for primary care providers (PCP), it is vital that an exploration of these factors be undertaken so that areas of need can be identified and addressed, and areas of strength can be recognized, disseminated and further supported.

Purpose -The overarching purpose of this project was to reveal modifiable agency factors influencing NP implementation and integration, adding to what has currently been documented in evidence generated by local clinical leads and scholars, therefore informing system changes currently underway within the province.

Question –What is NP perception of the organizational climate related to their primary care role?

METHODS

Design –This DNP Project was modelled after research completed by Poghosyan and Aiken (2015). A cross-sectional survey design was used.

Instrument –Nurse Practitioner Primary Care Organizational Climate Questionnaire (NP-PCOCQ). Demographics, work site and NP practice characteristics and satisfaction were also collected.

Setting & Participants -Nurse practitioners working in primary care roles were recruited through the British Columbia Nurse Association (BCNPA). Active members (232) were invited to complete the on-line survey (that was developed and tested by Poghosyan, Nannini, Finkelstein, Mason and Shaffer, 2013): Nurse Practitioner Primary Care Organizational Climate Questionnaire. The theory informing this instrument (Kanter's Empowerment Theory) guided the project.

Table 1. Demographics & Work Characteristics

Characteristic	N = 64
Demographics	
Age (range), % (n)	
24-34	12.5 (8)
35-44	40.6 (26)
45-54	23.4 (15)
55-64	23.4 (15)
Sex, % (n)	
Female	90.6 (58)
Male	9.4 (6)
Highest nursing degree, % (n)	
Master's Degree	82.8 (53)
Post-Master's Certificate	10.9 (7)
Doctor of Nursing Practice	4.7 (3)
Doctor of Philosophy	1.6 (1)
Work Characteristics, % (n)	
Years in current position	
<1	15.6 (10)
1-3	26.6 (17)
3-5	20.3 (13)
5-10	25.0 (16)
>10	12.5 (8)
Average hours worked/week	
<20	3.1 (2)
21-30	9.4 (6)
31-40	42.2 (27)
>40	45.3 (29)
Main practice site	
Community health centre	81.3 (52)
Physician's office	9.4 (6)
Hospital-based clinic	9.4 (6)
Number of NPs in clinic	
1	32.8 (21)
2	39.1 (25)
3	15.6 (10)
4	9.4 (6)
>4	3.1 (2)
Practice location	
Urban/suburban	68.8 (44)
Rural/remote	31.3 (20)

Table 2. Nurse Practitioners as Independent Providers

Items	% (n)
Independent provider	
Own panel of patients	71.9 (46)
Shared care with another provider	26.6 (17)
Consultative role	1.6 (1)
Able to evaluate impact of care	
Yes	87.5 (56)
No	12.5 (8)
Adequate time for both administration & clinical activities	
Yes	62.5 (40)
No	37.5 (24)

Table 3. NP Satisfaction

NP Satisfaction	% (N)
Satisfied with current job	
Very dissatisfied	14.1 (9)
A little dissatisfied	7.8 (5)
Moderately satisfied	39.1 (25)
Very satisfied	39.1 (25)

Table 4. Nurse Practitioners and Organizational Climate

NP-PCOCQ Subscale	Mean (SD) (Range 1-4)
Autonomy and Independent Practice	3.54 (0.59)
Organizational Support and Resources	3.00 (0.86)
NP-Physicians Relations	2.98 (0.73)
Professional Visibility	2.74 (0.76)
NP-Administration Relations	2.63 (0.79)

Note: Range 1 (strongly disagree), 2 (disagree), 3 (agree), 4 (strongly agree)

PRELIMINARY FINDINGS

Demographics, Independent Provider and Satisfaction

Age – 40.6% between 35 and 44-years-old
Gender – 90.6% female
Degree – 82.8% master's prepared
Site – 81.3% community health centre
Years – 62.5% in current position 5 years or less
Hours – 45.3% over 40 hours/week
Location – 68.8% urban/suburban setting
Practice Panel – 71.9% own panel
Evaluate Impact – 87.5% able to evaluate impact of care
Time – 62.5% adequate time for administrative and clinical activities
Satisfaction – 78.2 moderately-very satisfied

Nurse Practitioners in Primary Care and Organizational Climate

* Nurse Practitioners scored highest on autonomy and independent practice (3.54)
* Organizational Support and Resources, and NP-Physician Relations were comparable (3.00 and 2.98)
* NPs scored lowest on Professional Visibility (2.74) and NP-Administration Relations (2.63)

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