INTERPROFESSIONAL COLLABORATION AND THE

NEW GRADUATE NURSE: A MIXED METHODS EXPLORATION

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Abstract

Interprofessional Collaboration and the New Graduate Nurse:

A Mixed Methods Exploration

Background. Interprofessional collaboration is a cogent strategy to promote retention and safe, quality nursing care among new graduate nurses. This sandwich thesis describes a research project undertaken to understand how new graduate nurses engage in interprofessional collaboration.

Objective. The aim was to comprehensively understand the individual, team, and organizational factors that influence new graduate nurse engagement in interprofessional collaboration.

Methods. An integrative review of the new graduate nurse literature was conducted within the context of interprofessional collaboration. Applying the Structuration Model of Interprofessional Collaboration as a framework, a mixed methods study examined the team and organizational predictors of new graduate nurse engagement in interprofessional collaboration, and explored factors that influenced confidence among new graduate nurses toward interprofessional collaboration. Quantitative data were collected via mailed surveys. Follow-up interviews were conducted to explain the quantitative findings.

Results. The integrative review revealed individual, team, and organizational factors that were reported to influence new graduate nurse engagement in interprofessional collaboration. The review concluded a gap in the current knowledge of the issue, and literature that was weak to moderate in quality. The team and organizational predictors of

new graduate nurse engagement in interprofessional collaboration were: satisfaction with the team, number of team strategies, participation in a mentorship or preceptorship experience, accessibility of manager, and accessibility and proximity of educator or professional practice leader. The interviews revealed respect, team support, and face-to-face interprofessional interactions as team facilitators. Supportive leadership and preceptorship or mentorships were organizational facilitators. Several variables had a relationship with new graduate nurse confidence in interprofessional collaboration. A model that explains this confidence was developed from the qualitative findings.

Conclusion. The Structuration Model of Interprofessional Collaboration was a valuable framework for understanding the structural elements of new graduate nurse engagement in interprofessional collaboration. This thesis identifies implications for education, practice and research.

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I acknowledge the new graduate nurses in the Province of Ontario who participated in this study. I recall clearly the challenges of balancing the expectations of life and a new career in nursing. This is an exciting, but also stressful period of transition. I truly appreciate the time taken to share your experiences with me.

No graduate degree is successful without the support of family and special friends. Thank you for being there while I completed one more! I am forever grateful for the constant support of my amazing husband, Mark, and our four children, Matthew, Michael, Brian and Katie. I couldn't ask for a better participant recruitment team. Thank you for collating and stamping thousands of survey packages without any complaining.

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I also extend special thanks to my colleagues in the Faculty of Nursing at the University of Windsor. I have heard it said that it takes a village to produce a PhD - you have been my villagers.

Most importantly, I give gratitude to God for his grace and blessings in my life. "I can do all things through Christ who strengthens me." (Philippians 4:13)

Preface

This thesis reports original work that I completed for partial fulfillment of a Doctor in Philosophy of Science in Nursing degree. I am the main contributor to the papers that are included in this thesis. These works were completed between January 2012 and June 2013; however, the development of the research questions and designs began upon beginning my PhD studies in the fall of 2008. The entire thesis process was supported by my supervisor, Dr. Pamela Baxter, and my committee members, Dr. Jenny Ploeg, and Dr. Susan Jack. As the primary investigator for this project, I conducted the study, including the data collection and analysis, and prepared three manuscripts for publication in scholarly journals.

The three articles published in this thesis have been submitted to scholarly journals. Chapter Two is published for early on-line view. The supervisory committee is identified as co-authors of these publications because of their significant contributions to the design and methods used in these papers, as well as substantive feedback with regard to intellectual content and editing.

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CHAPTER ONE

Interprofessional Collaboration and the New Graduate Nurse:

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Introduction

In this doctoral thesis, I report the research process taken to comprehensively understand interprofessional collaboration within the context of new graduate (NG) registered nurses. It is presented in a sandwich thesis format, and is organized in five chapters. Background information is provided in this initial chapter, as well as a description of the problem, the study purpose, and a description of conceptual framework. This chapter also includes an overview of the research methods. It concludes with a summary of the thesis contents.

Background and Statement of the Problem

In the last decade, interprofessional collaboration (IPC) has emerged as a key strategy for enhancing the delivery of safe, quality healthcare (Health Canada, 2005). The terms, *interprofessional collaboration* or *collaborative care*, describe how multiple health professionals from different disciplines work together to provide comprehensive, quality patient care across all care settings and sectors (Health Professions Regulatory Advisory Committee [HPRAC], 2009; World Health Organization [WHO], 2010). It occurs when "healthcare providers work with people from within their own profession, with people outside of their profession and with patients/clients and their families" (Canadian Interprofessional Health Collaborative [CIHC], 2009, p. 1). The benefits of IPC include using consistent and appropriate language when communicating with other

healthcare providers, patients, and their families, recognizing the contributions and expertise of all team members when making decisions, building respect and trust within the team, and welcoming and supporting new team members (CIHC).

Although the mechanisms are unclear, a variety of positive health and system outcomes are linked to IPC (World Health Organization [WHO], 2010). According to a Canadian synthesis report, IPC is linked with enhanced health outcomes, and increased access to primary care (Canadian Health Services Research Foundation [CHSRF], 2007). More specific benefits of IPC include decreased wait times, enhanced healthcare to rural and remote locations, and improvements in chronic disease management, population health, patient safety and healthy workplaces (CIHC, 2009). It is further suggested that investing in IPC can enhance the recruitment and retention of nurses (Aiken, Clarke, Sloan, Sochalski, & Weber, 1999; CIHC, 2009; WHO, 2010).

Recognizing these benefits and outcomes, numerous policy and position statements related to IPC have emerged at the international, national and provincial levels. The WHO (2010) asserts that collaborative practice "will play an important role in mitigating the global health workforce crisis" (p. 7). In Canada, the CIHC (2009) recognizes IPC as essential in improving client, family and community health outcomes, and acknowledged the need for a National Interprofessional Competency Framework to form the basis for effective integration of IPC in the healthcare system. At the national and provincial levels, there is professional and regulatory support for IPC among numerous healthcare disciplines (Canadian Medical Association, 2008; Canadian Nurses Association [CNA], 2006; Canadian Pharmacists Association, 2003; Canadian

Physiotherapy Association, 2012; College of Nurses of Ontario [CNO], 2009).

The recognition and implementation of policies and position statements related to IPC holds promise for building and sustaining Canada's nursing workforce. The CNA (2009) reported a shortage of 11,000 full-time equivalent registered nurses in 2007. Without intervention, statistics predict a deficit of almost 60,000 RNs by 2022 (CNA, 2009). The forecasted nursing shortage is a global concern (International Council of Nurses [ICN], 2006; WHO, 2010). Similar to the reported Canadian healthcare human resources statistics, (CNA, 2009), shortfalls in the RN workforce are also projected in the United States (Clarke & Cheung, 2008) and many other countries (ICN, 2006). A key challenge is an aging nursing workforce (CNA, 2009; ICN, 2006; U.S. Department of Health and Human Services, 2010). In response, nursing workforce recruitment and retention strategies have targeted NG nurses; however, disengagement within the first two years of employment remains a contributing factor to NG nurses exiting the nursing profession (CNA, 2009).

Improving engagement in IPC is a viable solution for enhancing recruitment and retention of NG nurses. Yet, the following realities may impede an NG nurse's ability to engage in IPC: (1) limited exposure to IPC in academia; (2) a scarcity of full-time nursing positions (Baumann, Blythe, Cleverley, Grinspun, & Tompkins, 2006; Baumann, Hunsberger & Crea-Arsenio, 2010), and: (3) a stress-laden transition experience (Casey, Fink, Krugman, & Propst, 2004; Duchscher, 2001; Ellerton & Gregor, 2003; Gerrish, 2000). The following discussion expands upon these concerns.

Limited exposure to IPC in academia

Undergraduate nursing programs offer limited experiences for students to engage in IPC (Fink, Krugman, Casey, & Goode, 2008; Olson, 2009), and this can result in inadequate education related to collaborative practice (Greenwood, 2000; Lowry, Timms, & Underwood, 2000). Despite this gap in preparation, competency in IPC is required for responsible, accountable, ethical, and knowledge-based practice, and it must be demonstrated at entry-to practice among Canadian NG nurses (CNA, 2008; CNO, 2009). Many NG nurses report lack of sufficient preparation for IPC (Greenwood, 2000; Rochester & Kilstoff, 2004), and this lack of preparedness can result in diminished confidence when interacting with other healthcare professionals (Casey et al., 2004). Several authors assert that this discomfort can result in communication failures (Dyess & Sherman, 2009; Greenwood, 2000) when the NG avoids consulting another healthcare professional because of fear and lack of confidence (Dyess & Sherman, 2009). This lack of academic preparation represents a significant threat to patient safety, and it may compromise delivery of quality healthcare.

A scarcity of full-time nursing positions

In Canada, labour market reports have reported that NG nurses experience difficulty securing full-time employment (Baumann et al., 2006; 2010). Between 2003 to 2005, only 35% of NG nurses were able to secure full-time employment (Baumann et al., 2006). In the province of Ontario, the New Graduate Guarantee Initiative (HealthForceOntario, 2013) was implemented to partially remedy this situation by funding six-month supernumerary full-time nursing positions for all NG nurses in Ontario. Although an

improvement in full-time employment was reported, approximately 30% of NG nurses remain unable to secure full-time employment (Baumann et al., 2010).

Many years of hospital restructuring have also impacted full-time job security among NG nurses (O'Brien-Pallas et al., 2003), and these reorganizations within the healthcare system continue into the present time. In 2007, Grinspun reported that many NG nurses juggle multiple employers and work settings to achieve the equivalent of full-time employment. In the province of Ontario, many NG nurses are employed in one or more sectors and settings (Pfaff, Baxter, Ploeg, & Jack, 2013; Pfaff, Baxter, Jack, & Ploeg, 2013b). This is problematic for three reasons: (1) it can result in practice gaps, thus impacting safe, quality care; (2) it hinders IPC engagement through inadequate integration into a teamwork environment; and, (3) it contributes to transition stress, and can result in burnout (CNA, 2009).

Transition stress

Emotional stress is a key barrier to IPC (Miller et al., 2008). The literature clearly reports novice nurses' transition to independent practice as characterized by stress, anxiety and reality shock (Casey et al., 2004; Ellerton & Gregor, 2003; Gerrish, 2000; Kelly, 1996; Kramer, 1974). Specifically, the empirical evidence suggests that these pressures include lack of confidence, knowledge and experience (Casey et al., 2004; Ellerton & Gregor, 2003; O'Malley Floyd, Kretschmann, & Young, 2005), lack of influence and mastery over the work environment (Cantrell & Browne, 2005; Duchscher, 2001), and unrealistic workloads (Bowles & Candela, 2005; Chernomas, Care, McKenzie, Guse, & Currie, 2010; Delaney, 2003). Transition to professional practice is

further hampered by perceptions of vulnerability that can be magnified by fears of rejection by the team (Duchscher, 2001). These perceptions can also result in trepidation when floating to other units (Chernomas et al., 2010; Olson, 2009), being placed in charge (Casey et al., 2004; Deppoliti, 2008), and participating in code situations (Fink et al., 2008). It is important to note that these stressors all involve collaborative interactions, and are exacerbated by inexperience and lack of confidence.

In summary, this introductory narrative highlights three key issues that form the theoretical propositions of this thesis: 1) stress is a barrier to IPC; 2) the NG nurse often experiences debilitating stress and lack of confidence during initial entry into practice, and; 3) engagement in IPC is a significant NG stressor that may negatively affect retention and the delivery of safe healthcare among NG nurses.

Significance of the Problem

Despite the recruitment and retention benefits associated with IPC (Aiken et al., 1999), the previous discussion raises serious concerns about the ability of the NG to engage in IPC. That is, lack of adequate academic preparation, an inability to secure full-time employment, and persistent transition stress can impede NG nurse engagement in IPC. Although supportive programs have emerged to address the transitional challenges of NG nurses (Cantrell & Browne, 2005; Krugman et al., 2006; HealthForceOntario, 2013; Nursing The Future, 2008), none have comprehensively addressed the IPC challenges faced by new graduates. These programs primarily address NG transition issues at the individual level, without adequate consideration of the complexity within team and organizational cultures. Further, they are not consistently available across the

diversity of healthcare sectors and settings where NG nurses are employed.

Significance for Nursing

The engagement of NG nurses in IPC is a complex issue about which very little is reported in the health sciences literature. The few studies that report findings related to NG nurse engagement in IPC reflect research conducted in acute care settings. Nevertheless, it is a regulatory requirement of all Canadian NG nurses who work across all healthcare sectors, and it is associated with patient safety and nurse retention (WHO, 2010). The NG nurse must demonstrate competency in IPC; however, the complex and systemic factors that influence the ability of the NG nurses are not known. Understanding the factors that influence NG nurse engagement in IPC across the individual, team and organizational levels, and across healthcare sectors, may aid in retaining NG nurses within the nursing workforce, and better support the safety and quality of care provided by NG nurses.

Statement of the Purpose

The purpose of this research was to comprehensively explore the factors that influence the engagement in IPC of NG nurses who work in various healthcare sectors. The overarching question posed in this study was: What factors influence NG nurse engagement in IPC across various healthcare sectors?

Before developing the research proposal, the following questions were developed to inform the study:

1. What concepts, theories, and frameworks have been used to describe and explain IPC, and how might these be used to understand NG nurse engagement in IPC?

2. What research has been conducted on NG nurse engagement in IPC, and how can this literature be used to inform the research study?

To address the overarching research question, a series of research questions were developed and addressed in two research papers reported in this thesis (Chapters Three and Four):

1. What team and organizational factors promote NG nurse engagement in collaborative practice across various healthcare sectors?

2. What team and organizational factors predict NG nurse engagement in collaborative practice across various healthcare sectors?

3. What team and organizational factors do NG nurses describe as facilitating their engagement in collaborative practice?

4. What factors influence perceived confidence to engage in IPC among NG nurses who are employed in various healthcare sectors?

5. As described by NG nurses, what factors facilitate and challenge confidence to engage in IPC among NG nurses who are employed in various healthcare sectors?

Conceptual Framework

The Structuration Model of Interprofessional Collaboration

The Structuration Model of Interprofessional Collaboration was used to guide this study. Developed by D'Amour (1997) and subsequently revised by D'Amour, Sicotte, and Lévy (1999), this model conceptualizes the process of IPC and interorganizational collaboration (D'Amour, Goulet, Labadie, San Martin-Rodriguez, & Pineault, 2008). It is considered appropriate for analyzing how "complex and heterogeneous multi-level

systems of actors collaborate" (D'Amour et al., 2008, p. 2), and has been tested in a variety of collaborative settings (Daigle, 2000; D'Amour, Goulet, Pineault, & Daigle, 2001; D'Amour et al., 2008), including perinatal services (D'Amour, Goulet, Pineault, & Labadie, 2004), family health teams (Beaulieu et al., 2006), and integrated healthcare networks within the Quebec Ministry of Social Services (D'Amour et al., 2008). In this study, this model was operationalized to explain the individual, team and organizational factors that impact the engagement of IPC among NG nurses, who are employed for the first time in acute, community, and long-term care sectors. The following text describes the historical development, dimensions and application of the framework to this study.

The model was derived from Crozier and Friedberg's (1977) sociological approach to organized action. According to Crozier and Friedberg, a set of actors are dependent on one another when working to solve, stabilize or structure a common problem. Within a concrete system, each actor has his or her own interests. Strategic use of power by each actor results in the exchange of possible actions. Power is exerted through organizational rules, expert knowledge, control of informational exchange and organizational rules. Thus, organized action involves a set of actors who navigate a formal set of rules and human relationships to achieve a common purpose.

Expanding on Crozier and Friedberg's (1977) approach, the Structuration Model of Interprofessional Collaboration (D'Amour et al., 1999) considers the structural issues associated with clinical care, along with human relationships, interactions, and organizational aspects of collaboration (D'Amour et al., 2008). Implied in the IPC process is a desire by healthcare professionals to work together to improve patient care;

however, each healthcare professional also desires to maintain his or her independence and autonomy. Autonomy is negotiated through the use of power.

The Structuration Model of Interprofessional Collaboration includes four dimensions within the collaborative process (D'Amour et al., 1999). These dimensions, are not mutually exclusive, but rather influence one another. The model is diagrammed in Figure 1. The relational dimensions include *finalization* and *internalization*; whereas, the organizational dimensions are reflected in *formalization* and *governance*. *Finalization* involves a sharing and application of mutual goals and vision. Within this dimension, divergent motivations and allegiances are recognized, as well as variations in definitions and expectations of collaboration. According to D'Amour and colleagues (2008), *internalization* implies a sense of belonging. The need for interdependency is brought to the forefront. Not only are healthcare professionals aware of the importance of managing interdependency, trusting relationships are forged through mutual knowledge of the others' disciplinary values and professional frameworks. The third dimension refers to *formalization*, or the structuring of clinical care. This includes the rule systems by which action is regulated and structures are strengthened. Finally, *governance* includes supportive leadership functions that direct and support healthcare professionals as they engage in collaborative care activities.

This study recognizes the complexity and interrelatedness of each of the aforementioned dimensions. That is, these dimensions are not mutually exclusive, but rather interact with one another to determine a NG nurse's engagement in IPC. When applying the Structuration Model of Interprofessional Collaboration (D'Amour et al.,

1999) to this study, it is recognized that each NG nurse is part of a complex system. In this case, the system includes the organization, the unit or department, and the actors. The system remains open to the relational (human relationships and interactions) and the organizational (structural and leadership) dimensions among all actors within the system. The actors include all healthcare professionals across a variety of disciplines, the administrative and team leadership, and the patients/family members.

The model (D'Amour et al., 1999) is presented in Figure 2. The diagrammatic representation of the model recognizes the openness of the system, and the reality that the constructs are interrelated. Similarly, within the system, the constructs interact to influence a NG nurse's engagement in IPC. In this study, the dimensions of IPC (governance, finalization, internalization and formalization) were manifested through nine relational/organizational constructs of the Collaborative Practice Assessment Tool (CPAT) (Queens University, 2009), as well as demographic survey data, and qualitative data that were collected via semi-structured interviews.

Due to the author guidelines and space limitations in the journals to which the papers were submitted, the value of applying the Structuration Model of Interprofessional Collaboration (D'Amour et al., 1999) to this research study is not included in the research articles prepared for publication (Chapters Three and Four). A discussion of this model's contribution to the understanding of the NG engagement in IPC is provided in Chapter Five.

Governance
- Centrality
- Leadership
- Support for innovation
- Connectivity

Finalization (shared goals and vision)
- Goals
- Client-centred orientation vs. other allegiances

Formalization (structuring clinical care)
- Formalization tools
- Information exchange

Internalization (sense of belonging)
- Trust
- Mutual acquaintanceship
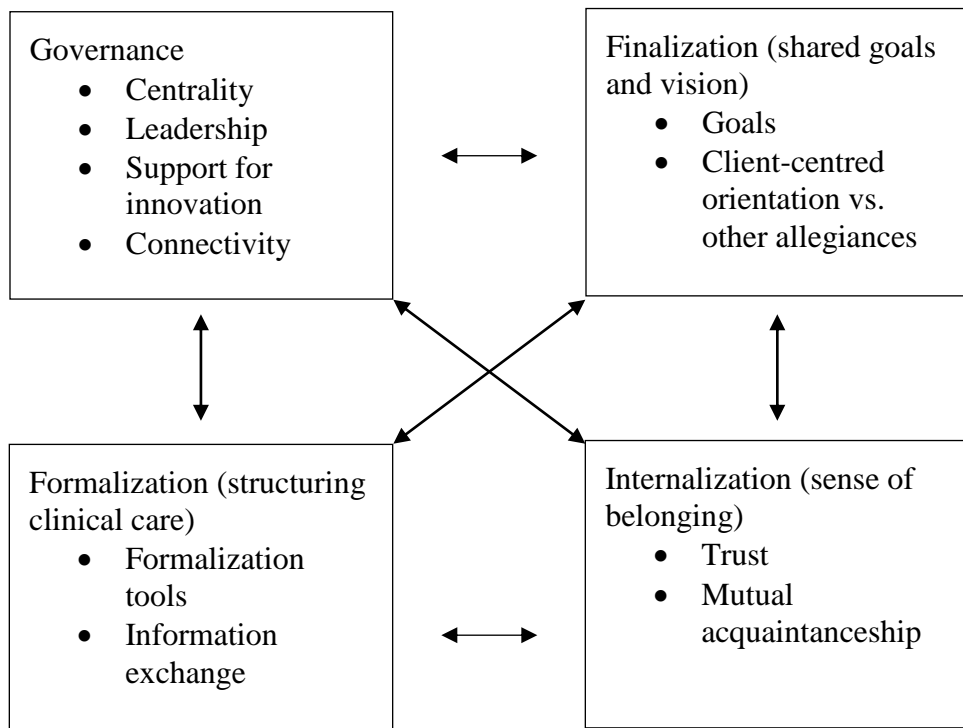
Figure 1. Structuration Model of Interprofessional Collaboration (D'Amour et al., 1999)

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Research Methods

This section includes a full accounting of the methods used to guide the studies that are reported in Chapters Three and Four. Abbreviated versions of methodological details are also provided in these chapters, but in formats, style, and length that are suitable for publication.

In this study, I employed an explanatory sequential mixed methods design (QUAN ⟶ qual) (Creswell & Plano Clark, 2007; Nastasi, Hitchcock, & Brown, 2010). This is a two-phased mixed methods design wherein the researcher uses the qualitative data to help explain or build upon the quantitative findings (Creswell & Plano Clark, 2007). The following text summarizes the rationale for selecting a mixed methods approach, the logic surrounding choice of an explanatory sequential design, and an overview of the research methods.

Mixed methods research is noted for its ability to strengthen or offset the weakness of individual qualitative and quantitative studies, and for providing comprehensive evidence when addressing a research problem (Creswell & Plano Clark, 2007). Nevertheless, this was not the singular rationale for choosing a mixed methods research design. Rather, the research questions guided all methodological decisions in this study (Greene, 2007; Tashakkori & Teddlie, 1998), and the answers to these questions could not be achieved by applying a singular research approach. This study's research questions were both exploratory and confirmatory, making mixed methods an appropriate and valuable approach (Bryman, 2006; Teddlie & Tashakkori, 2009).

The explanatory sequential mixed methods design (QUAN ⟶ qual) (Creswell & Plano Clark, 2007; Nastasi et al., 2010) was an appropriate design given the research questions posed in this study. The quantitative research questions implied a theoretical drive that was purely deductive, and the quantitative phase formed the core component of the study (Morse, 2010). An inductive approach was used to answer the qualitative research questions, and they were examined following the core component. The point of interface occurred in the results narrative where the overall and mixed methods questions were addressed.

An explanatory sequential mixed methods design is appropriate when qualitative data is needed to explain quantitative findings that may be significant, insignificant, or even surprising (Morse, 1991). This was the case in this research project, and the findings are clearly discussed in Chapter Four. The explanatory sequential mixed methods design was also particularly useful for developing the interview guide and guiding the purposeful sampling in the qualitative phase of this research project (Creswell & Plano Clark, 2007). See Appendix A for an overview of the study design.

An audit trail was maintained to document the decision-making related to all research steps taken in this mixed methods study. This documentation began at the outset of the research project, and continued through sampling, data collection and reporting of the findings. A detailed explanation of each phase's methods is discussed in the following text.

The Study

Phase One

    Design.

Phase one consisted of a non-experimental exploratory cross-sectional survey of NG nurses, in the province of Ontario. For the purpose of this study, an NG nurse was defined as an individual (male or female) who had completed an a baccalaureate nursing program, was employed in a Registered Nurse position, and had practiced three years or less. Rationale for this definition is provided later in this section.

Survey studies represent the broadest category of non-experimental designs (Polit & Beck, 2008). In non-experimental survey designs, detailed quantitative descriptions of existing variables are collected to "justify and assess current conditions and practices or to make more plans for improving health care practices" (Lobiondo-Wood & Singh, 2009, p. 5). The strength of a cross-sectional study is that it examines data, at one point in time, gathered from a set of participants, with the purpose of exploring relationships, correlations, differences, and comparisons (Polit & Beck, 2008).

The limitations of this design relate to the internal and external threats to validity (Polit & Beck, 2008). Further, given the observational nature of the cross-sectional design, no causation can be inferred from the study's findings. In phase one of this study, threats to internal validity included instrumentation and selection bias. The impact of instrumentation bias was minimized through selection of a psychometric instrument with adequate reliability and validity. As participants decided whether or not to participate, selection bias was unavoidable in this study. It is possible that NG nurses who were

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motivated to work in an interprofessional manner may have chosen to participate in this study. Because randomization was not feasible, this threat was not avoidable; however, all NG nurses in Ontario who met the inclusion criteria were invited to participate, thus enhancing the representativeness of the sample. Rigorous recruitment strategies (Dillman, 2000), and incentives were used to maximize the response rate. Threats to external validity compromise the generalizability of the findings. These threats cause one to question the conditions under which similar results can be expected (Polit & Beck, 2008). In phase one of this study, selection effects and reactivity are threats to external validity that could not be eliminated. Use of a probability sampling strategy was not feasible given the research question; however, as previously documented, strategies to recruit a representative sample were included in the design. In phase one of this study, reactivity was unavoidable. Participants are known to respond differently, simply based upon the fact that they are being studied (Polit & Beck, 2008). These limitations are clearly noted in the interpretation of the findings.

Variable definitions.

IPC was conceptually defined as occurring "when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers and communities to deliver the highest quality of care across settings" (WHO, 2010, p. 13). It was operationalized using the CPAT (Queen's University, 2009). This instrument was developed to assess the degree to which healthcare practitioners collaborate to provide comprehensive, timely and appropriate patient care. It is appropriate for use in variety of practice settings, including acute care,

long-term care, and family practice, and it can identify educational needs to enhance

collaborative practice (Byrnes, Chapman, O'Riordan, & Schroder, 2009). It was

developed through a review of the literature, existing instruments, and the gathering of

expert opinion from healthcare practitioners in the disciplines of medicine, nursing, and

occupational therapy (Schroder et al., 2011). Pilot testing with healthcare practitioners

from varied backgrounds revealed acceptable reliability, with Cronbach alpha scores

ranging from 0.73 to 0.90 (Schroder et al.). Validity of the instrument was confirmed

through factor analysis, and it supported that the CPAT satisfactorily measures the

various dimensions and aspects of collaborative practice (Schroder et al.).

The instrument includes 56 items across nine domains: general relationships, team

leadership, general role responsibilities/autonomy, communication and information

exchange, community linkage and coordination of care, decision making and conflict

management, perceived effectiveness, and patient involvement (Queen's University,

2009). Responses are measured along a seven-point scale ranging from the lowest value

of 'strongly disagree' to the highest value of 'strongly agree'.

An NG nurse was defined as an individual (male or female) who had completed a

baccalaureate nursing program, was employed in a Registered Nurse position, and had

practiced three years or less. The last criterion was liberally applied based upon three

assumptions: (1) IPC is a dynamic process that evolves over time (D'Amour et al., 2005);

(2) IPC is hindered by stress and diminished confidence, an ubiquitous experience for the

novice nurse, beginning on hire and continuing throughout the first year of practice

(Olson, 2009); and (3) mastery and coping with new and diverse clinical practice

situations requires up to three years of practice (Benner, 2001).

Sample.

A sample of NG registered nurses, who had an initial registration with the CNO between 2009 and 2011, were invited to participate. To identify these nurses, a formal written request was submitted to the CNO (Appendix B) for a listing of the mailing addresses of all NG nurses who were newly registered within the time frames described above. Once the mailing list was obtained ($N = 1603$), each mailing address was assigned a unique, consecutive code. Inclusion was limited to NG nurses who had graduated from a baccalaureate nursing program, were employed in a registered nursing position, had been working three years (36 months) or less, and were able to speak and understand English. The rationale for selecting these inclusion criteria is described in the following section.

Data collection.

Data collection began following ethics approval from McMaster University (Appendix C) and the University of Windsor (Appendix D), and authorized use of the CNO registration mailing list (Appendix E). Prior to data collection, three NG nurses were recruited by flyer (Appendix F) to participate in pilot testing of the survey, the goal of which is to assess content, clarity and elicitation of the necessary data with to address the research question. Individuals who met the inclusion criteria were asked to contact the primary investigator who invited them to participate in the survey pilot. The data were considered informational only, and were not included in the analysis.

Following approval of the survey, data collection began by mail survey. Survey

packages included: a letter signed by the primary investigator (Appendix G); a copy of

the letter of information for consent to participate in research (Appendix H); the

demographic questionnaire (Appendix I); the CPAT (Queen's University, 2009)

(Appendix J) and, a stamped and self-addressed return envelope. To maximize return

rate, the Dillman (2000) technique was employed. Three mailings were carried out.

Three weeks after the first mailing, a reminder card was sent (Appendix K). A final

reminder letter (Appendix L) and second set of survey questionnaires were sent to all

unresponsive recipients of the initial survey, three weeks following the reminder card.

Data screening and analysis.

The SPSS 18 statistical software package was used to analyze the data. This

software is the most commonly used statistical software in the health and social sciences.

Prior to analysis, the database was appropriately data screened and cleaned. Missing data

from the CPAT (Queen's University, 2009) was imputed using case mean substitution

(El-Masri & Fox-Wasylyshyn, 2005). This involves replacing a missing value with the

mean of the remaining items for that case (Raymond, 1986), and is considered

appropriate for imputing ordinal missing values in a psychometric Likert-type scale (El-

Masri & Fox-Wasylyshyn, 2005). Non-normally distributed continuous variables were

transformed in order to meet the assumptions of the statistical procedures. Data analysis

procedures included: basic univariate descriptive statistics (frequencies, percentages,

means, standard deviations) to determine the NG perceived level of engagement in IPC;

bivariate analyses (chi-square, student t-tests) and multivariate analysis (ANOVA), to

detect any significant differences between groups and among the practice sectors, and; multiple linear regression to determine the predictors of NG nurse engagement in IPC.

Phase Two

Design.

The second phase involved a qualitative study, the purpose of which was to help explain and expand upon the findings of the quantitative phase of the study (Teddlie & Yu, 2007). An interpretive descriptive qualitative design (Thorne, 2008) was used to collect textual data through individual semi-structured interviews. Interpretive description moves one step further from pure description, and looks to discern relationships and patterns within the data (Thorne). It is well suited to examining research questions that require an inductive approach to describe a phenomenon, whose understanding would best be viewed through an interpretive lens (Thorne). Interpretive descriptive is also considered a useful qualitative approach when the researcher has both an actual practice goal, and an understanding of what is known and not known about the phenomenon of interest (Thorne). It generates questions from these insights and "creates the context in which engagement with the data extends the interpretive mind beyond the self-evident – including both the assumed knowledge and what was already been established – to see what else might be there" (Thorne, 2008, p. 35). Therefore, its strengths lie in its ability to deconstruct prior knowledge, with the purpose of generating new inquiries, insights, and evidence that are applicable to practice.

In this study, the qualitative research questions extended beyond generic description and into interpretive explanation, by looking for patterns or variations in how

NG nurses from different healthcare settings engage in IPC. In keeping with the

qualitative research tradition, the process was emergent in nature. The qualitative

findings were used to help explain and expand upon the quantitative findings, with an

overall goal of understanding the practice of NG nurses in IPC.

Sampling and recruitment.

In order to better understand the engagement of NG nurses in IPC, subjective data

were gathered from a variety of willing participants. Prior to data collection, three NG

nurses were recruited to participate in pilot testing of the interview guide, the goal of

which was to assess content, clarity, and elicitation of the necessary data to address the

research questions. This pilot sample of NG nurses represented the same individuals who

piloted the survey in phase one. The data derived from these interviews were

informational only, and were not included in the analysis.

Following minor adjustments to the interview schedule, participant recruitment

began. Participants included newly graduated RNs who were recruited from the

quantitative sample (Creswell & Plano Clark, 2007). The rationale for using the initial

sample stemmed from the need to "provide more detail about the quantitative results and

to select participants who can best provide this detail" (p. 122). Participants were invited

to indicate their interest in participating in a follow-up interview in the consent process

for phase one. If interested, they were asked to provide a preferred method of contact.

The sampling procedures were purposeful (Creswell, 2009; Miles & Huberman,

1994; Patton, 2002; Thorne, 2008). This sampling method supports the assumption that

knowledge is gained through exploring an individual's unique experience. Therefore, the

researcher selects individuals based upon their ability to provide rich descriptions of the phenomenon under study. A number of purposeful sampling techniques were appropriate for use in this study. Criterion sampling was applied to ensure that the correct sample was recruited for the qualitative phase of the study. Prior to data collection, each participant was screened to verify that he/she met several criteria. These criteria were consistent with those identified in phase one: (1) completed a baccalaureate nursing program; (2) employed in a registered nursing position; (3) practicing three years or less; and (4) able to read and understand English. An attempt was made to recruit participants from various communities across the province, and from all care sectors (acute care, community and long-term care). The goal was to capture a diverse sample of NG nurses from across the province, thus increasing informational representativeness (Thorne, 2008). Snowball sampling was also used to enhance recruitment.

In qualitative research, sample size is not determined by a statistical calculation; neither can it be accurately predetermined. Rather, it is determined by the research design or method, with saturation or informational redundancy being the "gold standard" (Guest, Bunce, & Johnson, 2006, p. 60) for an appropriate sample size. With regard to interpretive descriptive designs, Thorne (2008) asserts that there is "no firm and fast rule" (p. 96) for determining sample size, and that sample size can have a wide range, usually between five and 30, with much larger samples for complex issues and heterogeneous samples. In this study, a sample of 16 participants was recruited for the qualitative phase. It was deemed sufficient as data redundancy was achieved within and across sectors.

Data collection.

Data collection commenced following ethics approval from McMaster University, the University of Windsor, and access to the CNO mailing address database. In-depth semi-structured individual interviews were conducted by telephone. As described by Crabtree and Miller (1999),

> "Semi-structured interviews are guided, concentrated, focused and open-ended communication events that are co-created by the investigator and interviewee(s) and occur outside the stream of everyday life. The questions, probes, and prompts are written in the form of a flexible interview guide" (p. 19).

This data collection method had both advantages and disadvantages. As a qualitative research data collection strategy, interviewing reflects congruence with the ontological and epistemological assumptions of naturalistic inquiry. That is, there is no absolute truth, but rather multiple realities that can be identified through an exploration of the subjective experiences of the participant (Guba & Lincoln, 1994). Further, the interview was a mechanism for collecting data that could not be directly observed or measured, thus it provided a contextual understanding of the phenomenon under study. The primary disadvantages of interviewing were recall and response bias. In the former, the participants may not have clearly recalled the circumstances or events surrounding their experiences with engagement in IPC. In the latter, the participant may have provided responses that she perceived to be desired (Patton, 2002). Finally, telephone interviews did not provide visual observation of participant body language. Such information is useful data, and is often included in the analysis, if relevant.

Several processes were employed to address these concerns. First, an effort was made to conduct the interview when participants were able to focus their recollection and

communicate freely in a confidential environment. An interview guide was developed from the literature and the research questions. The interview guide consisted of open-ended questions that were designed to focus the discussion and elicit responses that informed the research questions. Sample questions are provided in Appendix M. As previously discussed, pilot testing of the interview guide was completed with three NG nurses to assess content, clarity and elicitation of the necessary data to address the research question. The guide underwent minor revisions based upon this feedback. Consent was obtained prior to each interview (Appendix N). The interview process was flexible, and questions were re-phrased based upon participant responses and feedback. Field notes were documented during each interview. Conducted during and after each interview, they were helpful in informing the methodological and analytical phases of the qualitative research process. These notes were typed and relevant notes were included in the study database.

Participants who agreed to participate in phase two of the study provided a telephone number where they wish to be contacted for the interview. They were also invited to indicate the preferred date and time of the interview. All interview data were audio-recorded and transcribed verbatim. Interviews lasted between 45 and 60 minutes in length. Once it was deemed that discussion of the topic was exhausted, the participants' data were summarized. Participants had the opportunity to confirm, change or expand upon the data.

Data management.

A study database was established to organize and store the large amounts of information. Electronic data were sorted and stored into labeled computer folders. All transcribed data were imported into NVivo 10 software. This qualitative data management software enhanced the retrieval and coding processes in the qualitative data analysis, but did not preclude the researcher from working closely with the data.

Data analysis.

In keeping with qualitative methodology, analysis of the data was inductive, and was conducted concurrently with data collection (Creswell, 2009; Patton, 2002). Data analysis was focused by the qualitative research question, and it was organized in three flows of activity: data reduction, data display, and conclusion drawing/verification (Miles & Huberman, 1994).

Once collected, all data were transcribed and organized in the study's database. This included all interview data and field notes. To prepare the data for coding, the transcripts were electronically formatted to support space for coding and memoing. Coding entails "gathering together data bits with similar properties and considering them in contrast to other groupings that have different properties" (Thorne, 2008, p. 145). These codes then enabled me to establish the meaning of the data. Although memoing served as a procedural and analytical strategy, the memos allowed me to ask questions about what the data might mean, by posing questions among cases and documenting emerging patterns (Thorne, 2008).

Prior to establishing codes, data were thoroughly read and re-read, line-by-line

(Creswell, 2009). Codes were constantly modified to best fit the data (Crabtree & Miller, 1999), and coding was based upon constant reflection on the qualitative research questions. Further, "early" and "excessive" (Thorne, 2008, p. 155) coding was avoided as this can hinder consideration of alternative perspectives. The data were also coded according to response categories (Bogdan & Biklen, 1992); these included details related to setting, perspectives and views of participants, processes, activities, events, strategies, and relationships.

Once it had been determined that all codes had been captured, the codes were clustered and reduced through categorical aggregation. This process avoided duplication and resulted in a parsimonious number of categories and themes. The final phase in the qualitative analysis was conclusion making and verification (Miles & Huberman, 1994). In interpretive description, this involves determining which ideas are core to the phenomenon, and which are purely contextual (Thorne, 2008). This was an iterative process, and several strategies were applied. The first involved questioning the patterns within the data, and stepping away to ask, "What am I seeing?" (p. 158). Member checks, consultation with committee members, and constant reflection on the research question were essential strategies. A second key strategy was to ask, "What might I not be seeing?" (Thorne, 2008, p. 160). This allowed me to consider alternative instances, rather than assuming that all possible variations had been considered.

Throughout this process, I was in contact with my supervisor to ensure appropriate interpretation of the data. Committee meetings provided opportunities to discuss insights with regard to the data. Once the final themes were identified, the

descriptive summaries were shared with four participants who were recruited specifically

to review the findings. Their feedback was audio-recorded and treated as new data. Their

data confirmed the data interpretation. No revisions to the findings were required based

upon this feedback.

Phase Three

Overall analysis.

The point of data interface occurred in the third phase of the study. The inferences were drawn based on the integration of both the quantitative and qualitative data analyses, and summarized in the results narrative (Morse, 2010). These narratives are located in the discussion sections of Chapters Three and Four. These summaries address the mixed methods and overall research questions, through interpretation of the qualitative findings (qual) within the context of the quantitative results (QUAN).

With regard to the overall analysis, the quantitative and qualitative data were merged in a side-by-side process (Creswell & Plano Clark, 2007). Using this method of triangulation, the themes identified in the qualitative analysis were interpreted in the context of the quantitative findings. The goal of the overall analysis was to help to explain, and provide meaning to the perceptions of the NG nurses identified in the quantitative survey. The quantitative findings, or core component of this study, formed the foundation for interpreting the findings (Morse, 2010).

To provide a visual representation of the analysis, the findings were displayed in a tabular format, such that the qualitative findings were mapped side-by-side with the quantitative results to provide a concise, visual overview of the overall findings. Inferences regarding the relationships between the quantitative and qualitative findings were provided in the integrated narrative summaries (Morse, 2010).

Content of Thesis

The following section provides an overview of the thesis chapters. Their relevance and contributions to the overall thesis are discussed. A summary of the research questions and methodology are provided. Chapter Two is has been published, and Chapters Three and Four have been submitted for publication. These articles are presented in the thesis according to the author guidelines and styles of the respective journals to which they have been submitted.

Chapter Two

This chapter provides an integrative review of the contemporary NG nurse literature. Whittemore and Knafl's (2005) updated integrative review method guided the analysis. The research question was: What are the barriers and facilitators of NG nurse engagement in IPC?

The review summarizes what is currently known about how NG nurses engage in IPC, and critically analyzes the barriers and facilitators of engagement in IPC among NG nurses. The findings helped inform the research study's design and methods, as well as the interpretation of the research findings.

The article, *An integrative review of the factors influencing new graduate nurse engagement in interprofessional collaboration,* has been published for early on-line view in the *Journal of Advanced Nursing* (Pfaff, Baxter, Jack, & Ploeg, 2013a).

Chapter Three

This chapter contains the findings of a research study that explored the predictors of NG nurse engagement in IPC. A two-phased explanatory sequential mixed methods design was used (Creswell & Plano Clark, 2007).

The research questions (overall, quantitative and qualitative) were:

1. What team and organizational factors promote NG nurse engagement in collaborative practice across various healthcare sectors? (overall)

2. What team and organizational factors predict NG nurse engagement in collaborative practice across various healthcare sectors? (quantitative)

3. What team and organizational factors do NG nurses describe as facilitating their engagement in collaborative practice? (qualitative)

In the quantitative phase of the study, NG nurses who had registered for the first time with the College of Nurses of Ontario between 2009 and 2011 were recruited by mail. They completed self-report surveys related to their experiences with engagement in IPC. Follow-up semi-structured telephone interviews were conducted with 16 NG nurses to help explain and expand upon the quantitative findings. Interpretive description (Thorne, 2008) was used to guide the methods in the qualitative phase. The data were merged in a side-by-side process for interpretation of the overall findings (Creswell & Plano Clark, 2007).

The article, *A Mixed Methods Exploration of the Team and Organizational Factors that Predict New Graduate Nurse Engagement in Collaborative Practice*, has been submitted, with revisions, for publication in the *Journal of Interprofessional Care*.

Chapter Four

This chapter reports the findings of an exploration of the factors that influence confidence among NG nurse to engage in IPC. This paper evolved due to unexpected quantitative findings that revealed moderate to high levels of perceived confidence in IPC. Considering the study's theoretical propositions, these findings were surprising, and further exploration was conducted. The investigation used an explanatory sequential mixed methods design (Creswell & Plano Clark, 2007) to comprehensively understand NG nurse confidence in IPC.

The research questions were:

1. What factors influence perceived confidence to engage in IPC among NG nurses who are employed in various healthcare sectors?

2. As described by NG nurses, what factors facilitate and challenge confidence to engage in IPC among NG nurses who are employed in various healthcare sectors?

In the quantitative phase, data from a cross-sectional descriptive survey of NG nurses in Ontario were analyzed to explore factors that influenced their perceived confidence levels in IPC. As described in Chapter Three, data were collected by mailed survey. In the follow-up interviews, NG nurses were invited to describe their confidence in IPC, and the factors that influenced their confidence levels. Thorne's (2008) interpretive descriptive method guided the qualitative phase. A model was developed to explain the qualitative findings. The quantitative and qualitative data were merged and are reported in the discussion.

The article, *Exploring New Graduate Nurse Confidence in Interprofessional Collaboration: A Mixed Methods Study*, has been submitted for publication in the *International Journal of Nursing Studies*.

Chapter Five

Chapter Five is a conclusion of the thesis. The chapter begins with a discussion of the contributions of the research study to the literature and a summary of study's findings. The chapter contains an analysis of the value of D'Amour and colleagues' (1999) Structuration Model of Interprofessional Collaboration in guiding and interpreting the research that was conducted in this thesis. Implications for practice, education, and research are summarized. Limitations are provided, and are followed by concluding remarks.

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CHAPTER TWO

An Integrative Review of the Factors Influencing New Graduate Nurse Engagement in Interprofessional Collaboration

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Abstract

Title. An integrative review of the factors influencing new graduate nurse engagement in interprofessional collaboration

Aim. An integrative review conducted to critically analyze the barriers and facilitators to new graduate nurse engagement in interprofessional collaboration.

Background. The acculturation of new graduate nurses must be considered in strategies that address the global nursing shortage. Interprofessional collaboration may support the transition and retention of new graduate nurses.

Design. Whittemore and Knafl's revised framework for integrative reviews guided the analysis.

Data sources. A comprehensive multi-step search (published 2000–2012) of the North American interprofessional collaboration and new graduate literature indexed in the CINAHL, Proquest, Pubmed, PsychINFO and Cochrane databases was performed. A sample of 26 research and non-research reports met the inclusion criteria.

Review methods. All 26 articles were included in the review. A systematic and iterative approach was used to extract and reduce the data in order to draw conclusions.

Results. The analysis revealed a number of barriers and facilitators to new graduate engagement in interprofessional collaboration. These factors exist at the individual, team and organizational levels, and are largely consistent with conceptual and empirical analyses of interprofessional collaboration conducted in other populations. However, knowledge and critical thinking emerged as factors not identified in previous analyses.

Conclusion. Despite a weak to moderate literature sample, this review suggests implications for team and organizational development, education, and research that may support new graduate nurse engagement in IPC.

Keywords: interprofessional collaboration, new graduate nurse, integrative review, barriers, facilitators

Why is this review needed?

- Given international reports of nursing shortages and attrition of new graduate nurses, engaging new graduate nurses in interprofessional collaboration may support the retention of this valuable health human resource.

- Nursing researchers have not sought to understand how new graduate nurses engage in interprofessional collaboration, despite evidence of theoretical and conceptual barriers to collaborative practice among new graduate nurses.

- With further understanding, interventions may be developed and implemented to support new graduate nurse engagement in interprofessional collaboration, thus enhancing retention among this population of nurses.

What are the three key findings?

- Despite lower quality evidence, a number of barriers and facilitators at the individual, team and organizational levels may influence how new graduate nurses engage in interprofessional collaboration.

- Self-confidence, knowledge, experience, communication skills, support, and respect presented as both barriers and facilitators of interprofessional collaboration among new graduate nurses.

- Although not identified as antecedents in published analyses of interprofessional collaboration, supporting knowledge development and critical thinking among new graduate nurses may facilitate their engagement in interprofessional collaboration.

How should the findings be used to influence practice, research and education?

- All healthcare professionals should be aware of the facilitators and barriers to new graduate engagement in interprofessional collaboration and enact strategies to support these new graduates in collaborative practice.

- Further research is needed to better understand how new graduates engage in interprofessional collaboration, with an emphasis on rigorous study designs that allow comparisons across sectors, units, and geographical areas.

- Pre-graduate education and institutional orientation programs should consider how to address gaps in new graduate nurse knowledge and experience related to interprofessional collaboration.

An Integrative Review of the Factors Influencing New Graduate Nurse

Engagement in Interprofessional Collaboration

INTRODUCTION

The recruitment and retention of registered nurses is a serious global human resources issue (International Council of Nurses [ICN] 2006, World Health Organization [WHO] 2006). Shortages have been reported in Europe (ICN 2011), North America (American Nurses Association 2012, Canadian Nurses' Association [CNA] 2009), Africa and Asia (Buchan & Calman 2004, Scheffler *et al.* 2009). These shortages are especially concerning given international reports of an aging nursing workforce (Doran *et al.* 2012), and populations with increasing morbidity and mortality rates (WHO 2011). To support this global health human resource need, a focused approach is required to recruit and retain registered nurses in all healthcare sectors. New graduate nurses significantly contribute to the nursing workforce, and their recruitment and retention must be considered in health human resource strategies that address the aforementioned issues.

The first year of professional practice can be a highly stressful transition period for some new graduate nurses (Duchscher 2008, Kramer 1974). Although reported as being unprepared being for nursing practice (Burns & Poster 2008, Institute of Medicine 2004, Thomas *et al.* 2011), many new graduates are expected to perform with the same level of expertise as more experienced nurses (Chernomas *et al.* 2010). This unrealistic expectation is hindered by reports of increasingly chaotic and dissatisfying work environments (Tourangeau & Cranley 2006) that can result in burnout, as early as the first two years of employment (CNA 2006). Studies have revealed that disempowering work

environments (Cho *et al.* 2006), and lack of belonging, (Halfer 2011), contribute to turnover, with rates ranging between 30% and 66% (Beecroft *et al.* 2008, Bowles & Candela 2005, Cho *et al.* 2006, Lavoie-Tremblay *et al.* 2008). In contrast, supportive practice environments are linked with organizational commitment and nurse retention (Ingersoll *et al.* 2002, Roberts *et al.* 2004).

Interprofessional collaboration (IPC) is proposed as a cogent solution for enhancing new graduate nurse retention. The WHO (2010) asserts that IPC "will play an important role in mitigating the global health workforce crisis" (p. 7). Collaborative practice or IPC "occurs when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers and communities to deliver the highest quality of care across settings" (WHO p. 13). Among new graduate nurses, positive interprofessional relationships can ease the student to practitioner transition stress (College of Nurses of British Columbia 2005), and retain these nurses (Altier & Krsek 2006).

Nevertheless, IPC is a complex process, as it requires a variety of actors to interact in social, cultural and professional healthcare systems (San Martin-Rodriguez *et al.* 2005). The factors that are proposed to influence engagement in collaborative practice are broad and interrelated. The prominent determinants include systemic factors (Baggs & Schmitt 1997), organizational structures and supports (Borrill *et al.* 2002), and interactional elements (D'Amour *et al.* 1999), such as willingness, trust, mutual respect, expertise, and communication skills. These determinants are based upon concept analyses and syntheses of empirical studies (D'Amour *et al.* 2005, Henneman *et al.* 1995;

San Martin-Rodgriquez et al. 2005); however, they have not been examined in the new graduate nurse population.

Engaging in IPC may present a daunting challenge for the new graduate nurse who is adapting to professional practice in an unfamiliar socio-cultural and political organization. The empirical evidence suggests that pressures include: lack of confidence, knowledge and experience (Casey *et al.* 2004, Ellerton & Gregor 2003, O'Malley Floyd et al. 2005), and fear of rejection by the healthcare team (Duchscher, 2001). Currently, little is known about how new graduate nurses collaborate with other healthcare professionals. Understanding the factors that influence IPC among new graduate nurses may offer strategies to enhance their retention.

For the purpose of the review, a new graduate nurse was defined as an individual who had completed a degree program in nursing, was employed for the first time in a nursing position, and had practiced three years or less. The last criterion was applied to allow liberal inclusion of studies, based upon three assumptions: (a) IPC is a dynamic process that evolves over time (D'Amour *et al.* 2005); (b) IPC is hindered by stress, that continues throughout the first year of practice (Olson 2009); and (c) mastery with diverse clinical situations requires two to three years of practice (Benner 2001).

THE REVIEW

Aim

The aim of this integrative review was to critically analyze the barriers and facilitators of engagement in IPC among new graduate nurses.

Design

Whittemore and Knafl's (2005) updated integrative review method guided the analysis. Expanding on Ganong's (1987) work, this revised method (Whittemore & Knafl) is a rigorous and widely used approach for summarizing and analyzing literature from diverse methodologies, thus providing a more comprehensive understanding of a phenomenon. According to Whittemore and Knafl, outlining a well-defined, multi-step literature search strategy is crucial to avoid bias and increase the accuracy of the review results. Eligible sources may include research and theoretical papers. Whittemore and Knafl recommend that all relevant articles be included in the review. Critical appraisal of the literature is not a requirement of an integrative review; however, quality scores may be used to support data interpretation (Whittemore & Knafl). During the analytic phase, a systematic and iterative approach is applied to extract, categorize, and reduce the data in order to draw conclusions and verify results.

Search methods

The literature search employed three strategies (Conn *et al.* 2003): electronic searching, ancestral searching, and hand searching of journals known to publish articles related to new graduate nurse transition or IPC. An electronic keyword search was conducted using the CINAHL, Proquest, Pubmed, PsychINFO and Cochrane databases. The search employed the following terms: *novice*, *graduate* or *entry-level nurse,* and *transition* or *socialization* or *entry to practice* were combined with *interprofessional*, *multiprofessional*, *transprofessional*, *interdisciplinary*, *multidisciplinary*, *transdisciplinary* and *collaboration*, *cooperation*, *teamwork*, *barriers*, *facilitators*, *challenges*, *support*, and *determinants*. IPC is conceptually characterized by: *sharing,*

partnership, interdependency and *power* (D'Amour *et al.* 2005, Henneman *et al.* 1995);

therefore, these search terms were also included in the search to fully capture all related

literature. The search was limited to peer-reviewed qualitative and quantitative articles,

published in English, and whose outcomes reflected IPC (Table 1). To maintain a

contemporary approach to the issue, the search was limited to articles published between

2000 and 2012.

Table 1

Literature inclusion and exclusion criteria

_____

Inclusion criteria	Exclusion criteria
Registered nurse	Nursing student, Registered Practical Nurse or equivalent, midwife, NP
Within 3 years of completion of a of a degree program in nursing	RN > 3 years following completion degree program in nursing
Outcomes reflective of barriers and/or facilitators to interprofessional collaboration	Outcomes not reflective of and/or facilitators to IPC
Peer-reviewed	Editorials or opinion pieces
North American studies (Canada and U.S.)	Non-North American studies

Search outcome

The search yielded 205 records (Figure 1). The abstracts of these articles were reviewed for relevance and inclusion criteria. Articles that were not relevant or did not meet inclusion criteria were discarded. This screening produced a sample of 58 articles that were primarily published in Europe, Australia, Canada, and the United States (U.S.). At this phase of the review, there was methodological concern regarding the breadth of the literature sample. That is, the international literature revealed wide variation in the educational preparation and registration of nurses. According to Whittemore (2005), breadth in a literature sample may result in a loss of specificity during the analysis phase (Whittemore 2005). In order to retain the specificity, and thus the rigor of the review, a decision was made to include North American (Canadian and U.S.) reports whose sample included degree-prepared new graduate nurses, and who also fit the remaining inclusion criteria. The final literature sample ($n = 26$) included research ($n = 24$) and non-research reports ($n = 2$). The sample of research reports was primarily qualitative ($n = 17$). Two research articles were quantitative, and five employed a combination of quantitative and qualitative methods. The remaining two reports were non-research articles that described new graduate nurse orientation programming in IPC.

Quality appraisal

Prior to data reduction, all reports were coded for methodological rigor using a 3-point scale (1=low, 2=moderate, 3=high), based upon the qualitative and quantitative criteria of Letts et al. (2007) and Polit and Beck (2004), respectively. As described in

Figure 1

Search and inclusion process

```
┌────────────────────────────┐
│ Records identified through │
│ electronic database searching│          ┌────────────────────────────┐
│ (CINAHL, Medline, Proquest, │          │ Duplicates removed (n = 8)  │
│ PsychInfo, Cochrane), ancestral│─────────▶│                            │
│ searching and hand searching│          │ Abstracts reviewed:         │
│                            │          │                            │
│        (n = 205)           │          │ Records whose sample was    │
└────────────────────────────┘          │ not new graduate nurse (n = │
             │                           │          56)                │
             ▼                           └────────────────────────────┘
┌────────────────────────────┐
│    Remaining records       │
│                            │
│        (n = 141)           │───────────────────────────┐
│                            │                           │
│                            │                           ▼
└────────────────────────────┘          ┌────────────────────────────┐
             ▲                           │ Records not peer-reviewed or│
             │                           │ did not meet reflect        │
             │                           │ barriers/facilitators of IPC│
             │◀──────────────────────────│ removed                     │
             ▼                           │                            │
┌────────────────────────────┐          │        (n = 83)            │
│    Remaining records       │          └────────────────────────────┘
│                            │
│        (n = 58)            │───────────────────────────┐
│                            │                           │
└────────────────────────────┘                           ▼
             ▲                           ┌────────────────────────────┐
             │                           │ Records not North American  │
             │                           │ removed                     │
             │◀──────────────────────────│                            │
             ▼                           │        (n = 32)            │
┌────────────────────────────┐          └────────────────────────────┘
│  Final literature sample   │     53
│                            │
│        (n = 26)            │
└────────────────────────────┘
```

all records were retained in the analysis, regardless of score. The analysis suggested that inclusion of these lower quality reports did not alter the review's findings. The authors Table 2, reports were also reviewed for topic relevance (Evidence for Policy and Practice Information and Coordinating Centre 2007), and the scores were averaged for each report. In keeping with integrative review methods (Ganong 1987, Whittemore & Knafl 2005), acknowledge that publication space restrictions may have contributed to limitations in describing processes for promoting rigor in the included articles.

Table 2

Quality and relevance appraisal: Criteria and process

_____

Criteria:

_____

A = methodological quality (MQ)

B = topic relevance (TR)   Judgment of overall weight of evidence (1, 2, or 3)

_____

Process:

_____

Author	MQ Score	TR Score	Overall Score
Duchscher (2001)	2/3	2/3	2/3
Patterson *et al.* (2010)	1/3	1/3	1/3
Wright *et al.* (2011)	2/3	3/3	2/3

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Data abstraction

Following data evaluation, subgroups of the data were abstracted and represented textually and numerically. Data abstraction involved an iterative process of reading the reports line-by-line, with a constant focus on the review's aim. Examples of barriers and facilitators toward IPC were extracted and transcribed verbatim. An audit trail facilitated categorization and interpretation of data throughout the process. Other variables of interest for which data were extracted included: IPC-related terminology, classifications of healthcare professionals, type of unit, and length of employment.

Synthesis

The goal of the synthesis phase was to group the abstracted data into subgroups in order to identify patterns and relationships among the data (Whittemore & Knafl 2005). To facilitate data synthesis, a matrix approach (Miles & Huberman 1994) was applied. Data were counted, compared, and contrasted within and across the subgroups of interest. Other analysis strategies included: noting relations between and among variables, looking for extreme or variant cases, and finding intervening factors (Miles & Huberman 1994; Sandelowski 1995). The re-organized and reduced data formed the basis for the critical analysis. Supported by the textual and numerical findings, the barriers and facilitators to IPC among new graduate nurses emerged from the literature sample, and are reported in the following section.

RESULTS

A synthesis of the factors influencing new graduate nurse engagement in IPC is provided in the following text. A brief description of the literature sample precedes the

synthesized findings.

The literature sample

Quality ranking of the reports revealed weak to moderate literature quality. Of the literature sample, only two reports (Schwartz *et al.* 2011, Wright *et al.* 2011) directly examined processes of IPC as primary outcomes. The remaining articles ($n = 24$) examined new graduate nurse transition, in which elements of IPC were reported in the findings. Among the retrieved reports, 25 of the 26 articles reflected the acute care setting. Of these articles, 56% ($n = 14$) reported the area of employment, and within this sub-group, there was a wide variation in type of unit.

New graduate nurse relationships with a diversity of healthcare professionals were represented in the literature sample; nevertheless, instances of collaboration with physicians were most prominently reported (92% of reports; $n = 24$). Nine articles (35%) described collaboration with ancillary staff (personal support workers, practical nurses). Detailed characteristics of the literature sample are summarized in Table 3.

Barriers of new graduate nurse engagement in IPC

Based upon the analysis, the new graduate nurse barriers to IPC were clustered into three subgroups: individual, team, and organizational factors. Individual factors reflect new graduate nurse challenges in self-confidence, knowledge or experience, and communication. The team factors include challenges in working relationships and informal support. An organizational barrier relates to lack of formal institutional support.

Table 3

Literature characteristics

Author	Design	Sample	Data Collection	Relevant Findings (summary)	Quality Score
Anderson *et al.* (2009)	Quantitative and qualitative Evaluation of a nurse residency program	90 new graduate nurses (NGNs) U.S.	Half-Graf Job/Work Environment Nursing Satisfaction Survey Qualitative comments	Satisfiers: patients, patient outcomes, teamwork Dissatisfiers: ineffective teamwork, physician disrespect	1/3
Cantrell & Browne (2005)	Qualitative Evaluation of a nurse externship program	6 NGNs Acute care: critical care, pediatrics, emergency, oncology U.S.	Focus group	Themes: "Being a Part of the Real Scene", "Figuring Out the Environment", "Gaining Awareness", "Becoming Frightened"	1/3
Casey et al (2004)	Quantitative and qualitative Descriptive comparative	270 NGNs Acute care: medicine, surgery, critical care, mental health, women's health U.S.	Casey-Fink Graduate Nurse Experience Survey Data collected at: 0-3 months; 3-6 months; 6-12 months; > 1year Open-ended questions	Comfort & confidence declined at 3 months ($M = 54.28$; SD = 6.019) and did not increase to high until 1 year ($M = 57.84$; SD = 6.56) Themes: confidence, peer and preceptor relationships, dependence and independence, work environment, physician relations	2/3

Author	Design	Sample	Data Collection	Relevant Findings (summary)	Quality Score
Chandler (2012)	Qualitative, descriptive Appreciative inquiry	36 NGNs U.S.	Semi-structured interviews conducted following first year in practice	Themes: "They Were There for Me", "There Are No Stupid Questions", "Nurturing the Seeds"	1/3
Chernomas *et al.* (2010)	Qualitative Secondary analysis of 2006 data	9 NGNs Acute care: medicine, surgery Canada	Focus groups Data collected at 13 months	Themes: "Know who I am", "Know what I need", "I feel prepared, but…"	1/3
Delaney (2003)	Qualitative Phenomenology	10 NGNs U.S.	Individual interviews Data collected at 0 to 12 weeks	Themes: mixed emotions, preceptor variability, welcome to the real world, stressed and overwhelmed, learning the system and culture shock, stepping back to see the view, the power of nursing, ready to fly solo	2/3
Deppoliti (2008)	Qualitative Symbolic interactionism	16 NGNs 1 - 3 years practice experience U.S.	Open-ended, semi-structured in-depth interviewing	Themes: negotiation for power and authority, fragmentation of split in nursing	1/3

Author	Design	Sample	Data Collection	Relevant Findings (summary)	Quality Score
Duchsher (2001)	Qualitative Phenomenology	5 NGNs $\leq$ 6 months practice experience Acute care: medicine, surgery Canada	Semi-structured in-depth interviews Data collected at 2 and 6 months	Themes: doing nursing, the meaning of nursing, being a nurse	2/3
Duchscher (2003)	Qualitative Phenomenology	5 NGNs $\leq$ 6 months practice experience Acute care: medicine, surgery Canada	Semi-structured in-depth interviews Reflective journaling	Critical thinking and knowledge development was impaired by relying on others, wanting to be independent and fit in, fear of physicians	2/3
Dyess & Sherman (2009)	Qualitative	81 NGNs < 12 months experience Acute care: medicine, surgery, critical care, women's health, pediatrics, emergency, OR, telemetry, oncology U.S	Semi-structured focus groups Data collected pre & post transition program	Themes: Confidence and fear, less than ideal communication, experiencing horizontal violence, perception of professional isolation, complex units require complex critical decision-making, contradictory information	2/3

Author	Design	Sample	Data Collection	Relevant Findings (summary)	Quality Score
Ellerton & Gregor (2003)	Qualitative Interpretive	11 NGNs Canada	Semi-structured interviews at 3 months following employment	Single overall theme: learning the job Subthemes: competent Practice, approaches to the challenges of work	1/3
Etheridge (2007)	Qualitative Descriptive phenomenology	5 NGNs Acute care: medicine, surgery U.S.	Interviews conducted at 1 month, 2-3 months, 8-9 months	Themes: developing confidence, learning responsibility, relationships with "the other", thinking "critically"	1/3
Fink *et al.* (2008)	Qualitative	434 NGNs Acute care: medicine, surgery, critical care, mental health, women's health, telemetry U.S.	Open-ended survey questions Data collected at hire, 6 months, 12 months	Themes: work environment satisfiers, frustration with work environment, dissatisfaction with hospital system, interpersonal relations	1/3
Goodwin-Esola *et al.* (2009)	Non-research Summary of the benefits of progress meetings in facilitating role transition	U.S.		Program emphasized critical thinking, role mastery and collaboration Benefits and challenges explored	N/A

Author	Design	Sample	Data Collection	Relevant Findings (summary)	Quality Score
					2/3
Halfer & Graf (2006)	Quantitative Survey	84 NGNs $\leq$ 18 months practice experience Acute care pediatrics hospital: medicine, surgery, critical care, emergency, OR U.S.	Researcher developed: Halfer-Graf Job/Work Environment Nursing Satisfaction Scale Data collected at 3, 6, 12 and 18 months	Scores that changed from 3 month to 18 month time frame: professional contributions valued (M=3.14 to 3.50, $p< .05$), physicians are respectful (M=3.04 to 3.32, $p = < .05$) Qualitative comments: professional respect and teamwork reported at 12 months, autonomy and positive working relationships with physicians were satisfiers	
Martin & Wilson (2011)	Qualitative Interpretive phenomenology	7 NGNs < 1 year practice experience Acute care: medicine, surgery, critical care, pediatrics, telemetry, oncology	Semi-structured individual interviews Data collected following first year of practice	Themes: "Adapting to the Culture of Nursing", "Development of My Professional Responsibilities"	2/3
Olson (2009)	Qualitative Interpretive phenomenology	6 NGNs U.S.	Open-ended interviews, journaling at 3 months, 6 months, 1 year	Themes: "Being in unfamiliar surroundings", "Finding my voice", "Am I doing okay"	2/3

Author	Design	Sample	Data Collection	Relevant Findings (summary)	Quality Score
Patterson *et al.* (2010)	Quantitative & qualitative Descriptive Evaluation of fellowship program	18 NGNs Acute care: emergency U.S.	Survey of Nurses' Perception of First Job Experience (Bowles & Candela, 2005) Semi-structured interviews at 3 and 6 months	Most participants agreed that healthcare team collaborated and functioned well Responses categorized as: attraction to the fellowship program, perceptions regarding the ED and emergency nursing	1/3
Reddish & Kaplan (2007)	Quantitative & qualitative	13 NGNs and 11 preceptors Acute care: emergency U.S.	Observation and open-ended questions Data collected over 3 years	Preceptee transition to competent practitioner reported as five discrete phases Agreement regarding phases between preceptee and preceptor non-significant	1/3
Schoessler & Waldo (2006a)	Qualitative Interpretive phenomenology	NGNs in RN Development Program $\leq$ 18 months of practice U.S.	Qualitative data of an interpretive phenomenological study	Themes: ending (0 – 3 months), neutral zone (4 – 9 months), new beginning (10 – 18 months) Marker events identified within each theme	2/3

Author	Design	Sample	Data Collection	Relevant Findings (summary)	Quality Score
Schoessler & Waldo (2006b)	Non-research Evolution of an RN development program	N/A	N/A	Narrative and tabular description of the developmental focus and program activities: skill building and critical thinking, relationships (patient/family), developing Organization, developing team	N/A
Schwartz *et al.* (2011)	Qualitative Description	10 NGNs at 5 to 18 months Mental health facility: critical care, emergency, geriatric psychiatry, float team Canada	Semi-structured interviews	Themes: "Adopting a Passive Role to Learn How to Fit In", "Establishing Credibility and Building Trust", "Engaging in an Active Role to Impact on Patient Care"	2/3
Seright (2011)	Qualitative Grounded Theory	12 NGNs < 2 years experience Acute care: rural, critical care U.S.	Face-to-face recorded interviews Observation Data collected over a four-month period of time	A sense of belonging and conferring with co-workers were central to clinical decision-making	2/3

Author	Design	Sample	Data Collection	Relevant Findings (summary)	Quality Score
					1/3
Thomas *et al.* (2011)	Quantitative Survey	148 managers across 5 U.S.	Electronic survey: Nurse Competency Questionnaire 1 = not important, 4 = extremely important Open-ended questions	Interdisciplinary team (M = 1.74), supervises ancillary nursing staff (M = 1.4), delegation (M = 1.5), conferring with physicians and others (M = 1.6) Lack of confidence communicating with other disciplines	
Wright *et al.* (2011)	Qualitative Descriptive	10 NGNs $\leq$ 18 months in practice Mental health Canada	Individual interviews	Themes: "Nurse-Patient Relationships: The *Why* of Mental Health Nursing", "Team Relationships: The *How* of Mental Health Nursing"	2/3
Yancey (2005)	Qualitative Phenomenology Secondary Analysis of dialogues	10 NGNs < 2 years of practice U.S.	Dialogical engagement	Themes: learning a new culture, sharing a journey, being unsure with changing views, being respected	1/3
Zinsmeister & Schafer (2009)	Qualitative Phenomenology	9 NGNs 6 $\geq$ 12 months of practice	Standardized open-ended semi-structured interviews between 6 to 12 months	Themes: supportive work environment, positive preceptor experience, comprehensive orientation program, sense of professionalism, clarity of role expectations, self-confidence	2/3

Individual factors

The findings suggest that lack of self-confidence may be a significant barrier to IPC among new graduate nurses. Numerous studies reported that the new graduates experienced fear and lack of confidence when interacting with physicians (Delaney 2003, Duchscher 2001, Duchscher 2003, Olson 2009, Schoessler & Waldo 2006a, Thomas et al. 2011). This lack of confidence was associated with disseminating information and voicing concerns to physicians about client care (Schwartz *et al.* 2011). In addition, delegation to ancillary staff emerged as a significant source of trepidation among new graduate nurses (Casey *et al.* 2004, Chandler 2012, Fink et al. 2008, Martin & Wilson 2011). In Chandler's (2012) study, nursing assistants were described as confrontational, challenging, and unwilling to answer new graduate nurses' questions. Interactions with families and patients were also hampered by self-confidence (Olson 2009, Schoessler & Waldo 2006a), particularly when being asked questions for which the new graduate might not have answers (Schoessler & Waldo 2006a).

IPC may also be hindered by lack of knowledge and experience in interacting with other healthcare professionals (Anderson *et al.* 2009, Chernomas *et al.* 2010, Delaney, 2003, Duchscher 2001, Ellerton & Gregor 2003, Etheridge 2007, Fink *et al.* 2008). Specifically, lack of knowledge and experience was a barrier to collaborating with physicians (Duchscher 2001, Olson 2009, Schoessler & Waldo 2006a, Wright *et al.* 2011), delegating to ancillary staff (Chandler 2012, Chernomas *et al.* 2010, Martin & Wilson 2011, Thomas et al. 2011), and leading a healthcare team (Chernomas *et al.* 2010). Etheridge (2007) reported that new graduate nurses required additional knowledge

regarding the roles of other healthcare professionals. Further, these new graduates lacked

practical knowledge, such as which healthcare professional to consult, when to consult,

and how to make contact (Cantrell & Browne 2005, Delaney 2003, Duchscher 2001).

Schwartz and colleagues (2011) reported that new graduate nurses had deficient

knowledge and experience in discerning what information to offer, and how to participate

in interdisciplinary rounds. When collaborating with patients and families, Chernomas et

al. (2010) reported that new graduates did not have adequate knowledge or experience to

address social issues.

      Deficiencies in communication skills represent the final new graduate nurse

barrier to IPC. Several authors reported that new graduate nurses were unable to

professionally communicate with physicians (Casey *et al.* 2004, Etheridge 2007,

Schoessler & Waldo 2006a, Thomas *et al.* 2011), and ancillary staff (Martin & Wilson

2011). In particular, these deficiencies related to conflict resolution (Anderson et al.

2009, Duchscher 2001, Olson 2009). A common factor in several studies was passive

communication (Etheridge 2007, Duchscher 2001, Dyess & Sherman 2009, Schwartz *et

al.* 2011). The new graduates did not challenge negative behaviours (Duchscher 2001) or

the opinions of others (Duchscher 2003, Schwartz et al. 2011), but rather avoided conflict

(Dyess & Sherman 2009) and deferred decision-making to the team (Schwartz *et al.*

2011).

      Team factors

      The findings of the analysis indicate a perceived lack of informal support from

healthcare team members (Anderson et al. 2009, Chandler 2012, Dyess & Sherman 2009,

Fink *et al.* 2008). Although few studies reported discipline-specific examples of insufficient support, the theme pervaded the analysis, especially in reference to interactions with ancillary staff (Dyess & Sherman 2009, Fink et al. 2008). A second team factor, disrespect in the work environment, emerged as an important barrier to engagement in IPC. This finding was apparent in 46% (*n*=12 reports) of the literature reviewed. Among these studies, disrespectful interactions were reported between new graduate nurses and physicians (Anderson *et al.* 2009, Casey *et al.* 2004, Deppoliti 2008, Duchscher 2001, Dyess & Sherman 2009, Martin & Wilson 2011), and between the new graduates and ancillary staff (Chandler 2012, Dyess & Sherman 2009). Disrespect by ancillary staff was manifested by refusals to answer new graduate nurses' questions (Chandler 2012), and assist or accept direction from the new graduate nurse (Dyess & Sherman 2009). Although one study (Wright et al. 2011) revealed lack of respect at multidisciplinary meetings, the nature and circumstances were not reported.

Organizational factors

Among new graduate nurses, lack of formal support from institutional leaders was an organizational barrier to IPC. For the purpose of this review, formal support refers to prescribed and recognized organizational structures that assist new graduate engagement in IPC. Chandler (2012) highlighted inadequate formal support in long-term care and rehabilitation settings. New graduate nurses employed in these settings reported abbreviated institutional orientations, and having no formal consultation process.

Facilitators of new graduate nurse engagement in IPC

In contrast to the barriers proposed in the previous section, the analysis suggests that several individual factors may facilitate engagement in IPC: self-confidence, knowledge and experience, communication skills, critical thinking and valuing. Team facilitators include informal support, respect, and trust. Formal support within the organization facilitated new graduate nurse engagement in IPC.

Individual factors

Self-confidence was a prominent facilitator in this review. Six studies reported that new graduate nurses possessed self-confidence when engaging with other healthcare professionals (Anderson *et al.* 2009, Duchscher, 2001, Etheridge 2007, Halfer & Graf 2006, Olson 2009, Seright 2011), including physicians (Anderson *et al.* 2009, Olson 2009, Seright 2011), and patients/families (Casey et al. 2004, Halfer & Graf 2006). Anderson *et al.* (2009) reported that confidence with IPC improved with time. Casey and colleagues (2004) reported this timeframe to be between six and 12 months.

The analysis revealed that knowledge and experience facilitated IPC among new graduate nurses. In particular, this knowledge and experience related to: (a) clinical knowledge and practice experience; and (b) knowledge and experience in IPC. Several authors reported that collaboration with other healthcare professionals improved as knowledge and experience expanded (Deppoliti 2008, Duchscher 2001, Halfer & Graf 2006, Schwartz et al. 2011, Yancey 2005). In particular, Yancey (2005) reported that having holistic knowledge of the patient, and previous student experiences on the unit enhanced collaborative practice and integration into the interprofessional team. Three

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studies revealed that new graduate nurses deliberately sought out knowledge related to collaborative practice (Deppoliti 2008, Etheridge 2007, Schwartz *et al.* 2011). Practical knowledge related to how and when to call a physician (Etheridge 2007), and what to report during multidisciplinary rounds (Schwartz *et al.* 2011) was also seen to facilitate IPC among new graduate nurses.

This analysis suggests that effective communication skills may facilitate IPC among new graduate nurses (Casey *et al.* 2004, Chandler 2012, Deppoliti 2008, Duchscher 2001, Duchscher 2003, Etheridge, 2007, Seright 2011). Several authors reported that the new graduates used various techniques to communicate with other healthcare professionals (Chandler 2012, Duchscher 2001, Duchscher 2003, Seright 2011). In two studies, assertiveness was considered a necessary communication skill to facilitate engagement in IPC (Deppoliti 2008, Duchscher, 2001). Further, advocacy was reported as a communication mechanism through which new graduate nurses collaborated with other care providers (Duchscher 2001, Schoessler & Waldo 2006a).

Demonstrating critical thought emerged as a facilitator of IPC in six studies (Chandler 2012, Duchscher 2001, Duchscher 2003, Etheridge 2007, Reddish & Kaplan 2007, Seright 2011). The ability to critically think assisted new graduates to make decisions about how and when to contact physicians, and the type of information to convey (Chandler 2012, Duchscher 2003, Etheridge 2007). According to Chandler (2012) critical thinking was essential during rounds. Reflection about clinical situations was an important critical thinking tool through which new graduate nurses gained confidence (Duchscher 2001, Reddish & Kaplan).

In 46% (*n* = 12) of the studies reviewed, the authors reported that new graduate nurses valued IPC. In other words, the new graduates deemed it important, and this valuing related to their transition and learning needs (Cantrell & Browne 2005, Chandler 2012, Duchscher 2001, Duchscher 2003, Olson 2009, Schwartz *et al.* 2011). With regard to transition, new graduate nurses perceived that developing relationships with other healthcare professionals contributed to belongingness and acceptance by the team (Cantrell & Brown 1005, Olson 2009). IPC was also perceived to be essential in providing quality, patient-centred care (Anderson *et al.* 2009. Chandler 2012, Duchscher 2001, Schoessler & Waldo 2006a, Seright, 2011, Yancey 2005). In particular, advocacy was an interprofessional responsibility that was highly valued by new graduate nurses (Duchscher 2001, Schoessler & Waldo 2006a, Yancey 2005).

Team factors

Respect and trust in the interprofessional team emerged as a facilitator to IPC in 38% of the articles (*n* = 10). In this analysis, respect was characterized by collegial working relationships (Duchscher 2001), wherein members of the healthcare team recognized new graduate nurse contributions (Anderson *et al.* 2009, Ellerton & Gregor 2003, Wright *et al.* 2011). Other authors highlighted the importance of a supportive team environment where new graduate nurses were welcomed (Cantrell & Browne 2005, Olson 2009, Wright *et al.* 2011) and their questions were encouraged (Chandler 2012). Respectful interactions with physicians were cited as facilitators of IPC in seven of the 10 studies (Deppoliti 2008, Duchscher 2001, Ellerton & Gregor 2003, Halfer & Graf 2006, Schwartz *et al.* 2011, Seright 2011, Yancey 2005). In such interactions, questions were

welcomed (Ellerton & Gregor, 2003, Seright 2011), and input was appreciated (Schwartz *et al.* 2011). Experienced staff (Fink *et al.* 2008, Seright 2011, Wright *et al.* 2011), physicians (Ellerton & Gregor 2003, Martin & Wilson 2011), medical students, and other professional colleagues (Yancey, 2005) were reported to boost IPC among new graduate nurses through providing informal support. Although not clearly articulated, being the recipient of informal support was linked with positive practice environments, and evidenced by willingness of the healthcare team to share clinical and experiential knowledge (Chandler 2012, Etheridge 2007, Martin & Wilson 2011, Yancey, 2005). Although only reported in one study, participation in social activities was another source of informal support that enhanced new graduate nurse integration into the interprofessional team (Patterson *et al.* 2010).

Organizational factors

Sixty-one percent of the reviewed studies reported a relationship between formal support and engagement in IPC. Several authors reported benefits to formal programming in IPC (Cantrell & Browne 2005, Deppoliti 2008, Fink *et al.* 2008, Goodwin-Esola *et al.* 2009, Patterson *et al.* 2010, Schoessler & Waldo 2006b), including prescribed orientation programming (Patterson *et al.* 2010), nurse residency programs and externships (Cantrell & Browne 2005). Having a recognized and stable preceptor was reported as a facilitator in several studies (Anderson *et al.* 2009, Chandler 2012, Olson, 2009, Reddish & Kaplan 2007, Wright *et al.* 2011). Nurse mentors who modeled IPC (Anderson *et al.* 2009, Schwartz *et al.* 2011, Seright, 2011) promoted IPC among new graduate nurses. Further, consistent, visible, and accessible managers also supported new

graduate nurse engagement in IPC (Anderson *et al.* 2009), and were reported to protect the new graduate from interprofessional conflict (Seright 2011).

DISCUSSION

This integrative review makes an important contribution to the literature by validating factors associated with collaboration that have been proposed by other scholars (Henneman *et al.* 1995, Herbert *et al.* 2007, San Martin-Rodriguez *et al.* 2005) among new graduate nurses. It also suggests aspects that have not been explored, and may be unique to this population (Table 4). According to Henneman *et al.* (1995), a variety of factors must precede collaboration, including: individual readiness, prior experience, perceived confidence, recognition of the boundaries of one's discipline, communication, respect, and trust. It is not surprising that five of these antecedents are represented in this analysis. Nevertheless, it can be argued that those not noted (readiness, recognition of the boundaries of one's discipline) may be embedded within the factors of valuing and knowledge, respectively.

It is important to note that knowledge and critical thinking do not overtly appear in any conceptual analyses (Henneman *et al.* 1995, San Martin-Rodriguez *et al.* 2005). This is a key finding of this review, as it may relate to the developmental limitations associated with being an advanced beginner (Benner, 2001). It is also important to note that self-confidence, knowledge, experience, communication skills, support, and respect presented as both barriers and facilitators of IPC in the analysis. Given this relationship, one might imply that with intervention, these individual, team, and organizational factors may be altered to promote the successful integration of new graduate nurses into

collaborative practice. Although the analysis was based on weak to moderate literature
quality, implications for team and organizational development, education, and research
are noteworthy and relevant to this review.

Table 4

How do the factors in this review compare with other analyses?

_____

	Henneman *et al.* (1995)	Herbert *et al.* (2007)	San Martin-Rodriguez *et al.* (2005)
Confidence	X	X	
Knowledge			
Experience	X	X	
Communication Skills	X	X	X
Critical Thinking			
Valuing		X	X
Support: formal/informal		X	X
Respect/trust	X	X	X

_____

Implications for team and organizational development

It is essential that organizations and healthcare professionals recognize the
fundamental reality that the new graduate nurse is an advanced beginner (Benner 2001).
Formal support during transition is crucial, and relationships with other healthcare
professionals are essential to professional acculturation (Delaney 2003, Martin & Wilson
2011, Salt *et al.* 2008). Formal support may include various strategies, such as, formal

orientations, externships, nurse residency programs, mentorships and preceptorships.

There is insufficient evidence to conclude that any of these strategies increase retention

among new graduate nurses; however, three to six month preceptorships may be the most

effective (Salt *et al.* 2008). The transition interventions analyzed in this review all

included mentoring in IPC, and were deemed to facilitate IPC among the new graduates.

Stability in the workplace environment (Schwartz *et al.* 2011), and access to unit

leadership (Anderson *et al.* 2009, Patterson *et al.* 2010, Seright 2011) are also

recommended as strategies to enhance engagement in IPC among this group of nurses.

Promoting support demands attention at the team and organizational levels. In

this review, informal support was associated with positive working environments. Given

the positive relationship between supportive work environments and retention of nurses

(Ingersoll *et al.* 2002, Roberts *et al.* 2004), numerous international reports have

highlighted the need to enact strategies to enhance healthy workplaces (Health Canada

2010, Oandasan 2007, Registered Nurses' Association of Ontario 2006), such as violence

prevention programs and mandatory education for all healthcare professionals. Visionary

leaders must foster teamwork and respect in the work environment to promote retention

of new graduate nurses (Laschinger *et al.* 2009a,b, Smith *et al.* 2010).

Implications for education

The findings of this review underscore the shared responsibility of the academic and

institutional sectors to promote IPC among new graduate nurses. Specifically, it

highlights gaps in leadership education, including conflict resolution and delegation. It

also suggests that the new graduate may not possess sufficient knowledge related to the

registered nurse role, and the roles of other healthcare professionals. To better prepare these new nurses for interprofessional practice, these areas should be deliberately addressed in nursing curricula and institutional orientation programs. Where possible, nursing educators are encouraged to facilitate opportunities for learners to engage with professionals from other disciplines as a means of increasing self-confidence, knowledge, and experience in IPC.

Although not a key outcome of any of the literature reviewed in this integrative review, interprofessional education is viewed as a solution to the experiential practice issues related to IPC (Centre for the Advancement of Interprofessional Education 2010, WHO 2010). According to D'Amour and Oandasan (2005a), the competencies associated with interprofessional education include knowledge, skills, attitudes and behaviours. This integrative review suggests that new graduate nurses do possess basic knowledge and skills, and value interprofessional practice. Given these findings, interprofessional education should theoretically solve the educational practice gaps related to IPC. Unfortunately, putting professionals together in academia does not guarantee the practice of IPC (Weinberg *et al.* 2009, Zwarenstein *et al.* 2005). The competencies of interprofessional education fail to account for the contexts within which IPC occurs, and the professional power imbalances that exist in practice settings. Socialization patterns within nursing and with other healthcare disciplines have evolved over centuries, and are impacted by multiple factors, including hierarchies, professional rivalries, differences in gender, culture, language, and education (O'Daniel & Rosenstein 2008). The role of interprofessional education in pre-graduate education requires further

consideration and evaluation.

Implications for nursing research

As previously reported, little is known about how new graduate nurses engage in IPC. The North American published literature includes observational studies and non-research reports that are weak to moderate in quality. This integrative review highlights the need for further research that employs rigorous study designs, valid and reliable instruments, explores engagement with a diversity of healthcare disciplines, and includes new graduate nurses from all healthcare sectors, including the community and long-term care. It also emphasizes the complexity of IPC. That is, the relationships among several factors, namely critical thinking, respect, confidence, and experience are poorly understood. Although the literature hints at some relationships - critical thinking and interprofessional respect may boost self-confidence among new graduate nurses (Delaney 2003, Deppoliti 2008, Duchscher 2003) and experience may enhance critical thinking (Etheridge 2007) – these relationships have not been empirically explored.

Seright's (2011) study was the only article in which the analysis revealed facilitators across all factors, and no barriers toward IPC. Interestingly, this study was also the only study that was solely conducted in a rural setting. Given the challenges to retain healthcare professionals in rural areas, the impact of rurality on new graduate nurse engagement in IPC may warrant further investigation.

Limitations

This integrative review has several limitations. As previously reported, the analysis was based upon two non-research reports, as well as the findings of 24

observational studies whose quality were rated as weak to moderate. Further, the literature sample included only North American (Canadian and U.S.) publications. A sub-analysis of excluded non-North American studies (Table 5) was conducted. Consistent with the outcomes of this integrative review, the findings suggest several factors may influence IPC engagement among new graduate registered nurses who are employed in Europe and Australia. They are: confidence, experience, communication skills, formal support, and informal support. As these factors have been noted in syntheses of IPC that included international literature (Henneman et *al.* 1995, San Martin-Rodriguez *et al.* 2005), the findings are not surprising. Further, they have been reported to be necessary requirements for achieving collaborative practice at a global level (WHO 2010). Although this supports the international relevance of this integrative review, users are encouraged to assess its transferability to practice, education, and research.

More contemporary definitions of IPC (D'Amour *et al.* 2005, WHO 2010) have evolved from historical perspectives (Kraus 1980, Mailick & Jordan 1977), and such terminology is often used interchangeably. This is problematic because lack of clarity in defining concepts can hamper the rigor of an integrative review (Ganong 1987, Whittemore & Knafl 2005). Among the studies analyzed in this review, only one study (Schwartz *et al.* 2011) offered an operational definition of IPC. The analysis also predominantly focused on the new graduate literature, wherein only two studies (Wright *et al.* 2011, Schwartz *et al.* 2011) directly examined processes of IPC as primary outcomes.

Table 5

How do the review findings compare with non-North American studies?

Author	Country	Individual Factors			Team Factors		Organizational Factors
Facilitators		Self-confidence	Knowledge/ Experience	Communication Skills	Informal support	Respect	Formal support
Clark & Holmes (2007)	U.K.		□			□	□
Newton & McKenna (2007)	Australia	□	□		□		□
Maxwell et al (2011)	U.K.	□					
Mooney (2007)	Ireland						
Pigott (2001)	Australia				□		
Wangensteen et al (2008)	Norway	□	□		□		
Whitehead (2001)	U.K	□					
Barriers		Lack of self-confidence	Lack of knowledge/ experience	Lack of communication skills	Lack of informal support	Disrespect	Lack of formal support
Gerrish (2000)	U.K.	□	□	□	□		
Lalani & Dias (2011)	Pakistan		□				
Maxwell et al (2011)	U.K.			□			
Mooney (2007)	Ireland			□			
Newton & McKenna (2007)	Australia		□				
Wangensteen et al (2008)	Norway		□				
Whitehead (2001)	U.K.	□	□				

In the literature sample, the following terms pervaded the literature sample: *healthcare team, interdisciplinary health team members, professional peers, professional colleagues,* and *teamwork.* Although a careful and consistent approach was applied to data extraction, it was impossible to confirm that the authors were referring to IPC when using such terminology. Finally, given the sampling methods and data collection strategies of the included literature, the authors were unable to determine any reliable patterns in the factors influencing new graduate nurse engagement in IPC across healthcare sectors, within units, or over time.

CONCLUSIONS

Whittemore and Knafl's (2005) revised integrative review strategy provided a rigorous framework for analyzing the new graduate nurse literature to arrive at a synthesis of the barriers and facilitators of interprofessional collaboration among new graduate nurses. Despite the limitations noted in the review process, this integrative review offers a foundation upon which future explorations of new graduate nurse engagement in interprofessional collaboration might be constructed. This review also recognizes various complexities, such as team and organizational culture that may challenge the engagement of new graduate nurses in interprofessional collaboration. Nevertheless, the findings suggest that new graduate nurses may wish to exert control over choice of work environment, and implement individual learning plans that support their engagement in interprofessional collaboration.

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CHAPTER THREE

A Mixed Methods Exploration of the Team and Organizational Factors that Predict

New Graduate Nurse Engagement in Collaborative Practice

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Abstract

Although engagement in collaborative practice is reported to support the role transition

and retention of new graduate (NG) nurses, it is not known how to promote collaborative

practice among these nurses. This mixed methods study explored the team and

organizational factors that predict NG nurse engagement in collaborative practice. A total

of 514 NG nurses across the province of Ontario, Canada completed the Collaborative

Practice Assessment Tool. Sixteen NG nurses participated in follow-up interviews. The

team and organizational predictors of NG engagement in collaborative practice were:

satisfaction with the team ($\beta = .278$; $p = .000$), number of team strategies ($\beta= .338$; p =

.000), participation in a mentorship or preceptorship experience ($\beta = .137$; $p = .000$),

accessibility of manager ($\beta = .123$; $p = .001$), and accessibility and proximity of educator

or professional practice leader ($\beta = .126$; $p = .001$ and $\beta = .121$; $p = .002$, respectively).

Qualitative analysis revealed the team facilitators to be respect, team support and face-to-

face interprofessional interactions. Organizational facilitators included supportive

leadership, participation in a preceptorship or mentorship experience, and time.

Interventions designed to facilitate NG engagement in collaborative practice should

consider these factors.

A Mixed Methods Exploration of the Team and Organizational Factors that Predict

New Graduate Nurse Engagement in Collaborative Practice

The recruitment and retention of registered nurses remains a global health and human resources priority (International Council of Nurses [ICN], 2006). Maintaining a consistent supply of new graduate (NG) nurses is a key recommendation in health human resource strategies that address the nursing shortage (Baumann, Blythe, Cleverley, & Grinspun, 2006). Despite increased enrolments to nursing programs (American Association of Colleges of Nursing, 2009; Baumann, Hunsberger, & Crea-Arsenio, 2011), researchers have reported NG nurse burnout, with rates between 30% and 66% in the first two years of practice (Beecroft, Dorey, & Wenten, 2008; Bowles & Candela, 2005; Cho, Laschinger, & Wong, 2006). Emerging evidence suggests that NG nurse engagement in collaborative practice may support the transition of NG nurses (College of Registered Nurses of British Columbia 2005), and enhance retention in the workplace (World Health Organization [WHO], 2010). In spite of these reports, nursing students continue to receive minimal pre-graduate exposure to collaborative practice (Fink, Krugman, Casey, & Goode 2008; Olson, 2009). The purpose of this paper is to describe the team and organizational factors that promote NG nurse engagement in collaborative practice. Study results may inform strategies that enhance NG retention within the nursing workforce.

Although often used synonymously with teamwork, the definition of collaborative practice is wider in range. It refers to multiple healthcare providers from different professional backgrounds who work together to deliver quality care to patients, families,

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and communities across various care sectors and settings (WHO, 2010). Nevertheless, this terminology is not clearly defined in the NG nurse literature. Rather, interactions with nursing staff and physicians are primarily reported in these studies, and the preponderance of this evidence results from studies conducted in acute care settings. That is, there is minimal exploration of NG nurse collaboration within a diverse team of healthcare professionals, and across various care sectors. A recent integrative review of the NG literature (Pfaff, Baxter, Jack, & Ploeg, 2012) suggests that informal support, respect, and trust are key team facilitators of NG nurse engagement in collaborative practice. Although the review's literature sample included studies that were ranked as weak to moderate in quality, several authors reported a relationship between a supportive team environment and a sense of belonging (Cantrell & Browne 2005; Olson, 2009; Wright, Lavoie-Tremblay, Drevniok, Racine, & Savignac, 2011). New graduate nurses described this informal support as a sense of collegiality within the healthcare team (Duchscher, 2001), and toward the NG nurse (Anderson, Linden, Allen, & Gibbs, 2009; Ellerton & Gregor, 2003; Wright et al., 2011).

Organizational mechanisms designed to ease NG nurse transition may also support engagement in collaborative practice. Reported to be of benefit are: prescribed orientation programming (Cantrell & Browne 2005; Deppoliti, 2008; Fink et al., 2008; Goodwin-Esola, Deely, & Powell, 2009; Patterson, Bayley, Burnell, & Rhoads, 2010; Schoessler & Waldo 2006), and preceptorships or mentorships (Anderson et al., 2009; Chandler, 2012; Olson, 2009; Schwartz, Wright, & Lavoie-Tremblay, 2011; Seright, 2011; Wright et al., 2011). The literature also proposes a relationship between visible,

available, and accessible managers (Anderson et al., 2009; Seright, 2011) and collaborative practice.

It is important to note that none of the aforementioned relationships have been directly studied. Rather, they are reported as secondary findings of studies, and recommendations of authors who have examined NG nurse transition. Better understanding the team and organizational predictors of NG nurse engagement in collaborative practice may inform the development and testing of interventions that facilitate collaborative practice among NG nurses, thus supporting the successful transition and retention of the NG nurse workforce.

Aim

This paper reports the findings of a mixed methods study designed to address the following overarching research question: What team and organizational factors promote NG nurse engagement in collaborative practice across various healthcare sectors? The quantitative and qualitative phases were guided by the following research questions, respectively:

1. What team and organizational factors predict NG nurse engagement in collaborative practice across various healthcare sectors?

2. What team and organizational factors do NG nurses describe as facilitating their engagement in collaborative practice?

Methods

A mixed methods design was deliberately selected for its ability to comprehensively address the exploratory and explanatory research questions posed in this

study (Teddlie & Tashakkori, 2009) that could not be addressed by a singular method. A two-phased explanatory sequential mixed methods design (QUAN $\longrightarrow$ qual) was employed (Creswell & Plano Clark, 2007). This design is particularly appropriate when participant characteristics in the quantitative phase will guide the purposeful sampling for the qualitative phase (Creswell & Plano Clark).

Phase one consisted of a non-experimental exploratory cross-sectional survey of NG nurses in Ontario, Canada. The second phase involved a qualitative study. Its purpose was to explain and expand upon the findings of the quantitative phase of the study (Teddlie & Yu, 2007). Thorne's (2008) interpretive descriptive method was used to inform the methodological decisions in the qualitative phase. This method is valuable when the researcher has a practice goal, and an understanding of what is known and not known about the phenomenon of interest. An audit trail was maintained to document the decision-making related to all research steps taken in this study, and researcher triangulation was promoted through frequent team meetings.

Sampling

Following ethics approval from two university institutions, NG nurses were recruited by mail survey. The mailing list was obtained from the College of Nurses of Ontario, and it included all NG nurses who were newly registered in the province of Ontario, Canada between 2009 and 2011. The final sample ($n = 514$; response rate = 43%) included respondents who represented variation in geographical location across the province. They had graduated from a baccalaureate nursing program, and had been employed in a registered nurse position for three years or less. This liberal time frame

was applied to recognize the complex process of collaborative practice (D'Amour, Ferrada-Videla, Martin-Rodriguez, & Beaulieu, 2005), and the theoretical time frame required for NG nurses to achieve competence in collaborative practice (Benner, 2001). The final sample included NG nurses who were employed across the acute, community, and long-term care sectors.

Qualitative sampling procedures were purposeful, and included criterion, maximum variation and snowball sampling strategies. Thirteen participants were deliberately recruited from the quantitative sample. These participants had completed the quantitative survey, and were purposely selected based on varying levels of confidence in collaborative practice ('*extremely confident*' to '*not at all confident*'), as reported in the quantitative survey. Three additional participants were recruited through snowball sampling, thus they had not completed the quantitative survey but were asked to indicate their perceived level of confidence in collaborative practice. These three participants, along with a participant who had completed the survey, were purposely recruited to review and provide feedback on the final themes.

The final qualitative sample included 16 NG nurses from various geographical locations in Ontario, and who were employed in a range of healthcare settings. It represented three care sectors: acute care ($n = 9$), community ($n = 4$), and long-term care ($n = 3$). The distribution of the sample with regard to confidence was: extremely confident ($n = 2$), very confident ($n = 2$), confident ($n = 6$), non-confident ($n = 4$), and extremely non-confident ($n = 2$).

Data Collection

Data collection for both phases of the study was conducted between April and December of 2012. The quantitative data were collected by mail survey. To maximize return rate, the Dillman (2000) technique was employed. Three mailings were carried out: (a) the initial mailing; (b) a reminder card at three weeks following the initial mailing, and; (c) a second follow-up package to all unresponsive recipients of the initial survey at three weeks following the reminder card. The survey consisted of two sections: a demographic questionnaire, and the Collaborative Practice Assessment Tool (CPAT) (Queen's University, 2009). The CPAT was used to measure the perceived engagement of NG nurses in collaborative practice. It has been used in a variety of practice settings and sectors, and is useful for identifying interventions that may enhance collaborative practice (Schroder et al., 2011). The instrument includes 56 items across nine domains: general relationships, team leadership, general role responsibilities/autonomy, communication and information exchange, community linkage and coordination of care, decision making and conflict management, perceived effectiveness, and patient involvement. Responses are measured along a seven-point scale ranging from the lowest value of 1 = '*strongly disagree*' to the highest value of 7 = '*strongly agree*.' Schroder and colleagues (2011) report acceptable reliability with Cronbach alpha scores ranging from 0.73 to 0.90. The researchers also report satisfactory measurement of the collaborative practice dimensions for which the CPAT was developed. In this study, the overall reliability statistic for the CPAT was 0.95 with alpha scores ranging between 0.72 and 0.92.

To explain the quantitative findings, subjective data were gathered from survey participants who had indicated interest in a follow-up interview, as collected in the quantitative study consent process. A semi-structured interview guide was developed based upon the research question and a review of the literature. This guide was pilot-tested with three NG nurses and modified based on their feedback. In-depth, individual interviews were conducted by telephone as geographic location of the participants precluded face-to-face interviews. Consent was obtained prior to each interview. Interviews ranged from 45 to 60 minutes in length, and were audio-recorded. Field notes were documented during and immediately following each interview; relevant notes were considered data, and included in the analysis and interpretation of the findings. At interview completion, participant responses were summarized to gain feedback and validate descriptions.

Data analysis

The SPSS 18 statistical software package was used to analyze the quantitative data. Data analysis procedures included: descriptive statistics (frequencies, means, standard deviations), student *t*-tests (for categorical data, such as gender and working in more than one care sector), Pearson correlation (for continuous data, such as age, months of experience) and analyses of variance (to compare continuous data, such as CPAT scores, across care sectors). Multiple linear regression was conducted to determine the team and organizational predictors of NG engagement in collaborative practice. Prior to analysis, the database was appropriately screened for missing data, outliers and normality, and treated appropriately (El-Masri & Fox-Wasylyshyn, 2005). When exploring the

cleaned data, a number of variables were not normally distributed (satisfaction with professional team, accessibility of educator or professional practice leader, proximity of educator or professional practice leader, accessibility of manager, proximity of manager). Transformation of the variables failed to achieve normality; therefore, these variables were dichotomized in order to meet the assumptions of the multiple linear regression. All variables that had a significant relationship with the outcome variable at alpha $\leq$ .25 were included in the regression equation. Given the exploratory nature of the research question, a stepwise approach was used.

Qualitative data analysis was conducted concurrently with data collection (Patton, 2002). It was focused by the qualitative research question, and organized in three flows of activity: data reduction, data display, and conclusion drawing/verification (Miles & Huberman, 1994). The data were transcribed verbatim. Three transcripts were read and individually coded by two members of the research team. Prior to coding, all data were thoroughly read several times, line-by-line (Creswell, 2007; Patton 2002). A codebook was established to support the coding process; however, codes were constantly modified to best fit the data (Crabtree & Miller, 1999), and care was taken to avoid early and excessive coding (Thorne, 2008). The NVivo 10 software was also used to enhance the retrieval and qualitative coding processes. Once data redundancy was evident, the codes were clustered and reduced through categorical aggregation. To avoid premature closure in the conclusion and verification phase, patterns within the data were explored by considering alternative explanations and variations.

Following the quantitative and qualitative data analyses, the data were merged in a

side-by-side process (Creswell & Plano Clark, 2007). Using this method of triangulation, the themes identified in the qualitative analysis were interpreted within the context of the quantitative findings (Morse, 2010), and used to explain the team and organizational predictors of NG nurse engagement in collaborative practice.

Results

The quantitative and qualitative findings are reported in separate sections. Tables 1 and 2 summarize the sample characteristics and the multiple linear regression findings. Table 3 provides a merged summary of the quantitative and qualitative findings, and these are interpreted in the discussion section.

Quantitative Findings

The mean age of the quantitative sample was 29 years (SD $\pm$ 6.28). The majority of participants were female ($n = 477$; 92.8%). The average length of employment as a NG nurse was 22.13 months (SD $\pm$ 10.6), with 79.6% ($n = 409$) of participants working in the acute care sector. The participants reported moderately high levels of engagement in collaborative practice (M = 5.35; SD = .68). There was no significant difference in perceived level of engagement across care sectors.

The overall regression model was statistically significant ($r^2 = .299$, $F = 44.69$; $p = .000$), and it explains 30% of the variance in team and organizational facilitators of NG nurse engagement in collaborative practice. The analysis suggests that the team and organizational predictors of NG nurse engagement in collaborative practice are: satisfaction with the team ($\beta = .278$; $p = .000$), number of team strategies ($\beta = .338$; p = .000), participation in a mentorship or preceptorship experience ($\beta = .137$; $p = .000$),

accessibility of manager (β = .123; p = .001), and accessibility and proximity of educator

or professional practice leader (β =.126; p = .001 and β =.121; p = .002, respectively).

Table 1

Sample characteristics

Variable	M $\pm$ SD	*n* (%)
Age	29.04 $\pm$ 6.28	
Months Employed	22.13 $\pm$ 10.6	
Gender		
Female		477 (92.8)
Male		37 (7.2)
Sector Employed*		
Hospital		409 (79.6)
Community		136 (26.5)
Long-term care/Other		67 (13.0)
Sector Worked Most Often		
Hospital		386 (75.1)
Community		95 (18.5)
Long-term Care/Complex Continuing Care		33 (6.5)

N = 514
*NG nurses employed in >1 sector

Table 2

Team and organizational predictors of NG nurse engagement in IPC

Variable	B	S.E.	*ß*	*P*
Satisfaction with professional team	1.128	.151	.278	.000*
Accessibility of nurse educator	.297	.092	.126	.001*
Proximity of nurse educator	.246	.079	.121	.002*
Accessibility of nurse manager	.218	.076	.123	.001*
Number of team strategies	.127	.014	.338	.000*
Mentorship or preceptorship	.226	.062	.137	.000*

Outcome = CPAT
*significant at $\leq$ .01

Qualitative Findings

Six qualitative themes were validated by four participants, and classified as: (a) team factors and (b) organizational factors. Team factors include: respect, team support and opportunities for face-to-face interactions. The organizational factors relate to supportive leadership, participation in a mentorship or preceptorship, and scheduled time for collaborative practice. Pseudonyms were applied to all exemplar quotes.

Team factors

In this study, respect from other members of the healthcare team was important to NG nurses across all care settings. It was also deemed a requisite factor for healthy interprofessional relationships and engagement in collaborative practice. The NG nurses described respect as behaviours by other healthcare disciplines that were collegial in manner, regardless of professional designation, role or tenure within the unit or

organization. One NG nurse working in an acute care setting explained her experience with collaborative practice: "*I think with my experience…we, everybody really respects each other. There's never anybody who is looking at you like oh you know you're new…whether it's an RPN or a dietitian or an RN or whoever*" (Kara). In addition to collegial relationships, NG nurses described respect as an awareness and understanding by the interprofessional team members of the knowledge and experiential gaps of the new graduate. This respect increased comfort when engaging with other healthcare professionals because it decreased the pressure of needing to have the answers. A community NG nurse reported her perspectives regarding engaging with the interprofessional team: "*I was exposed to other people's interactions from my first day. I noticed it's okay to say,' Unfortunately I don't have [the] information'…They* [the interprofessional team professionals] *don't demand it from you to know everything about every client*".

Support from interprofessional team members was a central team factor that facilitated NG engagement in collaborative practice. NG nurses described supportive behaviours by team members, such as physiotherapists, physicians, and social workers, who assisted their learning needs related to collaborative practice. These behaviours largely included the sharing of discipline-specific knowledge and experience, and helped the NG nurses to understand the scopes of practice of other disciplines of healthcare professionals.

> *I think because everybody, all different professions, are told that you're a new*
>
> *graduate…they know that you're in that kind of learning role. The other*

professions kind of take you under their wings as well and do more to explain their role (Julie, acute care).

Leadership within the team was also a significant source of support for NG nurses in this study. Team leaders included charge nurses and seasoned staff members. NG nurses perceived that these individuals had expert knowledge of the interprofessional care plan. These team leaders also supported decision-making related to when and how to consult another healthcare professional: *So when you are kind of thinking to yourself, 'Is it worth me calling the team?'...that person can help facilitate your thought. You know, sometimes you're not clear on what you're thinking or what you're trying to say"* (Laura, acute care).

The NG nurses reported a number of communication mechanisms and opportunities that supported their engagement in collaborative practice. These included both verbal and written strategies, such as telephone, e-mail, and progress notes. Nevertheless, face-to-face interactions, including interprofessional rounds, care conferences, and team meetings, were more frequently reported as facilitators of their engagement in collaborative practice. One acute care NG nurse commented on how rounds supported her knowledge of the interprofessional plan of care:

What I found works well are bullet rounds [interprofessional rounds]*...If they didn't have those bullet rounds I'd feel like I'd be completely left in the dark as to what the other professions are thinking would be the next step for that patient.*

Informal sharing and exchanges were reported as a second face-to-face strategy through which engagement in collaborative practice was supported among NG nurses:

"Face-to- face is always ideal…if I see one of them [healthcare professional] I usually

see them at the nursing station…You just talk, chat" (Adam, long-term care). These

interactions typically involved sharing of information related to a client need, and

occurred in a variety of environments, including patient rooms, hallways, and work areas.

Organizational Factors

Supportive organizational leadership was perceived to be an important facilitator

among NG nurses in this study. Administrators and managers played a key role in

guiding and supporting NG nurse engagement in collaborative practice by promoting

positive team relationships through regular team meetings and supporting the learning

needs of NG nurses. One NG nurse working in the community commented on how her

manager encouraged her learning related to collaborative practice: *"We have learning*

plans so our manager actually suggested that may be a good idea for some of us to put

that [collaborative practice] on our learning plan". Several of the NG nurses in this

study looked to the manager for assistance with interprofessional conflict resolution. One

acute care NG revealed the following experience:

> *"I actually went to my manager about this [interprofessional practice concern]*
>
> *first and then she kind of helped get everybody involved. She's most visible when*
>
> *we have the conflicts because at that point some of us are not sure what to do"*.

Access to formal preceptorships and mentorships facilitated engagement in

collaborative practice among NG nurses who participated in these transition programs: *"I*

had my mentor right there [to support collaborative practice] so I mean that was

fabulous" (Jan, long-term care). Preceptors and mentors guided and supported the NG

nurse in the practical aspects of collaborative practice, such as navigating the interprofessional reporting structure within the organization. They actively sought out opportunities for the NG to interact with other healthcare professionals within the organization and the team, and guided the NG nurses in identifying client issues and articulating the messages to be conveyed to other team professionals. As described by an acute care NG nurse: "*She got me right in there with everyone [interprofessional team]. Like she had me giving reports. She had me participating in rounds… she had me doing all of the calls…so that I got comfortable with everyone really quickly*".

Although face-to-face communication was described as a team facilitator of NG nurse engagement in collaborative practice, NG nurses also reported that having time to collaborate was a significant challenge, regardless of setting or sector. Where organizations provided time away from client care or other work responsibilities to collaborate with other healthcare professionals, NG nurses perceived enhanced engagement in collaborative practice.

What we've started to do at our clinic is actually book in these conferences where we can keep a running list of patients…and then discuss them then…Those little things get put on the back burner because we don't have the time to sit and chat about specific patients unless there's actually time booked in for that (Jane, community).

Without scheduled time, some acute care NG nurses reported forgoing breaks to "make the time" to attend interprofessional rounds. Others reported being unable to participate due to workload, or being stressed to find the time to engage with other disciplines.

Discussion

This mixed methods study provides a new and comprehensive understanding of the team and organizational factors that support NG nurses as they navigate the unfamiliar roles and responsibilities associated with collaborative practice. It is also unique in that it explores the phenomenon with NG nurses across care sectors. Thus, it offers findings that are relevant to a broad range of settings where NG nurses are employed.

Overall findings

In teams and organizations where organizational leadership is accessible, a number of team strategies are employed, and NG nurses perceive satisfaction with the professional team, NG nurse engagement in collaborative practice is facilitated. Nevertheless, a significant percentage of engagement in collaborative practice (70%) is not explained by these quantitative findings. As summarized in Table 3, this variance is best explained by relationships that were not explored in the quantitative survey. For example, scheduled time for collaboration and attributes of collaboration, such as respect, were not directly measured in the mailed survey. Yet, NG nurses reported that these factors facilitated collaborative practice. Further, where variables such as team strategies and satisfaction with the professional team predict NG engagement in collaborative practice, their contextual impact on collaborative practice could not be explained by the survey findings alone.

The overall findings highlight the complex nature of collaborative practice (San Martin-Rodriguez, Beaulieu, D'Amour, & Ferrada-Videla, 2005) that is better understood

by using a combination of research methods. In this study, the quantitative findings were explained through the voices of the NG nurses. As described by NG nurses, respect and team support helped to facilitate their engagement in collaborative practice. Although this relationship is well recognized (D'Amour et al., 2005; Henneman, Lee, & Cohen, 1995), these findings offer new insight into how team satisfaction is perceived by NG nurses. That is, interprofessional respect for the 'newness' of the NG nurse, coupled with the willingness of healthcare professionals to share their discipline-specific knowledge, may be basic NG nurse satisfiers with regard to the team itself.

Although the quantitative findings suggest that available and accessible professional practice leaders predict NG nurse engagement in collaborative practice, this finding was not corroborated by the qualitative data analysis. That is, this finding was not confirmed by NG nurses, across all care sectors. The quantitative findings may be explained by a large representation of acute care NG nurses in the quantitative sample, who were more likely to have access to a professional practice leader. As reported by interview participants, professional practice leaders and educators were not part of the human resources structure in many long-term care facilities, community agencies and small, rural hospitals.

Table 3

Overall findings

	Quantitative Findings	Qualitative Findings	Merged Findings
Team Factors	Number of team strategies	Face-to-face interactions: • Formal • Informal	Respect, support, opportunities • Team • Interprofessional
	Satisfaction with team Access and proximity to unit/team educator	Respect for the NG nurse Team Support	
Organizational Factors	Access to nurse manager Preceptorship or mentorship	Supportive leadership Preceptors and mentors as role models Time	Organizational resources • Leadership • Quality preceptor and mentor programs

Implications for Interprofessional Practice and Research

This study legitimately supports the development and implementation of team and organizational interventions that may enhance the engagement of NG nurses in collaborative practice. A continued need to cultivate positive practice environments is emphasized (ICN, 2007), with a particular recommendation that team and organizational cultures promote respect for the NG nurse whose pre-graduate experience with collaborative practice is limited. Healthcare professionals from all disciplines must demonstrate caring and respectful attitudes when interacting with this novice population of healthcare providers. This is particularly essential when addressing issues of conflict or negotiating care decisions. Equally necessary is a willingness among all professionals to exchange knowledge with the NG nurse, with an emphasis on communicating and clarifying scopes of practice. NG nurses should be encouraged by all interprofessional team members to participate in opportunities that broaden their experience related to collaborative practice. Optimal milieus include interprofessional rounds, and formal and informal reports and exchanges.

Formally connecting the NG nurse with team and organizational leadership is promoted as a key strategy to facilitate collaborative practice among NG nurses. These relationships have been shown to provide support, role-modeling, and socialization within the interprofessional team (Anderson et al., 2009; Schwartz et al., 2011; Seright, 2011). Providing opportunities for NG nurses to experience a variety of team strategies, particularly face-to-face interactions with a variety of care providers, is suggested. These encounters may provide a mechanism for NG nurses to advance their knowledge, skill,

and confidence by 'watching and listening' to the interactions of others, and eventually learning to have an active voice on the interprofessional team (Schwartz et al., 2011).

Institutions and agencies across all care sectors are urged to integrate formalized preceptorships or mentorships for NG nurses. Numerous studies support these processes as important transition strategies for NG nurses (Anderson et al., 2009; Chandler, 2012; Olson, 2009; Schwartz et al., 2011; Seright, 2011; Wright et al., 2011), and this study highlights their positive influence on collaborative practice. Although the terms *preceptorship* and *mentorship* are often used synonymously, they differ with regard to role formalization (Registered Nurses' Association of Ontario, 2006). The successful ingredients of such programs are also not clear (Salt, Cummings, & Profetto-McGrath, 2008). Preceptorships and mentorships may promote collaborative practice by linking the NG nurse with an 'insider' (Schwartz et al., 2011) whose role modeling promotes assimilation of the mentee into the organizational culture (Major, Kozlowski, Chao, & Gardner, 1995).

The NG nurse literature identifies a number of orientation strategies that support the transition needs of NG nurses and may promote collaborative practice (Cantrell & Browne 2005; Deppoliti, 2008; Fink et al., 2008; Goodwin-Esola et al., 2009; Patterson et al., 2010; Schoessler & Waldo 2006). Interestingly, neither the quantitative nor qualitative data suggest any positive relationship between participation in a formal orientation and NG nurse engagement in collaborative practice. Very few NG nurses reported orientations that included programming specific to collaborative practice, and such curriculum may be an essential component of formal orientations that promote

collaborative practice among NG nurses. This gap highlights the need for all healthcare professionals to formally and informally interact with NG nurses, as a means of supporting their engagement in collaborative practice.

The findings of this study should be considered when designing and testing interventions that support NG nurse engagement in collaborative practice. As previously discussed, further research is needed to better understand how preceptorship and mentorship programs should be designed and delivered to best promote NG nurse engagement in collaborative practice. Future inquiries should also explore discipline-specific factors that influence NG nurse engagement in collaborative practice, and the relationship between NG engagement in collaborative practice and the retention of NG nurses in the nursing workforce. This latter relationship is not currently known, and this new evidence could inform policies and practices related to collaborative practice and nurse retention.

Limitations

There are inherent limitations associated with the design of this study. Given the descriptive nature of the study's design, no causation can be inferred from its findings. Despite a rigorous recruitment approach, the quantitative survey response rate may have been influenced by two factors: (1) the NG transition period is known to be stressful; therefore, participation in the study may not have been valued, and; (2) a lack of updated mailing addresses in the CNO database resulted in 64 surveys that were not deliverable. Selection bias and reactivity were unavoidable in this study. Thus, it is possible that NG nurses who are motivated to work in an interprofessional manner may have chosen to

participate in the study, and participant responses may not be consistent with actual levels of NG nurse engagement in collaborative practice. In the qualitative exploration, participants were asked to recollect specific interactions with other healthcare professionals, and may not have clearly remembered the circumstances or events surrounding these experiences. Finally, telephone interviews did not provide the researcher with visual observation of participant body language that may have contributed valuable data.

Conclusions

The retention of NG nurses must be seriously considered in all health human resource strategies that address the current nursing shortage, the retention, and burnout of NG nurses. This study informs team and organizational strategies that may promote NG nurse engagement in collaborative practice, across all care sectors. Across all care sectors, priority should be given to strategies that promote accessible leadership, quality preceptorship and mentorship models, and the integration of face-to-face team strategies within a supportive team and organizational environment. Further research is needed to more clearly understand the relationship between NG nurse engagement in collaborative practice and retention.

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CHAPTER FOUR

Exploring New Graduate Nurse Confidence in Interprofessional Collaboration:

A Mixed Methods Study

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Abstract

Background: Confidence is required for effective engagement in interprofessional collaboration. New graduate nurses often lack confidence in interprofessional interactions, and this may compromise the delivery of safe and effective healthcare.

Objectives: The overall objective of this study was to explore new graduate nurse confidence in interprofessional collaboration.

Design: An explanatory sequential mixed methods design was used.

Participants: New graduate nurses from Ontario Canada (N = 514) completed a cross-sectional descriptive survey in 2012. The survey measured perceived confidence in interprofessional collaboration, and it included items that were proposed to have a relationship with new graduate nurse confidence in interprofessional collaboration. Follow-up qualitative telephone interviews were conducted with 16 new graduate nurses.

Results: The quantitative findings suggested that several factors have a positive relationship with new graduate nurse confidence in interprofessional collaboration: availability and accessibility of manager, availability and accessibility of educator, number of different disciplines worked with daily, number of team strategies, and satisfaction with team. The qualitative phase supported the quantitative findings and also provided new information about factors that facilitated and challenged new graduate nurse confidence when engaging in interprofessional collaboration. The facilitators were: experience, knowledge, respect, supportive relationships, and opportunities to collaborate. Challenges included: lack of experience, lack of knowledge, communication challenges, and balancing practice expectations. The overall findings relate to team and organizational support, and new graduate nurse development.

Conclusion: Interventions that provide support for interprofessional collaboration at the team and organizational levels, and develop new graduate nurse knowledge and experiences regarding collaborative practice, are essential for enhancing new graduate nurse confidence in interprofessional collaboration.

Key words: interprofessional collaboration, interprofessional relations, cooperative behaviour, new graduate nurse, mixed methods, confidence

Summary Statement

What is already known about this topic?

- There is strong international evidence that interprofessional collaboration improves the delivery of healthcare and results in better healthcare outcomes.

- Confidence is a precursor for interprofessional collaboration; however new graduate nurses often lack confidence in professional practice activities, including collaborative practice.

What this paper adds

- This mixed methods study provides credible evidence about the important role that team and organizational leaders have in supporting new graduate nurses to confidently engage in collaborative practice.

- Opportunities for new graduate nurses to interact with a variety of interprofessional healthcare professionals, and within respectful work environments, are essential to facilitate new graduate nurse confidence in interprofessional collaboration.

- Academic institutions and healthcare institutions should partner in the development of knowledge and experiences in interprofessional collaboration for nursing students and new graduate nurses.

Exploring New Graduate Nurse Confidence in Interprofessional Collaboration:

A Mixed Methods Study

1. Background

There is continued international emphasis on improving processes that promote safe and quality healthcare. Interprofessional collaboration (IPC) is reported to play an important role in this global health priority by improving the delivery of healthcare and reducing patient morbidity and mortality (World Health Organization [WHO], 2010). Confidence in engaging with other professional disciplines is a theoretical requisite for IPC (Henneman et al., 1995). Lack of confidence can negatively impact competent nursing practice (Ulrich et al., 2010) and impede collaborative behaviours (Henneman et al., 1995). In the case of new graduate (NG) nurses, numerous studies have reported that these nurses lack confidence in IPC (Boswell et al., 2004; Casey et al., 2004; Fink et al., 2008) and may deliberately avoid interactions with other healthcare professionals (Dyess & Sherman 2009). The purpose of this study was to explore the confidence of NG nurses to engage in IPC and the factors associated with this confidence. The findings may inform strategies to promote NG nurse confidence in IPC, thus supporting the quality and safety of care provided by these nurses.

The first year of nursing practice is challenging for many NG nurses, particularly as they strive to build confidence in their professional practice. Although many NG nurses report confidence at hire (Casey et al., 2004; Chernomas et al., 2010), this confidence often wanes in the first month of practice (Casey et al., 2004; Etheridge 2007; Fink et al., 2008) and may not recover until the end of the first year in practice (Duchscher 2001;

Dyess & Sherman 2009; Olson, 2009). Unfortunately, most academic programs provide limited opportunities for nursing students to develop a sense of confidence in IPC (Fink et al., 2008; Olson, 2009). This gap in preparation may also continue into the transition period. A review of published NG transition programming suggests a disparity among many transition curricula with regard to IPC (Rush et al., 2013), and this may fail to adequately prepare NG nurses for collaborative practice.

For the NG nurse, this lack of preparation in IPC can result in challenges. Although the majority of NG nurses acknowledge the importance of teamwork (Greenwood, 2000; Rochester & Kilstoff, 2004), they report an overall lack of confidence with physician communication and delegation of care to ancillary staff (Dyess & Sherman, 2009; Fink et al., 2008; Olson, 2009). While most NGs expect that confidence in IPC will improve with experience (Boswell et al., 2004; Ramritu & Barnard, 2001), this performance gap is concerning and requires supportive intervention. A comprehensive understanding of the factors that influence NG confidence in their ability to engage in IPC is not currently known, but is required to better equip NG nurses to deliver safe, quality healthcare.

2. Design and methods

An explanatory sequential mixed methods design (QUAN $\longrightarrow$ qual) was used (Creswell & Plano Clark, 2007) to explore the confidence to engage in IPC among NG nurses who were employed in the acute care, community and long-term care/complex continuing care sectors. The aim of the quantitative phase was to identify the factors that influence NG nurse confidence in IPC. The purpose of the qualitative phase was to explain and expand upon these factors. An exploratory survey of NG nurses across the

province of Ontario, Canada was conducted in phase one of the study. In phase two,

qualitative telephone interviews were conducted with 16 NG nurses. An interpretive

descriptive method (Thorne, 2008) was used to direct the collection analysis and

interpretation of the qualitative data. Thorne's (2008) method can assist researchers to

develop new insights and potential applications of the research findings. All data were

collected between April and December of 2012. The research team met regularly

throughout this time frame to discuss and document the steps taken in this research

project.

2.1 Quantitative phase: mailed survey

The quantitative phase was guided by the following research question: *What*

factors influence perceived confidence to engage in IPC among NG nurses who are

employed in various healthcare sectors? Written surveys were mailed to 1556 NG nurses

whose mailing addresses were obtained from the College of Nurses of Ontario (CNO), the

regulatory body for all professional nurses in Ontario, Canada. The survey was designed

by the researchers and based on a theoretical and empirical review of the literature. It

solicited participant responses related to demographic information, and factors that were

proposed to influence confidence toward IPC, such as length of employment, number of

different disciplines worked with daily, and having a preceptored or mentored clinical

experience. The following item measured new graduate nurse confidence in IPC: *"How*

confident do you feel collaborating with other healthcare professionals on your team?"

Responses were ranked on a 5-point Likert-type scale and ranged from *1 = extremely*

non-confident to *5 = extremely confident*. To maximize the response rate, reminder cards

and follow-up packages were sent to unresponsive participants (Dillman, 2000). After

discarding surveys that did not meet inclusion criteria, the final sample included 514 NG

nurses. The response rate was 43% (Figure 1).

2.2. Qualitative phase: interviews

The qualitative phase was guided by the following research question: *As described*

by NG nurses what factors facilitate and challenge confidence to engage in IPC among

NG nurses who are employed in various healthcare sectors? A semi-structured interview

guide was used to focus the interviews. Interviews were conducted by telephone and

ranged from 45 to 60 minutes. Participants were reminded of their self-reported

confidence level on the quantitative survey and invited to describe the factors that

influenced their confidence in IPC. The interviews were flexible, and probes were used

to clarify participant responses and draw out further information that might explain the

quantitative findings. Interviews were digitally recorded, and field notes were kept to

capture researcher insights. Data collection continued until data redundancy was

achieved.

2.3. Sample

2.3.1. Survey respondents

The quantitative sampling frame was obtained from the registration database of

the College of Nurses of Ontario (CNO). It included the mailing addresses of 1556 NG

nurses who had registered with the CNO for the first time between 2009 and 2011.

Inclusion was also limited to individuals who had graduated from a baccalaureate

program in nursing, and had three years or less employment experience in a registered

Figure 2

Flow diagram of quantitative phase recruitment

NGN mailing addresses
received from CNO

N = 1603

Addresses removed = 47
(not Ontario)

N = 1556 surveys sent

Total surveys returned

n = 669

Response rate = 43%

Ineligible surveys removed
n = 126 (did not meet
inclusion)
n = 29 (missing data)

Eligible surveys = 514
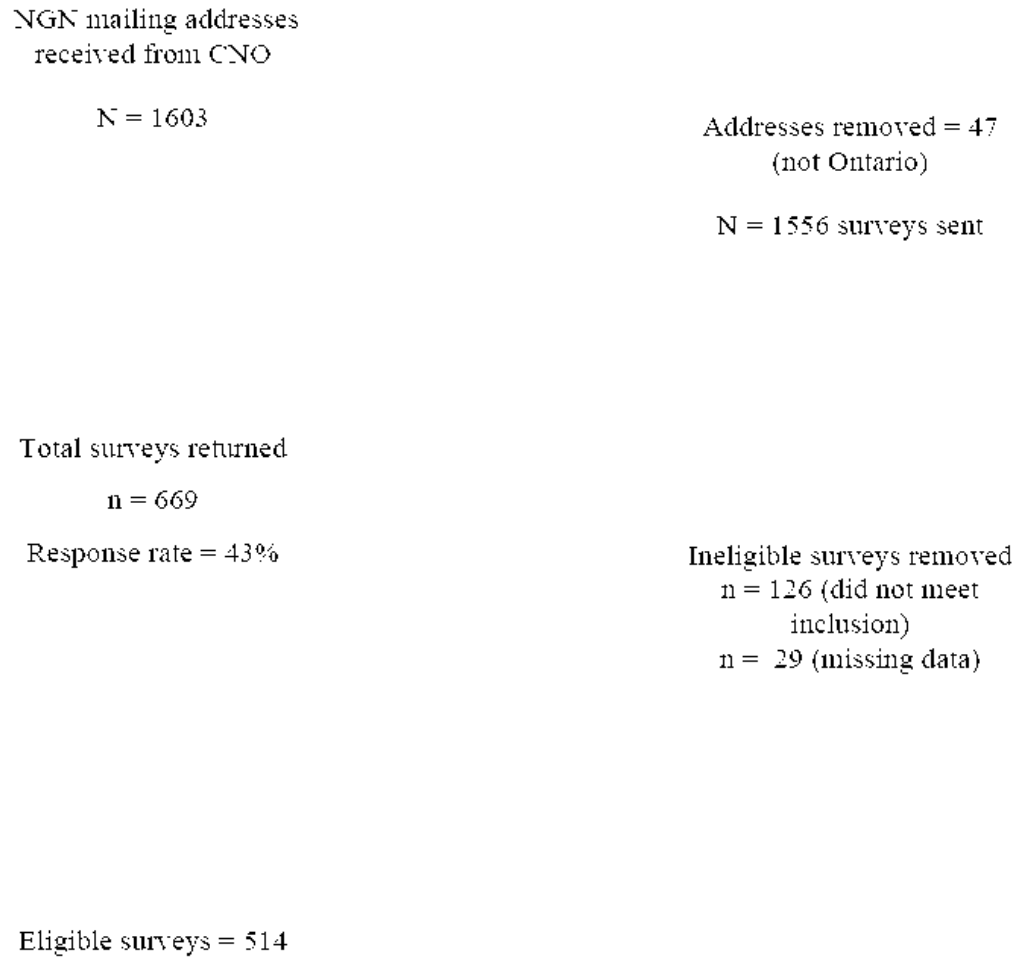
Note: n = 61 survey packages returned via Canada Post as NGN no longer residing at mailing address and no forwarding address available.

nursing position since graduation. This time frame was selected to consider the time

required for the process of IPC to unfold (D'Amour et al., 2005) among NG nurses who

are known to experience an extended period of transition stress (Duchscher, 2008;

Kramer, 1974).

2.3.2. Interview participants

      To explain the survey findings, a convenience sample of thirteen participants was

recruited from the quantitative sample to participate in individual interviews. These

participants were purposely selected based upon their self-reported confidence levels

toward IPC in the quantitative survey. An additional three participants were recruited

through snowball sampling; therefore, they did not complete the quantitative survey. The

final sample included 16 NG nurses who reported variations in confidence levels when

engaging in IPC. These levels ranged from a score of 1 (*extremely non-confident*) to a

maximum score of 5 (*extremely confident)* (Table 1). It also included participants who

were employed in a variety of healthcare settings across the acute care ($n = 9$) community

($n = 4$) and long-term care sectors ($n = 3$).

2.4 Ethical considerations

      Research Ethics Board approval was granted from two university institutions, and

proof of ethics clearance was required by the CNO prior to release of the mailing

addresses. Written consent was obtained from survey participants. The interview

participants provided verbal consent prior to data collection. In follow-up, written

consents were mailed to each interview participant with pre-addressed, stamped

envelopes for return to the researcher.

Table 1

Confidence levels of qualitative sample

Confidence	*n* (%)
Extremely confident	2 (12.5)
Very confident	2 (12.5)
Confident	6 (37.5)
Non-confident	4 (25.0)
Extremely non-confident	2 (12.5)

N = 16

3.0. Data analysis

3.1. *Quantitative analysis*

Quantitative data analysis was conducted using the SPSS 19 statistical software package. Following data entry, the database was screened for normality, outliers, and missing data. The data were treated accordingly (El-Masri & Fox-Wasylyshyn, 2005; Hazard Munro, 2005). Descriptive statistics included frequencies, percentages, medians, means, and standard deviations. A two-tailed alpha of .05 was used to determine the significance of statistical findings. Given ordinal data (scales ranged from a rank of '*1*' to '*5*') and non-normally distributed data, non-parametric statistics were used. Spearman Rank-order Correlation and Kendall's Tau were used to correlate the ordinal and non-normally distributed continuous variables against the outcome variable. Both tests revealed equivalent statistically significant findings. Kendall's Tau is known for being a

more robust statistical test (Croux & Dehon, 2010); therefore, its findings are reported in this paper. Mann Whitney U was used to compare confidence scores with independent variables that were dichotomous, for example, gender, having a formal orientation, and participation in a preceptored or mentored experience.

3.2. Qualitative data analysis

Qualitative data analysis was conducted concurrently with data collection (Thorne, 2008), and it was continually focused by the research question. A codebook was established to facilitate coding and all data were transcribed verbatim and electronically transferred to NVivo 10 software. This qualitative analysis tool supported organization retrieval and coding of the data but did not preclude critical reading and manual coding by the researcher. The process involved a constant comparative method (Corbin & Strauss, 2008) to reduce display and draw conclusions about the data (Miles & Huberman, 1994) while remaining open to the patterns and relationships and patterns among the data (Thorne). The data were merged in a side-by-side process (Creswell & Plano Clark, 2007) to support the interpretation of the overall findings.

4.0. Results/Findings

The following text summarizes the study results. The quantitative results are presented first and are followed by the qualitative findings. The latter findings help to explain and expand upon the quantitative findings.

4.1. Quantitative results

The NG nurses averaged 29 years of age (SD $\pm$ 6.28) with 22 months of professional nursing experience (SD $\pm$ 10.6). Consistent with CNO registration data the

majority of the sample was female (92.8%; $n = 477$). Eighty-percent ($n = 409$) worked in the acute care sector. Almost nineteen percent (18.5%; $n = 95$) worked in the community and 6.5 % *(n = 33)* reported employment in the long-term care or complex continuing care sectors. The mean confidence score was 3.93 (SD $\pm$ .82; Mdn = 4.0) out of a total possible score of 5.0.

What factors influence confidence to engage in IPC among NG nurses who are employed in various healthcare sectors?

As presented in Table 2, there was a statistically significant difference in NG nurse confidence in IPC among the three healthcare sectors ($H(2) = 6.397\ p = 0.41$). NG nurses employed in the acute care sector reported higher confidence levels in IPC (mean rank = 264.02) as compared to those in the community care (mean rank = 250.34) and the long-term care/continuing care sectors (mean ranks = 250.34 and 201.88, respectively). There were no significant differences in NG nurses confidence in IPC based upon gender, having previous healthcare career, working in more than one sector, participation in a formal orientation, preceptorship or mentorship. The findings in Table 3 indicate seven variables that had a statistically significant relationship with confidence in IPC among NG nurses: proximity to educator ($r = .107$; $p = .005$), accessibility to educator ($r = .128$; $p = .001$), proximity to manager ($r = 144$; $p = .000$), accessibility of manager ($r = .172$; $p = .000$), number of team strategies ($r = .113$; $p = .002$), number of different disciplines worked with daily ($r = .104$; $p = .006$), and satisfaction with team ($r = .526$; $p = .000$).

Table 2

Comparisons of differences in confidence with IPC

Variable	Mean Rank	*U*	*H**	*P*
Gender	258.45	8370.50		.577
Female	245.23			
Male				
Sector				
Hospital	264.02		6.397	.041**
Community	250.34			
Long-term care	201.88			
Formal Orientation				
Yes	259.74	7754.50		.189
No	228.58			
Preceptorship or Mentorship				
Yes	262.31	20579.50		.137
No	240.25			
Previous Career in Healthcare				
Yes	249.74	18698.00		.554
No	259.19			
Working in >1 Sector				
Yes	236.81	17795.50		.110
No	262.13			

*Kruskal-Wallis
** significant at <.05
Mean Confidence = 3.93 Mdn = 4.0

Table 3

Correlation of confidence in IPC scores

Variable	Confidence		r*	p
	M ± SD	Mdn		
Age	29.04 ± 6.28	27.0	.026	.467
Months employed	22.13 ± 10.6	24.0	.049	.155
Hours worked per week	37.79 ± 8.71	37.5	.041	.245
Number of different disciplines in agency	11.51 + 4.42	12.5	.040	.255
Number of different disciplines on team	6.70 ± 3.60	6.0	.041	.241
Number of different disciplines worked with daily	3.91 ± 1.36	5.0	.104	.006**
Proximity to educator	3.93 ± 1.21	4.0	.107	.005**
Accessibility of educator	3.85 ± 1.01	4.0	.128	.001**
Proximity to manager	4.27 ± 1.08	5.0	.144	.000**
Accessibility of manager	3.89 ± 0.96	4.0	.172	.000**
Number of team strategies	3.39 ± 1.82	3.0	.113	.002**
Satisfaction with team	3.81 ± 0.81	4.0	.526	.000**

* Kendall's tau
**significant at ≤ .05
Mean confidence score = 3.93 ± .82; Median = 4.0

4.2. Qualitative findings

As described by NG nurses what factors facilitate and challenge confidence to engage in IPC among NG nurses who are employed in various healthcare sectors?

The qualitative analysis suggested a number of factors that explain and expand upon the quantitative findings (Table 4). Consistent with the quantitative results, the NG nurses reported that supportive relationships within the team and with organizational leaders facilitated confidence to engage in IPC. Participation in formal and informal opportunities supported confidence through exposure to different disciplines. Satisfaction with the team was characterized by respectful interactions with other healthcare professionals. Although there was not a statistically significant relationship between number of months of experience and confidence in IPC, the qualitative findings suggest that experience does influence collaborative practice, but not as a function of length of work experience. Rather, experience is maturational and relational in nature. It includes life events and IPC-related experiences, and is related to knowledge acquisition. The NG nurses who reported low levels of confidence in IPC described the following challenges: lack of experience, lack of knowledge, communication challenges, and balancing practice expectations. The relationships among these factors are depicted in Figure 2 and explained in the following text. Pseudonyms were applied to all exemplar quotes.

4.2.1. Supportive relationships

Among NG nurses, supportive relationships were reported to facilitate confidence in IPC. Consistent with the quantitative findings, the most frequently reported sources of support were preceptors and mentors and organizational leaders. Charge nurses and

interprofessional team members were also perceived to enhance NG nurse confidence in IPC. Collectively, these individuals role-modeled collaborative behaviours and supported the socialization of the NG nurse to the team and organizational cultures. Charge nurses were perceived to be knowledge brokers regarding the interprofessional plan of care. Managers and administrators were important sources of NG support particularly when interprofessional conflict occurred. A NG nurse employed in a community agency noted, *"My conclusion is that [the] manager plays the most important role…people [interprofessional team members] left because a new manager came and he didn't let them behave in the way they used to. Work here on the team…strongly depends on [the] manager"* (Sylvia).

4.2.2. Respect

As suggested by the quantitative findings, satisfaction with the team had a statistically significant relationship with NG nurse confidence in IPC. The qualitative participants reported that satisfaction with the team was associated with respect. That is, the NG nurses universally perceived respectful interactions with other healthcare professionals as a key factor in supporting their confidence toward IPC. One NG nurse emphasized: *"It's that mutual respect yeah clear mutual respect"* (Adam LTC). In this study lack of confidence was hindered by disrespect and previous or recurrent challenging interactions with interprofessional team members. *I have always had more issues speaking to physicians because I have had bad experiences speaking to physicians in the past* (Jordan LTC). Although the NG nurses perceived overall positive interactions with

other healthcare professionals, challenges did occur across all care settings and these interactions were associated with decreased team satisfaction.

4.2.3. Opportunities to collaborate

The NG nurse reported that exposure to formal and informal IPC opportunities increased their confidence. These opportunities allowed the NG nurse to meet a variety of healthcare professionals, learn about their roles, and eventually share in decision-making regarding care. Team strategies ranged from informal exchanges to formal processes, such as interprofessional rounds and case management meetings. Although confidence improved with time and experience, several participants reported discomfort with early participation in these team strategies. One NG nurse related her first experience with interprofessional rounds on an acute care unit: "*It's tough when you're new…especially if you're a new grad too to speak up…When you're sitting around and you've got ten other disciplines sitting there it's pretty easy to just kind of be quiet about things*" (Kelly acute care).

4.2.4. Experience

As described by NG nurses, confidence in IPC was enhanced through experience. This confidence did not relate to length of employment within the unit or organization; rather it was influenced by life experience, pre-graduate, and post-graduate experience with IPC, and clinical experience. Four NG nurses described life experience as an important confidence builder. That is, being older and having previous careers and work experiences were perceived to enhance confidence in IPC. One NG working in the long-term care sector commented, *"Although I'm a new grad. I'm older I'm 50…I feel like I*

have life experience. I have people experience. I don't have issues with conversing with

any of the disciplines…that way I have confidence" (Jane). Participants who engaged in

pre-graduate interprofessional educational opportunities viewed these as positive

experiences that assisted them to understand the practice roles of other healthcare

disciplines and gain interprofessional communication skills. Gaining clinical experience

and post-graduate experience with IPC were perceived to increase confidence in IPC. It

was through experience that NG nurses perceived having credible knowledge that

allowed them to offer relevant suggestions toward client care-planning. Repeated

experiences with the same and different professionals were also seen to increase

confidence. One acute care NG commented: *"I think with experience you are more*

confident to bring up your issues with the other disciplines (Kara acute care).

In contrast, lack of experience with IPC was reported to challenge confidence

among NG nurses who reported lower levels of confidence in IPC. The majority of NG

nurses wished that their undergraduate programs had prepared them better for IPC. Lack

of experience with IPC resulted in "trial and error" approaches. Several NG nurses

reported "jumping in" and having to cope with the less than ideal experiences with IPC.

First experiences with IPC were often uncomfortable: *"I mean especially after the one*

first time I had to call a doctor. I felt so stupid after. So I'm like oh my goodness like

why didn't you have yourself better organized. And I know that comes with experience"

(Kara acute care).

4.2.5. Knowledge

In this study, knowledge increased confidence in IPC among NG nurses. This relationship was not explored in the quantitative survey; however the interview participants universally voiced this association. According to the NG nurses, confidence was achieved through knowing other disciplines, their roles, and how and when to collaborate with another healthcare professional. For most NG nurses this knowledge was achieved informally through asking others or being introduced to others. One community health nurse described her experience with meeting the interprofessional team: *"We kind of said 'I'm a nurse…I'm a dietician…This is what I do and kind of let the rest of the team know what you could do…It wasn't in detail it was kind of as we went along"* (Jackie). In contrast, a lack knowledge regarding team and organizational processes for IPC also challenged the confidence of NG nurses. Natalie, a NG nurse working in acute care shared, *"There really wasn't a lot of actually any formal 'this person does this.' If you didn't know then you had no idea what was available in the hospital and how you could refer somebody to get a service."* Clinical knowledge was also perceived to enhance confidence in IPC. Similar to having clinical experience, possessing clinical knowledge allowed the NG nurses to more confidently exchange information with other healthcare professionals. This knowledge allowed the NG nurse to "have the answers" when being asked questions by another healthcare professional. When clinical knowledge was lacking, the NG nurses reported discomfort with interprofessional interactions. Kara commented: *"She [the physician] was like 'How come you don't know this?…Why don't you have the labs right in front of you?'…That knocked my confidence even further and it took a while to build it up"* (acute care).

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4.2.6. Balancing practice expectations

Not examined in the quantitative survey, the majority of NG nurses interviewed reported struggling with balancing the expectations of collaborative practice. This included learning to cope with self-imposed expectations of practice, and the expectations of other healthcare professionals. This dichotomy negatively impacted their confidence in IPC. Sylvia commented, "*You don't know what to expect. You don't know what other people expect from you so you have very much stress about your role among the other disciplines*" (community). Engaging in IPC was perceived to be an additional stressor. As articulated by Laura: *"You have all of these disciplines who are kind of expecting something from you…when I first started I didn't appreciate it so much. I found it more frustrating because…I felt like I couldn't do my own job*" (acute care).

5.0. Discussion

This mixed methods study is the first study to provide a comprehensive exploration of the complex nature of IPC among NG nurses. IPC is an international healthcare system priority (WHO, 2010), and this study's findings offer new and important strategies to support the confidence of NG nurses to engage in IPC, with an overall goal of supporting safe quality care by NG nurses. The overall findings indicate that supportive team and organizational leadership may influence NG confidence in IPC. Further, the qualitative analysis suggests that NG nurse knowledge and experience should be acknowledged as key factors that are associated with the confidence levels of NG nurses toward IPC. These findings are particularly relevant to organizations across a range of sectors that employ NG nurses, and academic institutions that provide

baccalaureate education in nursing. The following discussion interprets the overall findings (Table 3) and discusses implications for team and organizational support, education, and research.

5.1. Overall findings

The quantitative and qualitative analyses validate a key relationship between several factors and NG nurse confidence in IPC. In this study, NG nurse confidence levels were moderately high. Although surprising, this is likely explained by the 22-month mean practice experience among the survey participants, during which time clinical and IPC-related knowledge and experience were likely to increase. This explanation was validated by the interviews, wherein participants reported that confidence in IPC increased with experience. These confidence level findings are also consistent with other studies of NG nurses where confidence was reported to increase with experience (Casey et al., 2004; Ulrich et al., 2010). Nevertheless, NG nurses who worked in the community and long-term care/complex continuing care sectors reported significantly lower perceived levels of confidence in IPC. These participants reported shortened orientation periods, and less connection with organizational leadership. There were also less formal opportunities through which IPC occurred in these sectors, and these factors may have affected their confidence when engaging in IPC.

This study's overall findings emphasize the importance of support. This is a key theme that has been identified by other researchers as a crucial element of successful transition from student to professional nurse (Cho et al., 2006; Duchscher, 2001; Newton & McKenna, 2007; Oermann & Garvin, 2002). Of direct relevance to this study's

research questions, the findings suggest that support in the form of leadership is required

at the team and organizational levels to promote NG nurse confidence in IPC. These

findings are consistent with Cockerham and colleagues (2011) who reported that

connecting NG nurses with formal leaders including managers, educators, and charge

nurses can increase confidence in team communication. These resources may be less

readily available to NG nurses working in the community and long-term care sectors.

Although preceptorship and mentorship did not have a statistically significant relationship

with NG nurse confidence in IPC, the interviewed participants perceived formal

preceptors, mentors, and other healthcare professionals to support their confidence in IPC.

This qualitative finding is consistent with the NG literature that also indicates a

relationship between preceptorship, mentorship, and collaborative practice (Cantrell &

Browne, 2005; Chandler, 2012; Olson, 2009; Reddish & Kaplan, 2007; Wright et al.,

2011). Regardless, education and training of preceptors and mentors is essential;

unqualified and inexperienced preceptors can diminish the overall confidence levels of

NG nurses (Johnston et al., 2008).

5.1.1. Team support

To promote NG nurse confidence in IPC, formal and informal opportunities for NG

nurses to engage in IPC should be prioritized within the team structure. These

opportunities broaden NG nurse experience in IPC, and this may result in more confident

interprofessional interactions (Deppoliti, 2008; Duchscher, 2001). Each of these

opportunities promotes interprofessional dialogue. Austin (2007) found that dialogue is

inherently supportive, as it promotes team involvement rather than a sense of perceived

loneliness and exclusion. These opportunities also expose the NG nurse to

interdependent practice. This is a gap for many NG nurses, and it may be further

challenged by a perceived NG need to function independently (Duchscher, 2001). In

order to assist the NG nurse to balance clinical expectations with IPC, protected time

away from the hectic patient care environment should be provided to support NG nurse

engagement in IPC (Pfaff et al. 2013).

A culture of respect must underlie each of these IPC opportunities. The importance

of respect is well documented in the IPC literature (D'Amour et al., 2005; D'Amour &

Oandasan, 2005; Henneman et al., 1995) and it has been reported to improve NG nurse

confidence and assertiveness when communicating with interprofessional team members

(Deppoliti, 2008). Because team member devaluation of the NG nurse's knowledge and

experience can perpetuate feelings of low self-confidence among NG nurses (Forneris &

Peden-McAlpine, 2006), team members should understand and provide support for the

NG nurse's knowledge and experiential shortcomings related to IPC (Chernomas et al.,

2010; Duchscher, 2001). The NG nurse should also be allowed adequate time to adjust to

the team culture. This adjustment is a developmental process (Duchscher, 2008); it is

learned through experience with the team, and it can vary among individuals and

organizations. Team leaders should cultivate inclusive team environments that support

the NG nurse's needs for belonging and acceptance (Chernomas et al., 2010; Fink et al.,

2008; Duchscher, 2001) within the interprofessional team.

5.1.2. Organizational support

Supportive leaders are known to facilitate the overall transition of NG nurses

(Anderson et al., 2009). As described in this study, there is a relationship between organizational leadership and NG nurse confidence with engagement in IPC. In particular, available and accessible organizational leaders enhance the confidence of NG nurses in IPC. The qualitative findings of this study support those of Seright (2011) that administrators and managers are key sources of support in managing interprofessional conflict. Unfortunately, little else is known about the relationship between the accessibility and availability of organizational leaders and how this impacts confidence to engage in IPC. Although transformational leadership styles may support NG integration within the team (Thyer, 2003), further study is needed. Organizational leaders are encouraged to promote collaborative learning opportunities (Cho et al., 2006) and provide opportunities to interact with the NG nurse through drop-in visits, regular progress meetings (Goodwin-Esola et al., 2009), and a visible presence on the unit.

5.1.3. New graduate nurse development

Strategies that build NG nurse knowledge and experience in IPC should be an academic, team, and organizational priority (Casey et al., 2004; Chernomas et al., 2010). As a means of better preparing NG nurses for IPC, academic institutions are encouraged to integrate theoretical and experiential content related to IPC in undergraduate curricula (Chernomas et al., 2010; Registered Nurses' Association of Ontario 2006; Schwartz et al., 2011). As suggested by NG nurses in this study, applications may include interprofessional lectures and roundtable discussions, interprofessional simulation experiences, and emphasis on collaborative practice in clinical practica. Clinical areas that actively involve students in IPC activities are ideal settings to enhance knowledge

and experience in IPC (Schwartz et al., 2011). Clinical experiences that provide extended

and repeated opportunities for NG nurses to work in one unit or area may also enhance

knowledge and experiential development in IPC (Chernomas et al., 2010).

5.2. Research

This research study provides a descriptive exploration of NG nurse confidence in

IPC. As such, it offers limited understanding of the development of confidence in IPC

over time. Qualitative examination of the process of confidence building in IPC would

contribute to intervention development that could be specifically geared to the knowledge

and practice experience of NG nurses. This examination should prioritize recruitment of

NG nurses within the first year of practice, as the experiences of this cohort of NG nurses

were not fully captured in this study, and this methodological challenge may have

impacted the quantitative and qualitative findings. This is the first study to suggest an

empirical relationship between supportive leadership and NG nurse confidence in IPC. A

concurrent study found that accessible and available leadership at the team and

organizational levels predicts NG engagement in IPC (Pfaff *et al.* 2013). The most recent

findings raise questions about the role confidence may play in mediating the relationship

between team and organizational leadership and engagement in IPC. As suggested in the

previous section, further research is also needed with regard to the nature of leadership

and how this affects NG nurse confidence in IPC.

5.4. Limitations

There are several limitations to this study. The use of convenience sampling

introduces selection bias and reactivity as potential threats to the validity of this study.

Due to the data management processes of the CNO, the ability to recruit NG nurses

within the first year of practice was challenged; therefore, the reported confidence levels

may not reflect those of NG nurses who have less than one year of practice experience.

The item used to measure the confidence of NG nurses in IPC provided a median

confidence level within the immediate healthcare team only. Future studies should

consider a broader definition of IPC that includes collaboration across sectors and

settings. The qualitative interviews required participants to report experiences with IPC

that may have occurred months previous to the interview, potentially resulting in missed

or distorted information. Non-verbal behaviours are normally relevant data in qualitative

research and these could not be gathered using telephone interviews. No causation can be

inferred from this descriptive study, and transferability of the findings is limited to BScN

prepared NG nurses.

6.0. Conclusions

Globally, the healthcare needs of clients are becoming increasingly complex, and

healthcare is typically delivered by a number of healthcare professionals. This challenges

healthcare providers including NG nurses to work together to provide quality healthcare

across all care settings and sectors. Nevertheless, IPC is a complex process that requires

confidence (Henneman et al., 1995) an attribute that requires development among the

majority of NG nurses. Support for IPC is required at the team and organizational levels.

In particular, team and organizational leaders are important sources of support and

strategies that allow NG nurses to connect with leaders are highly recommended to build

NG confidence in IPC. Finally, confidence in IPC is related to the knowledge base and

experiences of the NG nurses. Opportunities to engage in IPC are important, and should

be recognized as such by organizations, teams, and NG nurses.

Figure 2

Explanatory model of NG nurse confidence in IPC
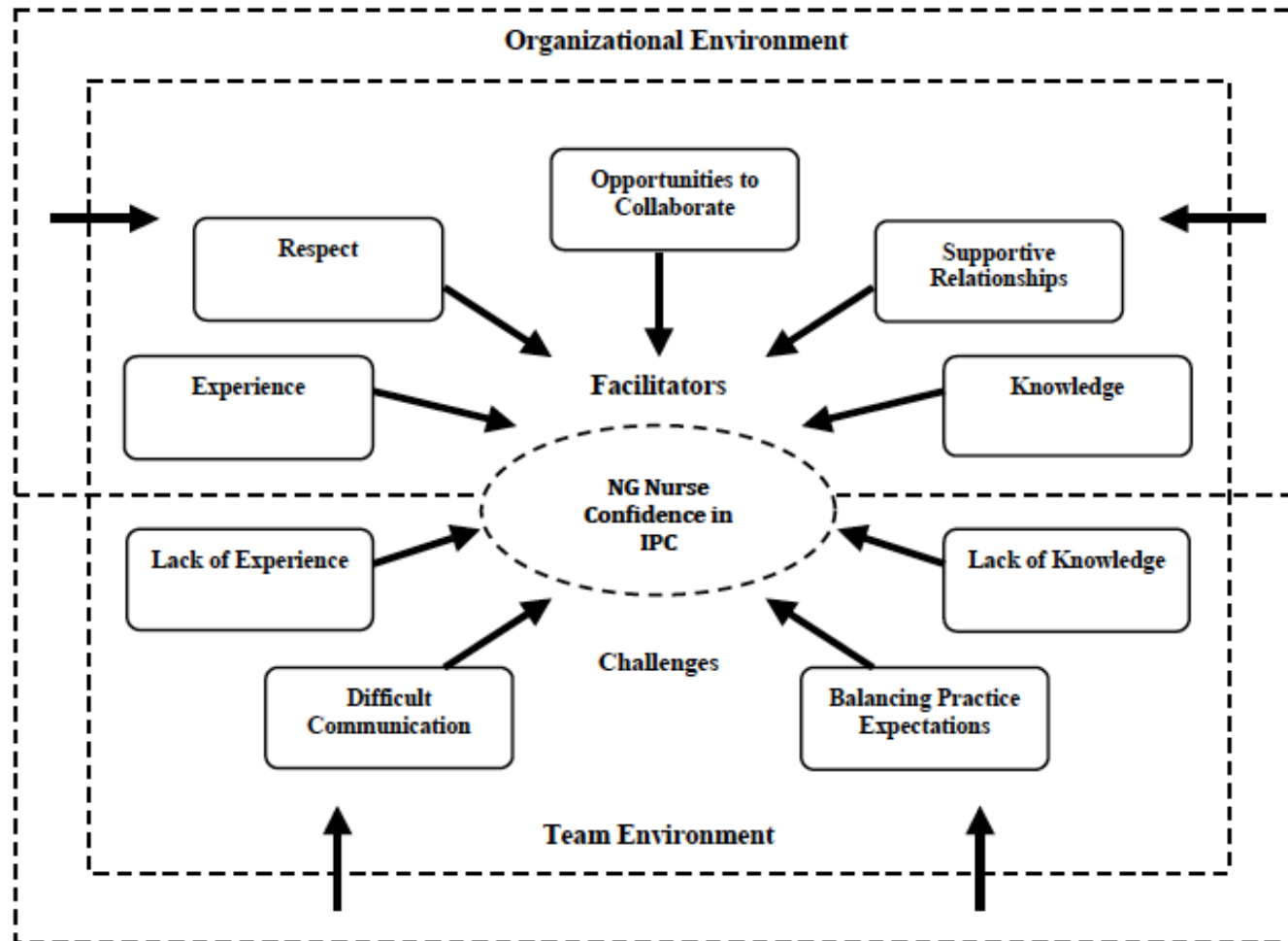
Table 4

Quantitative Findings	Qualitative Findings	Overall Findings
Proximity of educator	Supportive relationships	Team support
	Team leaders	Leadership
Accessibility of educator	Organizational leaders	Respect
	Team members	Opportunities
Proximity of manager		
Accessibility of manager		
Number of different disciplines worked with daily		Organizational support
		Leadership
Satisfaction with team	Respect	
Number of team strategies	Opportunities to Collaborate	
	Formal	
	Informal	
		NG nurse development
	Other factors	Experience
	Experience	Knowledge
	Knowledge	

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CHAPTER FIVE

Thesis Summary, Implications and Conclusion

This chapter begins with a discussion of the overall contributions of this research project to the current literature, and a summary the findings from each paper, as well as discussion of the unique contributions of this evidence to practice, education and research. It includes an analysis of the application value of the Structuration Model of Interprofessional Collaboration (D'Amour, Sicotte & Lévy, 1999) to this research study, and introduces an adapted model that expands on the original. The chapter concludes with a synopsis of implications for nursing education, practice and research that were derived from the papers prepared for publication.

Overall Contributions to the Current Literature

This thesis provides a new and comprehensive understanding of the individual, team and organizational factors that influence engagement in IPC among NG nurses who are employed across a variety of healthcare sectors and settings. These are important findings that may support the retention of NG nurses, and enhance their ability to provide safe, quality nursing care.

IPC is a complex process that requires NG nurses to navigate team and organizational environments that are influenced by social, political, and cultural norms (San Martin-Rodriguez, Beaulieu, D'Amour, & Ferrada-Videla, 2005). When transitioning to professional practice, these NG nurses are required to engage with other healthcare professionals in new and different ways than were expected in the student role. This transition is challenging for many NG nurses (Casey, Fink, Krugman, & Propst,

2004; Duchscher, 2008; Ellerton & Gregor, 2003; Gerrish, 2000). Although a number of NG transition issues are documented in the international health sciences literature, there is a significant gap in what is known about how NG nurses engage in IPC, and what factors can facilitate this engagement (Pfaff, Baxter, Jack, & Ploeg, 2013a). The findings of this research study fill some of this knowledge gap, and direct readers to strategies that may enhance NG nurse engagement in IPC.

This research project was grounded in rigorous methods, beginning with the integrative review reported in Chapter Two, and the mixed methods study that is reported in Chapters Three and Four. The explanatory sequential mixed methods design (Creswell & Plano Clark, 2007) supported a robust exploration of this complex issue, using both quantitative and qualitative methods. The quantitative survey findings revealed new information regarding the perceived engagement in IPC levels of NG nurses, as well as a number of other variables that have a relationship with IPC among NG nurses. The qualitative data helped to confirm, explain and expand upon the quantitative findings. They also offered novel insights into how individual factors, such as knowledge, experience, and confidence influence NG nurse engagement in IPC.

Summary of the Findings and their Contributions

The following section summarizes the research findings, and highlights the unique contributions of each paper to the nursing literature and the overall research project.

The integrative review

The integrative review presented in Chapter Two provides an appraisal and synthesis of the literature related to new graduate (NG) nurse engagement in

interprofessional collaboration (IPC) (Pfaff et al., 2013a). Whittemore and Knafl's

(2005) updated integrative review method effectively guided this review. The review

suggested individual, team, and organizational factors that may influence NG nurse

engagement in IPC. The individual factors included knowledge, experience, and

confidence. Respect, trust, and support were key team factors that were proposed to

influence NG nurse engagement in IPC. Finally, the review suggested that formal

support from organizational leaders, and transition strategies, such as preceptorship and

mentorship programs, are organizational factors that may have an impact on how NG

nurses engage in IPC. The findings of the integrative review were used to inform the

survey development, data collection, and interpretation of the research study. The review

concluded that there was very little known about this phenomenon, and that the literature

reviewed was weak to moderate in quality. It also emphasized a lack of clarity and

consistency in how IPC is defined in the NG nurse literature, and the need for primary

research in this area using valid and reliable instruments to measure IPC.

Team and organizational predictors of NG nurse engagement in IPC

Chapter Three reported the findings of an explanatory sequential mixed methods

study (QUAN $\longrightarrow$ qual) (Creswell & Plano Clark, 2007). This study explored the team

and organizational predictors of NG nurse engagement in collaborative practice (Pfaff,

Baxter, Ploeg, & Jack, 2013). Careful approaches to participant recruitment and data

collection were applied in the quantitative and qualitative phases of the study. These

resulted in a quantitative sample of 514 NG, and 16 NG nurses who participated in

qualitative follow-up interviews. The quantitative and qualitative samples reflected

variation in geographic location, and employment across the acute care, community, long-term care, and complex continuing care sectors in the province of Ontario, Canada. Based on the findings of the integrative review (Pfaff, Baxter, Jack, & Ploeg, 2013a), care was taken to clearly conceptually and operationally define IPC. A more recently developed instrument, the Collaborative Practice Assessment Tool (CPAT) (Queen's University, 2009) was used to measure IPC, and it revealed excellent internal consistency in this study, with an overall Cronbach alpha of 0.95. This finding provides additional support for the reliability of this instrument. Validity of the instrument was not tested in this study, as the CPAT's overall score was used as a measure of NG nurse engagement in IPC. Future use of the data to evaluate dimensions of NG nurse engagement in IPC will require validity testing.

The team and organizational predictors of NG engagement in collaborative practice were: satisfaction with the team, number of team strategies, participation in a mentorship or preceptorship experience, accessibility of manager, and accessibility and proximity of educator or professional practice leader. Qualitative analysis of the interviews revealed the team facilitators to be respect, team support, and face-to-face interprofessional interactions. The participants described supportive leadership and preceptorship or mentorship experiences as organizational strategies that facilitated their engagement in IPC. A unique qualitative finding of this study was NG nurse perceived need to have time away from the clinical area to engage in IPC. This time allowed them to balance their nursing practice requirements. Without protected time, NG nurses reported three consequences: (1) skipping breaks to make the time for IPC; (2) an

inability to take advantage of opportunities to engage in IPC, and; (3) ineffective engagement in IPC.

NG nurse confidence in IPC

The factors that influence NG nurse confidence to engage in IPC were explored using a mixed methods approach, and the findings were reported in Chapter Four (Pfaff, Baxter, Jack, & Ploeg, 2013b). This paper evolved out of researcher curiosity related to NG nurse confidence levels in IPC that were surprisingly higher than expected. The follow-up qualitative telephone interviews helped to explain these finding by revealing facilitators and barriers to NG nurse confidence in IPC. With regard to team and organizational factors, this study's findings were consistent with the predictors of NG nurse engagement in IPC (Pfaff, Baxter, Ploeg, & Jack, 2013), with the exception of one variable. That is, preceptorship and mentorship experiences did not have a relationship with NG nurse confidence in IPC. This is an interesting finding, and raises questions about the nature of preceptorship and mentorship models. The relational aspects of the preceptor-preceptee or mentor-mentee dyad may be more influential than the preceptorship or mentorship in promoting confidence. As supported by the qualitative findings, respect and supportive relationships were perceived by NG nurses to promote confidence in IPC.

In this study, the participant interviews were vital sources of information that explained the quantitative findings, and provided new information about factors that facilitated and challenged new graduate nurse confidence when engaging in IPC. These findings were organized in a proposed model that may inform future studies and practice

interventions that support NG nurse confidence in IPC.

The Structuration Model of Interprofessional Collaboration

The Structuration Model of Interprofessional Collaboration (D'Amour et al., 1999) was a useful framework that supported understanding of the many factors that influence NG nurse engagement in IPC, and the relationships among them. From study conception through data interpretation, it guided, but did not limit, the consideration of the structural and interpersonal influences on NG nurse engagement in interprofessional collaboration (IPC). Derived from this study's findings, these influences did emerge within each of the model's proposed four dimensions: formalization, governance, finalization, and internalization. As validated in this study, the aforementioned dimensions, are not mutually exclusive, and do influence one another (Pfaff, Baxter, Ploeg, & Jack, 2013). Further, NG nurse individual influences (knowledge, experience, and confidence), that are developmental in nature, have an impact on how NG nurses engage in IPC (Pfaff, Baxter, Jack, & Ploeg, 2013b). These factors are essential in understanding how NG nurses engage in IPC and must be considered in conjunction with the structural influences.

The following text summarizes an initial interpretation of D'Amour and colleagues' (1999) model within the context of NG nurse engagement in IPC. A future publication will more fully analyze the study's findings and the adapted model that is proposed in this thesis (Figure 1).

Organizational dimensions of IPC

As described in Chapter One, and proposed by D'Amour and colleagues (1999),

the Structuration Model of Interprofessional Collaboration includes two organizational dimensions that influence the process of collaboration. *Governance* relates to the supportive leadership functions that direct and support the work of healthcare professionals as they engage in collaborative activities. This research study strongly highlights the important influence of organizational and team leadership on the engagement of NG nurses in IPC. As suggested by this study's findings, managers, educators, professional practice leaders and charge nurses are vital resources for supporting the relational needs of NG nurses toward IPC (Pfaff, Baxter, Ploeg, & Jack, 2013). These needs relate to learning the roles and scopes of other healthcare professionals, learning interprofessional behaviours, and managing conflict resolution.

Formalization, or the structuring of clinical care, includes systems by which action is regulated and structures are strengthened (D'Amour et al., 1999). The NG nurses reported early challenges with navigating the IPC structure within the organization, but viewed formal opportunities for face-to-face interactions as structured activities that facilitated their engagement in IPC. Although informal, unscheduled sharing and exchanges were also perceived by NG nurses to support their engagement in IPC, structured time to engage in collaboration was a novel finding of this NG nurse study, and it was viewed as essential for engagement in IPC.

Relational dimensions of IPC

As defined by D'Amour and colleagues (1999), *finalization* and *internalization* relate to human relationships and interactions. In this study, these dimensions were evident in the findings; however, the ability of NG nurses to achieve the full depth of

interaction proposed by the model did not occur. It is posited that this outcome is the result of a developmental process that occurs with knowledge, experience, and confidence.

Finalization involves a sharing and application of mutual goals and vision. Although the NG nurses reported learning to share information and insights with other healthcare professionals, this was challenged by lack of confidence, experience and knowledge in clinical practice and with IPC (Pfaff, Baxter, Jack, & Ploeg, 2013b). Although NG nurses viewed IPC as involving mutual goal setting, few NG nurses articulated their specific roles and contributions toward setting client goals within the interprofessional team.

Among NG nurses, *internalization* was manifested through a sense of belonging and respect within the team. In this study, respect was associated with NG nurse confidence in IPC and nurse satisfaction with the healthcare team (Pfaff, Baxter, Jack, & Ploeg, 2013b). Satisfaction with the interprofessional team predicted NG nurse engagement in IPC (Pfaff, Baxter, Ploeg, & Jack, 2013). Also consistent with D'Amour and colleague's model (1999), the NG nurses desired to know the professional frameworks from which other disciplines practiced. Many participants reported that this process involved a significant learning curve, and that internalization of interprofessional knowledge was enhanced when other healthcare professionals supported their learning.

The Structuration Model of Interprofessional Collaboration (D'Amour et al., 1999) is a valuable framework for understanding the structural aspects of collaborative practice among NG nurses. It has highly useful for making sense of the complex

organizational and relational factors that influence NG nurse engagement in IPC. Nevertheless, the model does not consider important individual factors that have been reported in the literature to impact IPC among NG nurses; they include confidence (Anderson, Linden, Allen, & Gibbs, 2009; Halfer & Graf, 2006; Olson, 2009; Seright 2011), knowledge, and experience (Deppoliti 2008, Duchscher, 2001; Halfer & Graf, 2006; Schwartz, Wright, & Lavoie-Tremblay, 2011; Yancey, 2005). Validation of these individual factors was a central finding of this research study, and they were described by NG nurses as facilitators and barriers of their engagement in IPC.

In interpreting this brief analysis, it is important to note that D'Amour and colleagues' (1999) model was developed to provide a framework for understanding the organizational and relational structures that influence the process of IPC. Although it is a structural model, individual factors such as confidence do affect collaborative relationships and interactions within teams and organizations (Henneman, Lee, & Cohen, 1995). These factors must be considered when seeking to understand the complexities of IPC, particularly among individuals who are new to a healthcare team or organization. Although IPC is considered a process (D'Amour, Ferrada-Videla, San Martin-Rodriguez, & Beaulieu, 2005), the Structuration Model of Interprofessional Collaboration (D'Amour et al., 1999) does not consider the time required for the process of IPC to unfold. This is likely embedded within the relational dimension, but is also likely influenced by confidence, knowledge, and experience.

NG Nurse Knowledge

NG Nurse Experience

Team and Organizational Environment

Governance

Supportive leadership
- Team
- Organization

Finalization

Sharing knowledge

Formalization

Team strategies
Face-to-face interactions

Internalization

Respect

NG Nurse Confidence
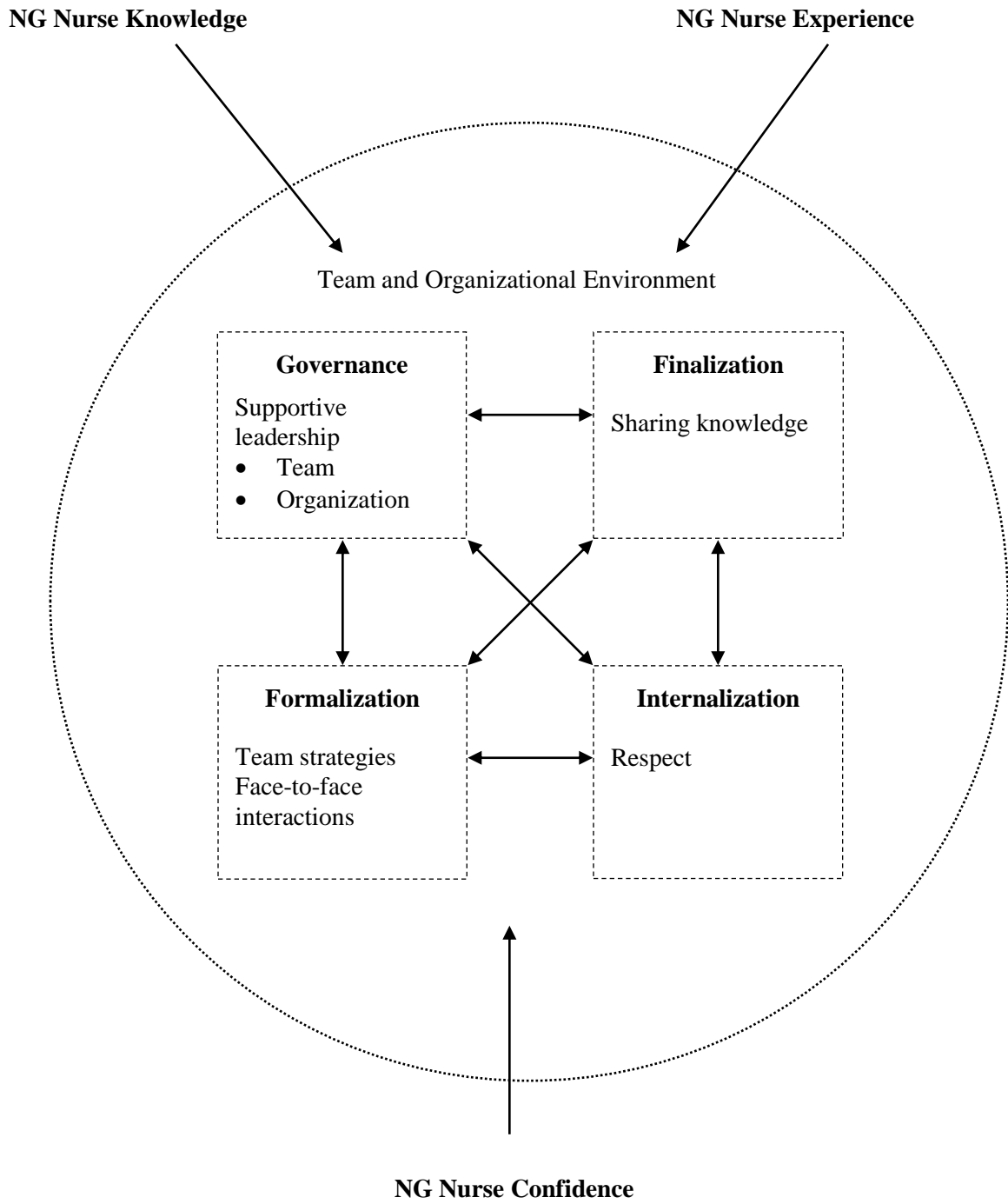
Figure 2. Study Application of the Structuration Model of Interprofessional Collaboration

(Adapted from D'Amour et al., 1999)

Implications for Education

This research study emphasizes the need to prioritize a shared approach to preparing NG nurses for collaborative practice (Pfaff, Baxter, Jack, & Ploeg, 2013b). This requires bridging the responsibility and resourcing for education between academic and institutional sectors. Interprofessional education (IPE) is one proposed solution (WHO, 2010) and there are established models to support its integration within educational settings (D'Amour & Oandasan, 2005). It is not the purpose of this thesis to evaluate the IPE research. Nevertheless, the findings of this study do provide support for IPE in the pre-graduate and transition phases of nursing education.

Academic institutions are urged to integrate curricula and clinical experiences that foster knowledge and practice experience in IPC. This will require a commitment to resource allocation in nursing program and institutional operating plans. It will also require the full participation of organizations to develop and support policies and practices that allow and promote the engagement of nursing students in IPC. Although preceptorships and other pre-graduate IPC experiences may support confidence among NG nurses to engage in collaborative practice (Pfaff, Baxter, Jack, & Ploeg, 2013b), these relationships should be examined in more depth.

Opportunities for NG nurses to engage in IPC should be optimized during the transitional learning period. Structured time away from the unit for the NG nurse to learn about the roles of other healthcare professionals and engage in collaborative activities is essential (Pfaff, Baxter, Ploeg, & Jack, 2013). Organizations are also encouraged to develop extended preceptorship and mentorship opportunities and orientation

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programming related to IPC for all NG nurses. Although research suggests that three to six month preceptorships are most effective in supporting the retention of NG nurses (Salt, Cummings, & Profetto-McGrath, 2008), further study is needed to determine the best delivery models for preceptorship and mentorship programs, and the IPC-related strategies that should be embedded within these programs. In particular, the relational and interactional aspects of preceptorship and mentorship models that support IPC among NG nurses require significant consideration. Given the themes of respect and support that pervaded the findings of this thesis (Pfaff, Baxter, Jack, & Ploeg, 2013b; Pfaff, Baxter, Ploeg, & Jack, 2013), these elements likely have a significant influence on how preceptors and mentors role-model IPC behaviours, and the subsequent engagement of NG nurses in IPC.

Implications for Practice

The discussion in this section relates to two characteristics of the NG nurse practice environment that demand consideration from a practice perspective: respect and support. These findings are not new. In fact, they are reflected in the NG nurse literature (Duchscher, 2001; Cantrell & Browne 2005; Olson, 2009; Wright, Lavoie-Tremblay, Drevniok, Racine, & Savignac, 2011) and the IPC literature (D'Amour et al., 2005; D'Amour & Oandasan, 2005; Henneman et al., 1995). They are also qualities of positive practice environments (International Council of Nurses, 2007).

This study confirms a relationship between respectful and supportive team environments and NG nurse engagement in IPC, and it calls for the cultivation of cultures of respect and support in practice areas where NG nurses are employed (Pfaff, Baxter,

Ploeg, & Jack, 2013). This environment should include role modeling of collaborative behaviours, a willingness to share knowledge, and patience and understanding for the NG nurse's knowledge and performance gaps related to IPC (Pfaff, Baxter, Ploeg, & Jack, 2013). Based upon the findings of this study, this requires the participation of all interprofessional team members, with particular emphasis on the responsibility of team and organizational leaders (Pfaff, Baxter, Jack, & Ploeg, 2013b; Pfaff, Baxter, Ploeg, & Jack, 2013).

Implications for Research

Future research should be conducted to develop and test interventions that support and enhance NG nurse engagement in IPC. Based upon the findings of this study, interventions that target the individual, team, and organizational systems may be more effective. The proposed adapted model (Figure 1) may be an important framework for guiding the conception of development of these studies. The findings of this study suggest that engagement in IPC likely develops over time. Thus, future studies should consider research designs that can explore the process of engagement in IPC among NG nurses. Suggested methods include grounded theory (Corbin & Strauss, 2008) and time-series quantitative designs (Polit & Beck, 2008). Such studies should also seek to illuminate the experiences of NG nurses within the first year of practice, a timeframe that was difficult to capture in this study, and has been reported to be highly stressful among NG nurses (Duchscher, 2001; 2008). The impact of gender on engagement on IPC is a final area for further exploration. Gender studies should be expanded to explore this concept among NG nurses, and also members of the healthcare team.

The development and evaluation of organizational interventions is encouraged. In particular, the nature of organizational leadership, such as leadership styles and behaviours, and their relationship to NG nurse engagement in IPC demands in-depth examination. As suggested in this study, IPC-related strategies should be explicitly embedded within preceptorship and mentorship programs. Their effects on NG nurse engagement in IPC and retention could be tested using a carefully designed controlled trial or cohort study. Finally, future research should also examine the effect of IPC interventions on the safety and quality of care provided by NG nurses. This relationship is proposed within the health sciences literature, but has not been empirically tested.

Limitations

This research project has several limitations. The integrative review that supported the survey, interview schedule development, and interpretation of the findings, was limited to North American literature. It is possible that valuable literature may have been missed in the search process.

The limitations of the research methods were clearly described in Chapter One, but are highlighted also in this section. This research study was an exploratory and interpretive descriptive (Thorne, 2008) study; therefore, no causation can be inferred from the study's findings. The data management system of the College of Nurses of Ontario precluded access to a cohort of NG nurses who had newly registered in the first 12 months since graduation. This may have impacted the demographics of the sample, and mean engagement and confidence levels in IPC. Care should be taken when translating the findings to NG nurses who have less than one year of practice experience. With

regard to the qualitative data collection, although the in-depth interviews solicited participant experiences in IPC, the data provide little insight into NG nurse engagement in IPC over time. Despite an effort to include a mix of male and female participants, only one male participant was recruited to participate in the follow-up interviews. Thus, the qualitative findings primarily reflect the voices of female NG nurses. Conducting the interviews by telephone also prevented observation of the participant during the interview, thus potentially resulting in missed important data. Finally, the study findings are based upon self-report data; therefore, these data may not reflect actual NG nurse experience or practice.

With regard to rigor, careful strategies were maintained in this regard, and throughout all phases of this study. Nevertheless, issues such as selection bias, reactivity, and response bias were unavoidable. The quantitative study sample included 514 newly graduated BScN prepared nurses from the province of Ontario, Canada. Despite a good response rate (43%), the quantitative findings may not be generalizable to populations beyond the study sample. Similarly, the qualitative interview data reflect the unique experiences of the participants in this study. Despite implementing a number of approaches to support credibility and dependability, transferability of the findings should be assessed by the user.

Conclusions

This purpose of the thesis was to comprehensively explore IPC within the context of the NG nurse. Given an international emphasis on retention of nurses (World Health Organization, 2010), and the need to continually improve the safety and quality of

healthcare delivery (Agency for Healthcare Research and Quality, 2013; National Steering Committee on Patient Safety, 2002), it is important that this phenomenon be comprehensively addressed in research, education and practice. This thesis identifies a number of individual, team and organizational factors that influence NG nurse engagement in IPC. The Structuration Model of Interprofessional Collaboration (D'Amour et al., 1999) was a relevant framework for guide this study. Yet, as a structural model, it did not capture the individual attributes of NG nurses that were important influences on their engagement in IPC. Successful collaboration in healthcare requires a shared commitment to address the systemic determinants that exist on multiple levels (D'Amour et al., 1995). In the case of the NG nurse, these factors exist at the individual, team, and organizational levels. Although collaboration is a professional responsibility of all healthcare professionals, nursing leadership must play a strong role in advancing research, education and practice related to NG nurse engagement in IPC.

> "Coming together is a beginning, staying together is progress,
> and working together is success" (Henry Ford, n.d.).

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Appendix A:

Explanatory Sequential Design Model for New Graduate Engagement in IPC

| Phase 1

Quantitative Data Collection

(QUAN) | → | Quantitative Data Analysis | → | Phase 2
Qualitative data collection and analysis

(qual) | → | Phase 3

Interpretation
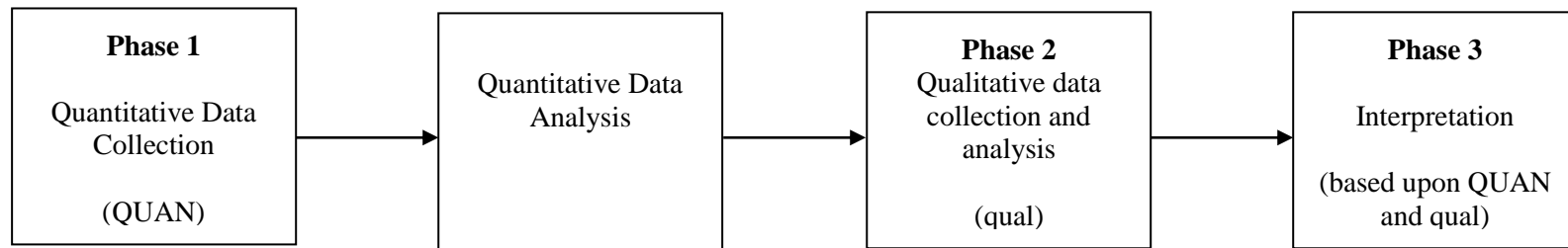
(based upon QUAN and qual) |

QUAN
- Survey data
- CPAT
- NG nurses in Ontario
- Outcomes:
  1. NG nurse perceived engagement inIPC
  2. NG nurse perceived confidence in IPC
- Inclusion criteria:
  1. Newly graduated from BScN
  2. Employed as a Registered Nurse
  3. Within 3 years of graduation
  4. English-speaking

qual
- Interpretive descriptive
- Semi-structured interviews
- Estimated 10 to 20 participants
- Purposeful sampling: criterion, stratified, maximum variation
- Recruitment: follow-up from survey
- Inclusion:
  1. Newly graduated from BScN
  2. Employed as a Regisered Nurse
  3. Within 3 years of graduation
  4. English-speaking

Purpose

Follow-up with individual interviews to explain and expand upon the quantitative analysis of the survey data

Appendix B: Request for CNO Mailing Addresses

January 20, 2011

College of Nurses of Ontario
Information Management
101 Davenport Road
Toronto, ON M5R 3P1

Re: Request for Home Mailing Addresses

To Whom it May Concern,

I am a PhD student in Nursing at McMaster University. My thesis work explores how new graduate nurses engage in interprofessional collaboration. The population of interest is newly registered nurses (< three years) across the province of Ontario. As such, I am requesting the names and home mailing addresses of members who have consented to their release.

In addition to the request form, the following documents are included in this package:

1. The research protocol
2. Copies of the recruitment letters, letters of information for consent, and instruments
3. Ethics approval from McMaster University
4. Privacy and security policies
5. Researcher declaration of confidentiality

I thank you in advance for your support of this important research, and look forward to your response. Should you require any further information, I can be reached using the contact information that is provided on the request form.

Best regards,

Kathryn A. Pfaff, RN, MSc (Nursing)
PhD Student, McMaster University
Lecturer, University of Windsor

Researcher Declaration

I declare that the confidentiality of the members will be protected, and that data will not be released for commercial or other purposes.

I also acknowledge that the release of member information does not reflect implicit or explicit endorsement or support of the College of Nurses of Ontario.

Appendix C: Ethics Approval of McMaster University

RESEARCH ETHICS BOARD

McMaster University

Hamilton Health Sciences

REB Office, 293 Wellington St. N., Suite 102, Hamilton, ON L8L 8E7
Telephone: 905-521-2100, Ext. 42013
Fax: 905-577-8378

Research Ethics Board Membership

Suzette Salama PhD
  Chair/Ethics Representative
Donald Arnold MD, MSc FRCP(C)
  Hematology & Thromboembolism
Uma Athale, MBBS, MD, M.Sc. FRCPC
  Pediatric Hematology/Oncology
Mary Bedek CCHBA (C)
  Privacy Officer
Joseph Beyene PhD
  Clinical Epidemiology & Biostatistics
Mohit Bhandari MD, FRCS
  Orthopedic Surgery
David Clark MD PhD FRCP(C)
  Medicine
Jean Crowe MHSc
  Rehabilitation Science
Lynn Dorrbec BA(Hons)
  Community Representative
Melanie Griffiths FRCR (UK)
  Diagnostic Imaging
Ali Hersi MD, PhD, FRCPC
  Emergency Medicine
Cindy James BScN
  Gastroenterology
David Jewell M S.W, MHSC
  Geriatrics
Graham Jones BSc, MSc, PhD. MD,
  FRCPC, FCCP
  Medicine
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  Laboratory Medicine
Rosanne Kent RN BA MHSc(M)
  Cardiology
Grigorios Leontiadis MD PhD,
  Gastroenterology
Steve Lloyd MD
  Family Medicine
Shelly McLean MBA
  Community Representative
Leslie Murray RT(R),BAppSc(MI), MA
  Medical Radiation
Katie Porter M.A., B.Ed.
  Contracts Specialist/Legal
Kesava Reddy MB BS FRCSC FACS
  Neurosurgery
Susan Rivers RN MSC (T),
  Geriatrics
Gita Sobhi BSc Phm
  Pharmacy
Brian Timmons PhD
  Pediatrics
Stephen Walter PhD
  Clinical Epidemiology & Biostatistics
Kathryn Webert MD
  Transfusion Medicine
Andrew Worster MD
  Emergency Medicine
Deborah Yamamura MD, B.Sc. Hons.
  Pathology & Molecular Medicine
Ed Younglai PhD
  Obstetrics/Gynecology

January 10, 2012

PROJECT NUMBER: 11-609

PROJECT TITLE: New Graduate Nurse Engagement in Interprofessional Collaboration: A Mixed Methods Study

PRINCIPAL INVESTIGATOR: Kathryn Pfaff
LOCAL PI: Dr. Pamela Baxter

This will acknowledge receipt of your letter on January 7, 2012 which enclosed a copy of all of the revised documents along with a response to the additional issues raised by the Research Ethics Board at their meeting held on December 20, 2011. Based on this additional information, we wish to advise your study has been given *final* approval from the full REB. The submission, Study Protocol version 1.0 dated November 10, 2011, including the letters of Information/Consent for the Survey and Interview, version 2.0 dated January 7, 2012, along with the Recruitment Poster (Appendix E), the Letter to Participant (Appendix K), the Reminder Card (Appendix L) and the Reminder Letter (Appendix M), all versions 2.0 dated January 7, 2012 was found to be acceptable on both ethical and scientific grounds. *Please note* attached you will find the Information/Consent Form with the REB approval affixed; all consent forms and recruitment materials used in this study must be copies of the attached materials.

We are pleased to issue final approval for the above-named study for a period of 12 months from the date of the REB meeting on December 20, 2011. Continuation beyond that date will require further review and renewal of REB approval. Any changes or revisions to the original submission must be submitted on an REB amendment form for review and approval by the Research Ethics Board.

The Hamilton Health Sciences/McMaster Health Sciences Research Ethics Board operates in compliance with and is constituted in accordance with the requirements of: The Tri-Council Policy Statement on Ethical Conduct of Research Involving Humans; The International Conference on Harmonization of Good Clinical Practices; Part C Division 5 of the Food and Drug Regulations of Health Canada; and the provisions of the Ontario Personal Health Information Protection Act 2004 and its applicable Regulations.

PLEASE QUOTE THE ABOVE-REFERENCE PROJECT NUMBER ON ALL FUTURE CORRESPONDENCE

Sincerely,

Suzette Salama PhD.,
Chair, Research Ethics Board

Appendix D: Ethics Approval of University of Windsor

Today's Date: April 12, 2012

Principal Investigator: Dr. Pamela Baxter/Mrs. Kathy Pfaff
REB Number: 30062
Research Project Title: REB# 12-069: New Graduate Nurse Engagement in Interprofessional
Collaboration Practice Assessment Tool (CPAT)
Clearance Date: April 9, 2012   Project End Date: August 31, 2012
Milestones: Renewal Due-2012/08/31(Pending)
_____

This is to inform you that the University of Windsor Research Ethics Board (REB), which is
organized and operated according to the Tri-Council Policy Statement and the University of
Windsor Guidelines for Research Involving Human Subjects, has granted approval to your
research project on the date noted above. This approval is valid only until the Project End Date.

A Progress Report or Final Report is due by the date noted above. The REB may ask for
monitoring information at some time during the project's approval period.

During the course of the research, no deviations from, or changes to, the protocol or consent form
may be initiated without prior written approval from the REB. Minor change(s) in ongoing studies
will be considered when submitted on the Request to Revise form.

Investigators must also report promptly to the REB:

a) changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the
study;
b) all adverse and unexpected experiences or events that are both serious and unexpected;
c) new information that may adversely affect the safety of the subjects or the conduct of the study.

Forms for submissions, notifications, or changes are available on the REB website:
www.uwindsor.ca/reb. If your data is going to be used for another project, it is necessary to
submit another application to the REB. We wish you every success in your research.

Pierre Boulos, Ph.D.
Chair, Research Ethics Board
301 Assumption University
University of Windsor   519-253-3000, 3948
Email: ethics@uwindsor.ca

The information contained in this e-mail message is confidential and protected by law. The
information is intended only for the person or organization addressed in this e-mail. If you share
or copy the information you may be breaking the law. If you have received this e-mail by mistake,
please notify the sender of the e-mail by the telephone number listed on this e-mail. Please
destroy the original; do not e-mail back the information or keep the original.

Appendix E: Authorization from CNO

COLLEGE OF NURSES OF ONTARIO
ORDRE DES INFIRMIÈRES ET INFIRMIERS DE L'ONTARIO

THE STANDARD OF CARE.
L'EXCELLENCE EN SOINS

101 Davenport Road, Toronto, Ontario
Canada M5R 3P1 **www.cno.org**
Telephone 416 928-0900
Toll Free (Ontario) 1 800 387-5526
Facsimile 416 928-6507

101, chemin Davenport, Toronto (Ontario
Canada M5R 3P1 **www.cno.org**
Téléphone 416 928-0900
Sans frais (Ontario) 1 800 387-5526
Télécopieur 416 928-6507

MAILING LIST AGREEMENT between College of Nurses of Ontario (CNO) and Kathryn Pfaff / McMaster University/University of Windsor.

Dear Kathryn Pfaff:

Hereunder are the Request Specification (Part A) and the Non-Disclosure / Confidentiality Agreement (Part B) for your signature. Please review the particulars on the form and confirm that it meets your selection criteria.

Part A: Request Specification

Request #: 12-004

Date Request Received: January 31, 2012

Contact Name: Kathryn Pfaff

Organization: McMaster University/University of Windsor

Mailing Address: 401 Sunset Avenue, Rm 324, Windsor, ON, N9B 3P4, Canada

Telephone Number (519) 253-3000 ext: 4977 **Fax Number** (xxx) xxx-xxxx **E-mail:** kpfaff@uwindsor.ca

Reason for Request: Title of Project: "New graduate Engagement in interprofessional collaboration: A mixed methods study"

Request for: (please check all applicable items)
 xxxxx CD (excel file format)

Information requested for:
xxxxx   Registered Nurses (General Class)

Expected completion date: March 9, 2012

Appendix F: Pilot Recruitment Flyer

McMaster
University

Inspiring Innovation and Discovery

Did you graduate from a BScN Program within the last three years?...

Are working as a Registered Nurse?

If yes, you are invited to pilot two surveys that are planned for use in a future research study.

The study is designed to explore how recently graduated registered nurses engage in interprofessional practice.

Both surveys should take only 15 to 20 minutes for you to complete.

Your participation is completely voluntary, and your responses will not be included in the study's findings.

If you are interested, please contact Kathy Pfaff

kpfaff@uwindsor.ca

519-253-3000 Ext. 4977

Appendix G: Letter to Participant

Dear Nursing Colleague,

Congratulations on completing your BScN degree, along with achieving your Registered Nurse designation!

My name is Kathryn Pfaff, and I am a PhD student in Nursing at McMaster University in Hamilton, Ontario. Together with my supervisor, Dr. Pamela Baxter and my supervisory committee, I am conducting a study to better understand how recently graduated registered nurses collaborate with other health care professionals. The purpose of this letter is to invite you to participate in this study.

As you are likely aware, teamwork is associated with better client outcomes. It also has been shown to retain nurses in the workforce. We are very interested learning about your experiences with interprofessional collaboration, and are asking for your participation in a 15 to 20 minute survey. Please be assured that your responses will be both anonymous and confidential.

Once you return your survey, you will automatically be entered into a draw for one of three participation prizes: (a) 1 Blackberry PlayBook tablet; (b) 1 gift certificate to Chapters valued at $100.00; or (c) 1 gift certificate to Chapters valued at $50.00.

Before completing the survey package, I ask that you read and sign the Letter of Information/Consent. Please contact me if you have any questions or concerns about the study. You will notice that there are two copies: one for you to keep and one to return. Please be sure that you sign the copy that is returned to me. A self-addressed and stamped envelope is included for your convenience.

The first part of the survey package asks questions about you and your employment in nursing. The second survey is an instrument designed to measure interprofessional collaboration. Instructions are provided on each survey tool. Please take the time to respond as best as you are able. Once you have completed both surveys, please seal them in the self-addressed and stamped envelope, along with your signed Letter of Information/Consent and place the envelope in the regular mail.

At the bottom of the Letter of Information/Consent, you will also notice that we will be conducting follow-up interviews with interested participants. Please indicate your interest in participating, and I will provide you with more details.

Thank you very much for your ongoing commitment to nursing research. Your voice may help us to better understand how to retain new graduate nurses in the workforce. I wish you the best in your chosen profession.

Sincerely,

Kathryn Pfaff, RN, PhD student

Local Principal Investigator:
Dr. Pamela Baxter
Department of Nursing
McMaster University
Hamilton, Ontario
(905) 525-9140 ext. 22290
E-mail: baxterp@mcmaster.ca

Student Investigator:
Kathryn Pfaff
Department of Nursing
McMaster University
Hamilton, Ontario
(519) 253-3000 Ext. 4977
E-mail: kpfaff@uwindsor.ca

Appendix H: Letter of Information for Consent (Survey)

LETTER OF INFORMATION / CONSENT

New Graduate Engagement in Interprofessional Collaboration: A Mixed Methods Study

Investigators:

Local Principal Investigator:	**Student Investigator:**
Dr. Pamela Baxter	Kathryn Pfaff
Department of Nursing	Department of Nursing
McMaster University	McMaster University
Hamilton, Ontario, Canada	Hamilton, Ontario, Canada
(905) 525-9140 ext. 22290	(519) 253-3000 Ext. 4977
E-mail: baxterp@mcmaster.ca	E-mail: kpfaff@uwindsor.ca

Research sponsor: Faculty of Nursing, University of Windsor

Purpose of the Study

You are asked to participate in a research study conducted by Kathryn Pfaff, a Registered Nurse, who is also a PhD student in Nursing at McMaster University, and her supervisor, Dr. Pamela Baxter, from McMaster University.

The purpose of this study is to learn more about how new graduate nurses collaborate with other health care professionals. The findings of this study will be used to partially fulfil the requirements of Kathryn Pfaff's doctorate degree in Nursing. More importantly, they will help educators, institutions, policy makers, and health care professionals to better understand how to support interprofessional collaboration among new graduate nurses.

If you volunteer to participate in this study, we ask that you complete the survey that is included in this package, and return your responses to us in the stamped and addressed envelope. The survey package consists of two questionnaires, and it will take you approximately 20 minutes to complete.

The first questionnaire asks questions about you and your employment in nursing. The second questionnaire (the Collaborative Practice Assessment Tool, Queen's University, 2009) is a survey tool that is designed to measure your engagement in interprofessional collaboration.

Potential Harms, Risks or Discomforts:

It is not likely that there will be any harms or discomforts associated with participation in this study. It is possible that you may find some questions to be personal, or that you might be concerned about others learning about your responses to the survey questionnaires. Be assured that your answers will remain confidential and anonymous. You do not need to answer questions that you do not want to answer, or that make you feel uncomfortable. You can withdraw from the study at any time. We describe below the steps being taken to protect your privacy.

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Potential Benefits

The research is not likely to benefit you in a significant way. However, we do hope that you feel some satisfaction in knowing that you have added to the body of knowledge related to new graduate nurses and how they engage with other health care professionals. We hope that what is learned as a result of this study will help us to better support interprofessional collaboration among new graduate nurses.

Payment or Reimbursement

After completing and returning your survey, you will be entered into in a draw for: (a) 1 Blackberry PlayBook tablet; (b) 1 gift certificate to Chapters valued at $100.00; and (c) 1 gift certificate to Chapters valued at $50.00. The draw will take place after the study is completed. Should your name be drawn, you will be notified by mail.

Confidentiality

You are participating in this study confidentially. We will not use your name or any information that would allow you to be identified. No one but members of the research team will know whether you participated unless you choose to tell them. Every effort will be made to protect your confidentiality and privacy. We will not use your name or any information that would allow you to be identified.

The information you provide will be kept in a locked desk/cabinet where only Kathryn Pfaff will have access to it. Information kept on a computer will be protected by a password. The information will be kept for 5 years, for possible use in future studies. After this time, the data will be destroyed.

b) Legally Required Disclosure

If legal authorities request the information you have provided, I may be required to reveal it.

Participation and Withdrawal

Your participation in this study is voluntary. It is your choice to be part of the study or not. If you decide to be part of the study, you can decide to stop, at any time, even after signing the consent form or part-way through the study. If you decide to withdraw, there will be no consequences to you. You have the option of removing data that is already collected. For example, you have the option of removing your data from the study OR information provided up to the point where you withdraw will be kept unless you request that it be removed. If you do not want to answer some of the questions you do not have to, but you can still be in the study. Your decision whether or not to be part of the study will not affect your nursing job or your registration as a nurse.

Information about the Study Results

We expect to have this study completed by approximately September 2012. If you would like a brief summary of the results, please let us know how you would like it sent to you.

Questions about the Study

If you have questions or need more information about the study before completing the survey, please contact us at:

Kathryn Pfaff   e-mail: kpfaff@uwindsor.ca   phone: (519) 253-3000 Ext. 4977

Dr. Pamela Baxter   e-mail: baxterp@mcmaster.ca   phone: (905) 525-9140 Ext. 22290

This study has been reviewed by the Hamilton Health Sciences/McMaster Faculty of Health Sciences Research Ethics Board (HHS/FHS REB). The REB is responsible for ensuring that participants are informed of the risks associated with the research, and that participants are free to decide if participation is right for them. If you have any questions about your rights as a research participant, please call The Office of the Chair, HHS/FHS REB at 905.521.2100 x 42013.

CONSENT

I have read the information presented in the information letter about a study being conducted by Kathryn Pfaff and Dr. Pamela Baxter, of McMaster University.

I have been provided the opportunity and information to contact the researchers about my involvement in this study and to receive additional details.

I understand that if I agree to participate in this study, I may withdraw from the study at any time. I have been given a signed copy of this form. I agree to participate in the study.

I would like to receive a summary of the study's results.   Yes   No

If yes, where would you like the results sent:

Email: _____

Mailing address: _____

_____

_____

_____   _____   _____
Name of Participant (Printed)   Signature   Date

_____   _____   _____
Person Obtaining Consent (Printed)   Signature   Date

To help better understand the findings of this survey, individual follow-up interviews will be conducted with new graduate nurses who are interested in participating.

I agree to be contacted for the purpose of participating in a follow-up interview. I understand that I can always decline the request.

Yes   No

Please contact me at: _____

Appendix I: Demographic Questionnaire

Demographic and Employment Questionnaire

Thank you for taking the time to complete this survey questionnaire. The following questions seek information about you and your employment in a registered nurse position.

Section One: General Demographics	
1. Age	_____ years
2. Gender	☐ Male ☐ Female ☐ I prefer not to respond
3. Please provide the year when you graduated from your BScN program	Year _____
4. Please indicate all of the professional designations that you **currently hold or have held in the past.**	☐ Registered Nurse ☐ Registered Practical Nurse ☐ Personal Support Worker ☐ Respiratory Therapist ☐ Physiotherapist ☐ Physiotherapist Assistant ☐ Occupational Therapist ☐ Occupational Therapist Assistant ☐ Social work ☐ Registered Dietician / Nutritionist ☐ Other (please specify) _____
Section Two: Employment Information in Nursing:	
5. Are you currently employed in a registered nurse position? 6. If yes, in how many registered nurse positions are you employed?	☐ Yes ☐ No ☐ One ☐ Two ☐ Three
7. In which practice sector are you employed? **Please check all that apply.**	☐ Hospital ☐ Community ☐ Long-term care ☐ Complex Continuing Care ☐ Other (please specify)_____
8. If you work in more than one practice sector, where do you most often work? **Please select only one option.**	☐ Hospital ☐ Community ☐ Long-term care ☐ Complex Continuing Care ☐ Other (please specify)_____

9. If you are employed in the hospital sector, please indicate the unit/area(s) in which you work? **Please check all that apply.**	☐ Medicine ☐ Surgery ☐ Medical-Surgical ☐ OR ☐ PACU ☐ ICU ☐ CCU ☐ Emergency ☐ Mental health ☐ Maternal-newborn care ☐ NICU ☐ Pediatrics ☐ Outpatient/Ambulatory care ☐ Nursing resource team ☐ Other (please specify) _____
10. If you are employed in the hospital sector, in which area/unit do you work **most often**? **Please select only one option.**	☐ Medicine ☐ Surgery ☐ Medical-Surgical ☐ OR ☐ PACU ☐ ICU ☐ CCU ☐ Emergency ☐ Mental health ☐ Maternal-newborn care ☐ NICU ☐ Pediatrics ☐ Outpatient/Ambulatory care ☐ Nursing resource team ☐ Other (please specify) _____
11. If you are employed in the community sector, please indicate the area in which you work. **Please check all that apply.**	☐ Public Health ☐ Community Care Access Centre ☐ Visiting Nursing Agency ☐ Community Health Centre ☐ Family Health Team ☐ Family Practice Office ☐ First Nations Centre ☐ Federal Health Service ☐ Urgent Care Centre ☐ Walk-in Clinic ☐ Hospital-based Clinic ☐ Community Clinic ☐ College / University ☐ Other (please specify)_____

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12. If you are employed in the community sector, please indicate the area in which you work **most often**. Please select **only one** option.	☐ Public Health ☐ Community Care Access Centre ☐ Visiting Nursing Agency ☐ Community Health Centre ☐ Family Health Team ☐ Family Practice Office ☐ First Nations Centre ☐ Federal Health Service ☐ Urgent Care Centre ☐ Walk-in Clinic ☐ Hospital-based Clinic ☐ Community Clinic ☐ College / University ☐ Other (please specify)_____

Please answer the remaining questions according to the setting where you work the most hours in the average week as a registered nurse.

13. Which of the following categories reflects your registered nurse position?	☐ Full-time ☐ Part-time ☐ Casual ☐ Temporary
14. Please indicate your position in nursing.	☐ Staff nurse ☐ Case manager ☐ Unit manager/middle manager ☐ Director of care ☐ Public health nurse ☐ Visiting nurse ☐ Educator ☐ Researcher / Research assistant ☐ Health promoter ☐ Other (please specify)_____
15. For how many months have you been employed in your current registered nurse position?	Number of months _____
16. Did you apply for this position through the New Graduate Guarantee Initiative? 17. If yes, for how many months is your position guaranteed?	☐ Yes ☐ No ☐ 12 weeks ☐ 13 to 16 weeks ☐ 17 to 20 weeks ☐ 21 to 24 weeks ☐ 25 to 28 weeks ☐ 29 to 32 weeks ☐ I am not sure

Reminder: Please answer all remaining questions according to the setting where you work the most hours in the average week as a registered nurse.	
18. Approximately how many hours per week do you work in this nursing position?	Number of hours _____
19. Do you belong to a nursing union?	☐ Yes ☐ No ☐ Not sure
20. Did you receive a formal orientation when you started this registered nurse position? If yes, how long did the orientation last?	☐ Yes ☐ No ☐ One week ☐ Two weeks ☐ Three weeks ☐ Four weeks ☐ Other, please specify _____
21. If you received a formal orientation, did your orientation include a preceptorship or mentorship? If yes, how long were you precepted or mentored?	☐ Yes ☐ No ☐ N/A ☐ One week ☐ Two weeks ☐ Three weeks ☐ Four weeks ☐ Other, please specify _____
22. Which of the following health care professionals are represented in your agency or institution?	☐ Registered Nurse ☐ Registered Practical Nurse ☐ Personal Support Worker ☐ Nurse Practitioner ☐ Clinical Nurse Specialist ☐ Physician ☐ Physician Assistant ☐ Pharmacist ☐ Physiotherapy ☐ Physiotherapy Assistant ☐ Occupational Therapy ☐ Occupational Therapy Assistant ☐ Social Worker ☐ Speech and Language Pathologist ☐ Audiologist ☐ Psychologist ☐ Registered Dietician / Nutritionist ☐ Pastoral Care ☐ Other, please specify _____

Reminder: Please answer the remaining questions according to the setting where you work the most hours in the average week as a registered nurse.

23. Which of the following health care professionals are represented on your immediate team?	☐ Registered Nurse ☐ Registered Practical Nurse ☐ Personal Support Worker ☐ Nurse Practitioner ☐ Clinical Nurse Specialist ☐ Physician ☐ Physician Assistant ☐ Pharmacist ☐ Physiotherapy ☐ Physiotherapy Assistant ☐ Occupational Therapy ☐ Occupational Therapy Assistant ☐ Social Worker ☐ Speech and Language Pathologist ☐ Audiologist ☐ Psychologist ☐ Registered Dietician / Nutritionist ☐ Pastoral Care ☐ Other, please specify _____
24. With approximately how many **different** disciplines of health care professionals do you work with **on a daily basis**?	☐ None ☐ One ☐ Two ☐ Three ☐ Four ☐ Five or more
25. How satisfied are you with the team of professionals with whom you work?	☐ Extremely satisfied ☐ Very satisfied ☐ Satisfied ☐ Dissatisfied ☐ Extremely dissatisfied
26. How confident do you feel engaging with other health care professionals on your team?	☐ Extremely confident ☐ Very confident ☐ Confident ☐ Non-confident ☐ Extremely non-confident
27. How close to where you work is your nurse educator's or professional practice leader's office located?	☐ Very close ☐ Close ☐ Somewhat close ☐ Not very close ☐ Not at all close ☐ N/A

Reminder: Please answer the remaining questions according to the setting where you work the most hours in the average week as a registered nurse.	
28. How accessible is your nurse educator or professional practice leader for meetings or consultation?	☐ Very accessible ☐ Accessible ☐ Somewhat accessible ☐ Not very accessible ☐ Not at all accessible ☐ N/A
29. How close to where you work is your manager's office located?	☐ Very close ☐ Close ☐ Somewhat close ☐ Not very close ☐ Not at all close ☐ N/A
30. How accessible is your manager for meetings or consultation?	☐ Very accessible ☐ Accessible ☐ Somewhat accessible ☐ Not very accessible ☐ Not at all accessible ☐ N/A
31. Does your unit or agency use any of the following team development strategies? Please check all that apply.	☐ Informal sharing or exchanges ☐ Regular team meetings for organizational administration ☐ Regular team meetings for case management ☐ Pre-established care protocols for specific client groups or problems ☐ Shared vision for practice ☐ Team-building sessions or workshops ☐ Joint continuing education sessions ☐ Other, please specify _____

Thank you again for taking the time to complete this survey.

Your responses are very valuable.

If you have any additional comments, please feel free to include them below:

Appendix J: Collaborative Practice Assessment Tool

(re-printed with permission of the Office of Interprofessional Education and Practice, Queen's University)

Office of Interprofessional Education and Practice

Integrating Health Sciences Across the Continuum

Queen's
UNIVERSITY

Collaborative Practice Tool

The content in the following statements contain items relevant to collaborative practice. Please respond to each statement from the perspective of the specific patient care team you work with most often.

Mission , Meaningful Purpose, Goals	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Mostly Agree	Strongly Agree
1. Our team mission embodies an interprofessional collaborative approach to patient/client care.							
2. Our team's primary purpose is to assist patients/clients in achieving treatment goals.							
3. Our team's goals are clear, useful and appropriate to my practice.							
4. Our team's mission and goals are supported by sufficient resources (skills, funding, time, space).							
5. All team members are committed to collaborative practice.							
6. Members of our team have a good understanding of patient/client care plans and treatment goals.							
7. Patient/client care plans and treatment goals incorporate best practice guidelines from multiple professions.							
8. There is a real desire among team members to work collaboratively.							
General Relationships							
9. Respect among team members improves with our ability to work together.							
10. Team members care about one another's personal well being.							
11. Socializing together enhances team work effectiveness.							
12. It is enjoyable to work with other team members.							
13. Team members respect each other's roles and expertise.							
14. Working collaboratively keeps most team members enthusiastic and interested in their job.							
15. Team members trust each other's work and contributions related to patient/client care.							
16. Our team's level of respect for each other enhances our ability to work together.							

Team Leadership	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Mostly Agree	Strongly Agree
17. Procedures are in place to identify who will take the lead role in coordinating patient/client care.							
18. Team leadership ensures all professionals needing to participate have a role on the team.							
19. Team leadership assures that roles and responsibilities for patient/client care are clearly defined.							
20. Team leadership discourages professionals from taking the initiative to support patient/client care goals.							
21. Team leadership supports interprofessional development opportunities.							
22. Our team leader models, demonstrates and advocates for patient/client-centered best practice.							
23. Our team leader is out of touch with team members' concerns and perceptions.							
24. Our team leader encourages members to practice within their full professional scope.							
25. Our team has a process for peer review.							
General Role Responsibilities, Autonomy							
26. Team members acknowledge the aspects of care where members of my profession have more skills and expertise.							
27. Physicians assume the ultimate responsibility for team decisions and outcomes.							
28. Team members negotiate the role they want to take in developing and implementing the patient/client care plan.							
29. Team members are held accountable for their work.							
30. It is clear who is responsible for aspects of the patient/client care plan.							
31. Physicians usually ask other team members for opinions about patient/client care.							
32. Team members feel comfortable advocating for the patient/client.							
33. Each team member shares accountability for team decisions and outcomes.							
34. Team members have the responsibility to communicate and provide their expertise in an assertive manner.							
35. Team members feel limited in the degree of autonomy in patient/client care that they can assume.							

Communication and Information Exchange	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Mostly Agree	Strongly Agree
36. Patients/clients concerns are addressed effectively through regular team meetings and discussion.							
37. Our team has developed effective communication strategies to share patient/client treatment goals and outcomes of care.							
38. Relevant information relating to changes in patient/client status or care plan is reported to the appropriate team member in a timely manner.							
39. I trust the accuracy of information reported among team members.							
40. Our team meetings provide an open, comfortable, safe place to discuss concerns.							
41. The patient/client health record is used effectively by all team members as a communication tool.							
Community Linkages and Coordination of Care							
42. Our team has established partnerships with community organizations to support better patient/client outcomes.							
43. Members of our team share information relating to community resources.							
44. Our team has a process to optimize the coordination of patient/client care with community service agencies.							
45. Patient/client appointments are coordinated so they can see multiple providers in a single visit.							

Decision-making and Conflict Management	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Nether Agree nor Disagree	Somewhat Agree	Mostly Agree	Strongly Agree
46. Processes are in place to quickly identify and respond to a problem.							
47. When team members disagree, all points of view are considered before deciding on a solution.							
48. Disagreements among team members are ignored or avoided.							
49. On our team, the final decision in patient/client care rests with the physician.							
50. In our team, there are problems that regularly need to be solved by someone higher up.							
51. Our team has an established process for conflict management.							
Patient Involvement							
52. Team members encourage patients/clients to be active participants in care decisions.							
53. Team members meet face-to-face with patients/clients cared for by the team.							
54. Information relevant to health care planning is shared with the patient/client.							
55. The patient/client is considered a member of their health care team.							
56. The patient's/client's family and supports are included in care planning, at the patient's request.							

Appendix K: Reminder Card

Dear Nursing Colleague,

A Friendly Reminder!

Three weeks ago, we sent you an invitation to participate in a research study that is being conducted to learn more about how recently graduated nurses collaborate with other health care professionals.

We are anxious to learn of your experiences. If you have already returned your survey package, we thank you very much for your participation.

If your survey package did not arrive, or if you would like us to send you another, please contact us and we would be very pleased to mail you another package.

Thank you very much for considering this important research.

McMaster University
Inspiring Innovation and Discovery

Local Principal Investigator:	**Student Investigator:**
Dr. Pamela Baxter	Kathryn Pfaff
McMaster University	McMaster University
Hamilton, Ontario	Hamilton, Ontario
(905) 525-9140 ext. 22290	(519) 253-3000 Ext. 4977
baxterp@mcmaster.ca	kpfaff@uwindsor.ca

Appendix L: Final Reminder Letter

McMaster
University

Inspiring Innovation and Discovery

Dear Nursing Colleague,

Several weeks ago, I sent you a survey package related to a study that I am conducting as part of my PhD studies, along with my supervisor, Dr. Pamela Baxter. Our goal is to better understand how recently graduated registered nurses collaborate with other health care professionals. We are still very interested in your experiences. As you are likely aware, teamwork is associated with better client outcomes. It also has been shown to retain nurses in the workforce.

We greatly value your input, and are asking for your participation in a 15 to 20 minute survey. Please be assured that your responses will be both anonymous and confidential.

Your participation will automatically enter you into a draw for one of three participation prizes: (a) 1 Blackberry PlayBook tablet; (b) 1 gift certificate to Chapters valued at $100.00; or (c) 1 gift certificate to Chapters valued at $50.00.

Before completing the survey package, I ask that you read and sign the Letter of Information/Consent. Please contact me if you have any questions or concerns about the study. You will notice that there are two copies: one for you to keep and one to return. Please be sure that you sign the copy that is returned to me. A self-addressed and stamped envelope is included for your convenience.

The first part of the survey package asks questions about you and your employment in nursing. The second survey is an instrument designed to measure interprofessional collaboration. Instructions are provided on each survey tool. Please take the time to respond as best as you are able. Once you have completed both surveys, please seal them in the self-addressed and stamped envelope, along with your signed Letter of Information/Consent and place the envelope in the regular mail.

At the bottom of the Letter of Information/Consent, you will also notice that we will be conducting follow-up interviews with interested participants. Please indicate your interest in participating, and I will provide you with more details.

Thank you very much for your ongoing commitment to nursing research. Your voice may help us to better understand how to retain new graduate nurses in the workforce. Once again, I wish you all the best in your chosen profession.

Sincerely,

Kathryn Pfaff, RN, PhD student

Local Principal Investigator:
Dr. Pamela Baxter
Department of Nursing
McMaster University
Hamilton, Ontario
(905) 525-9140 ext. 22290
E-mail: baxterp@mcmaster.ca

Student Investigator:
Kathryn Pfaff
Department of Nursing
McMaster University
Hamilton, Ontario
(519) 253-3000 Ext. 4977
E-mail: kpfaff@uwindsor.ca

Appendix M: Interview Schedule

Background Questions to Frame Interview:

Where do you currently work as a registered nurse?

How do you define interprofessional collaboration?

What disciplines of healthcare professionals are on your team?

Interview Questions:

1. In your experience, what does your team/unit do well in regards to collaborative practice?

2. In your practice, what do you think are the most difficult challenges to collaboration?

3. Can you describe any factors that facilitate or enhance your engagement in interprofessional collaboration?

4. Can you please describe any factors that are barriers to your engagement in interprofessional collaboration?

5. Can you tell me a bit about your confidence with interprofessional collaboration? (Remind participant of confidence level reported on survey.). What contributes to your past and current confidence in interprofessional collaboration?

Appendix N : Letter of Information for Consent (Interviews)

LETTER OF INFORMATION / CONSENT

New Graduate Engagement in Interprofessional Collaboration: A Mixed Methods Study

Investigators:

Local Principal Investigator:
Dr. Pamela Baxter
Department of Nursing
McMaster University
Hamilton, Ontario, Canada
(905) 525-9140 ext. 22290
E-mail: baxterp@mcmaster.ca

Student Investigator:
Kathryn Pfaff
Department of Nursing
McMaster University
Hamilton, Ontario, Canada
(519) 253-3000 Ext. 4977
E-mail: kpfaff@uwindsor.ca

Research sponsor: Faculty of Nursing, University of Windsor

Purpose of the Study

Recently, you completed a survey related to a research study that is being conducted by Kathryn Pfaff, a Registered Nurse, who is also a PhD student in Nursing at McMaster University, and her supervisor, Dr. Pamela Baxter, from McMaster University. You are now invited to participate in an individual interview that asks questions about your experiences with collaborative practice.
The findings of the overall study will be used to partially fulfil the requirements of Kathryn Pfaff's doctorate degree in Nursing. More importantly, they will help educators, institutions, policy makers and practitioners to better understand how to support interprofessional collaboration among new graduate nurses.

Procedures involved in the Research

The interview will be conducted by telephone, and it will be audio-taped. If you agree to participate, you will be asked to provide the researchers with a telephone number, date and time when you would like to be contacted for the interview. The researcher will contact you on the date and at the time that you have suggested. The interview will last approximately 45 minutes to one hour in length.

Potential Harms, Risks or Discomforts:

It is not likely that there will be any harms or discomforts associated with participation in this study. It is possible that you may find some questions to be personal, or that you might be concerned about others learning about your responses to the interview questions. Be assured that your answers will remain confidential and anonymous. You do not need to answer questions that you do not want to answer, or that make you feel uncomfortable. You can withdraw from the study at any time. We describe below the steps being taken to protect your privacy.

Potential Benefits

The research is not likely to benefit you in a significant way. However, we do hope that you feel some satisfaction in knowing that you have added to the body of knowledge related to new graduate nurses and how they engage with other health care professionals. We hope that what is learned as a result of this study will help us to better support interprofessional collaboration among new graduate nurses.

Payment or Reimbursement

After the interview, you will be entered into in a draw for: (a) 1 Blackberry PlayBook tablet; (b) 1 gift certificate to Chapters valued at $100.00; and (c) 1 gift certificate to Chapters valued at $50.00. The draw will take place after the study is completed. Should your name be drawn, you will be notified using the contact information that you have provided.

Confidentiality

You are participating in this study confidentially. We will not use your name or any information that would allow you to be identified. No one but members of the research team will know whether you participated unless you choose to tell them. Every effort will be made to protect your confidentiality and privacy. We will not use your name or any information that would allow you to be identified.

The information you provide will be kept in a locked desk/cabinet where only Kathryn Pfaff will have access to it. Information kept on a computer will be protected by a password. The information will be kept for 5 years, for possible use in future studies. After this time, the data will be destroyed.

b) Legally Required Disclosure

If legal authorities request the information you have provided, I may be required to reveal it.

Participation and Withdrawal

Your participation in this study is voluntary. It is your choice to be part of the study or not. If you decide to be part of the study, you can decide to stop, at any time, even after signing the consent form or part-way through the study. If you decide to withdraw, there will be no consequences to you. You have the option of removing data that is already collected. For example, you have the option of removing your data from the study OR information provided up to the point where you withdraw will be kept unless you request that it be removed. If you do not want to answer some of the questions you do not have to, but you can still be in the study. Your decision whether or not to be part of the study will not affect your nursing job or your registration as a nurse.

Information about the Study Results

We expect to have this study completed by approximately September 2012. If you would like a brief summary of the results, please let us know how you would like it sent to you.

Questions about the Study

If you have questions or need more information about the study before completing the survey, please contact us at:

Kathryn Pfaff   e-mail: kpfaff@uwindsor.ca   phone: 519-253-3000 Ext. 4977
Dr. Pamela Baxter   e-mail: baxterp@mcmaster.ca   phone: (905) 525-9140 ext. ext. 22290

This study has been reviewed by the Hamilton Health Sciences/McMaster Faculty of Health Sciences Research Ethics Board (HHS/FHS REB). The REB is responsible for ensuring that participants are informed of the risks associated with the research, and that participants are free to decide if participation is right for them. If you have any questions about your rights as a research participant, please call The Office of the Chair, HHS/FHS REB at 905.521.2100 x 42013.

CONSENT

I have read the information presented in the information letter about a study being conducted by Kathryn Pfaff and Dr. Pamela Baxter, of McMaster University.

I have been provided the opportunity and information to contact the researchers about my involvement in this study and to receive additional details.

I understand that if I agree to participate in this study, I may withdraw from the study at any time. I have been given a signed copy of this form. I agree to participate in the study.

I would like to receive a summary of the study's results.   Yes   No

If yes, where would you like the results sent:

Email: _____

Mailing address: _____
                        _____
                        _____

_____   _____ _____
Name of Participant (Printed)   Signature   Date

_____   _____ _____
Person Obtaining Consent (Printed)   Signature   Date

Appendix O: Letter of Permission (John Wiley & Sons)