Interprofessional Collaboration and the Introduction of Nursing Guidelines at Best Practice Spotlight Organizations

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Thesis submitted to the Faculty of Graduate and Postdoctoral Studies in partial fulfillment of the requirements for the degree of Master of Science in Nursing

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Abstract

Effective patient care requires interprofessional collaboration and decisions based on clinical guidelines. The goal of this study was to determine how interprofessional collaboration influences the introduction of nursing Best Practice Guidelines. This study was a secondary qualitative analysis of data obtained from interviews and reports from two selected sites (long term care and community health care) that demonstrated interprofessional collaboration during the introduction of nursing Best Practice Guidelines. Findings emphasized the importance of communication, the role of an interprofessional team, and the understanding of the roles of all involved in the introduction of discipline specific clinical guidelines. In addition, unregulated staff members were involved in leadership roles and their work was important in providing effective interprofessional collaborative care during the introduction of guidelines. Therefore, it is essential to appropriately involve all members of the interprofessional team, regardless of discipline or educational level, during the introduction of clinical guidelines. (Word count: 149, maximum word count: 150)

Acknowledgement

Many people have contributed to the completion of this thesis. I would like to express my gratitude to everyone who supported me during my studies and the writing of my thesis. First, I am sincerely grateful for the encouragement and guidance of Dr. Kathryn A. Smith Higuchi that helped me “float” above and within the data. She has been a tremendous mentor for me. Without her supervision and constant help this dissertation would not have been possible. Besides my supervisor, I would also like to express the deepest appreciation to the committee members Dr. Betty Cragg and Dr. Denise Harrison who volunteered their time, support, and brilliant comments and suggestions.

Second, I express my warm thanks to my mother and father. Words cannot express how grateful I am for all your encouragement for my continuing education, and for all of the sacrifices that you have made on my behalf. This gratitude extends to my husband. Thank you for providing me with the incentive to strive towards my goals.

Finally, I would like to thank the members of the Nursing Best Practice Research Centre especially, Dr. Barbara Davies for welcoming me and providing me with invaluable research experience.

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Introduction

Although customs and preferences often guide health care practices (Thomas, Dhanani, Irwin, Writer, & Doherty, 2010), evidence-based practice has been legally mandated for health care professionals and organizations (DiCenso, Guyantt, & Ciliska, 2005; Excellent Care for All Act, 2010). However, compliance with this mandate is hindered by the current gap that exists between knowledge created from research findings and the use of this knowledge in practice (MacDermid & Graham, 2009). This gap has led to a large number of patients being deprived of the best evidenced-based care (Asch et al., 2006; Bailie, Togni, Si, Robinson, & d'Abbs, 2003; Mangione-Smith et al., 2007).

Clinical practice guidelines are based on the best evidence currently available (DiCenso et al., 2005; McAlister, Van Diepen, Padwal, Johnson, & Majumdar, 2007; Zhang et al., 2007) and provide a tool for bridging the evidence-practice gap (Carnett, 2002; Woolf, Grol, Hutchinson, Eccles, & Grimshaw, 1999). However, the implementation of new research findings into practice has been below expectations (MacDermid, & Graham, 2009; Stetler et al., 2006; Stokke, Olsen, Espehaug, & Nortvedt, 2014). Additionally, once clinical guidelines are introduced, there is often a constant struggle to ensure that changes are sustained following the initial introduction. There is evidence to show that up to 70% of changes are not sustained within health care organizations (Beer & Nohria 2000; Davies et al., 2006).

To overcome obstacles to implementation of evidence based care, there are a variety of strategies that can be used to assist in introducing guidelines. Yagasaki and Komatsu (2011) determined that an organization should prioritize guideline implementation strategies by meeting all preconditions at the organizational (goal congruence), multidisciplinary (equal partnership), individual (professional self-development), and guideline (user-friendliness) levels. Numerous studies that relate to the implementation of guidelines were examined in a review by Powell et

al., (2012) who grouped a total of 68 implementation strategies into the categories of planning, educating, financing, restructuring, managing quality, and attending to the policy context.

In addition to analyzing appropriate strategies, research is currently being conducted to explore factors that affect the adoption of guidelines (Ploeg, Davies, Edwards, Gifford, & Miller, 2007; Marchionni & Ritchie, 2008). It is necessary to have a better understanding of the attributes that contribute to an organization's ability to sustain these changes as they can aid or hinder the change (Ford II et al., 2011). For this reason, it is important to ensure that strategies used to introduce guidelines are based on an understanding of the attributes that influence the implementation process.

One of the attributes shown to be a facilitator for the introduction of guidelines is effective interprofessional (IP) collaboration (Ploeg et al., 2007; Registered Nurses' Association of Ontario (RNAO), 2002b). IP collaboration is receiving increasing attention because the management of complex health conditions often requires input by healthcare workers from more than one discipline (Bronstein, 2002; Mariano, 1989; Petri, 2010; Thomas et al., 2010). IP collaboration has produced positive outcomes for patients (improved self-care, knowledge, and outcomes), practitioners (improved satisfaction, knowledge, skills, and practice behaviors) and the health systems (a broader range of services, improved access and resource utilization, and decreased wait times) (Canadian Health Services Research Foundation, 2007). Even though there is evidence that establishes benefits of IP collaboration in healthcare (Canadian Health Services Research Foundation, 2007), there is still a paucity of information on exactly how IP collaboration supports the introduction of guidelines.

A better understanding of the elements of guideline implementation in the context of interprofessionalism could lead to enhanced sustainability of the recommended changes. The purpose of this study was to explore the influence of IP collaboration on the introduction of guidelines through a secondary analysis of data collected as part of a larger study that examined the introduction and sustainability of the improvements to patient care resulting from

the implementation of several RNAO Best Practice Guidelines. The objectives of this study were to:

1. Examine the influence of organizational barriers and facilitators on the IP team's implementation of Best Practice Guidelines.
2. Describe the involvement of the IP team members during the introduction of guidelines.
3. Describe the influence of IP collaboration on the factors of Process, Staff and Organization during the introduction of guidelines.

Literature Review

A literature search on interprofessionalism in healthcare and the introduction of clinical practice guidelines was completed (see Appendix A for the search strategy). A broad search was originally done using the search terms “guideline implementation” and “interprofessional collaboration” with no limits in the Cumulative Index to Nursing and Allied Health Literature (CINAHL) database. Neither term was present as a major heading and yielded only one article after the terms were entered as “keywords”. A more comprehensive search using the same database was conducted using different terms related to “practice guidelines”, “interprofessionalism”, and “collaboration”, each separated by the word “or”. For “practice guidelines” these keywords included: “guideline Implementation”, “evidence-based practice”, “nursing practice, evidence-based”, “medical practice, evidence-based”, “professional practice, evidence-based”, “nursing practice, research-based”, “professional practice, research-based”, and “guideline adherence”. For “interprofessionalism” the keywords included: “interprofessional relations”, “nurse-physician relations”, “multidisciplinary care team”, “multidisciplinary collaboration”, and “interprofessional care”. Finally for “collaboration”, keywords included: “teamwork”, “cooperation”, and “partnership”. Each group of keywords was then combined with “and”. Due to a small number of articles published before the year 2000, limits of the literature search included peer reviewed articles published in English from 2000 until present, resulting in 180 potential articles. After a review of each article’s title and abstract, only 11 of these were relevant to this study’s purpose. Similar searches were conducted using PsychINFO and Medline. This search revealed 168 potential articles. Of these articles, 20 were found to be relevant to this current study based on a review of their titles and abstracts. The combined searches yielded 31 articles.

The search strategy also included websites and books, as well as, recommended readings from such sources as the thesis committee members and a bibliography from an undergraduate course on IP practice, taught and coordinated by the thesis supervisor. These

were limited to the English language from 2000 until present. Specific websites searched included the RNAO, Health Canada, The College of Nurses of Ontario, and the Canadian Nurses Association. Five relevant books, retrieved from the reference section of the journals, were included. All articles from recommended readings were retrieved for review. An extensive hand search was also completed using the references in articles and the Cochrane Library. The literature review was completed from the retrieved 31 articles, relevant books, websites, and recommended readings, as well as the handpicked articles.

The results of this review will be discussed with respect to evidence-based practice, clinical practice guidelines, the introduction of guidelines, and interprofessionalism. Evidence-based practice will be introduced first since it is the basis of clinical guidelines. This will then lead into a discussion of the introduction of guidelines in relation to Best Practice Guidelines. Next, interprofessionalism will be introduced and described while focusing on the elements of Interprofessional (IP) collaboration and its competencies.

Evidence-Based Practice

Evidence-based practice refers to clinical decision making based on patient values and information obtained from the best research and clinical expertise (Agency for Healthcare Research and Quality 2013; DiCenso et al., 2005). The movement towards evidence-based practice was started in 1972 by Archie Cochrane (Benech, Wilson & Dowell, 1996). Today, within Ontario, it is now legally mandated that all healthcare organizations and practitioners base health care decisions on the best evidence and clinical guidelines (Excellent Care for All Act, 2010).

Evidence-based practice facilitates healthcare workers to deliver high quality care based on research evidence (Ploeg et al., 2007). Ideally, as best evidence is published it will be incorporated into practice (MacDermid & Graham, 2009). However, a gap exists between knowledge created from research findings and the use of this knowledge in practice (Boaz, Baeza, & Fraser, 2011; Bryant, Boyes, Jones, Sanson-Fisher, Carey, & Fry, 2014; MacDermid

& Graham, 2009; McGlynn et al., 2003). Difficulty in utilizing current evidence-based research has been attributed to many factors including limited time available for implementation, inability to access new information, and difficulty appraising the research literature (DiCenso, Cullum, & Ciliska, 1998; Grimshaw, Eccles, Lavis, Hill, & Squires, 2012; Majid et al., 2011). This gap in the transfer of knowledge into practice hinders evidence-based care (Asch et al., 2006; Bailie et al., 2003; Graham & Tetroe, 2007; Mangione-Smith et al., 2007).

Clinical Practice Guidelines

Clinical practice guidelines are a summary of best evidence systematically developed for use in healthcare (Grol, Wensing, Eccles, & Davis, 2013; Higuchi, Davies, Edwards, Ploeg, & Virani, 2011a; Institute of Medicine, 2011) and are based on the best current evidence (DiCenso et al., 2005; McAlister et al., 2007; Zhang et al., 2007). Guidelines are developed by several different healthcare professional organizations, such as, nursing (Joanna Briggs Institute, 2012; RNAO, 2012a), medicine (the American Academy of Neurology, 2013; the British Thoracic Society, 2013), as well as general multidisciplinary groups (Association for the Advancement of Wound Care, 2012). To enhance clinician access, international organizations, such as the Guidelines International Network (2012), maintain databases of guidelines developed by international organizations. For this study, there will be a focus on the process of introducing nursing guidelines into practice. For the purpose of this literature review, the focus will be on clinical practice guidelines.

Clinical practice guidelines support evidence-based practice and enhance nursing care by enabling nurses to move above and beyond nursing care that relies solely on clinical practice experience (Higuchi et al., 2011a; RNAO, 2005b). The recommendations within the guideline, when implemented, can lead to practice and organizational change. The use of the guideline recommendations can improve effectiveness, efficiency, reduce inappropriate variations in practice, and improve patient outcomes (Medves et al., 2010). It is important to note that clinical practice guidelines are meant to be used as decision making tools and are not standards of

practice. They are meant to be flexible and to accommodate differing contexts based on varying factors such as patient preferences and wishes, ethics, and feasibility (RNAO, 2005b).

Guideline Implementation

Guideline implementation refers to the process of establishing the use of an evidence-based guideline in practice. The RNAO has taken the lead in Canada for development of guidelines relevant to nursing practice (RNAO, 2011b; White & Dudley-Brown, 2012) as part of the Nursing Best Practice Guidelines project. This project involves the development, pilot implementation, evaluation and dissemination of a series of clinical practice guidelines (RNAO, 2011b). The development process for the RNAO nursing guidelines is described in each guideline as being systematically developed using a critically appraised literature review with defined criteria to enhance credibility (RNAO, 2005b). The RNAO employs specific methods for guideline development, which include literature reviews, particularly systematic reviews and meta-analyses (RNAO, 2005b). To assist the development of a guideline, it is important to identify existing, high quality, relevant clinical practice guidelines and then to ensure they are critically appraised (RNAO, 2002a; RNAO, 2005a; RNAO, 2005c; RNAO, 2011c). There should also be a review of the literature to develop practice recommendations, which were not present in the existing guidelines when the process was developed (RNAO, 2002a; RNAO, 2005a; RNAO, 2005c; RNAO, 2011c). All recommendations within the new guidelines are based on either research evidence or expert opinion and consensus (RNAO, 2005b). Once completed, the guidelines undergo an extensive review by a range of stakeholders prior to dissemination (RNAO, 2005b). The draft guidelines are submitted for review by external stakeholders (RNAO, 2002a; RNAO, 2005a; RNAO, 2005c; RNAO, 2011c). The feedback is then reviewed and any relevant changes are incorporated into the guideline (RNAO, 2002a; RNAO, 2005a; RNAO, 2005c; RNAO, 2011c). After this process, the guidelines are further refined and reviewed before distribution (RNAO, 2002a; RNAO, 2005a; RNAO, 2005c; RNAO, 2011c).

In 2003 the RNAO formed the *Best Practice Spotlight Organization*© initiative (RNAO, 2011a) within the Nursing Best Practice Guidelines project. Within this initiative, both healthcare and academic organizations are selected to implement and evaluate Nursing Best Practice Guidelines (RNAO, 2011a). The selection process begins when interested organizations submit an application to become a *Best Practice Spotlight Organization*© candidate. These organizations must successfully complete a three-year candidacy period, after which time they are awarded the designation of *Best Practice Spotlight Organization*© (Higuchi, Downey, Davies, Bajnok, & Waggott, 2012).

The involvement of an IP team is integral during the development (Shekelle, Woolf, Eccles, & Grimshaw, 1999) and implementation of guidelines (Ploeg et al., 2007). For this reason the concept of interprofessionalism will be discussed in the following section.

Interprofessionalism

Because there are many different terms to describe IP collaboration, it is important to clarify the definitions for the key concepts in this study. Interprofessionalism is defined by activities such as, IP education, continuing education, learning, collaboration, and care (Reeves, 2009). Collaboration is a complex phenomenon that occurs when a group works towards shared aims and objectives (Gelling & Chatfield, 2001). IP collaboration refers to a process by which professionals from different IP groups collaborate to provide a unified approach to patient care (D'Amour, Ferrada-Videla, San Martin Rodriguez, & Beaulieu, 2005). In the following section interprofessionalism will be discussed by describing; the importance of interprofessionalism, the different elements of interprofessionalism, and the nationally defined IP competencies.

The importance of IP collaboration in practice is well documented. Primary research studies investigating the effect of IP collaboration on patient outcomes have found various positive results (Baggs et al., 1999; Lake et al., 2012). For example, in a cross-sectional analysis of outcome data of 49 Canadian acute care hospitals, it was found that there were

lower mortality rates when IP collaboration was present (Estabrooks, Midodzi, Cummings, Ricker, & Giovannetti, 2005). Also, in a randomized controlled trial in the United States patients, who received IP collaborative care, had a decreased length of stay (Curley, McEachern, & Speroff, 1998). Primary qualitative studies, researching the effect of IP collaboration, have also reported increased provider satisfaction (Hojat et al., 2001; McGrail, Morse, Glessner, & Gardner, 2009). These benefits of IP collaboration are considered so significant that collaborative practice guidelines are now being required for accreditation of healthcare agencies (Fewster-Thuente & Velsor-Friedrich, 2008).

Based on a review of the literature, there are several elements that are essential for effective IP collaboration. The four most common elements, namely; interdependence, trust, respect, and sharing will be explored further. The first element, interdependence, occurs when staff members with different responsibilities can achieve their goals only by working together in a cooperative manner that effectively utilizes their different expertise (Bronstein, 2002; Butt, Markle-Reid, & Browne, 2008). Within the collaborative team there is also some degree of deliberate meshing of the roles (Bronstein, 2002; Jones & Jones, 2011) that allows the team to reach productive compromises when there is disagreement (Bronstein, 2002). Interdependence also allows for flexibility within the role, as a healthcare worker who normally functions only as an associate working member may take on the role of leader for the group (Bronstein, 2002; Jones & Jones, 2011). It also encourages the team members to acknowledge that each member offers unique and valuable contributions towards attainment of the team's goals (Petri, 2010).

The second element, trust, is also essential for collaboration (Fewster-Thuente & Velsor-Friedrich, 2008; San Martin-Rodriguez, Beaulieu, D'Amour, & Ferrada-Videla, 2005; Wells, Johnson, & Salyer, 1998) and is the foundation of communication, respect, and sharing (Henneman, Lee, & Cohen, 1995). The presence of trust leads to increased collegiality and innovative working practices (Jones & Jones, 2011). There is evidence to suggest that in

trustful environments there is a decreased incidence of staff sickness or absenteeism and a reduction in adverse safety events with respect to patients (Jones & Jones, 2011). Trust has been noted to be dependent on time. For collaboration to occur, individuals need time to interact and develop a relationship (Fewster-Thuente & Velsor-Friedrich, 2008; San Martin-Rodriguez et al., 2005). Additionally, for trust to be present there is a requirement for patience and previous positive experiences (Henneman et al., 1995).

The third element, respect, is also essential for collaboration (San Martin-Rodriguez et al., 2005; Silen-Lipponen, Turunen, & Tossavainen, 2002; Wells et al., 1998) and involves understanding and recognition of the knowledge and skills that are brought to the group by other members (Henneman et al., 1995; San Martin-Rodriguez et al., 2005; Suter et al., 2009). Respect is founded in a commitment to a common goal (College of Dietitians of Ontario, 2008)

Finally, there is a shared responsibility among all group members in the process of attaining the group's goals (Bronstein, 2002). This element includes shared values, shared knowledge of one's own role, shared commitment to the working relationship, and shared responsibility for patient care (Bronstein, 2002; Henneman et al., 1995; Lindeke, & Sieckert, 2005; Petri, 2010; Suter et al., 2009; Wells et al., 1998). All members have an equal opportunity to be involved in the collaborative process (Petri, 2010; Yagasaki & Komatsu, 2011). It is also important that there are shared learning opportunities that lead to tolerance and respect and these learning experiences should be ongoing (Ginsburg & Tregunno, 2005).

In addition to the elements of IP collaboration, there are six nationally defined IP competencies that are considered essential for effective collaboration including: *role clarification*, *team functioning*, *patient/client/family/community-centred care*, *collaborative leadership*, *IP communication*, and *IP conflict resolution* (Canadian Interprofessional Health Collaborative (CIHC), 2010). *Role clarification* refers to the understanding of one's own role and the roles of persons in other professions and being able to use this knowledge appropriately to establish and achieve common goals (CIHC, 2010). *Team functioning* refers to the

understanding of the principles involved in the dynamics of team work and the processes that enable IP collaboration (CIHC, 2010). *Patient/client/family/community-centred care* refers to both the valuing of and the active involvement of clients as partners in designing and implementing care (CIHC, 2010). *Collaborative leadership* refers to the understanding and the ability to apply leadership principles in support of a collaborative practice model (CIHC, 2010). *IP communication* refers to communicating in a collaborative, responsive, and responsible manner with persons of other professions (CIHC, 2010). *IP conflict resolution* refers to the active engagement of all involved in a positive, constructive, and timely manner to address disagreements (CIHC, 2010). Several aspects of each of these competencies are exhibited when effective IP collaboration is present (CIHC, 2010).

There is currently a growing need for IP collaborative healthcare. The complexity of the health needs of patients and their families often requires the expertise of an IP team (Bronstein, 2002; Mariano, 1989; Petri, 2010; Thomas et al., 2010). However, there is still a paucity of information on exactly how IP collaboration supports the introduction of guidelines. There is a need for a better understanding of the attributes that contribute to an organization's ability to sustain changes made during the introduction of guidelines (Ford II et al., 2011). The following section will describe a model that has been used extensively to support organizational change.

The National Health Service (NHS) Sustainability Framework

The NHS in the United Kingdom advised that the best patient-centred outcomes in healthcare are attained when professionals work together to learn and analyze clinical outcomes, allowing them to develop innovations that lead to improved practice (Borrill et al., 2001). Innovations often accompany change. Sustaining an organizational change, such as one which requires the collaborative practice of an IP team, can be difficult (Thomas et al., 2010). To support organizational change, the NHS Institute for Innovations and Improvement developed the NHS Sustainability Model to identify factors that need to be considered when introducing change so that changes will continue beyond their initial introduction. The model

was developed using change management literature, as well as an analysis of group discussions of key elements (Maher, Gustafson, & Evans, 2009). This model includes a self-assessment tool to allow teams to first determine the readiness for change and then to help organizations find methods that may improve the likelihood that the change will continue beyond the initial introduction (Maher et al, 2009). The tool can also be used to create a foundation for continual improvement in the organization (Maher et al., 2009).

To better understand guideline introduction related to the IP team, the NHS Sustainability Model (Maher et al., 2009) was used to guide this current study (see Appendix B for the Sustainability Model). The model consists of 10 factors that need to be considered when introducing change to ensure it is sustained in the organization. These factors are organized into three groups: Process of Change; Staff Involvement in Change; and Organization's Support of Change (Ford II et al., 2011; Maher et al., 2009). The factors that relate to Process of Change include: *benefits beyond helping patients*, *credibility of the benefits*, *adaptability of improved process*, and *effectiveness of the system to monitor progress*. The factors related to Staff Involvement in Change include: *staff involvement and training to sustain the progress*, *staff behaviours towards sustaining the change*, *senior leadership engagement and support*, and *clinical leadership engagement and support*. The factors that related to Organization's Support of Change include: *fit with the organization's strategic aims and culture*, and *infrastructure*. Each factor will be discussed in turn in the following section.

Process of Change

Benefits beyond helping patients.

This factor refers to the organizational benefits related to guideline implementation that may increase the likelihood of sustainability and the communication of those benefits to staff (Higuchi et al., 2012). An effort must be made by the organization to ensure that there is an increased awareness of the effect that change has on both the roles and the responsibilities of the staff (Clements, Dault, & Priest, 2007; Maher et al., 2009), as real or perceived benefits will

have a positive effect on sustainability. In examining this factor, with respect to IP collaboration, it is important to ensure that the IP team is aware of the specific benefits of the proposed change which would affect their roles and responsibilities (Clements et al., 2007; Maher et al., 2009). Communication is important for the introduction of guidelines as communication to staff of the expected benefits from the change may increase the chance of successful implementation. For example, in a sustainability framework for organizational change, Maher et al., (2009), suggested that staff members who feel they are kept well informed are more likely to feel that the benefits can allow them to make better use of their skills and abilities.

Credibility of the benefits.

This factor refers to stakeholder acceptance that the planned changes are evidence-based, easily understood and clearly presented (Maher et al., 2009). It is important to ensure that the organizational benefits are greater than those obtained with the existing process, are identified, and are clearly communicated to the stakeholders (Maher et al., 2009). Stakeholders who understand the benefits of the change are more likely to support, accept, and participate in the change. Thus, it is important to illustrate the enhanced benefits derived from the new methods and then to communicate those organizational benefits to the stakeholders, ensuring that they both understand and believe the evidence (Maher et al., 2009). To further elicit the support of stakeholders, the quality of the guidelines can be assessed using instruments such as the AGREE II Instrument (Brouwers, et al., 2010). In analyzing this factor with respect to IP collaboration, there are several issues that need to be taken into consideration. For example, the IP team needs to use credible evidence to provide best care (Medves et al., 2010). It is also important that the benefits of the change be perceived as being derived from credible evidence (Maher et al., 2009).

Adaptability of improved process.

This factor involves ensuring that the change will be able to adapt to barriers, such as other changes within the organization with which it may be in conflict (Maher et al., 2009) as

well as determining how the changed process fits with and supports other organizational changes (Higuchi et al., 2012). It is important to evaluate the current processes and systems in the organization to determine how they may affect the introduction of guidelines. The changes that occur as a result of the adoption of guideline recommendations should allow users to be able to take advantage of other existing organizational changes during the implementation stage (Maher et al., 2009). The recommendations must also blend with or support other organizational changes to enhance sustainability (Maher et al., 2009).

In assessing this factor with respect to IP collaboration it is important to understand that to ensure sustainability the introduction of guidelines should not be dependent on a specific individual or group (Higuchi et al., 2012). For the sustained implementation of guidelines, changes must be able to continue even if there are changes to the staff involved. An IP team also needs to be adaptable and flexible enough to work through professional boundaries (Molyneux, 2001) otherwise conflicts between the IP team members may arise (Brown et al. 2011). The presence of an effective IP team that is adaptable and flexible can enhance the introduction of guidelines.

Effectiveness of the system to monitor progress.

This factor refers to the presence of methods to ensure continual monitoring and feedback of the progress of the organizational changes that last beyond the life of the initial implementation (Higuchi et al., 2012; Maher et al., 2009; RNAO, 2012b). After the onset of the full-scale implementation it is important to determine from the baseline data if the desired amount of improvement has been achieved and if there were adequate resources in place to effectively carry out the monitoring process (Chaillet et al., 2006; Maher et al., 2009; RNAO, 2012b). It is also important to use the information collected at this time as a foundation to determine if the type and amount of assessment used was sufficient and appropriate for future monitoring (Maher et al., 2009). To help quantify this assessment, measurement of the quality of healthcare obtained after the introduction of change can be obtained using a system analysis

such as devised by Donabedian (1988). He proposed that data collected under the systems of Structure, Process, and Outcomes might help individuals to make inferences about the quality of care, such as those related to the introduction of organizational change. In Donabedian's framework, Structure refers to the context in which care is provided; Outcomes refers to the effect of the healthcare provided on the healthcare system; and Process refers to what is actually done in healthcare (Donabedian, 1988).

It is important that staff continually self-assess during the introduction of guidelines to make sure that they are effectively implementing and improving the planned change (Maher et al., 2009). The analysis and communication of these assessments are crucial to ensure that the introduction of the change leads to ongoing improvement. Any data collected during the introduction of guideline recommendations, should be shared with the stakeholders to increase sustainability. When areas that need improvement are revealed through these analyses, there needs to be a plan in place to act effectively on this information (Maher et al., 2009). In analyzing this factor with respect to IP collaboration, it can be noted that reflection is also an important and a valid form of self-assessment practice within IP collaboration (Dumont, Briere, Morin, Houle, & Iloko-Fundi, 2010; Mellin et al., 2010). This reflective nature of the IP team members may be an asset during the introduction of guidelines.

Staff Involvement in Change

Staff behaviours towards sustaining the change.

This factor refers to the degree to which stakeholders are encouraged to express their ideas about the change and how the change may be modified based on their feedback (Higuchi et al., 2012). Successful guideline implementation is affected by the characteristics of the stakeholders (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). The staff's attitudes, beliefs, and feelings play a key role during the introduction of change (Maher et al., 2009; Ploeg et al., 2007). It is important to involve staff, listen to their concerns, and where possible, act on their suggestions and investigate their concerns. This approach helps to create a sense of

enhanced autonomy, confidence, knowledge, problem solving, and professional pride, all of which can have a beneficial effect on sustainability (Maher et al., 2009; Matthew-Maich, Ploeg, Dobbins, & Jack, 2010). Listening to suggestions and concerns also provides a better understanding of potential problems so that solutions may be found in advance of any crisis. Negative staff attitudes and beliefs may act as barriers to successful implementation (Ploeg et al., 2007). Therefore, having insight into the staff's existing attitudes and behaviors would be advantageous, since action could be taken to address these issues in advance of implementation (Ginsburg & Tregunno, 2005).

Some individuals may be more resistant to change than others (Blomkalns et al., 2007) and guideline compliance may vary across professions (Lau, Banaszak-Holl, & Nigam, 2007; Maher et al., 2009; Thomas et al., 2010). Staff need to believe that the change is possible, sustainable and important (Higuchi, Downey, Davies, Bajnok & McConnell, 2011b; Maher et al., 2009; Ploeg et al., 2010; Thomas et al., 2010). Perceptions of guidelines often vary by profession (Lau et al., 2007; Reinhardt & Keller, 2009). For example, in a survey of attitudes of long-term care staff, physicians perceived guidelines as reference tools, whereas other healthcare professionals, such as pharmacists, saw them as rules for clinical practice (Lau et al., 2007). To ensure successful change with the introduction of a guideline, each IP group member needs to believe that the planned change can lead to improved patient outcomes and working conditions (Ploeg et al., 2007).

Staff involvement and training to sustain the progress.

This factor refers to the extent of involvement by the staff during guideline implementation and the related activities that help to develop staff confidence and skills related to new changes (Higuchi et al., 2012). Because they are directly involved in practice, the staff may be better able to identify any current or potential barriers that require modification prior to implementation (Higuchi et al., 2012). Additionally, the involvement of staff can have the effect of making them feel important and motivated towards practice change (Maher et al., 2009).

During the implementation of the guideline, the IP team should be supported by the organization (Thomas et al., 2010). Strategies for the introduction of guidelines should be evaluated for appropriateness of use by the IP team. It is important to ensure that the IP team is engaged from the beginning of the guideline implementation, and that they are educated in any necessary new skills (Blomkalns et al., 2007; Higuchi et al., 2012; Kotter & Schlesinger, 1979; Maher et al., 2009; Ploeg et al., 2010; RNAO, 2012b). This education may have an added benefit, since individuals who see the change as part of their own journey are more likely to support and sustain it (Maher et al., 2009).

Individuals often change their behavior based on the assumptions, values and beliefs held by their peers (Ploeg et al., 2007). Therefore, IP collaboration may be an important element in the learning and behavioral changes required for the introduction of guidelines (Ploeg et al., 2007). Social interactions among IP team members have been shown to be important in the introduction of guidelines (Ploeg et al., 2007). The IP team needs to be educated and included during the introduction of guidelines (Blomkalns et al., 2007; Chaillet et al., 2006; Maher et al., 2009; Thomas et al., 2010). Engagement and involvement of appropriate stakeholders within the IP team has been shown to be a facilitator during the introduction of guidelines (Blomkalns et al., 2007; Higuchi et al., 2012; Kotter & Schlesinger, 1979; RNAO, 2012b). Thus, it is important that the IP team members receive appropriate education, and be provided with opportunities for discussion of barriers and facilitators related to the guideline`s recommendations (Medves et al., 2010).

Engagement of senior and clinical leaders.

Leader engagement refers to the degree of involvement and support for the introduction of guidelines by senior leaders, such as administrators, and by clinical leaders, such as nurse managers and Advanced Practice Nurses (Higuchi et al., 2012). It is essential that those in positions of power, such as senior administrators, be involved in and supportive of the introduction of guidelines (Gifford, Davies, Edwards, Griffin, & Lybanon, 2007; Gifford et al.,

2008; Maher et al., 2009; Ploeg et al., 2007). The leaders must engage with other staff members in mutually respectful interactions from the beginning (Ginsburg & Tregunno, 2005; Maher et al., 2009). Additionally, leaders should be encouraged to take responsibility for the sustainability of the change, communicating their support and working to break down any barriers that may be present (Higuchi et al., 2012; Maher et al., 2009). The role of the leader should also involve encouraging staff to participate in guideline implementation activities by attending planning and educational sessions along with their staff (Ploeg et al., 2007).

Both IP collaboration and leadership are seen as critical to the sustainability of guidelines. Although support from senior leaders is essential for the successful implementation of guidelines, it does not imply that this leadership must be hierarchical in nature (Maher et al., 2009). Leadership can come from any level within an organization (Maher et al., 2009). The most effective leadership is provided by a team that is dynamic, motivated, and highly capable such as an IP team (Sniuff, Cook, Giacomini, Heyland, & Dedoek, 2007). In general, guidelines cannot be implemented under the leadership of one individual within an organization. It takes several individuals to lead the change, all within their spheres of influence and activity (Maher et al., 2009). Leaders can successfully influence the introduction of guidelines in an environment that is non-hierarchical (Sinuff, Cook, Giacomini, Heyland, & Dodek, 2007). Since IP collaboration promotes a non-hierarchical culture (Henneman et al., 1995; Orchard, Curran, & Kabene, 2009), leaders should not only create and support a vision that embraces evidence-based practice, but also ensure it promotes interprofessionalism (Ginsburg & Tregunno, 2005; Ploeg et al., 2007).

Organization's Support of Change

Fit with the organization's strategic aims and culture.

It is important to ensure that there is a link between the organization's goals and vision and the intended change (Maher et al., 2009; Greenhalgh et al., 2004). This factor refers to the degree to which changes being implemented are clear and consistent with the organization's

vision for improvement and have been effectively communicated to the staff (Higuchi et al., 2012). This factor also refers to the degree to which the changes are compatible with the organization's culture, broadly defined by, but not restricted to, communication, teamwork, and conflict resolution within the organization (Dodeck et al., 2010). The changes must also be compatible with subcultures within the organization, since they may have an influence on the overall organization culture (Davies, Nutley, & Mannon, 2000). One subculture is a professional culture defined by the values, beliefs, attitudes, customs and behaviors of its members (Hall, 2005). It is important that the changes be compatible with the subcultures, since they may have an influence of the overall organizational culture (Davies et al., 2000).

Even though an organization chooses to implement change, which is compatible with its vision, certain attributes of an organization play a large role in the change being realized. Ideally, the organization should support an enabling culture to enhance the adoption of recommended changes (Sinuff et al., 2007). If the organizational culture is one in which all of its healthcare workers are encouraged to share the organization's value of implementing change, such as with guideline implementation, the change may be easier to effect (Sinuff et al., 2007). These changes may also be more apt to be implemented if the organizational culture is reflective of one in which the power structure is non-hierarchical (Clements et al., 2007; Lau et al., 2007), such as, one in which IP collaboration can occur.

When planning for the implementation of change, the concerns and culture of all stakeholders involved should be taken into consideration (Blomkalns et al., 2007). Strategies for the introduction of guidelines should address any barriers related to the social, organizational and environmental context in which the guideline is being established (Ploeg et al., 2007). Thus, it is important to assess the structural and cultural characteristics of the organization before initiating the change (Greenhalgh et al., 2004).

Professional cultures can act as a barrier to IP collaboration in the introduction of guidelines (Reinhardt, & Keller, 2009), for example, by creating communication barriers

between professions (Hall, 2005). Research from industries outside healthcare has demonstrated that organizational culture can have an effect on individual perceptions, attitudes, and behaviors (Dodek, Cahill, & Heyland, 2010). Developing a shared knowledge and perception of evidence-based guidelines among professional groups is key for guideline implementation (Lau et al., 2007). Thoughtful discussions must occur among stakeholders to insure that conflicts arising from differing interpretations of the guideline are judiciously resolved (Lau et al., 2007; Maher et al., 2009). IP collaboration is an element of organizational culture (Dodek et al., 2010; Ploeg et al., 2010); therefore, to ensure sustainability it is important that the IP team be committed to the change and that the guideline recommendations fit with what the IP team deems to be a priority (Henneman et al., 1995; Thomas et al., 2010).

Infrastructure.

Infrastructure for sustainability refers to the development of new, or the modification of existing, policies, procedures, and physical resources for the purpose of sustaining the implemented guideline (Higuchi et al., 2012). The planned change must be examined in terms of the organization's current staff, facilities, equipment, job descriptions, policies, procedures and communication systems (Greenhalgh et al., 2004; Higuchi et al., 2012; Maher et al., 2009; Ploeg et al., 2007). Adequate time, resources, and an opportunity for IP collaboration are essential for the implementation of guidelines (Ginsburg & Tregunno, 2005; Ploeg et al., 2007). When introducing change, it is important to note that insufficient resources, such as shortages in staff, as well as inadequate time for staff to attend implementation activities such as educational sessions, can negatively affect guideline sustainability and IP collaboration (Clements et al., 2007; Ploeg et al., 2007; San Martin-Rodriguez et al., 2005). If these conditions cannot be met, it needs to be determined what modifications should be made to either the organization or the implemented change so that the change will fit.

Summary

This literature review explored the current understanding of IP collaboration and of the introduction of guidelines with respect to sustainability of change. There is little data in the literature specifically addressing the influence of IP collaboration on the introduction of guidelines. The literature suggests that an IP collaborative team could have a positive influence on the introduction of guidelines. However, there is little information to show how IP collaboration influences the factors that need to be addressed during the introduction of guidelines.

Methods

The primary research study, *Guideline Implementation for Improved Clinical Outcomes* study (also known as the GICOM study) upon which this secondary study was based, was a longitudinal, multi-site, mixed methods study funded by the Registered Nurses' Association of Ontario (RNAO) and the Ontario Ministry of Health and Long-Term Care, and co-led by Davies and Higuchi (2013). Permission to use the data was obtained from the principal investigators Drs. Davies and Higuchi (see Appendix C for permission for use of data). The purpose of the original study was to investigate the sustainability of the improvements to patient care resulting from the implementation of nursing guidelines. Four research questions guided the study of Davies and Higuchi (2013):

1. What is the impact of implementing the RNAOs Best Practice Guidelines in a multi-site study on priority patient targets and outcomes over two years?
2. What factors predict statistically significant and sustained improvements in client/patient outcomes?
3. What activities do decision-makers in health care organizations use to assist nurses' and other health professionals to achieve targeted, priority client/patient care outcomes related to the RNAO's Best Practice Guidelines?
4. What challenges and supports are encountered when implementing strategies to improve selected client patient outcomes over time?

Pre and post data were collected from nine sites including teaching hospitals (n=3), community hospitals (n=2), long term care facilities (n=1), community health agencies (n=2), and community health centers (n=1). All sites had applied for and received funding from the RNAO *Best Practice Spotlight Organization*© program to support guideline implementation activities. To gain the perspectives of different participants, interviews were conducted with direct care providers (DCPs), senior leaders (SLs), and steering committees (SCs) at baseline and endpoint (approximately two years later). At endpoint, the interview guides were modified

and new interview guides were developed to capture the perspective of the clinical leaders (CLs). Interview questions were designed to elicit an understanding of the participants' involvement in guideline implementation and their perceptions of the barriers and facilitators for sustained guideline implementation. Although the sites were involved in the implementation of multiple guidelines, for the purpose of the GICOM study each site was required to focus on one guideline and the development of monitoring processes and the measurement of outcomes.

The Current Study

Design

This study is a qualitative, secondary analysis of interview and document data collected during the *Guideline Implementation for Improved Clinical Outcomes* (also known as the GICOM) study that was conducted during 2010-2012 (Davies et al., 2013). During the original study, interprofessional (IP) collaboration was not a primary focus, but emerged as an important concept during data analysis. For this reason, a secondary analysis was selected to explore this concept in more depth for this study (Herron, 1989; Long-Sutehall, Sque, & Addington-Hall, 2011). Additionally, the use of data that had already been collected saved process steps that might otherwise have been timely, costly (Polit & Beck, 2008; Szabo & Strang, 1997) and burdensome on participants (Estabrooks & Romyn, 1995; Fielding, 2004). The goal for this study was to determine how IP collaboration influenced the introduction of clinical guidelines. The questions and methods from the primary study guided the choice of questions in the current study. This is recommended when conducting a secondary analysis (Long-Sutehall et al., 2011).

The following questions guided the current study:

1. How did organizational barriers and facilitators influence the IP team's implementation of the RNAOs Best Practice Guidelines?
2. How were the IP team members involved in the introduction of the RNAO's Best Practice Guidelines?

3. How did IP collaboration influence the 'Process', 'Staff' and 'Organization' factors during the introduction of the RNAO's Best Practice Guidelines?

Data Sources

A lack of control over how the original research was conducted, generated, or recorded can be a disadvantage when doing a secondary analysis (Jacobson, Hamilton, & Galloway, 1993). Thus, discussions were conducted with the GICOM study principal investigators to verify that the data collected would be appropriate (Long-Sutehall et al., 2011). Additionally, one of the co-principal investigators was the thesis supervisor for the current study and had personally conducted the majority of the interviews at five of the nine sites. To provide in-depth contextual information, only these five sites where considered for the secondary analysis (Long-Sutehall et al., 2011). The criteria for inclusion of data in the current study were: a) direct involvement of the thesis supervisor during the primary data collection, and b) evidence that the IP team members from each organization were involved in the guideline implementation process, such as participation in the *Best Practice Spotlight Organization*© SC. Of the five potential sites, two sites included only nursing staff and the third site was unable to continue the project. Thus, two sites from the original study that met the selection criteria were included in the current study: a long-term care facility and a community healthcare clinic.

The guideline focus for the GICOM study varied by site: *Prevention of Falls and Fall Injuries in the Older Adult (*RNAO, 2005d) was introduced at the long-term care facility, and *Integrating Smoking Cessation into Daily Nursing Practice* (RNAO, 2007) was introduced in the community healthcare clinic. Although the GICOM study focused on only one guideline per site, participants also provided information related to other RNAO Best Practice Guidelines that were implemented at their sites.

Data sources (collected at baseline and endpoint) from the two selected sites in the original study were reviewed for IP collaboration with respect to the introduction of guidelines to gain an understanding of the perspectives of the participants. Data sources from the original

study included: pre and/or post transcripts of interviews from the SLs (n=9), the DCP (n=17), and the SCs (n=4) as well as endpoint transcripts for the CLs (n=3); and documents shared by the sites, such as the annual reports submitted to the RNAO. Different interview guides had been used for each of the participant groups (e.g. SL vs. SC). The designation of each interview participant's category was determined in the original study. The category of DCP included registered nurses, registered practical nurses, nurse practitioners, personal support workers, physicians, and other health disciplines. The category of SL included quality assurance managers, senior administrators, or patient safety officers. The category of CL included advanced practice nurses, BPSO guideline leaders, nurse educators, and nurse managers.

Data Analysis

A qualitative, descriptive approach was used to analyze the data (Elo & Kyngas, 2007; Neergaard, Olesen, Andersen, & Soundergaard, 2009). During the original study the interviews were transcribed verbatim, and entered into the NVivo ® 8 qualitative data analysis software program by the primary study research team. Initially, in the current study, the interview transcripts were read through in their entirety to gain an overall understanding of the data and to identify several broad key topics (Morse & Field, 1995). Any insights or reflections by the researcher, noted while reading the data, were recorded (Milne & Oberle, 2005). Overall, the data were analysed for the presence of similar phrases and patterns (Milne & Oberle, 2005). Any commonalities and differences were referenced and identified for further analysis (Milne & Oberle, 2005). Representative quotes were selected as exemplars and the data sources were identified as SLs, DCPs, CLs, SCs, or the reports. To be inclusive, relevant references to individuals involved directly or indirectly in care, such as volunteers, families, and patients were also included as IP team members. To enhance readability, utterances such as, 'like' and 'you know', were removed.

To determine the organizational characteristics of each participating site, data from both the interviews and the reports were analyzed inductively and categories related to organizational characteristics were developed. The categories were limited to no more than 15 categories that were broad enough to include all relevant data (Morse & Field, 1995). Once all the initial categories were established, the data was then further divided into subcategories (Morse & Field, 1995) through collaboration with the thesis supervisor and in consultation with the literature. Those organizational characteristics relating to the IP collaboration were then selected. The categories were then organized according to whether the characteristic was described in a positive or negative manner (indicating that the characteristic was either a barrier and/or strength for the organization).

A deductive process was used to examine how an IP team was involved in the introduction of the RNAO's Best Practice Guidelines. The IP teams' involvement in implementation activities was coded using a previously established coding framework. The coding framework selected for this study was originally developed by Higuchi et al., (2012) using the NHS model as a guide to examine implementation activities. The coding framework was then employed in the GICOM study as a template and further refined (Davies et al., 2013). Criteria for determining IP involvement included those implementation activities that 1) had occurred during the study period, 2) were identified as either having participation from two or more different IP group members or 3) involved "all staff", as indicated by notes in the document. This decision allowed the researcher to be able to focus on those activities that clearly demonstrated the involvement of multiple healthcare workers. To be more inclusive of the patient and family involvement as IP team members, all references to 'Staff' in the original GICOM activity table were changed to 'stakeholders' when appropriate. Additionally, activity categories of "Nursing staff participate on Best Practice Guidelines steering committees" and "Inter-professional staff participate on committees" were combined into "Participate on Best

Practice Guidelines steering committee" to make a single activity, which included all stakeholders. Matrices were created to summarize the data from each site.

Employing both the National Health Service (NHS) Sustainability Model and the Canadian Interprofessional Health Collaborative (CIHC) framework a descriptive deductive analysis was used to determine how IP collaboration influenced the Process, Staff, and Organizational sustainability factors, (CIHC, 2010; Maher et al., 2009). The NHS model was chosen for two reasons. First, in the primary study there was an emphasis on the NHS model, making the use of this model in the current study a logical extension of the primary study. Second, the NHS model was specifically developed to support organizational change by identifying factors that influence the implementation of this change. Using this model to investigate the effect that IP collaboration may have on these factors should give some insight into the role of IP collaboration in implementing change. Since the National Interprofessional Competencies were used to define the essence of an IP team, the definitions and explanations in the framework were used to help guide the coding of the data in the current study (CIHC, 2010). Based on the CIHC's classification the data were categorized according to the IP competencies: *role clarification, team functioning, patient/client/family/community-centred care, collaborative leadership, IP communication, and IP conflict resolution* (CIHC, 2010). Next, the data were further categorized based on the 10 factors in the NHS model: *benefits beyond helping patients credibility of the benefits*, *adaptability of improved process*, *effectiveness of the system to monitor progress, staff involvement and training to sustain the progress*, *staff behaviours towards sustaining the change*, *senior leadership engagement and support*, *clinical leadership engagement and support*, *fit with the organization's strategic aims and culture,* and *infrastructure* (Maher et al., 2009).

Ethical Considerations

There are ethical considerations related to secondary analysis, such as how to obtain consent from the original participants as the data would be reused for a purpose other than that

originally agreed upon (Heaton, 2008). To address this issue, a letter of information and consent (see Appendix E for the cover letter and Appendix F for the consent form and information sheet) was sent to the Senior Leader of each organization. The participating organizations did not have established ethics review boards and accepted the approval by the University of Ottawa ethics board for the GICOM study (see Appendix G for the ethics approval). They were also informed that they had the right to withdraw from the current research study at any point in time without any negative consequence.

To ensure confidentiality and anonymity of participants, all identifying information was removed and participants were grouped. Direct quotes from participants were identified through codes (Thorne, 1998). All information collected and used was kept in a secure location within the Nursing Best Practice Research Center. Ethical approval for secondary analysis was obtained from the University of Ottawa Ethics Board prior to any data analysis for the current study.

Results

The purpose of this study was to explore the influence of interprofessional (IP) collaboration on the introduction of guidelines. This was accomplished using a secondary analysis of data collected as part of a larger study that examined the introduction and sustainability of the improvements to patient care resulting from the implementation of the Registered Nurses' Association of Ontario (RNAO)'s Best Practice Guidelines. The following questions guided this study:

1) How did the organizational barriers and facilitators influence the IP team's implementation of the RNAO's Best Practice Guidelines?
2) How were the IP team members involved in the introduction of the RNAO's Best Practice Guidelines?
3) How did IP collaboration influence the 'Process', 'Staff' and 'Organization' factors during the introduction of the RNAO's Best Practice Guidelines?

Data

The original data used included verbatim interview transcripts, with specific questions for the steering committee (SC), senior leaders (SLs), clinical leaders (CLs), and direct care providers (DCPs). In addition year-end reports that were submitted to the Registered Nurses' Association of Ontario during 2009-2012 as part of the *Best Practice Spotlight Organization*© candidacy requirements were also examined.

At Site A, the length of baseline interviews were 20 to 97 minutes (average = 39 minutes) and the endpoint interviews (approximately 2 years later) were 14 to 96 minutes (average = 44 minutes). Of the 11 interviewed participants, six completed only the baseline interview. Two participants completed only the endpoint interview and three completed both. Of the DCP (n=7), six completed only the baseline interview and one completed both. All SLs (n=2) completed both baseline and endpoint interviews. Only endpoint interviews were conducted with the CLs (n=2).

Site A submitted three reports to the RNAO as part of the *Best Practice Spotlight Organization*© contractual requirements and shared these with the primary study team. The reports included midyear (October, 2010), end of year two (March, 2011), and midyear three (September, 2011) and were 22 to 23 pages in length, excluding appendices. The information in the reports included topics such as; *Work to Date, Successes and Challenges,* and *Reflections*.

At Site B, the length of the baseline interviews were 13 to 108 minutes (average = 41 minutes) and the endpoint interviews were 13 to 96 minutes (average = 34 minutes). Of the 9 interviewed participants, two completed only the baseline interview. One participant completed only the endpoint interview and six completed both. Of the DCPs interviewed (n=5), all completed the baseline interview, and four also completed the endpoint interview. Of the SLs interviewed (n=3), all three completed the baseline interview but only two completed the endpoint interview. Only an end point interview was conducted with the CL (n=1).

Site B shared two reports with primary study researchers that had been submitted to the RNAO as part of the *Best Practice Spotlight Organization*© candidacy: end of year one (March, 2010); and end of year two (March, 2011). These reports ranged from 25 to 29 pages in length, excluding appendixes and the information in the report included topics such as; *Description of Project Structure, Successes and Challenges,* and *Overall Reflection.*

Data from both sites and participants revealed that although they were different types of healthcare organizations, they were both very similar in size. Both sites had active IP teams and an organizational culture that supported guideline implementation. Site and participant characteristics are described in the following section.

Sites

The organizational characteristics of the two participating sites are presented. The first organization, Site A, was a not-for-profit, 84 bed long-term care facility (Year End Report, A1) that provided continuous, direct care to a primarily senior population. This site was the first

small, long-term care facility to be a *Best Practice Spotlight Organization*© candidate. The second organization, Site B, was a Community Health Clinic (Year End Report, B1) that provided episodic, client-driven, primary care to a multicultural population. The care focused on prevention, monitoring, and education.

Participants

To maintain anonymity of participants, details of participant characteristics are not revealed and individual participants are grouped into categories. Staff at Site A included the following: Dietary staff, Housekeepers, Nurses (both Registered Nurses and Registered Practical Nurses), Personal Support Workers, and Physicians (Year End Report, A1). Members of the SC, who met monthly for two hours, and guided the implementation of guidelines included: Administrators, Housekeepers, Nurses, and Personal Support Workers (Year End Report, A1). These committee members were the Project Leaders for the introduction of the five Best Practice Guidelines (see Appendix D) that were implemented during the GICOM observation period (Year End Report, A1).

At Site A, there were a total of 11 participants interviewed. Their time in practice ranged from five to 40 years (mean=22) and their time of employment ranged from two to 29 years (mean=10) (See Table 1). For the DCPs, five were Personal Support Workers and two were Nurses. The highest levels of education for DCPs were either a Certificate or a Diploma. For the SLs and CLs, three were identified as representing the profession of Nursing. No data was found for the other leader. The highest levels of education for the SLs and CLs were either Diploma or Undergraduate Degree.

Table 1

Participant Characteristics for Site A

Category	Disciplines	Highest level of education	Time in practice		Time in Organization	
			years	M	years	M
Direct Care Provider n=7	Personal Support Worker Nurse	Certificate Diploma	5-40	17	4-18	11
Senior Leader/ Clinical Leader n=4	Nurse Unknown	Diploma Undergraduate Degree	13-40	31	2-29	9

At Site B the types of staff providing the care included; Community Health Workers, Dietary staff, Nurses (Nurse Practitioners, Registered Nurses, and Registered Practical Nurses), Physicians, and Social Workers, (Year End Report, B1). The SC members, who met twice a month, included Community Health Workers, Dietary staff, Nurses, and Social Workers (Year End Report, B1). Project Leaders for the guidelines were from Community Health Workers, Dietary staff, and Nurses, (Year End Report, B1). Twelve guidelines were implemented during the GICOM observation period and are presented in Appendix D (Year End Report, B1).

At Site B, there were a total of 9 participants interviewed (see Table 2). Their time in practice ranged from 3 to 40 years (mean=25) and their time of employment ranged from one to six years (mean=3). There was no data for time in practice for one participant. For the DCPs, four were nurses and one was a physician. The highest levels of education for the DCPs were either post Diploma Certificate or Graduate degree. For the senior and CLs, three were identified as representing the profession of Nursing and one was a Social Worker. The highest levels of education for the senior and clinical leaders were Diploma, Undergraduate degree, or Graduate degree.

Table 2

Participant Characteristics for Site B

Category	Disciplines	Highest level of education	Time in practice		Time in organization	
			years	*M*	years	*M*
Direct Care Provider (n=5)	Nurse Physician	Post diploma certificate Graduate degree	3-34	21	1-6	3
Senior Leader/ Clinical Leader (n=4)	Nurse Social Worker	Diploma Undergraduate degree Graduate degree	30-40	31	1-5	3

Organizational Barriers and Facilitators

Several factors played an integral part in facilitating the introduction of nursing Best Practice Guidelines such as having an organization and stakeholders who enable IP collaboration, as well as stakeholders who have a positive attitude towards change. The organizational barriers and facilitators present during the introduction of the RNAO's Best Practice Guidelines, as viewed by the different participants, are described in the following section. At both sites two main categories describing organizational barriers and facilitators emerged from the transcribed interviews and reports: *Organizational Context* and *Stakeholders*.

Organizational context.

Organizational Context refers to the environment in which the guidelines were introduced. After analysis of the data, the subcategories were found to include a) Culture, and b) Resources, which affected the IP team's implementation of the guidelines. Based on the participants' description, the categories were described as either a barrier and/or a facilitator that is, inhibiting or supporting guideline implementation.

Culture.

Participants at both sites described their organization as being centered on patient care. A SL at Site A spoke of the philosophical underpinnings of the organization, which predisposed

them to believe in service to others. When discussing the Board of Directors' approach to methods of operation at Site A, one SL commented that;

> I'm fortunate to work for a Board of Directors that isn't solely concerned about the bottom line as in a profit… The people bottom line is every bit as important as the surplus bottom line, and I think that comes with our whole philosophy as a church, faith-based organization. SL(10421E5)

At Site B a SL praised his/her superior in saying they he/she had a philosophy of "client comes first" SL(10522B5). Because of this, staff members were enabled to place activities that were directly related to client care above other work related activities. "So if [they]… are with a client… then the meeting minutes are [their]… way to stay in touch" SL(10522B5) with these work related activities.

Participants at both sites described a common goal of patient-centered care by all IP members. The implementation of the RNAO's Best Practice Guidelines enabled the leaders at both sites to support the IP teams in their endeavor to improve the standard of care for patients.

The presence of a culture that promoted change was enabled by the minimization of barriers to staff-led interventions. This aspect of the organizational culture was another facilitator to the introduction of the RNAO's Best Practice Guidelines. Participants from both sites described their organizations as being ones in which IP team members were allowed to take the initiative in making improvements. IP team members described how their organization's administrative structure facilitated their involvement with affecting change. For example participants noted that there were few organizational levels of leadership, making it easier for staff to promote change. At Site A, in addition to the use of stakeholder-led committees, staff reported that when they needed to include a leader in the change process, the "clinical leadership [was] so responsive that things [got] sorted out at that [DCP] level" SC(10400B5). With this administrative structure it was not necessary to request multiple layers of administrative assistance in sorting out problems associated with change. Similarly at Site B, participants indicated that they had few levels of bureaucracy and did not "have to go through a

lot of channels to get something approved or done" CL(10524E6). Leaders recognized the importance that the involvement at the level of the DCPs would have on the implementation of guidelines, since the IP staff would be able to help guide the change based on their knowledge of the feasibility.

Resources.

As described by the participants, resources that were available to the organizations included: facility size (structural resource), and staff scheduling (human resource). The physical structure of the organization was described by participants at both sites as being small. The building size at Site A, although small in comparison to other long-term care facilities, was considered as being a barrier by participants since there was a disparity in the ratio of "the number of staff and how big [their] units [were]" CL(10424E6). The units at Site A were relatively large to create a spacious living space for the residents. However, only a relatively few staff members worked on each unit during each shift. The long distances between the resident rooms and the unit centre made it difficult for staff to communicate with each other during the shift. This in effect produced a physical obstacle for communication and collaboration among staff members, and was perceived to be a barrier for guideline implementation.

Participants at Site B also considered that their allotted space was a barrier. The physically small environment limited the space available for day to day organizational functions. However, this confined space had the effect of also acting as a facilitator to guideline implementation, because the close proximity to each other made it easy for them to consult informally or to include other stakeholders in the discussions about guideline implementation.

> Our close proximity to each other helps that [working as a team] (laughter) because you can have a really quick team meeting with the Social Worker or nurse and a provider in the hallway purely by accident. SC(10500E5)

In addition at Site B with respect to Resources beyond the physical size of the facility, Site B participants expressed mixed thoughts on the impact of human resources, which were

available during the introduction of the guidelines. One participant noted that even though they were few in numbers, the introduction of guidelines was facilitated by the fact that all IP staff worked at the same time. The weekday hours enabled all staff to be up to date on any organizational change, since they're "not shift workers like at the hospital where [they've]… got all these people that work two or three shifts on different floors, all trying to learn the same thing" SC(10500E14). This resource of personnel enabled all IP staff to provide consistency of care.

Stakeholders.

The second organizational category, stakeholders, refers to the characteristics and attitudes of all key personnel, as well as their involvement in the implementation of the RNAO's Best Practice Guidelines. After reviewing the data, two relevant subcategories were found to influence the introduction of guidelines: a) Leaders and b) Staff. These subcategories were described as either a barrier or a facilitator by the participants.

Leaders.

The subcategory of Leaders includes the characteristics of the senior and clinical leaders of the organizations that influenced the IP teams' introduction of guidelines. The leaders demonstrated an active commitment towards ensuring their IP team provided the best patient care. Overall, the leaders at both sites were described as facilitating the introduction of the guidelines by the IP teams by encouraging all stakeholders to be included at educational sessions. At both sites leadership support for stakeholder education was seen by participants as a facilitator during the introduction of guidelines. This support originated from high levels in the organization, such as the senior managers at Site A, and the Chief Executive Officer at Site B. At Site A support of education included "staff learning on a front-line basis as well as managers" SC(10400B1). This attitude was echoed at Site B where the SL believed that "everyone can benefit from learning something" CL(10524E2). At Site B one leader explained that it did not matter if the staff member was a secretary attending a presentation on a

pharmacology related topic, the SL believed that the education was valuable for staff members. New information acquired in this manner could then be beneficial during interactions with other staff members or patients. SLs believed that information obtained in these educational sessions gave all staff members the ability to provide the best possible care.

Staff.

Participants at both sites considered their colleagues had positive attitudes towards the guideline project. There was a sense of both empowerment and accountability among all staff. In fact some of the IP staff members who embraced the guidelines were not members of any regulatory college, and at Site B it was noted that "some didn't even have a post-secondary education" SL(10522E4). Staff members at both sites described their ability to work well with other IP team members and would actively engage them in patient care. If a staff member felt that, while using the guideline recommendation, another IP team member would be suited to help enhance patient care, the staff member would include him/her. At Site A, participants noted that they had "great inter-department [*sic*] communication" SC(10400B1) and were also good at communicating "with the family and the resident too… and having them [family] involved" DCP(10451B1). At Site B participants maintained that all stakeholders, regardless of their IP group, were equal in their role and that "communication … [was] pretty good in this place" SL(10521B9).

Involvement of IP Team Members in the Introduction of the Registered Nurses' Association of Ontario's Nursing Best Practice Guidelines

The involvement of stakeholders was important for the facilitation of nursing guidelines. Activities derived from Davies et al., (2013), involving at least two different IP groups (D'Amour, Ferrada-Videla, San Martin Rodriguez, & Beaulieu, 2005) or 'all' IP groups, which facilitated the implementation of Best Practice Guideline recommendations, are described below.

In the following section the introduction activities conducted by the IP team members will be described according to the categories developed in a previous study using the NHS model as a guide (Higuchi et al., 2012) and refined in the GICOM study (Davies et al., 2013). Only activities that included two or more IP groups are described (see Table 3) (see Appendix H and I for site specific IP group involvement details). Overall during the introduction of guidelines there was evidence of a total of 15 different activities that included two or more IP groups. Of these 15 activities, four were exclusive to Site A; 'Collect and analyze information related to guideline implementation progress', 'Delivered education to stakeholders', 'Clinical leaders participate on BPSO/BPG committee' and 'Seek or provide formal or informal feedback from stakeholders'. Of these 15 activities four were exclusive to Site B; 'Review and select priority guidelines and recommendations', 'Chart audits', 'Recruit BPG Champions' and 'Revise or develop policies, procedures and systems'.

Table 3

Involvement of IP Groups in Guideline Implementation Activities

NHS Factor	Activities based on Davies et al., 2013	Site A	Site B
		Number of IP groups involved	Number of IP groups involved
Credibility of the benefits	Review and select priority guidelines and recommendations.		All
Adaptability of improved process	Use previously established informal relationships or develop new relationships with external organizations to support knowledge development.	5	2
Effectiveness of the system to monitor process	Chart audits		All
	Communicate guideline implementation progress to internal & external stakeholders	5	All
	Observation of practice change	7	6
	Develop new tools or systems or revise existing tools or systems to monitor guideline implementation outcomes.	2	4
	Collect and analyze information related to guideline implementation progress.	4	
Stakeholder involvement and training to sustain the process	Attended education session	All	All
	Participate on Best Practice Guidelines steering committees	5	4
	Delivered education to stakeholders	3	
	Recruit BPG Champions		2
Clinical Leader engagement and support	Clinical leaders participate on BPSO/BPG committee	2	
Stakeholder behaviours toward sustaining the change	Seek or provide formal or informal feedback from stakeholders	5	
Infrastructure	Seek and/or obtain external resources to meet organizational needs	3	2
	Revise or develop policies, procedures and systems		2

Activities where all stakeholders were involved.

Overall, all stakeholders at both sites participated in four different activities during the introduction of the guideline recommendations (see Table 3). First, all IP group members at both sites attended educational sessions regardless of their designation or position within the organization (Year End Reports). Second, at Site B all staff members 'reviewed and selected priority guidelines and recommendations'. Specifically, the SL included all stakeholders in the decision-making process by meeting with all staff "whether [they're] a nurse or not and said, what do you think, could we implement this [guideline]?" SC(10500E12). Third, all staff at Site B were involved in chart audit reviews. Lastly, all IP group members at Site B were involved when guideline implementation progress was communicated to internal and external stakeholders.

In addition to the above activities, 12 other activities involved two or more different IP groups during the introduction of the guidelines (see Table 3). The activity 'use of previously established informal relationships or the development of new relationships with external organizations to support knowledge development' was present at both sites with a total of five IP team members involved at Site A and two at Site B. At Site A these team members included involvement from Housekeeping staff, Librarians, Nurses, Personal Support Workers, and Physiotherapists. At Site B these members included Nurses and Physicians. For Site A an example of this activity was demonstrated in a liaison with the physiotherapist from a buddy organization who "provided a lot [of information] with falls especially." (10424E2)

Four different activities related to the monitoring processes occurred at both sites. The common activities at the two sites were the 'observation of practice change' and the development of new tools/systems or the revision of existing tools/systems to monitor the guideline implementation outcomes. 'Observation of practice change' were changes in practice, observed or self-reported, with respect to completing direct care activities that were related to the guideline recommendations. These changes were reported by seven different IP group members at Site A and six at Site B. At Site A, these activities had involvement from Dietary

staff, Families, Housekeeping staff, Nurses, Personal Support Workers, Pharmacists, and Physiotherapists. At Site B, there was involvement from Community Health Workers, Families, Physicians, Nurses, Pharmacists, and Social Workers.

For the activities related to development of new tools/systems or the revision of existing tools/systems to monitor the guideline implementation outcomes there was evidence of involvement from two different IP group members at Site A and four at Site B. At Site A, this activity had involvement from both a Pharmacist, and Physiotherapist. At Site B this activity had involvement from Community Health Workers, Dietary staff, Nursing, and members from the Information Technology Department. An example of this activity was noted when members of the SC looked at the different tools related to the RNAO's Best Practice Guidelines and "identified which one [*sic*] were the ones that we decided to target, so. . . this was a collaboration of people deciding on what to do, so it was not something imposed" (SC1500E12).

The next two activities relating to monitoring occurred at Site A: the 'collection and analysis of information related to guideline implementation progress' and 'communicate guideline implementation progress to internal & external stakeholders'. The first activity involved Nurses, Families, Personal Support Workers, and Physiotherapists and included specific activities, such as the collection of data through patient assessments for use in IP meetings to update patients' Falls Risk Assessments. The latter activity involved Families, Housekeeping, Nurses, Patients, and Physiotherapists and included the presentation of results to other stakeholders, such as during Family Council meetings.

The activity, 'participate on Best Practice Guidelines steering committees' was present at both sites with a total of five IP team members involved at Site A and four at Site B. At Site A this activity had involvement from an External Consultant, Housekeeping staff, Nurses, Personal Support Workers, and Physiotherapists and at Site B from Community Health Workers, Dietary staff, Nurses, and Social Workers.

The activity ‘delivered education to stakeholders’ occurred at Site A with the involvement of Nurses, Personal Support Workers, and Dental hygienists. An example of this activity was demonstrated whenever a member of the IP team presented an update on the *Best Practice Spotlight Organization*© activity to the IP group members (Year End Repots). Additionally, the two different IP group members, a nurse and a Community Health Worker were involved in the recruitment of the BPG champions at Site B.

An activity relating to the factor *clinical leader engagement and support* was only noted at Site A. At this site, clinical leaders were on the *Best Practice Spotlight Organization*© steering committee. These leaders represented two different IP groups: Housekeeping and Nursing.

By seeking or providing formal and informal feedback, Site A was the only site to conduct an activity related to the factor *stakeholder behaviours towards sustaining the change* with involvement from five different IP team members: Dietary staff, Families, Housekeeping staff, Patients, and Personal Support Workers. For example, as part of one of the guideline recommendations, members from Site A decided to have their dietary staff place the patient’s drink on a shelf, so that it was up out of the way and would not be accidently knocked over and cause a hazard. In an attempt to make the change “exciting… [the committee decided to] put a star at [*sic*] where you place the drink.” (SC10400b) However, the dietary staff “felt they were being treated like a primary student, putting the drink where the star is.” (SC10400b). To help with the implementation of this recommendation the committee decided to change their approach and increase relevant educational activities and they “met with them [dietary staff] one on one” (SC10400b) to gain feedback and increase compliance.

The activity ‘seek and/or obtain external resources to meet organizational needs’ was present at both sites with a total of three IP groups at Site A and two at Site B. At Site A, this activity had involvement from the Family, External Consultant and Dental Hygienists and at Site B from Nurses and Respiratory Therapist. For example, an External Consultant was brought

into both organizations to give guidance and expertise relating to one of the implemented guidelines (SC10400E1) or to provide better care relating to the guidelines (DCP105551B).

The activity 'revise or develop policies, procedures and systems' was noted at Site B with involvement from a Human Resource worker and a Community Health Worker. For example, "they were involved in "recruitment/retention with respect to job postings, job equality, and outreach to visible minorities" (Year End Reports).

IP Collaboration According to Sustainability Factors

The stakeholder's acceptance of the credibility of the guidelines was attained through the presence of an IP culture and the guideline implementation strategies. In this section, four of the six national IP competencies (Canadian Interprofessional Health Collaborative (CIHC), 2010) are described, as they related to the NHS sustainability factors (Maher et al., 2009) during the introduction of the guidelines, and included: *role clarification, team functioning, collaborative leadership, and IP communication* (See Table 4). No specific data was found relating to the competency *patient/client/family/community-centred care or IP conflict resolution*. Within each competency there are several aspects that are used to describe the expected functions of team members when in an IP collaborative team (see Table 4).

Table 4

IP Competencies and National Health Service Sustainability Factors

IP Competency (CIHC,2010)	NHS category (Maher, et al., 2009)	NHS Sustainability factors (Maher, et al, 2009)	Examples of Behaviours
Role clarification	Process of Change	Adaptability of improved process	Consulted members of other disciplines
	Staff Involvement in Change	Staff behaviours towards sustaining the change	Supported the implemented change and the integration of this change into their practice
	Organization's Support of Change	Infrastructure	Recognized and respected the diversity of other disciplines.
			Consulted members of other disciplines
Team functioning	Process of Change	Effectiveness of the system to monitor process	Facilitated discussions and interactions among the different disciplines
Collaborative leadership	Process of Change	Credibility of the benefits	Supported the presence of an IP culture.
			Adapted the organization's work processes and outcomes to the principles of continuous quality improvement
	Staff Involvement in Change	Staff involvement and training to sustain the progress	Created a climate, which supported shared leadership and collaborative practice
		Senior leadership engagement and support	Supported the presence of an IP culture.
	Organization's Support of Change	Fit with the organization's strategic aims and culture	
		Infrastructure	Created a climate, which supported shared leadership and collaborative practice
Interprofessional communication	Staff Involvement in Change	Staff involvement and training to sustain the progress	Communicated in a way that resulted in a common understanding of all patient care decisions at the organization
		Staff behaviours towards sustaining the change	
	Organization's Support of Change	Infrastructure	Appropriate infrastructure was in place to facilitate improved patient care

Role clarification.

The competency of *role clarification* related to the NHS factors under the categories; Process of Change (*adaptability of improved process*), Staff Involvement in Change (*staff behaviours towards sustaining the change*), and Organization's Support of Change (*infrastructure*). Each relationship is discussed in turn.

***Process*.**

During the introduction of the guideline recommendations, participants from both sites described their ability to consult members of other IP groups, thus acknowledging the skills and distinct knowledge they possessed, which is indicative of the competency *role clarification* (CIHC, 2010). This occurred during formal or informal consultation with other IP group members, as well as through the development of formal, external IP partnerships, which is indicative of the NHS factor *adaptability of improved process* (Maher et al., 2009).

Participants at both organizations described the ease and normalcy of seeking peer assistance or informally involving other IP members within the team, while implementing the guideline recommendations. Specifically, participants at Site B used group meetings to report their progress on their individual guideline, and to help others solve guideline implementation problems with which they themselves might not be directly involved. This peer assistance went beyond these group meeting and participants felt that they regularly were able to "bounce things off of each other" SL(10521B2).

Participants at both sites also described the external partnerships they formed with different IP team members to aid in the implementation of the guidelines. For example, a CL at Site A commented about the use of external resources during the *Best Practice Spotlight Organization*© project:

> We brought on board the Family Council member, [and she] was definitely very resourceful for us. She had a lot of background information in nursing; she was a … nurse in her previous life. And we had [Name 2] who was on board, so we had a lot of

> help with the three Ds [delirium, depression, dementia] especially because she was a Psycho-Geriatric Resource Consultant. CL(10424E1)

Staff.

During the introduction of the guideline recommendations the general attitude expressed by members of the IP team at both sites was positive towards the change. At Site B, the IP group members supported the implemented change and the integration of this change into their practice, which was indicative of the competency *role clarification* (CIHC, 2010) and the factor *staff behaviours towards sustaining the change* (Maher et al., 2009). One of the leaders at the organization was even "surprised at the actual enthusiasm and acceptance of all the inter-professionals in doing it [guideline implementation]" CL(10524E1).

Organization.

Data were also found to relate to the NHS factor *infrastructure* by effective use of resources, such as human resources, to support the organizational change (Maher et al., 2009). During the introduction of the guideline recommendations, there was evidence that the organizations recognized and respected the diversity of other IP team members, which is indicative of the competency *role clarification* (CIHC, 2010). This was revealed by both the discussion at Site B on how to best use IP resources during the change process and by the consideration of the IP team members at Site A when determining the site's human resource needs. At Site B, while implementing the guideline, the SL looked at the organization to try to determine "who's the right person doing the right work at the right time" SC(10522B7). To use resources appropriately, the SL determined the qualifications of each staff member and assigned the guideline topic based on the IP staff member's abilities and knowledge.

Additionally, both sites made use of external human resources, which included access to and the use of external IP assistance. This reflected the staff's ability to appropriately consult other IP team members and was indicative of the competency *role clarification*. At Site A, a SL commented, "on the oral care BPG, [as they] … have been able to get resources from the dental

hygienist – the College of Dental Hygiene, to participate in a study" SL(10422B1). A similar situation was described by a SL at Site B,

> We have 57 dental hygienists volunteering in a space that, you know, almost the whole class of dental hygienists from the community college is giving time to sort of examine some of the homeless people and at risk of homelessness, I mean I couldn't pay for that. And they have an instructor, and six dental hygienists who are graduates oversee the students when they're there, and we have dentists volunteering their time. SL(10522E5)

This decision to access external IP resources helped each site to implement the specific guideline recommendations on oral health.

Team functioning.

The competency of *team functioning* related to a NHS factor (under the category of Process of Change) *effectiveness of the system to monitor process*. This relationship is discussed below.

Process.

During the introduction of the guideline recommendations, there was evidence of the involvement of IP staff at both sites with respect to the monitoring process. At Site A the staff facilitated discussions and interactions among the different IP team members to involve them in the development of tools, which is indicative of the competency *team functioning* (CIHC, 2010). A CL commented on the use of IP collaboration in the development of screening tools.

> We actually started with the falls risk tool from [Organization 4], then we involved our Physiotherapy Department and our Pharmacist, and we actually developed a new one which really picked the fallers, the high risk fallers out. CL(10423E1).

Collaborative leadership.

The competency of *collaborative leadership* related to the NHS factors under the categories; Process of Change (*credibility of the benefits*), Staff Involvement in Change (*staff involvement and training to sustain the progress*, and *senior leadership engagement and support*), and Organization's Support of Change (*fit with the organization's strategic aims and culture*, and *infrastructure*). Each relationship is discussed in turn.

Process.

The organization at Site B exhibited a climate in which collaboration was considered the norm, which is indicative of the competency *collaborative leadership* (CIHC, 2010). This was demonstrated by the consistency in patient care given by all staff members when implementing the guideline recommendations. Participants at Site B noted the benefit derived from this consistency of care, indicative of *credibility of the benefits*, which would improve patient care (Maher et al., 2009).

> Well we know that the standardization of the… Ask, Assist, Advice, Arrange [smoking recommendations], is being worked through all of the providers. Be it, not just the medical providers, the NP's [and others]… So you have that same message going on. SL(10523b3)

Discussions by participants at Site B provided evidence of their belief in the credibility of the guideline's recommendations. These were supported and viewed positively by the IP team. Participants found that staff were able to get "past the, 'this is not my job'" SL(10523b3) and see how their role and practice fits within the nursing guideline recommendations. When discussing the uptake of the guideline recommendations one participant remarked, "We do have the support of our physicians and from our NPs; a lot of support in the clinical, even the RN's" DCP(10522b3). This belief in the credibility of the nursing guidelines by members of different IP groups demonstrated their ability to adapt the organization's work processes and outcomes to the principles of continuous quality improvement and enabled them to work together to improve patient outcomes.

Participants at Site B revealed that this belief was influenced by both the core similarity of knowledge for the different professions, as well as, how these professions are governed. A CL explained how different IP team members were able to look at the guidelines:

> Oh yeah, I learned all that, that's right. So it's really not a nursing Best Practice, it is just a Best Practice Guideline, right. So that's how they bought in, they're like, oh yeah that's what I do CL(10524E2).

They viewed the guideline recommendations as something that was not entirely new to them. Some IP team members, such as “physicians had a mandate through billing” CL(10524E4) to follow some of the recommendations. The participants perceived that the recommendations were based on best evidence, were credible, and therefore they supported implementation.

The organization’s implementation strategy at Site B also aided the Healthcare Practitioners’ acceptance of the credibility of the guideline recommendations and encouraged the different IP team members to accept the guideline as part of their own practice. Prior to implementation, guidelines were introduced as Best Practice as opposed to nursing guidelines to positively influence the acceptance by the IP team.

> Although these are RNAO’s guidelines, they’ve been adapted across our organization and across professions. So it’s not looked at, this is a nursing guideline, they are Best Practice recommendations in our organization. So they’re used by the Chiropodist, by the Social Worker, by Dieticians, by the Physician staff, and then of course the nurses. But it’s transcended those borders, so you won’t really hear staff saying, that’s a nursing Best Practice; it’s just strictly it’s a Best Practice Guideline. SC(10500E4)

The process used to introduce the guidelines encouraged the different IP team members to accept the guideline as their own. First, to achieve support from all stakeholders one SL purposely chose to start with the guidelines that related to a priority identified by all staff. Rather than starting with a guideline that related to a specific clinical practice, the SL “chose to go with some of the [guidelines on] creating healthy work environments which affected everyone first” SL(10522E2). In doing this she believed no one could say ‘that doesn’t apply to me’. Second, the organizational implementation strategy related to both the justification for, and modification of, the guideline wording. Both strategies facilitated the IP team’s acceptance of the guidelines. To enhance the introduction of nursing guidelines to other IP team members the organization ensured that the IP team members understood that the guidelines were relevant to all IP team members by first justifying the ‘nursing’ wording and then also altering the guideline wording, to ensure different IP team members would be better able to relate to the guidelines. For the first they would argue that, the RNAO put a lot of work and effort into making these guidelines, so “of

course it's going to have nursing in the name, it's going have nursing in the whole body" CL(10524E2), and the different IP team members agreed that made sense. However, in addition to this approach, they would also remove the word 'nursing' at times to emphasize the universal relevance of the Best Practice Guidelines for all health care groups. "Then everyone just kind of felt it wasn't so nursing focused" SC(10500E12). The last strategy used by the organization was to standardize the recommendations, which led to an increase in support from different IP groups.

> Our screening for delirium and dementia, by… standardizing some of those processes for everybody over 65. People bought into it, even the physicians and nurses bought into it. SL(10522E6)

Staff.

During the implementation of guidelines there were examples in the data that demonstrated the organizations' ability to create a climate in which collaboration was considered the norm. At both sites, different members from their IP teams were involved in the introduction of guidelines as Project Leaders (Year End Report, AM2; B2p4). This involvement was indicative of both the competency *collaborative leadership,* as the teams were involved in creating climates, which supported shared leadership and collaborative practice (CIHC, 2010), and of the NHS factor *staff involvement and training to sustain the progress* (Maher et al., 2009).

At both sites stakeholders were also involved in the decision making process during the introduction of the guidelines. Staff at both sites reported IP member participation on their respective SCs (Year End Report, AM2p4). At Site A the members included Administrators, Housekeeping staff, Nurses, and Personal Support Workers, while at Site B the members included Community Health Workers, Dietary staff, Nurses, and Social Workers. The involvement of the different IP stakeholders demonstrated the organizations' ability to nurture a climate in which collaboration was considered the norm. This involvement was indicative of the

competency c*ollaborative leadership* (CIHC, 2010). In addition to the involvement of IP members on the SCs, other IP members were included in the guideline selection process. At Site A, when asked who decided which guideline to implement, a DCP remarked "It was everybody, because we all had concerns" DCP(10454B16). Likewise, at Site B, a SC member commented:

> She [SL] pulled us in one by one, (and you know, whether you're a nurse or not) and said, what do you think, could we implement this? Are you interested in this guideline? SC(10500E12)

During the implementation of the guideline recommendations there was evidence of the SL's belief that all staff should be included during the introduction of the change, which was indicative of the factor *senior leadership engagement and support*. This contributed to the creation of a climate in which collaboration was considered the norm and was indicative of c*ollaborative leadership* (CIHC, 2010). The SLs at both sites strived to keep all staff informed about the implemented guidelines through either communication methods or education. At Site A the SL was directly involved in informing staff about the guideline project through emails and meetings. Site B's SL was also directly involved in activities such as encouraging the education of all staff and in being "supportive to have everyone involved" DCP(10555E3) in the best practice project.

Organization.

At both organizations there was evidence to support the presence of a culture in which IP collaboration both existed and was encouraged. This was indicative of the competency c*ollaborative leadership* (CIHC, 2010) and influenced the factor *fit with the organization's strategic aims and culture*. Participants understood the importance that each IP team member played in the achievements and in the functions of their organization. Members from the SCs at both sites commented on their staff's understanding of the importance of each IP member: "We need interdisciplinary… we're too small to try and have our Nursing Department do it alone"

SC(10400B2); “We have a respectful collaborative nature… Each profession is given equal respect and responsibility and then we work as a team” SC(10500E6).

The existence of an IP culture within these organizations influenced the manner in which the stakeholders carried out the change. Evidence of this was seen in how the SLs from Site B introduced the guidelines. The SL “looked at the people who worked here [Site B] and what their interest is” SL(10522B1) related to the chosen guideline. Next, at both sites, the IP team took each member’s view into consideration when making decisions around the guidelines. At Site B, staff would readily involve other IP team members, if they thought it would improve their patient’s care:

> That’s always kind of been a culture of this organization so it was easy when you were implementing the guidelines that… If someone had trouble quitting smoking you could always say… we do have Social Workers on site, would that help if you have other stressors in your life and the stress is causing you to smoke? Maybe talking to the Social Worker could help that and then that could help with your smoking cessation plan. CL(10524E1)

Likewise at Site A, the staff understood that to fully implement the guideline recommendations they needed to foster a culture in which other IP team members were involved in the implementation. With respect to the guideline *Prevention of Falls and Fall Injuries in the Older Adult* a DCP explained how team members were consulted prior to initiating any restraint protocol: “He [physician] has to agree that it’s okay to apply a safety belt but they go to the family first.” DCP(10454B8)

At Site A, the SC members commented on the importance of the appropriate use of resources so that all stakeholders were informed about the guidelines, which is indicative of the factor *infrastructure* and the competency *collaborative leadership*. For example, the SC members acknowledged that lack of resources to purchase educational materials might be a barrier. However, they understood the importance of having specific resources available to all stakeholders: “I would flag that… as probably a significant resource issue that developing

good…support materials for patient- for residents and families is going to be a challenge because there's some cost to it." SC(10400B 9)

IP communication.

The competency of *IP communication* related to the NHS factors under the categories; Staff Involvement in Change (*staff involvement and training to sustain the progress*, and *staff behaviours towards sustaining the change*), and Organization's Support of Change (*infrastructure*). Each relationship is discussed in turn.

Staff.

Examples in the data, pertaining to the NHS factor *staff involvement and training to sustain the progress*, showed the organization's attempt to attain a common understanding of the care decisions made by stakeholders through effective communication (Maher et al., 2009). This was also indicative of the competency *IP communication* (CIHC, 2010). At both sites they used staff education and meetings to ensure that all members of the IP team were informed and educated about the guideline recommendations. CLs at both sites described the process at their respective sites.

> All the staff on board, family members, volunteers, everybody was educated so they now can see a resident and immediately know whether or not they need to act if they're getting out of their chair or whatever. So that's a huge change. CL(10424E4)

> When we do have something going on, either a presentation by someone internally or externally, everyone is invited no matter what their role in the organization, from reception to nursing to Social Work. Because we do have such a multi-disciplinary team as we have, nothing is just earmarked for a certain professional designation. CL(10524E1)

During the change process, there was evidence at Site A that the IP team was both capable of and encouraged to express their ideas and thoughts with not only other stakeholders but also with leaders, which is indicative of the factor 'staff behaviours toward sustaining the change' (Maher et al., 2009). One participant noted that "We [PSWs] kind of report back, we give feedback on what they're doing, and if it's really not working we can go back and tell them

[SL]" DCP(10454B1). This contributed to a common understanding of all patient care decisions, which is indicative of *IP communication* (CIHC, 2010).

Organization.

During the introduction of the guideline recommendations there was evidence of an infrastructure in place that facilitated feedback to both internal and external stakeholders at Site B. There was an email system in place through which messages were sent "out to all staff…and… some community partners or some political politicians" SC(10500b7). This was indicative of both: the IP competency *IP communication,* as the team communicated in a way that promoted a common understanding of all patient care decisions at the organization (CIHC, 2010); and the NHS factor *infrastructure* (Maher et al., 2009).

At Site A, participants commented on the usefulness of existing resources, even though the organization had increased resource requirements as a result of implementing the guideline recommendations. Participants reported that they had an adequate communication infrastructure in place to facilitate improved patient care, which is indicative of the competency *IP communication* (CIHC, 2010). For example, the use of communication boards was seen as a facilitator for discussion between all IP group members as "Everybody communicates to each other through that [communication board] and they don't have to try and find a staff member, they just write it on the board" SC(10400E4).

In conclusion, the findings from this study indicate that the organizational barriers and facilitators experienced by participants at both sites were determined to be within the categories of Organizational Context and Stakeholders. Having an organization that supports stakeholders who enable IP collaboration, as well as stakeholders who have a positive attitude towards change was found to be an important part in facilitating the introduction of nursing Best Practice Guidelines. Second, the activities in which IP team members were involved were documented and the involvement of the IP team was found to be important in the introduction of nursing guidelines. Finally, IP competencies were described as they related to the NHS sustainability

factors during the introduction of the nursing guidelines and data revealed that the stakeholder's acceptance of the credibility of the guidelines was attained through the presence of an IP cultural and the strategies used to implement the nursing guidelines.

Discussion

This was the first study to examine, through a secondary qualitative analysis, the involvement of an interprofessional (IP) team during the introduction of nursing Best Practice Guidelines. As indicated in the Methods chapter, criteria for inclusion of data in the current study were: 1) direct involvement of the thesis supervisor during the primary data collection, and 2) evidence that the IP team members from each organization were highly involved in the guideline implementation process. Sites chosen for this study enabled the examination of the important role that the IP team plays during the introduction of guideline recommendations. Findings emphasized the importance of; communication during the implementation of guidelines, the role of an IP team in the introduction of a discipline-specific guideline, the understanding of the roles of all stakeholders involved in the implementation of guidelines, and the work of unregulated healthcare staff members during the introduction of guidelines.

To explore the implications of the findings in more depth, the discussion will focus on the following topics. First, the relation of the IP competencies of *role clarification*, *IP communication*, and *collaborative leadership* to organizational change will be discussed; as data indicated that these three competencies addressed two or more factors that linked to the NHS Sustainability model. Second, findings will be discussed related to the inclusion of all stakeholders including unregulated healthcare stakeholders in the IP team during the introduction of guidelines. Third, the implications for practice, education, and research will be considered. Finally, the strengths and limitations of this study will be examined.

Relation of IP Competencies with Organizational Change

Role clarification.

Findings in this study emphasized the importance of understanding the roles of all stakeholders involved in the implementation of guidelines. The clarification of one's own role, as well as the roles of others was found to be important in two aspects: first, to optimize the team's ability to incorporate other health care providers based on an understanding of their roles

and second, to enhance the acceptance of practice change related to their own professional role. Both topics will be discussed in turn.

With respect to the first aspect, stakeholders at both sites demonstrated knowledge of each other's professional roles. This knowledge of others' roles led to the appropriate selection of team members during the introduction of guideline recommendations. The involvement of staff members went beyond the initial selection of a few members for the steering committee (SC): it included the involvement of all staff members in activities throughout the implementation of guideline recommendations. These activities included the consultation of various disciplines to improve patient care and the selection of different IP members to lead nursing focused clinical guidelines.

The presence of IP collaboration helped with the introduction of the guideline recommendations within the organization, as different members of the IP team would continually involve and consult those individuals who were tasked with making the change. This team involvement through consultation should enable the change to become permanently embedded in their daily activities. This finding, that it takes a team to ensure the implemented change continues beyond the initial implementation, is supported in the literature, including; a multi-site qualitative primary research study on guideline implementation (Sinuff et al., 2007), manuals designed to help users implement change (Bowers, Nolet, Roberts, & Esmond, 2009; RNAO, 2012b), and a sustainability framework for organizational change (Maher et al., 2009).

Use of a team to provide better care to patients is also well documented in the literature, including; a synthesis report on Canadian and international research on IP collaborative care (Canadian Health Services Research Foundation, 2007), a study on the effect of a multidisciplinary team on patient care (de Mestral et al., 2011; Pandian et al., 2012), and a systematic review on the impact of multiprofessional teams on patient outcomes (Hearn & Higginson, 1998). Therefore, it would be expected that this act of involving and consulting others, which is reported in this study, would also improve the care provided to patients.

Collaborative care provides an expanded pool of professional expertise. Any one person in an organization possesses only a finite amount of the needed professional expertise (Interprofessional Education Collaborative Expert Panel, 2011), which speaks to the importance of collaborative care. This source of communal knowledge can be more effectively used if team members fully understand their own roles and the roles of those with whom they are collaborating. Therefore, the competency of *role clarification* is a significant aspect of successful IP collaboration. This finding is also supported in the literature, including; a synthesis review on multidisciplinary primary care teams (Bélanger & Rodríguez, 2008), a book that instructs physician on IP collaboration and highlights the importance of the clarification of roles in their practice (St George, 2013), and a large qualitative study on IP education and IP collaborative practice reviewing the competencies that are considered most relevant for front line workers (Suter et al., 2009). The clarification of roles will help to ensure that the IP team can successfully utilize the diversity of professional expertise to provide the best possible patient care.

Findings from this study indicate that guideline activities were not assigned based on whether or not the member was a nurse, even though nursing guidelines were being implemented. The choice of staff for leadership roles was guided more by the employee's interest and expertise. At Site B, the senior leader (SL) ensured that the right person was doing the right job by using staff members who had the expertise in the guideline topic, or had an interest in the clinical change. The understanding of the roles and potential contribution of all IP team members also allowed participating sites to appropriately use human resources. The finding that *role clarification* is important in appropriately including stakeholders is also supported in the literature, including; a large qualitative study on IP education and IP collaborative practice that found *role clarification* to be a key competency in ensuring proper utilization of professional expertise (Suter et al., 2009), as well as, a qualitative personal

account presented in an article in which the author stressed the importance of *role clarification* to meet professional standards of care (McClung, Grossoehme, & Jacobson, 2006).

With respect to the second aspect, the acceptance of practice change was enhanced once IP members understood their role in relation to the guideline recommendations. All members of the IP team should perceive how the change relates to them and understand the impact the change will have on their own practice (Maher et al, 2009), as well as on the practice of other IP team members (Canadian Interprofessional Health Collaborative (CIHC), 2010). If staff members believe that the change is a better way of doing things, then the likelihood of the change being sustained is increased. This finding is supported by a primary research study on guideline implementation (Matthew-Maich, Ploeg, Dobbins, & Jack, 2013) in which credibility was shown to be an important contributor to use of new knowledge in practice. The acceptance of the change into each staff member's practice will help to avoid detachment from the change (Yagasaki & Komatsu, 2011).

Interprofessional communication.

Findings from this study emphasize the importance of communication during the implementation of guidelines. Communication was found to be important in two aspects; first, ensuring all stakeholders were informed, and second, the ease and/or comfort in providing feedback. Both aspects will be discussed in turn.

First, leaders at both sites ensured that all members of the IP team were informed via meetings and educational sessions, creating a common understanding of care decisions. This study reinforces that communication is important during organizational change to ensure all stakeholders are informed. This finding is also supported in the literature by other studies; a discussion paper on organizational change in which it was recommended that the planned change be communicated to all stakeholders (Zimmerman, Bugas-Schramm, & Hutson, 2008), and a guide to implementing change to improve patient care (National Stroke Foundation, 2011). The literature also supports the inclusion of stakeholders in activities such as meetings

and education sessions to ensure effective communication (Brown et al., 2010; Huijbregts et al., 2012), because involving all members of the IP team in such activities can create a common understanding of patient care (CIHC, 2010).

Second, in addition to the involvement of staff members through information sharing, there was the encouragement of and the ability of the staff to express their ideas, which was also instrumental in creating a common understanding of care decisions. The importance of feedback from stakeholders is supported in the literature in a sustainability framework for organizational change (Maher, 2009). The creation of a common care decision is an important part of IP collaboration (CIHC, 2010) and, only those who feel secure are likely to approach and communicate with people that they perceive to have authority (Detert & Burris, 2007). Employees need to be comfortable about speaking up if the leader is to expect honest feedback from all individuals in the organization (Adelman, 2012).

Collaborative leadership.

Findings in this study also demonstrate the importance of the collaborative leadership role of an IP team in the introduction of a discipline specific guideline. The study emphasized the importance of; first, the perception of the credibility of the guideline's recommendations by members of the IP team, second, the involvement of different members of the IP team in leadership roles, and third, the influence of the presence of an IP team on the organizational culture, as well as, the influence of the organizational culture on IP collaboration. Each will be discussed in turn.

First, instilling a belief in the credibility of the guidelines was found to be important in the current study in the promotion of *collaborative leadership*. The establishment of credibility has the potential to promote shared decision making and shared leadership (CIHC, 2010). Ensuring that all members of the IP team perceived the guidelines as credible, made it easier to motivate and include staff. The result of this motivation was evident when participants spoke at length about how they believed in the credibility of the guideline recommendations. This finding is

supported in the literature in a sustainability framework for organizational change that highlights the importance of establishing credibility (Maher et al., 2009). *Collaborative leadership* plays an important role here by involving the whole team in the process of evaluating, making decisions about, and solving issues concerning the guideline (Scott & Caress, 2005). If this process leads to the acceptance of the guideline recommendation, it is because the team has decided that the guideline recommendation is credible and has value in their practice.

Second, different members of the IP team from both sites were involved in leadership roles as Project Leaders and as members of the SC. The involvement of staff as Project Leaders is not new, but the involvement of various different members from the IP team is new. *Collaborative leadership* supports the approach of involving all stakeholders as equal partners (CIHC, 2010). The use of committees with involvement from the IP teams allows stakeholders to actively collaborate, discuss the issues, and encourage belief in the success of the change (Yagasaki & Komatsu, 2011).

Lastly, 'a climate in which collaboration was considered the norm' was a recurring theme during this study. There seems to be a reciprocal relationship between the presence of an IP team and the organizational culture. The collaborative culture at both organizations was influenced by the presence of an IP team whose members in turn influenced the organizations' culture. This finding is supported in the literature in a book on organizational behaviour by Bauer and Erdogan (2013) that describes how teams impact and are impacted by the organization, and a framework developed to establish links for collaboration at different levels of the healthcare system (D'Amour & Oandasan, 2005). Evidence of this relationship was seen in the comments of participants at both sites. Both organizations supported the interactions of their IP team and encouraged a collaborative philosophy. The staff at both sites saw their involvement in the organization as part of the larger IP team. To sustain any change, the change needs to fit with the organizational culture. If the organizational culture is one in which

IP collaboration is supported by both the individuals and the organization, then any change should support this IP culture.

The Inclusion of Unregulated Healthcare Staff

All members of the IP team have an important role, including unregulated staff. This section discusses the importance of including all stakeholders within the IP team including unregulated staff. This study has contributed to the understanding of how all IP team members need to be included in guideline implementation, planning, and activities. The study sites employed a large proportion of unregulated staff. This situation is now typical of healthcare agencies where the majority of staff members are not registered, licensed, or regulated by any professional, governmental or regulatory body (Canadian Nurses Association, 2009; Canadian Nurses Association, 2006; College of Licensed Practical Nurses of Newfoundland and Labrador & Association of Registered Nurses of Newfoundland and Labrador, 2009; Zeytinoglu, Denton, Davies, & Plenderleith, 2009). In addition, unregulated staff members are growing in numbers, predominantly in community-based or home care settings (Canadian Nurses Association, 2006). This increased reliance on unregulated staff can be attributed to having fewer registered workers available to meet the current need and to the rapidly increasing cost of healthcare services (Canadian Nurses Association, 2009).

Unregulated staff played an important role in IP care during guideline implementation by being involved in both direct care and leadership roles. Despite the predominance of unregulated staff in healthcare (Armstrong & Armstrong, 2002), as well as their importance (Canadian Federation of Nurses Unions, 2013; Darney, VanDerhei, Weaver, Stevens, & Prager, 2013; Interprofessional Education Collaborative Expert Panel, 2011; Lack, 2002; Pollard, Ross, & Means, 2005), there have been very few studies about IP collaboration which explicitly include them as members of an IP team (Begun, White, & Mosser, 2011; Huijbregts et al., 2012; Lack, 2002). For the limited number of studies of IP teams in which unregulated staff were actively included, positive outcomes have been documented including an overall increase in

staff attitude, job satisfaction, and professionalism (Huijbregts et al., 2012). The inclusion has led to an improved perception by all members of the IP team of the value of the role played by unregulated staff, which promoted a sense of increased support for their work by their team and leaders (Huijbregts et al., 2012).

Unregulated healthcare workers, who have direct involvement at the bed side, have an opportunity to access important patient information that can assist them in providing best care (Interprofessional Education Collaborative Expert Panel, 2011; Kontos, Miller, & Mitchell, 2010). The inclusion of unregulated staff, especially front line workers, into the IP team increases the opportunity for rapid implementation of suggestions with respect to patient care (Huijbregts et al., 2012). Individuals, who are not involved in direct care, such as engineers and librarians, also make active contributions to the overall quality of the healthcare system (Interprofessional Education Collaborative Expert Panel, 2011). These knowledgeable individuals should be consulted to attain relevant feedback (Salbach, 2010). If researchers and stakeholders wish to improve the quality of care, attention needs to be given to formulating ways to make IP teams more inclusive.

Implications for Nursing Practice

Being able to utilize research to improve patient care is an important part of a role for nurses acting as a change agents or project leaders (Canadian Nurses Association, 2008). In this study, because both organizations were physically small, participants were able to describe how they implemented change organization-wide. These findings may provide strategies for nurses, in project leader roles, wishing to implement practice change in a variety of organizational cultures. This section will focus on four key strategies derived from this study: first, adapting guideline recommendations to fit with the organization; second, ensuring the change is seen as credible to stakeholders; third, selecting team members to implement the change; and fourth, engaging stakeholders from the beginning of the implementation of the guideline recommendations.

First, project leaders planning to implement guideline recommendations should ensure that there is a fit between the guideline recommendations and the organization's strategic aims for improvement (Maher, 2009). The adaptation of guideline recommendations recognises the differences in organizations (Christiaens, De Backer, Burgers, & Baerheim, 2004) and the customization of clinical guideline recommendations to an organization may lead to improved acceptance and adherence (Harrison, Légaré, Graham, & Fervers, 2010). When adapting a guideline, care must be taken to ensure that the integrity of the original recommendations is not compromised (Fervers et al., 2011; Harrison et al., 2010; MacDermid & Graham, 2009). The ADAPTE process is one method that can be used to guide the adaptation of a guideline to the local context (Harrison et al., 2010) and its stepwise approach may decrease the possibility that any customizations will compromise the evidence-based foundation (Fervers et al., 2011; Fridsma, Gennari, & Musen, 1996). Although it is recommended that project leaders attempting to implement a guideline need to ensure that the guideline will fit with their organization, all adaptations do not have to incorporate a major revision of the guideline recommendations. Evidence in the current study showed that a minimal alteration of the presentation of the guideline recommendations could also be useful. The participants stressed that although these were nursing Best Practice Guidelines, they were relevant to all IP groups. The participants found that it was important not to discuss the guidelines as nursing activities but rather to name them according to the patient focus, such as, improving foot care.

Second, the findings of this study suggest that when implementing an organizational change, such as practice guidelines, project leaders need to ensure that the stakeholders see the change as credible and that they accept the change (Dean-Baar & Pakieser-Reed, 2004). Project leaders need to ensure that the guideline's recommendations are relevant to the organization and are of interest to the stakeholders (RNAO, 2002b; Yagasak & Komatsu, 2011). Prior to implementation, leaders of both organizations looked at their organizational needs. Without assessing guidelines' potential impact on the organization, the recommendations may

have little relevance. The SL at Site B was very thoughtful in how the guidelines were introduced and found that the order in which guidelines were introduced may have impacted the IP team's view of the guideline's relevancy. The SL purposely chose to start with a guideline that was viewed as relevant by the staff. In their case a Healthy Work Environment guideline was the first one introduced to help engage staff and enhance credibility, because physical safety was an issue for their organization.

Third, to ensure effective organizational change it is important that an appropriate mix of IP team members are included in the process. This study highlighted the importance of involving all IP team members and stakeholders in the change process. The inclusion of front line workers on the steering committee or as project leaders may help in assessing the relevance of the change (National Stroke Foundation, 2011). When introducing RNAO's Best Practice Guidelines, project leaders should not assume they are restricted to including only nurses in the implementation team. In the current study non-nurses, both registered and unregulated, were critical during the introduction of the nursing guidelines at both organizations. Project leaders wishing to implement a change should look beyond an individual's profession, when considering possible leaders to implement the change, and choose individuals based on their interest and expertise. Participants in the current study employed non-nurses, as well as nurses as leaders for the guidelines. This strategy enhanced guideline implementation, since several individuals are required to lead sustained change (Maher et al., 2009).

Fourth, project leaders wishing to implement guidelines should involve and engage many stakeholders from the beginning (Berta et al., 2005; RNAO, 2002b; RNAO, 2012b). Assessing the clinical interest of the staff was one of the key strategies that the leader at Site B used before implementing the guidelines. The leader found that support for the introduction of guidelines was increased by determining individual interests, which developed into ownership and pride within the staff. On the other hand, at Site A, although the staff members were all educated in their new tasks, the leaders did not initially engage the staff appropriately, which

resulted in resistance to implementing certain strategies to reduce falls in residents. Once the project leaders sought feedback from the dietary staff, there was increased support for practice change from this group. This finding emphasizes the importance of ensuring that each IP group is engaged and is involved to help mitigate resistance. The importance of gaining stakeholder support is stressed in both a sustainability framework for organizational change (Maher et al., 2009), and a primary research study on guideline implementation (Matthew-Maich et al., 2013).

Implications for Education

It was evident from this study that the involvement of all the stakeholders in educational sessions was an important element in the successful implementation of the selected RNAO Best Practice Guidelines. Project leaders wishing to implement Best Practice Guidelines in a healthcare organization should ensure that evidence-based educational methods are appropriate for specific learners. Thus, planning for educational sessions should include the use of teaching techniques that take into account the intended audience, the individual learning styles (RNAO, 2005b), and the presence of an active IP team (Medves et al., 2010). This section will discuss first, the assessment of learning needs and learning style preferences, and second, the development of evidence-based educational strategies.

First, when planning for organization-wide education, it is important to understand that participants may have varying degrees of familiarity with the topic. To determine the extent of the knowledge gap, project leaders could use a learning needs assessment tool, such as the modified tool developed for the implementation of the RNAO Best Practice Guidelines (RNAO, 2005b). Next, there may be a variation in the learning ability of the participants. Project leaders should understand how different people in their organization learn and offer alternate learning pathways when implementing organizational change (Cranton, 1989; Medves et al., 2010; RNAO, 2005b). Project leaders should also help each participant determine what style of learning works best for them (Medves et al., 2010; Romanelli, Bird, & Ryan, 2009). There are several methods in the literature to assess learning style (Boström & Hallin, 2013; Moazeni, &

Pourmohammadi, 2013; RNAO, 2005b). For example, the Visual, Aural, Reading/Writing, Kinesthetic (VARK) assessment by Fleming (1995) is a questionnaire that can be used to assess learning style of adults (Klement, 2014). This tool is available at online (VARK-LEARN, 2014). The prior consideration of the participant's learning style preference will help the project leaders to choose appropriate educational techniques (RNAO, 2005b).

Second, when determining appropriate instructional techniques for a group, project leaders should note that learning is enhanced when a multifaceted teaching approach is used (Bugge & Higginson, 2006; Kirkland et al., 2012; O'Brien et al., 2001; RNAO, 2012b). Not only does a multifaceted approach help all learners, it allows the project leaders to have a variety of teaching techniques at hand, and these can be more easily tailored to a wider audience. Methods that use an interactive dissemination approach, such as role playing or practicing skills, are more effective than the use of passive dissemination methods, such as presentations; however, passive methods can be effective if used in combination with other strategies (RNAO, 2012b). However, it is not yet clear how many strategies are necessary to effect implementation (RNAO, 2012b), nor which are best for an IP team (Jefferies & Shah, 2011). Determination of answers to these questions may require further research.

Implications for Research

Based on the results of this study, there are four recommendations for further research. First, this study focused on describing how the IP team members were involved during the introductions of guidelines. A study focusing on the patient outcomes with respect to IP team's involvement in guideline implementation would broaden the understanding of the effect of an IP team on organizational change. Second, the current study is a secondary analysis of a study conducted over a two year period. Given the time required to introduce and sustain organizational change, conducting a similar longitudinal study might give more insight into the effect an IP team may have on the sustainability of guideline implementation. Third, the method chosen for the current study was a secondary analysis. A primary mixed methods study, using

data from participant interviews and chart audits, might provide the researcher with a more comprehensive insight into other outcomes resulting from the involvement of an IP team during the introduction of guideline recommendations. Finally, determining what educational strategies are best for an IP team during guideline implementation would help those people who were implementing the change to better inform and involve their IP team members.

Strengths and Limitations

This study helps to bridge the knowledge gaps about the influence of IP collaboration on the introduction of Best Practice Guidelines. This knowledge, in turn, has the potential to improve the quality of care that nurses and other IP team members provide to their patients. The fact that the sites used in the study were small is a limitation with respect to sample size; however, this factor enabled the researcher to have a clearer vision of organizational change. Additionally, the sites chosen for the current study were ones in which there were several examples of IP collaboration and may not be reflective of less collaborative organizations. This choice of sites, however, allowed the researcher to gain a deeper insight into high quality IP collaboration.

The fact that this is a secondary study is a limitation in itself. Heaton (2008) identified three main issues related to secondary analysis: the problem of data fit; the problem of not having 'been there'; and the problem of verification. First, is the 'problem of data fit', which refers to the fact that the data available to the researcher may not be appropriate for the proposed secondary analysis. For this study, preliminary analysis has revealed that there was adequate data present from the original study to support the proposed research question. Second, is the 'problem of not having "been there"', which refers to an individual's altered understanding of the data that is caused by him/her not having experienced it in its original context. Lastly, there is the 'problem of verification', which refers to the fact that it may not be possible for the researcher to review the results/conclusions with the source to ensure accuracy. The last two issues were addressed by having the validity of the findings and interpretations of

the secondary analysis verified by a knowledgeable source (Szabo & Strang, 1997). For the purpose of this research, all findings were reviewed by the thesis supervisor, who conducted the original data collection as a co-principal investigator and had insight into the original meaning of the conversation. Additionally, all interviews were transcribed verbatim. This allowed the researcher to have a deeper understanding of and connection with the data, reducing the concern of not being present during the original data collection.

Conclusion

It is legally mandated for healthcare organizations and professionals to base their decisions on the best current evidence. Best Practice Guidelines are a synthesis of best current evidence. Interprofessional (IP) collaboration has been shown to be a facilitator in the introduction of guidelines. However, prior to this study, there was a paucity of information on how IP collaboration supports the introduction of clinical guidelines.

This study was a qualitative secondary analysis of data collected as part of the *Guideline Implementation for Improved Clinical Outcomes* study (GICOM). The goal of the current study was to determine how IP collaboration influences the introduction of clinical guidelines. To better understand guideline implementation related to IP teams, the National Health Service Sustainability Model was used. Interviews and reports from a long term care facility and a community healthcare clinic were analyzed in a qualitative, descriptive, secondary analysis to determine organizational characteristics, IP team involvement, and the relation between the model and IP competencies.

The IP competencies of *role clarification*, *IP communication*, and *collaborative leadership* were found to be important when implementing guidelines. Findings in this study emphasized the importance of; first, understanding the roles of all stakeholders involved in the implementation of guidelines; second, communication during the implementation of guidelines; and third, the role of an IP team in the introduction of a discipline specific guideline. An additional finding related to the large proportion of unregulated staff members and to their closeness to the patients, as these staff members were ideal in leadership roles and proved to be important in IP collaboration during the introduction of guidelines. Therefore, it is essential to appropriately involve all members of the IP team, regardless of discipline or educational level, during the introduction of guidelines.

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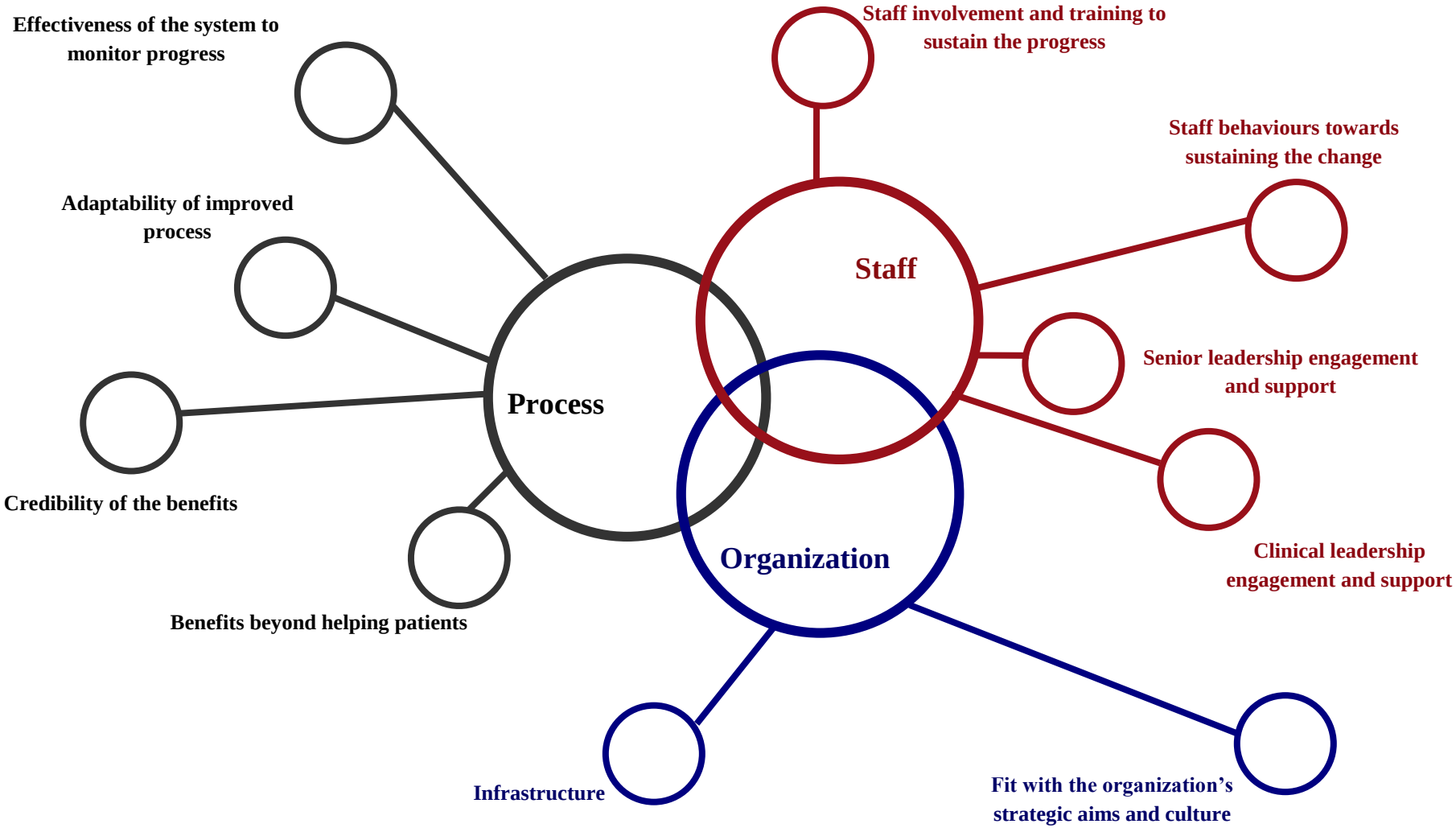
Appendix A: Search Strategy

<table>
<tr><th colspan="2">Before Data Collection and Analysis</th></tr>
<tr><th>Database</th><th>Literature Search Protocol</th></tr>
<tr><td rowspan="2">Cumulative Index to Nursing and Allied Health Literature</td><td>Search Terms: “guideline implementation” and interprofessional collaboration
Search Limits: no limits
Article: 1</td></tr>
<tr><td>Search Terms: “practice guidelines”, “interprofessionalism”, and “collaboration” (each separated by the word “or”)
Key words:
Practice Guidelines: “guideline Implementation”, “evidence-based practice”, “nursing practice, evidence-based”, “medical practice, evidence-based”, “professional practice, evidence-based”, “nursing practice, research-based”, “professional practice, research-based”, and “guideline adherence”.
Interprofessionalism: “interprofessional relations”, “nurse-physician relations”, “multidisciplinary care team”, “multidisciplinary collaboration”, and “interprofessional care”.
Collaboration: “teamwork”, “cooperation”, and “partnership”.
(Each group of keywords was then combined with “and”)
Search Limits: peer reviewed articles published in English from 2000 to 2011
Articles: 180 potential, 11 relevant</td></tr>
<tr><td rowspan="2">Ovid: Medline and PsychINFO</td><td>Search Terms: “guideline implementation” and interprofessional collaboration
Search Limits: no limits
Article: 1</td></tr>
<tr><td>Search Terms: “practice guidelines”, “interprofessionalism”, and “collaboration” (each separated by the word “or”)
Key words:
Practice Guidelines: “guideline implementation”, “evidence-based practice”, “evidence-based nursing”, “evidence-based medicine”, “professional practice, evidence-based”, “clinical nursing research”, “professional practice, research-based”, and “guideline adherence”.
Interprofessionalism: “patient care team ”, “physician-nurse relations”, “multidisciplinary care team”, “multidisciplinary collaboration”, and “interprofessional care”.
Collaboration: “teamwork”, “cooperation”, and “partnership”.
(Each group of keywords was then combined with “and”)
Search Limits: articles published in English from 2000 to 2011
Articles: 168</td></tr>
</table>

Appendix B: Sustainability Model



Appendix C: Permission for Use of Data

Permission for Use of Data

Drs. B. Davies and K. Higuchi,

I am currently completing a Master of Nursing thesis study entitled Interprofessional Collaboration and the Introduction of Nursing Guidelines at Best Practice Spotlight Organizations.

The purpose of this study is to determine how interprofessional collaboration influences the introduction of guidelines. This research will help to bridge an important knowledge gap and contribute to the implementation of evidence-based care.

I would like to request permission for the use of data from the Guideline Implementation for Improved Clinical Outcomes study from three sites, Fairview Mennonite Home, Windsor-Essex Community Health Center, and the Care Partners, for a secondary analysis. Data requested includes interview transcripts, and the year-end reports submitted from the organizations.

If you have any questions about the study, you may contact the researcher

Jennifer Somers BScN, RN, Master of Nursing Science student
University of Ottawa

Please indicate your agreement by signing and returning this letter. Retain a duplicate for your files.

I understand that the use of my data from the Guideline Implementation for Improved Clinical Outcomes study will be used for the purpose of the above study. Additionally, permission will be granted with the understanding that all identifying information will be coded by the thesis student Jennifer Somers as it was with the original study and will not be published.

Co-principal investigator signature (Please print and sign name)

Date May 31, 2012 KJ PHD

Co-principal investigator signature (Please print and sign name)

Date

Witness Jennifer Somers
Date May 31, 2012

Appendix D: Organizational Characteristics

Site Characteristic	Site A	Site B
Type of organization	Not-for-profit , 84 bed Long Term Care facility	Community Health Clinic
Number of staff	270 volunteers "limited resource of registered staff"	130 (3 nurses per shift) (52 pre-amalgamation)
Best Practice Guidelines implemented (RNAO, 2012a)	▪ Client Centered Care ▪ Oral Health: Nursing Assessment and Intervention ▪ Prevention of Falls and Fall Injuries in the Older Adult ▪ Promoting Continence Using Prompted Voiding ▪ Screening for Delirium, Dementia and Depression in the Older Adult	Year one: ▪ Embracing Cultural Diversity in Healthcare: Developing Cultural Competence ▪ Preventing and Managing violence in the Workplace ▪ Integrating Smoking Cessation into Daily Nursing Practice ▪ Screening for Delirium, Dementia and Depression in Older Adults Year two: ▪ Supporting and Strengthening Families through Expected and Unexpected Life Events ▪ Developing and Sustaining Nursing Leadership ▪ Nursing Management of Hypertension ▪ Promoting Asthma Control in Children Year three; ▪ Primary Prevention of Childhood Obesity ▪ Women Abuse; screening, Identification and Initial Response ▪ Oral Health; Nursing Assessment and Intervention ▪ Reducing Foot Complications for People with Diabetes
Types of staff	Nurses (Registered Nurse, Registered Practical Nurse) Housekeepers Personal Support Workers Physicians	Nurses (Registered Nurse, Registered Practical Nurse, Nurse Practitioner) Community Health Workers Physicians Social Workers Dietary staff
Staff turnover	Low	No data
Steering committee representatives	Nurses Housekeepers Personal support workers	Nurses Community Health workers Social Workers

Site Characteristic	Site A	Site B
	Administrators	Dietary staff
Steering committee dedication	Steering committee meets monthly for two hours	Steering committee meet twice a month
Project Leaders	(One per guideline except one, which has three) Nurses (Registered Nurse, Registered Practical Nurse) Housekeepers Personal Support Workers Administrators	Nurses Community Health Workers Dietary staff
Recent organizational change		Recent amalgamation of two Community Health Clinics
Clientele	Seniors	Multicultural High immigrant ratio All ages
Communication systems	Website Communication board Wall pamphlet containers	Website *Best Practice Spotlight Organization*© newsletter Daily CHC email updates
Duration of care	Continuous 24 hour, 7 days a week	Episodic, client driven
Type of Care offered	Direct, Activities of daily care	Indirect, Prevention, monitoring and education

Appendix E: Cover letter

uOttawa

Université d'Ottawa
Faculté des sciences de la santé
École des sciences infirmières
University of Ottawa
Faculty of Health Sciences
School of Nursing

Dear Administrator/Director of Care:

You are invited to participate in a Master of Nursing thesis study entitled "Interprofessional Collaboration and the introduction of Nursing Guidelines at Best Practice Spotlight Organizations" conducted by Jennifer Somers BScN, RN under the supervision of Dr. Kathryn A. Smith Higuchi PhD, RN.

The purpose of the study is to determine how interprofessional collaboration influences the introduction of guidelines. This research will help to bridge an important knowledge gap and contribute to the implementation of evidence-based care. This study is a secondary analysis of data already collected as part of the Guideline Implementation for Improved Clinical Outcomes (GICOM) study.

Your involvement consists of allowing the student researcher access to the data collected in the GICOM study. Specifically, the data to be used in this study consists of interview transcripts (without any identifying information) and the reports that you submitted to the Registered Nurses' Association of Ontario during 2009-2012 as part of the BPSO candidacy.

Please read the attached consent and information sheet.

Jennifer Somers, Master of Nursing Science Student, University of Ottawa

☎ 613-562-5473
613-562-5443
451 Smyth
Ottawa ON K1H 8M5 Canada
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Appendix F: Consent Form and Information Sheet

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Interprofessional Collaboration and the Introduction of Nursing Guidelines at Best Practice Spotlight Organizations

Primary Investigator: Jennifer Somers BScN, RN, Master of Nursing Science student
University of Ottawa

Thesis Supervisor: Dr. Kathryn A. Smith Higuchi PhD, RN, Associate Professor School of Nursing, Senior Investigator Nursing Best Practice Research Center (NBPRC)
RGN 1480, University of Ottawa

Université d'Ottawa
Faculté des sciences de la santé
École des sciences infirmières
University of Ottawa
Faculty of Health Sciences
School of Nursing

Invitation to Participate: You are invited to participate in the above mentioned research study conducted by Jennifer Somers BScN, RN as part of thesis study supervised by Dr. Kathryn A. Smith Higuchi PhD, RN.

Purpose of the Study: The purpose of this study is to determine how interprofessional collaboration influences the introduction of guidelines. This research will help to bridge an important knowledge gap and contribute to the implementation of evidence-based care.

Participation: Your involvement consists of allowing the student researcher access to the data collected in the *Guideline Implementation for Improved Clinical Outcomes* (GICOM) study. Specifically, the data to be used in this study consists of interview transcripts (without any identifying information) and the year-end reports that you submitted to the Registered Nurses' Association of Ontario during 2009-2012 as part of the BPSO candidacy.

Risks: There are no identified risks in the participation of this study beyond the risks of the previous study. If you agree to participate in this study, ethical approval will be obtained from the University of Ottawa Ethics review Board prior to any data analysis.

Benefits: This study will enhance our understanding of the influence of interprofessional collaboration during guideline implementation. It is also hoped that knowledge gained during this study will improve the care nurses and other healthcare workers provide to their patients or clients.

Confidentiality and anonymity: Any information that you have shared during the original research will remain strictly confidential. The data will be used by the researcher only for the study of the influence of interprofessional collaboration on the introduction of guidelines. No identifying personal or organizational data will be published or presented. The views of individual participants may be used in a report or published papers and, if so, they (and/or their organization) will not be able to be identified.

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Conservation of data: Only the original researchers and the thesis student will have access to this information. Data from the original study will continue to be stored in the locked cabinets in the Nursing Best Practice Research Center, at the School of Nursing, University of Ottawa for five years, as per the university policy.

Voluntary Participation: You are under no obligation to participate and, if you choose to participate, you may withdraw from the study at any time without suffering any adverse consequences. If you do choose to withdraw from the study your data will not be used in this research project.

Université d'Ottawa
Faculté des sciences de la santé
École des sciences infirmières
University of Ottawa
Faculty of Health Sciences
School of Nursing

Acceptance: I agree to participate in the above research study conducted by *Jennifer Somers BScN, RN, Master of Science in Nursing student of the University of Ottawa, whose research is under the supervision of Dr. Kathryn A. Smith Higuchi PhD, RN.*

If you have any questions about the study, you may contact the researcher or her supervisor.

If you have any questions regarding the ethical conduct of this study, you may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5
Tel.: (613) 562-5387
Email: ethics@uottawa.ca

There are two copies of the consent form, one of which is yours to keep. Signed consent forms may be faxed to [redacted]

Name of Organization: _____
Name (Please Print): _____
Signature: _____
Date: _____

Researcher's signature: _____
Date: _____

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Appendix G: Ethics Approval

File Number: H04-12-10 **Date (mm/dd/yyyy):** 05/28/2014

Université d'Ottawa University of Ottawa
Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Ethics Approval Notice

Health Sciences and Science REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

First Name	Last Name	Affiliation	Role
Kathryn	Higuchi	Health Sciences / Nursingy	Supervisor
Jennifer	Somers	Health Sciences / Nursingy	Student Researcher

File Number: H04-12-10

Type of Project: Secondary use of data

Title: Interprofessional Collaboration and Nursing Guideline Implementation at Best Practice Spotlight Organizations

Renewal Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
06/05/2014	06/04/2015	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:
N/A

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Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada
(613) 562-5387 • Téléc./Fax (613) 562-5338
www.recherche.uottawa.ca/deontologie/ www.research.uottawa.ca/ethics/

File Number: H04-12-10 **Date (mm/dd/yyyy):** 05/28/2014

Université d'Ottawa University of Ottawa
Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement (2010) and other applicable laws and regulations in Ontario, has examined and approved the ethics application for the above named research project. Ethics approval is valid for the period indicated above and subject to the conditions listed in the section entitled "Special Conditions / Comments".

During the course of the project, the protocol may not be modified without prior written approval from the REB except when necessary to remove participants from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the project (e.g., change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, including consent and recruitment documentation, should be submitted to the Ethics Office for approval using the "Modification to research project" form available at: http://www.research.uottawa.ca/ethics/forms.html.

Please submit an annual report to the Ethics Office four weeks before the above-referenced expiry date to request a renewal of this ethics approval. To close the file, a final report must be submitted. These documents can be found at: http://www.research.uottawa.ca/ethics/forms.html.

If you have any questions, please do not hesitate to contact the Ethics Office at extension 5387 or by e-mail at: ethics@uOttawa.ca.

Signature:

Mélanie Rioux
Ethics Coordinator
For Catherine Paquet, Director of the Office of Research Ethics and Integrity

550, rue Cumberland, pièce 154 550 Cumberland Street, room 154
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada
(613) 562-5387 • Télée./Fax (613) 562-5338
www.recherche.uottawa.ca/deontologie/ www.research.uottawa.ca/ethics/

Appendix H: Involvement of Interprofessional groups in Guideline Implementation Activities (Site A)

NHS Factor	Activities (Davies et. al., 2013)	Role											
		All Staff	Nurse	Personal Support Worker	Family	Patient	Physio	Pharmacist	Diet	External Consultant	Librarian	HSK	Dental
Adaptability of improved process	Use previously established informal relationships or develop new relationships with external organizations to support knowledge development.		X	X			X				X	X	
Effectiveness of the system to monitor process	Communicate guideline implementation progress to internal & external stakeholders		X		X	X	X					X	
	Develop new tools or systems or revise existing tools or systems to monitor guideline implementation outcomes.						X	X					

Physio=Physiotherapist; Diet = Dietary Staff; HSK=Housekeeping; Dental = Dental hygienist

NHS Factor	Activities (Davies et. al., 2013)	Role											
		All Staff	Nurse	Personal Support Worker	Family	Patient	Physio	Pharmacist	Diet	External Consultant	Librarian	HSK	Dental
	Observation of practice change		X	X	X		X	X	X			X	
	Collect and analyze information related to guideline implementation progress.		X	X	X		X						
Stakeholder involvement and training to sustain the process	Attended education session	X											
	Participate on Best Practice Guidelines steering committees		X	X			X			X		X	
	Delivered education to stakeholders		X	X									X
Clinical Leader engagement and support	Clinical leaders participate on BPSO/BPG committee		X									X	
Staff behaviours toward sustaining the change	Seek or provide formal or informal feedback from stakeholders			X	X	X			X			X	
Infrastructure	Seek and/or obtain external				X					X			X

Physio=Physiotherapist; Diet = Dietary Staff; HSK=Housekeeping; Dental = Dental hygienist

NHS Factor	Activities (Davies et. al., 2013)	Role											
		All Staff	Nurse	Personal Support Worker	Family	Patient	Physio	Pharmacist	Diet	External Consultant	Librarian	HSK	Dental
	resources to meet organizational needs												

Physio=Physiotherapist; Diet = Dietary Staff; HSK=Housekeeping; Dental = Dental hygienist

Appendix I: Involvement of Interprofessional groups in Guideline Implementation Activities (Site B)

NHS Factor	Activities (Davies et. al., 2013)	Role										
		All Staff	Nursing	RT	Pharmacy	SW	Family	IT	Dietary staff	HR	Physician	CHW
Credibility of the benefits	Review and select priority guidelines and recommendations.	X										
Adaptability of improved processes	Use previously established informal relationships or develop new relationships with external organizations to support knowledge development.		X								X	
Effectiveness of the system to monitor process	Chart audits	X										
	Communicate guideline implementation progress to internal and external stakeholders	X										
	Develop new tools or systems or revise existing tools or systems to monitor guideline implementation outcomes.		X					X	X			X
	Observation of practice change		X		X	X	X				X	X
Stakeholder involvement and training to sustain the progress	Attended education session	X										
	Participate on Best Practice Guidelines steering committees		X			X			X			X

RT = Respiratory Therapist, SW = Social Worker, IT = Information Technology, HR = Human Resource, CHW = Community Heath Worker

NHS Factor	Activities (Davies et. al., 2013)	Role										
		All Staff	Nursing	RT	Pharmacy	SW	Family	IT	Dietary staff	HR	Physician	CHW
	Recruit BPG champions		X									X
Infrastructure	Seek and/or obtain external resources to meet organizational needs		X	X								
	Revise or develop policies, procedures and systems									X		X

RT = Respiratory Therapist, SW = Social Worker, IT = Information Technology, HR = Human Resource, CHW = Community Health Worker