Evaluation as a Mechanism for Integrated Knowledge Translation

by

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Abstract

In the emerging field of knowledge translation (KT) evaluation is typically assigned the role of quality control, constructing judgments about the merit and worth of knowledge translation activities. To date however, there has been little, if any, record of attempts to use evaluation to facilitate knowledge translation. The purpose of this research was to examine the potential role of evaluation as a mechanism for integrated knowledge translation (IKT).

This study was completed in two phases and employed a prospective multiple methods case study design. Phase one explored the context of primary care, the setting in which phase two was conducted. Phase two involved the implementation of an evaluation designed to facilitate knowledge translation; an evaluation of a Memory Clinic within a primary care setting in Ontario, Canada served as the case. The evaluation was participatory and used intentional strategies to support knowledge translation. A framework from the evaluation literature, Pathways of Influence, was used to examine the influence of the evaluation at the level of the individual, interpersonal and collective.

This research provides the first known description of a KT-informed evaluation. At the level of the individual, a KT-informed evaluation influenced the individuals’ knowledge about the program, attitudes towards practice-based knowledge and clinical practices and processes. At the team/interpersonal level the evaluation was seen to influence the team’s social norms, supporting the team in thinking beyond their disciplinary boundaries and to develop a shared vision and common language. The evaluation did not have influence at the level of the broader organization, however had diffuse impact on two external organizations. Results of this study suggest that adding knowledge translation to the repertoire of evaluation purposes is a natural extension of the field.
Integrated knowledge translation is designed to engage individuals in the synthesis, exchange and ethically sound application of knowledge and the results of this study demonstrate that a collaborative evaluation approach promotes this interest in a potentially powerful way.
Co-Authorship

The following manuscripts are in press or review and can be cited as follows:


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List of Abbreviations

CAIPE  Centre for the Advancement of Interprofessional Education
CBPR  Community Based Participatory Research
CIHR  Canadian Institutes of Health Research
CPAT  Collaborative Practice Assessment Tool
ECB  Evaluation Capacity Building
EMR  Electronic Medical Record
EROS  Edmonton Research Orientation Scale
FHT  Family Health Team
HQO  Health Quality Ontario
IHP  Interdisciplinary Health Provider
IKT  Integrated Knowledge Translation
KT  Knowledge Translation
KTA  Knowledge to Action
ORID  Objective Reflective Interpretive Decision
OSOT  Ontario Society of Occupational Therapists
OT  Occupational Therapy
PPE  Practice Participatory Evaluation
TPE  Transformative Participatory Evaluation
Chapter 1: Introduction

The objective of the research was to examine the potential role of evaluative inquiry as a mechanism for integrated knowledge translation.

Each year the Canadian Institutes of Health Research (CIHR) spends roughly 700 million dollars on health research (Graham & Tetroe, 2007). Despite Canada’s clear commitment to health research, the literature has consistently demonstrated the transfer of research findings into practice is slow, complex and often unpredictable (Graham et al., 2007). Ho and colleagues (Ho et al., 2004) refer to tensions that exist in healthcare with a vast amount of research and information on one hand and large gaps in practice knowledge on the other. There is a rapidly growing body of evidence in health care focused on the translation of knowledge. Granting agencies across the world are emphasizing the critical importance of building knowledge translation into funding initiatives (Canadian Institutes of Health Research, 2013; Kitson & Bigsby, 2008; Tetroe et al., 2008). Issues surrounding the use of evaluation processes and findings have been percolating through the literature for more than 30 years and this large body of conceptual, theoretical and empirical work can inform knowledge translation research and practice (Shulha & Cousins, 1997).

Knowledge translation (KT) methods have traditionally focused on researcher-initiated activities that push research findings into practice, however there is inconsistent evidence as to their effectiveness (Bowen & Graham, 2013; Grimshaw, Eccles, Lavis, Hill & Squires, 2012; Grimshaw et al., 2004; Menon, Korner-Bitensky, Kastern, McKibbon & Straus, 2009; Mitton, Adair, McKenzie, Patten & Perry, 2007). As a result there is an increasing emphasis placed on developing collaborative partnerships between researchers and end-users to better understand local context, and knowledge needs in order to facilitate knowledge use (Bowen & Graham, 2013; Kothari, Birch & Charles, 2005; Kitson & Bigsby, 2008). Integrated knowledge
translation (IKT) is the term used to describe this approach and it refers to the “active collaboration between researchers and research users in all parts of the research process” (Graham, et al., 2006, p. 21).

Both the KT and the program evaluation literature have focused on the evaluation of KT activities (Ashley, 2009; Brousselle, Contandriopoulos & Lemire, 2009; Davison, 2009; Ginexi & Hilton, 2006; LaBelle Oliver, 2009) but neither has explored the role evaluation can play as a method of IKT. As funding is regularly being dedicated specifically to IKT initiatives and interest in this type of KT is growing, it seems timely for evaluation to consider its position in relation to IKT research. The objective of the research was to examine the potential role of program evaluation as a mechanism for integrated knowledge translation. The research sought to (a) describe the integration of occupational therapy into the context of a new interprofessional model of primary care, (b) describe strategies and mechanisms to influence KT during program evaluation (c) examine the congruence of evaluation to IKT, and (d) explore the influence of evaluation when designed purposefully for KT. Results of the study are intended to expand the conceptualization of both IKT and evaluation.

Context and Relevance to Primary Care

The proposal for this research was situated in Family Health Teams, a relatively new model of interprofessional primary care that was founded in 2004 by the Ontario government. Family Health Teams (FHT) provide interprofessional collaborative primary care to patients within their community (Collier, 2011). In this model patients have access to physicians and a range of other health professionals including occupational therapy. In 2010, occupational therapy received funding as one of the interdisciplinary health providers in FHTs, representing the first large-scale integration of occupational therapy into primary care in Canada. This new funding opportunity provides the context to understand how evaluation can build and translate knowledge
from the early stages of program development and implementation. Both evaluation and KT are recognized as integral components of primary care (Collier, 2011; Jaakkimainen et al., 2006; Menear, Grindrod, Bouston, Norton & Legare, 2012;), but to date there has been little, if any, record of attempts to use evaluation in support of knowledge translation.

**Dissertation Layout**

The research is presented as three distinct works, each contributing to the overall purpose: to explore the potential role of program evaluation as a mechanism for integrated knowledge translation. The research was conducted in two phases. Phase one explored and described the context, primary care, in which phase two was conducted. Phase two involved the implementation of an evaluation designed to facilitate KT.

Chapters two through four provide a global introduction to the literature, theories and methods that grounded the research. Chapter two reviews the current literature pertaining to KT and evaluation and outlines the rationale for evaluation as a mechanism for IKT. Chapter three describes two theoretical frameworks, Integrated Theory of Influence (Kirkhart, 2000) and the Pathways of Influence (Henry & Mark, 2003; Mark & Henry, 2004) that have framed the research. Chapter four will introduce the overarching methodology of the research.

Chapters five through seven are three discrete manuscripts and present the results of the research. Chapter five conceptualizes and describes the integration of occupational therapy in FHTs. The study provides two important insights. First it offers an in-depth understanding of interprofessional primary care to better understand the overall context in which the subsequent evaluation will be conducted. Second, if evaluation is to be a considered a mechanism of IKT, it is important to understand how evaluation can be integrated into primary care. This first study study provides insights into strategies and mechanisms to support the integration of a KT-informed evaluation in a primary care setting. The study sought to answer the question: What
structures and processes support the integration of occupational therapy in FHTs? A multiple case studies approach was used (Stake, Yin, 2009). Four FHTs with unique features were identified and participated in the study.

Chapter six introduces a knowledge translation-informed evaluation (KT-informed evaluation); a novel approach to evaluation whose intention is to support KT. The chapter sought to answer the question: How can evaluation be designed to facilitate KT? The chapter is informed by the results from Phase one and describes the strategies, processes and mechanisms used in a KT-informed evaluation, using a case study design (Stake, 1995, Yin, 2009). An interprofessional Memory Clinic in one Family Health Team in Ontario, Canada served as the case. Results affirm the importance of attending to and understanding context in a KT-informed evaluation.

Chapter seven examines the role of evaluation as a novel knowledge translation intervention in primary care. The study sought to answer the question: What is the influence of evaluation on knowledge translation? Case study methodology was used (Stake, 1995, Yin, 2009).

Chapter eight consolidates the findings of the three discrete manuscripts and examines the implications of this work to (a) how IKT is understood and enacted, and (b) program evaluation and the evaluators that conduct them. Methodological considerations and future areas of research are also addressed.
References


[http://www.implementationscience.com/content/7/1/50](http://www.implementationscience.com/content/7/1/50)


Chapter 2: A Review of the Literature

The objective of the research is to examine the potential role of program evaluation as a mechanism for integrated knowledge translation.

The research sought to (a) describe the integration of occupational therapy into the context of a new interprofessional model of primary care, (b) describe strategies and mechanisms to influence knowledge translation (KT) during program evaluation (c) examine the congruence of evaluation to integrated knowledge translation (IKT) and (d) explore the influence of evaluation when designed purposefully for knowledge translation. Results of the study are intended to expand the conceptualization of both IKT and evaluation.

To date, evaluation has played a role in the evaluation of knowledge translation (KT) activities. However with the increasing emphasis on KT and IKT in healthcare it is timely to consider an expanded role for evaluation. The objectives of the literature review are twofold; first, to describe the dimensions of KT, and examine KT within primary care and second, to examine three concepts and approaches within the evaluation literature that provide theoretical and empirical support for this research: 1) participatory evaluation, 2) evaluation use and 3) evaluation capacity building.

Knowledge Translation

Knowledge translation is defined as a “dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the healthcare system” (Canadian Institutes of Health Research, 2013). This definition is broadly used and has been adopted by both the World Health Organization (WHO) and United States Centre for Dissemination of Disability Research (Bowen & Graham, 2013).
Many terms have been used to describe knowledge translation including knowledge transfer, knowledge exchange, research utilization, implementation research and dissemination. While each of these terms has similar meanings they do not cover the breadth of what is meant by the concept knowledge translation: all steps between the creation of new knowledge and its application. Within Canada, and in particular health care, The Knowledge to Action (KTA) process (Graham et al., 2006) is used to conceptualize KT. The Canadian Institutes of Health Research (CIHR) has adopted the KTA process as described by Graham and colleagues (2006) to support KT research; a fundamental part of the organization’s mandate.

The KTA cycle is divided into two components: knowledge creation and action. Knowledge creation includes three phases. The first represents knowledge obtained through primary research studies. The second involves knowledge synthesis or the systematic collection of existing knowledge. The final and third phase consists of tools or products that present knowledge in a way that meets the needs of identified stakeholders. It is important to note that synthesized knowledge is the core unit of the knowledge creation phase (Straus, Tetroe & Graham, 2009). Ultimately it is this synthesized knowledge that becomes packaged and presented to the knowledge users indicating the start of the action phase.

The Action phase represents activities used to assist in the application of knowledge, with eight specific processes including the evaluation of outcomes. It is here that both the literature on evaluation and KT currently conceptualize the role for evaluation: the evaluation of KT interventions. Figure 1 summarizes the Knowledge to Action Cycle.

Two broad forms of KT exist: end-of-grant KT and integrated KT (Gagnon, 2011). End-of-grant KT refers to the dissemination of research findings upon project completion and the vast majority of the literature has focused on this form of KT (CIHR, 2011). The results from a number of systematic reviews suggest there is little definitive evidence to support any one KT strategy and that passive end-of-grant initiatives are largely ineffective (Flodgren et al., 2011; Grimshaw, Eccles, Lavis, Hill & Squires, 2012; Menon, Korner-Bitensky, Kastner, McKibbon & Straus, 2009; Scott et al., 2012; Sudsawad, 2007).

Both individual and organizational factors can support or discourage KT (Grimshaw et al., 2012). The KT literature has consistently emphasized the need to consider the context in which knowledge will be used (Bowen & Graham, 2013; Greenhalgh & Wieringa, 2011; Kerner, 2008) however the focus of end-of-grant KT activities has been almost entirely on the individual knowledge user with less attention to organizational level interventions (Contandriopoulos,
Lemire, Denis & Tremblay, 2010; Foxcroft & Cole; Parmelii et al., 2011; Greenhalgh, Robert, MacFarlane, Bate & Kyriakidou, 2004). An influential meta-narrative review examined diffusion of innovations in service organizations within and outside of healthcare (Greenhalgh et al., 2004). While the focus of the almost 500 studies was primarily on individual level interventions, Greenhalgh and colleagues (2004) focused their recommendations and areas for further research principally on systems issues and the need to build capacity in organizations to adopt innovations. While the primary care literature has emphasized the importance of context in KT, organizational interventions have had limited attention.

**End-of Grant Knowledge Translation in Primary Care**

The primary care setting has unique issues related to KT. Primary-care clinicians see problems presented early where issues may not be clearly articulated and where broad services are provided to a range of conditions across the lifespan. In addition, clinical practice guidelines and other KT activities, such as computerized reminders, are largely developed for single diseases making them difficult to apply to patients with multiple chronic conditions (Beaulieu, Proulx, Jobin, & Kugler, 2011; Grimshaw et al., 2012; Menear et al., 2012; Shojania, Jennings, Mayhew, Ramsay, Eccles & Grimshaw, 2011).

Research has shown that primary care physicians rarely access primary sources of information, but gain information through secondary sources such as continuing medical education (CME) and clinical practice guidelines; typically “filtered by specialists” who work in very different environments (Beaulieu et al., 2011). In a survey of primary care paediatric physicians (n= 119, response rate of 61%). Pappano and colleagues (2008) found practice guidelines to be a major influence on practice by 92% of respondents followed by information provided by specialists (approximately 68%) and other colleagues (approximately 65%).
An ethnographic study of primary care clinicians, including physicians, nurses and phlebotomists found clinicians rarely accessed, appraised, and used explicit evidence directly from research or other formal sources (Gabbay & le May, 2004). Instead, Gabbay and le May (2004) describe the use of mindlines; internalized tacit guidelines, in part informed by brief reading, but primarily informed by their interactions with each other, with opinion leaders, patients, pharmaceutical representatives and by other sources of largely tacit knowledge. Mindlines are built on early training, their own and their colleagues' experiences and reinforced by the collective practice. Both Pappano et al (2008) and Beaulieu et al (2011) highlight a number of important implications for KT in primary care. First interventions must capitalize on the tacit knowledge of primary care clinicians. Secondly, establishing networks and communities of practice are important elements of any primary care KT intervention. Lastly, knowledge needs to be contextually relevant.

Wenger and colleagues (2009) conducted a controlled trial to examine the impact of a KT strategy to improve primary care for individuals with frequent falls, urinary incontinence or dementia. The intervention targeted primary care physicians. In both the intervention (n= 357) and control group (n=287) patients with one of the three study conditions were identified and asked 4 screening questions. Results were placed on the patients charts for both control and intervention groups. Physicians in the intervention group were also provided with four additional supports; a structured visit note, medical record prompts to ensure performance of essential care processes, patient education materials and physician education (Reuben, Roth, Kamberg & Wenger, 2003). Data were extracted from patient medical records using quality indicators developed for each condition. The frequency in which patients received the identified quality care processes was calculated. Patients in the intervention group received better care for falls (44% vs 23%, p<0.001) and incontinence (37% vs. 22%, p<0.001), but not cognitive impairment
Despite the better care provided to patients in the intervention group, the actual frequency of implemented care process was low. Even in the intervention group only half of the patients who had fallen were asked about falls or assessed further and only one third of patients who were fearful of falling had a balance or gait assessment.

The results of this study can in part be interpreted by understanding how primary care clinicians and physicians seek and use knowledge. External knowledge sources geared to the primary care practice context clearly did have some impact on practice. However, Wenger et al., (2009) did not build in KT strategies that involved tacit sources of knowledge, nor did the authors consider contextual program level issues, or engage the primary care physicians in the research process or identification of their own clinical issues. It is now broadly acknowledged that no one KT activity has demonstrated a strong impact at changing practice, with many reviews demonstrating mixed to minimal effects (Bowen & Graham, 2013; Flodgren et al., 2011; Menon et al, 2009; Scott et al., 2012; Sudsawad, 2007). It is increasingly recognized that research must involve collaboration with knowledge users (Bowen & Graham; 2013; Cousins & Simon, 1996; Davies, Nutley & Walter, 2008; Kothar et al., 2005; Menear et al., 2012; Scott et al., 2007).

Menear and colleagues (2012) have recently stressed the need to adopt an integrated knowledge translation approach within primary care as a way to actively engage primary care providers in the research process and support the production of contextually relevant knowledge.

**Integrated Knowledge Translation**

Integrated knowledge translation, the second broad form of KT falls under this umbrella of collaborative research, which has similarities to participatory research, action research or participatory action research (Gagnon, 2011). Another way to describe IKT is to frame it as a move from mode I to mode II science. Mode I science is investigator driven, based on scientific discovery and conducted largely within the confines of Universities. In mode II science,
researchers and practitioners co-create contextually sensitive knowledge with the emphasis on application. (Best, Terpstra, Moor, Riley, Norma, & Glasgow, 2009; Nowotny, Scott & Gibbons, 2003). The common theme in all of these approaches is that research findings will be more relevant and therefore implemented by the end users if they are actively involved in all phases of the research process (Bowen & Graham, 2013; Gagnon, 2009). There is a growing emphasis in the literature that partnerships must be established between researchers and knowledge users if knowledge is to effectively moved to action (Bowen & Graham, 2013; Ehde et al., 2013). This shift holds true across disciplines. Within the business literature the concept of engaged scholarship has been proposed by Van de Ven and Johnson (2006) as a way to create knowledge to bridge the gap between researchers and practitioners. Engaged scholarship is described as “a collaborative form of inquiry in which academics and practitioners leverage their different perspective and competencies to co-produce knowledge about a complex problem or phenomenon” (p. 803).

The term IKT has only recently been introduced into the KT literature and appears to have first been described in 2006 by Graham and Tetroe. The Canadian Institutes of Health Research has adopted Graham’s definition (p. 21) and much of the literature on IKT originates from this funding agency. At this time there is little conceptual and theoretical work on IKT and to date IKT largely remains a definition. It is described by what it is like (e.g. participatory research) not what it uniquely is.

Two published papers on IKT help to inform our understanding of IKT. McGrath and colleagues (McGrath, Lingley-Pottie, Emberly, Thurston & McLean, 2009) presented a case example of IKT in a children’s mental health program called the “Family Help Program” (p. 30). Stakeholders included community members, mental health consumers, users of the program, care providers, the advisory committee and study management team all of whom were involved in all
aspects of the study from design, implementation and dissemination. The authors described the rationale and nature of each stakeholder group’s participation in the project, but made no attempt to link participation to knowledge use or patient outcomes. Wide acceptance of the program was reported and expansion of the program into other districts was noted. The authors attributed the successful use of the Family Help Program to both the face-to-face engagement with stakeholders and the active participation in community based activities. They concluded IKT can enhance the uptake of scientific knowledge into practice (McGrath et al., 2009).

A paper by Lapaige (2010) presented a framework of IKT within the context of globalized public health. The framework aimed to delineate the determinants of IKT, which the author called “proximal” (individual and community level factors) and “upstream” (national and global level factors). The framework is complex and highlights the multiple dimensions of IKT (e.g. multiple stakeholders) that traditional end-of-grant KT does not include. This approach offers a starting point to understand the elements of IKT that facilitate the uptake of knowledge to improve patient care. One of the proximal determinants of IKT in this framework is ‘type of knowledge’ (Lapaige, 2010, p. 43). Given the emphasis on research based knowledge in the KT literature, it is important to first examine what the K in IKT means if a strong argument for evaluative inquiry as a mode of IKT is to be made.

**Knowledge in Knowledge Translation.** Within the KT literature, knowledge is primarily seen as derived from empirical studies generated by researchers. Lomas and colleagues (Lomas, Culyer, McCuheeton, McAuley & Law, 2005) argue that the evidence based practice movement has created a situation where only certain types of knowledge, that derived from investigator driven research, ‘counts’ in health care. Therefore, what gets synthesized and made available for transfer to practice is inherently quantitative scientific research knowledge. Researchers are viewed as responsible for creating knowledge (Greenhalgh & Wieringa, 2011; Greenhalgh,
Integrated knowledge translation, along with participatory research and participatory evaluation are grounded in a social constructivist view of knowledge where “knowledge is a social product and learning is a social process” (Pritchard & Wollard, 2010, p. 9). This knowledge paradigm emphasizes the influence of all forms of social interaction and interpretation in the construction of knowledge and understanding (Vygosky, 1978). Integration of new knowledge is based on the context of the situation and participants’ past experiences (Lave & Wenger, 1991).

While knowledge hierarchies have been clearly articulated in health care, many different forms of knowledge exist. Lam (2000) has identified four types of organizational knowledge: embrained (explicit individual knowledge), embodied (tacit, individual), encoded (explicit, organizational knowledge i.e. policies) and embedded (tacit, organizational). Each form of knowledge exists in organizations and depending on the organizational culture certain forms of knowledge are given more emphasis and legitimacy. Within healthcare there is an emphasis on explicit individual and organizational knowledge (embrained and encoded). Examples of these forms of knowledge include the large body of specialty knowledge held by experts and clinical guidelines and policies that direct patient care. However, health care also holds a large wealth of individual and organizational tacit knowledge that is largely unattended to. Increased emphasis on IKT and collaborative forms of research along with a broadening definition of KT provide evidence that this tacit knowledge is being recognized.

The original definition of knowledge translation (Graham & Tetroe, 2007) described KT as “the interactions are between researchers and users” (p. 20, emphasis added) with researchers seen as producing research or science. The most recent definition simply requires an exchange of
information with no explicit differentiation between researcher and users, opening up a broader view of who produces knowledge and how this is done. While the definition shift is subtle, it is aligned with the recent push for IKT and a more collaborative approach to research and knowledge generation.

On the other hand, the definition of IKT views knowledge to be created by “researchers and research users” in the collaborative process of inquiry (Graham et al., 2006 p. 21). The narrow view of whom and how knowledge is created is in contrast to the epistemology of collaborative forms of research, which emphasize both the co-creation of contextually relevant knowledge and experiential knowledge (Best et al., 2009; Greehalgh & Wieringa, 2011; Kitson & Bigsby, 2008). To frame IKT using discourse from the traditional research paradigm seems counter to the intention and tradition of IKT. One must assume it is because of IKTs recent introduction that no critical or theoretical writings have been published that might either challenge the current definition or offer an alternative. One of the intended consequences of this proposal is to open up the definition of IKT to consider other forms of systematic inquiry, such as evaluation. However, to understand the potential role of evaluation in IKT it is important to first reflect on what evaluation is and what it is not.

**Evaluative Inquiry**

The most recent edition of *The Program Evaluation Standards (3rd Ed.*) (Yarbrough, Shulha, Hopson, & Caruthers 2011) define program evaluation as (a) a systematic investigation, (b) conducted for purposes of decision making, judgments, conclusions, findings, new knowledge, organizational development and capacity building, (c) for improvement and/or accountability in users’ program and systems and (d) contributing to organizational or social value.
Program evaluations “help stakeholders answer specific questions or make decisions about specific programs and their components” (Yarbrough et al., 2011, p. xxv). Evaluation can be differentiated from research by its central focus on practice driven questions, with the intended use of both its processes and results being directed to improving programs and organizations (Weiss, 1998). Research on the other hand seeks to addresses identified gaps in theories or areas of knowledge (Weiss, 1998).

Alkin and Taut (2003) have offered a useful taxonomy of knowledge (see Figure 2) to understand the relationship between evaluation and research knowledge. Information is at the bottom of the taxonomy and refers to data that are collected. Once interpreted, information is considered knowledge. When this knowledge is collected using systematic scientific methods knowledge becomes “systematic knowledge” (p. 3). Both research and evaluation have to do with systematic knowledge, where empirical observations are made and valid conclusions are communicated (Alkin & Taut, 2003). Thus, while the current definition of IKT refers to research, research knowledge is obtained using similar systematic methods as evaluation. The fundamental difference between research and evaluation lies in their purpose; research creates knowledge that addresses identified gaps in theories or disciplinary knowledge and evaluation creates knowledge for use in practice. It is this very difference that makes evaluation ideally suited or IKT.

Adding to our understanding of evaluation is the concept of evaluative inquiry, which extends evaluation beyond one single evaluation and involves “an ongoing process for investigating and understanding critical organizational issues. Evaluative inquiry is an approach to learning that is fully integrated with an organization’s work practices” (Preskill & Torres, 1999a, p. 1). It plays a critical role in individual, team and organizational learning to support the ongoing changes and adaptations organizations make to ensure growth and improvement (Cousins et al., 2008; Preskill & Torres, 1999a, 1999b, 2001; Preskill, 2003; Shulha, 2000).
Figure 2. Taxonomy of Knowledge, adapted from “Unbundling evaluation use” by M.C. Alkin and S. Taut, 2003, *Studies in Educational Evaluation*, 29, p. 9.

The use of evaluative inquiry for learning involves many interrelated dimensions including participatory evaluation, evaluation use and evaluation capacity building. If evaluation can play a role in IKT, each of these concepts need to be explored to offer a cohesive and comprehensive argument. The following sections will provide this analysis.

**Collaborative Evaluation**

The underlying premise of IKT is “the mutual engagement of knowledge creators and users in systematic inquiry” (Graham et al., 2006, p. 21). In the many forms of evaluation, stakeholder participation is purposefully cultivated to facilitate learning and knowledge building (Cousins & Whitmore, 1998; DeLuca, Poth & Scarle, 2009; Patton, 2008; Suarez-Herrera, Springett & Kagan, 2009). These practices reflect early ongoing research on how participation
enhances relevancy and therefore stakeholder use of evaluations (Preskill & Torres, 2000; Shulha & Cousins, 1997). A recent survey of American Evaluation Society members found that 98% of respondents felt that one of the primary roles of evaluators is to engage stakeholders (Fleischer & Christie, 2009).

The term collaborative evaluation is an “umbrella term” (Cousins, Whitmore & Shulha, 2013, p. 14) used to encompass a number of approaches and is about “evaluators in leadership roles working with stakeholders to produce evaluative knowledge” (p. 13). A participatory approach is an overall approach to evaluation that involves some degree of collaboration between those conducting the evaluation and the stakeholders (Cousins & Whitmore, 1998). The degree to which stakeholders participate in the evaluation may vary, from full participation in all stages of the evaluation including data collection, to participating in evaluation steering committees. Lawrenze, King and Ooms (2011) found that participation meant different things to different stakeholders and that even minor involvement, by evaluation standards, was found to be meaningful to participants. In health care this is particularly salient as one of the key reported barriers to KT is lack of time for additional non-clinical activities (Craik & Rappolt, 2006; Legare, 2009; Metzler & Metz, 2010). It therefore may be enough for clinicians to participate at varying levels and still gain new knowledge that can be applied to practice. Cousins and Whitmore (1998) have outlined three dimensions to consider in participatory evaluation: (a) the degree of control held by the evaluator, (b) selection of stakeholders and (c) depth of stakeholder participation. This framework offers evaluation and IKT a structure to examine the relationship between levels of engagement in the enquiry process and stakeholder use of evaluation. Ultimately it also may allow us to understand how participation in evaluative inquiry relates to, and impacts on patient health outcomes.
Given the similarities between IKT, participatory research and participatory evaluation it is important to examine what these approaches have in common and how they differ. There are a number of different traditions within participatory research that are bound together by orientation rather than methodology. Community based participatory research (CBPR) is the overarching term used to describe participatory approaches that includes participatory action research, participatory research and feminist participatory research (Letts, 2003; Leung, Yen & Minkler, 2004; Minkler, 2005; Wallerstein & Duran, 2010). A number of definitions have been put forward and one that is widely used comes from a Canadian study by Green and colleagues (1995) who have described CBPR as “systematic investigation with the participation of those affected by an issue for purposes of education and action or affecting social change” (as cited in Minkler, 2005, p ii3). Jagosh and colleagues (2012) have described participatory research within health care as:

the co-construction of research between researchers and people affected by the issues under study (e.g., patients, community members, community health professionals, representatives of community-based organizations) and/or decision makers who apply research findings (e.g., health managers, policymakers, community leaders) (p. 312).

Each tradition and approach varies somewhat in their goals and how they facilitate change and while it is beyond the scope of this paper to explore each orientation in-depth, there are common principles underlying all CBPR:

(1) it is participatory; (2) it is co-operative, engaging community members and researchers in a joint process to which each contribute equally; (3) it is a co-learning process; (4) it involves systems development and local capacity building; (5) it is an empowering process through which participants can
increase control over their lives; and, (6) it achieves a balance between research and action. (Leung, Yen & Minkler, 2004, p. 501)

The Agency for Healthcare Research and Quality sponsored a review of evidence related to CBPR and its intended outcomes. Twelve studies were identified that impacted on health outcomes, among them cancer screening behaviour, emotional well-being and immunization rates. Due to the variability in health outcomes the authors could not make any direct comparisons, but it was noted that higher quality designs were more likely to result in positive health outcomes (Viswanatha et al., 2004). CBPR had other positive impacts on the community including enhanced community involvement. From an IKT perspective the ultimate rationale for involving participatory approaches is to facilitate the translation of knowledge to positively impact health outcomes.

More recently, Jagosh and associates (2012) conducted a realist review to examine the benefit of participatory research, focusing on the impact of co-governance (between researchers and communities) on research processes and outcomes. From an initial identification of 7,167 abstracts, 32 partnerships were included in the final review. Seven overarching patterns were identified across the partnerships and the authors concluded “participatory research is a favorable approach to research, supporting health by improving research quality, empowerment, capacity building, sustainability, program extension, and unanticipated new activities” (p. 337). While the study did not explore the impact of PR on specific health outcomes, the results reinforce the benefit of a collaborative approach on both the research processes and the dissemination of the results.

Both Jogosh and colleagues (2012) and Viswanathan and colleagues (2004) highlighted the difficulty in determining the impact of CBPR. In part this is simply due to the lack of studies on outcomes of community-based partnerships. However, it is also due to the fact that the
methodologies used to determine CBPR outcomes don’t fully consider the complex nature of the programs and the process in which change occurred (Macaulay et al., 2011). The participatory evaluation literature has been confronted with similar issues.

Cousins and Whitmore (1998) have described two types of participatory evaluation; practical participatory evaluation (PPE) and transformative participatory evaluation (TPE). The latter emphasizes program empowerment in an effort to “democratize social change” (p. 90) and is aligned with participatory action research in principles and background (Cousins & Whitmore, 1998). The former approach appears well positioned to inform IKT because of its emphasis on the practical needs of knowledge users in the practice setting and its “focus on increasing the use of evaluation results through the involvement of intended users” (Smits & Champagne, p. 428). Smits and Champagne (2008) offer a model of PPE which builds on the work of Cousins and Whitmore (1998) by breaking down the process of PPE into four distinct stages: data production, knowledge co-construction, understanding the local context of action and instrumental use, termed as actionable knowledge. The model contributes to our understanding of the role of evaluative inquiry in IKT in two ways. First it highlights the goal of PPE, to put contextually relevant knowledge into action, and is aligned with the goal of IKT. Secondly, it delineates four stages of PPE, which are similar to the three activities of CBPR: investigate, educate and action.

It is clear there are many similarities between participatory evaluation and participatory research yet the difference goes back to the fundamental differences between research and evaluation. So while participatory research is about collaborative inquiry it is also about creating knowledge to contribute to theory. Participatory evaluation on the other hand remains program and context specific. A participatory approach is the foundation of an evaluation designed to
facilitate use, however up to this point evaluation use has been mentioned without an in-depth look at use and its role in IKT.

**Evaluation Use**

Use serves as a unifying concept to bring together the fields of evaluation and KT. It is the term most widely used in evaluation to refer to the contribution evaluative inquiry makes to programs, individuals and organizations (Yarborough et al., 2010). Patton (2000) has highlighted the importance of language in our understanding and perceptions of concepts and this is particularly salient in the discussion of use in both the evaluation and KT literature.

More recently, Kirkhart (2000) has proposed an “integrated theory of influence” (p. 8) to more broadly account for the many ways both evaluation findings and processes may impact individuals and organizations. Kirkhart (2000) has described evaluation influence as having three dimensions: source (evaluation findings versus evaluation process), intention (intended use versus unintended use), and time (short, interim, and long term).

Historically, evaluation used the term utilization to refer to the impact of evaluation. Weiss (1981) argued to replace this with the term *use* due to the “inappropriate imagery” that the word utilization connoted (p. 18). King (1982) supported the term use over utilization as she asserted evaluation needed to recognize the more indirect and gradual ways evaluation may impact on organizations and programs as opposed to the researchers’ focus on direct and clear-cut application of findings.

At the crossroads of the early 1980’s when evaluation was shifting from the terms utilization to use, a paper was published by Hall (1982) that proposed evaluation be viewed as an innovation; a process or product to be used. From this perspective evaluation is a change process that unfolds over time. This work is relevant today for two reasons. First, it is grounded in Rogers’ (1995) Diffusion of Innovations theory, which has influenced healthcare’s
conceptualization of KT (Colquhoun, Letts, Law, MacDermind & Missiuna 2010). Secondly, Hall’s paper has a similar conceptual thread to the recent work by Henry and Mark (2003) who have encouraged the evaluation profession to consider the change processes that occur during evaluation to better understand the impact of the evaluation at the individual, interpersonal and organizational levels.

In health care, the term utilization is considered to be synonymous with knowledge translation despite their subtle and not so subtle differences (Graham & Tetroe, 2007; Davison, 2009). The term use is generally not found within or health care literature.

Ultimately, the different terminology used in health care and evaluation has created siloed bodies of knowledge, despite working on similar change processes. This can be considered one of the factors why the large body of literature on evaluation use has received little attention in health care. However, it is proposed that the term use is to the evaluation field what knowledge translation is to the healthcare field.

**Process use**

Four types of evaluation use have been described, three of which attend to the evaluation results (instrumental, conceptual and symbolic use). A fourth, process use, has been defined as “individual changes in thinking, attitudes and behaviour, and program or organization changes in procedures and culture that occur among those involved in evaluation as a result of the learning that occurs during the evaluation process” (Patton, 2008, p. 15). Notable in this definition is the recognition that change occurs at both the individual and organizational level.

Participatory approaches to evaluation are a pre-requisite for process use and Amo and Cousins (2008) have referred to process use as a “bi-product of evaluation” (p. 6). Process use is intimately connected with other outcomes of evaluation including organizational learning (Cousins, Goh, Clark & Lee, 2004), evaluation capacity building (Stockdill, Baizerman &
Compton, 2002), and evaluation influence (Kirkhart, 2000). Process use lies at the core of the argument for evaluative inquiry as a form of IKT. Specifically, it is time to examine whether process use triggers the cognitive (knowledge) and behavioral (health care practices) changes that Patton has proposed (2008).

**Individual changes.** Since Patton (1997) formally described *process use* over a decade ago, there have been many articles dedicated to examining the concept, with much of the literature being theoretical and descriptive in nature. Amo and Cousins (2007) conducted a comprehensive literature review on process use and identified 18 studies from 1984 to 2005. The literature review found that process use has been found to result in enhanced learning (17 cases), changes in action or behaviours (15 cases) and changes in affect or attitude (13 cases). An in-depth look at three studies will reveal the intended and unintended results of process use and highlight the strengths and weaknesses of the current literature.

Preskill and colleagues (2003) examined process use in the context of the American Cancer Society’s *Tell a Friend* Program. A qualitative case study design was used to explore what and how Advisory Group members learned from their involvement in the evaluation process. Fourteen interviews were conducted using a structured interview format. Five variables were found to affect process use: 1) creation of a supportive learning environment, 2) management support for stakeholders to engage and learn from the evaluation, 3) individuals’ sincere interest in the evaluation and the program, 4) frequent, variable and high quality communication with and among members and lastly, 5) organizational characteristics. Two of these variables focus on the individual level (interest and communication) and the remaining three consider organizational issues. This supports Patton’s assertion that process use impacts both the individual and organizational levels.
To better understand process use, the authors investigated the learning that occurred during the evaluation. Because the focus of the study was to examine learning about evaluation, most of the findings focused on evaluation knowledge. However, the Advisory Group also stated they had learned about the organization, and in particular the roles of others in the program, the culture of the American Cancer Society and the different work contexts and environments. The findings of this study provide descriptive evidence that program learning occurs with engagement in evaluation and supports evaluation as a way in which program knowledge may be made explicit. Unfortunately, the authors did not consider other dimensions of process use such as attitudinal or behavioural changes that could have offered evidence that evaluation creates knowledge, which in turn produces changes in practice. The authors identified a major weakness of the study was the retrospective design and recommended that process use be explored during the evaluation to yield richer, more insightful and potentially more reliable data.

Taut (2007) conducted an exploratory study of process use in the context of a large international development organization. Unlike the previous study, the author used a real-time qualitative approach to examine the extent to which participants generated process use during two self-evaluation projects. Data collection included: ongoing participant observations, participant communications (i.e. email and notes about informal communication), interview and group discussions and a follow-up questionnaire. Similar to Preskill and colleagues (2003) the objective of the study was to examine enhanced knowledge of and use of evaluations. Generation of knowledge about the program, or changes in practices were not specifically the goals of the research project. Results found that participants gained more knowledge and skills about their own work and projects than they did about evaluation itself. For Taut (2007) this represented unintended findings and provides further support for evaluation as a mechanism for IKT, by highlighting the co-creation of program specific knowledge. What is missing from the
study is a further understanding of how this knowledge changes practice behavior and ultimately program outcomes.

**Organizational changes.** While Taut (2003) and Preskill and colleagues focused on individual learning, Marra (2004) examined how process use contributes to the socialization and externalization of organizational knowledge. Using a multiple case study approach in the context of the World Bank, Marra (2004) found that evaluation contributed to organizational change by providing empirical information to support new policies, programs and implementation mechanisms. Evaluation was also found to support knowledge creation by building on the organization’s ability to create and accumulate knowledge in an iterative process. Mara concluded that evaluation “can align knowledge across different organizational layers, functions and roles” (2004, p. 280). While tacit knowledge has been identified in the literature as important in how we understand organizational learning, there has been little exploration as to how organizations may shape and use this. As demonstrated by Marra (2004), evaluative inquiry may offer the ability to put into practice implicit organizational knowledge and as a result be an important vehicle for the translation of knowledge in health care.

The majority of articles on process use have been conducted in an educational context. Education, like healthcare exists, as a complex system however the distinct elements of health care may influence process use, calling for research to be conducted in this context. The literature on process use largely examines the outcomes related to learning about evaluation, change in behaviors regarding evaluation and change in attitudes about evaluation. In order to argue that evaluation can be a vehicle for IKT research on process use must examine knowledge generation about the program, changes to program delivery (or how health care is being provided) and changes in attitudes and culture towards new knowledge. Interestingly, both Taut (2002) and Preskill (2007) found knowledge about the programs was enhanced as a result of participation in
evaluation despite the fact that this was not the focus of their studies, demonstrating an under-
examination of this aspect of process use. Process use provides a strong theoretical argument to
support evaluation as a method for IKT. Empirical studies however, have focused on describing
the occurrence of process use but have not attempted to make a causal link between participation
in evaluation and enhanced learning, behavioural and attitudinal changes.

Henry and Mark (2003) build on Kirkhart’s (2000) framework described earlier and
provide a pathways approach to understanding evaluation influence at the levels of the individual,
interpersonal and collective (organizational). The use of pathways provides a mechanism to
explore causal relationships and enable the identification of change processes that may occur
during evaluation allowing researchers to understand the more specific dimensions of evaluation
influence as well as the interactions at each level. As part of their framework, and important to
the current research, is the notion that “evaluation can be understood as an activity that is
analogous to an intervention or a program” (Henry & Mark, 2003, p. 295). While current
descriptions of IKT simply liken the approach to participatory research, this study lays the
foundation for a more comprehensive and nuanced understanding of IKT by adopting the view of
evaluation as an intervention.

From an IKT perspective two critical dimensions of community based participatory
research are the: a) co-creation of knowledge to facilitate change or action and b) building of
local capacity. The literature review has offered evidence that evaluation views knowledge
generation as a social process and knowledge created through systematic evaluative inquiry is
contextual and designed for use. The final section will focus on evaluative inquiry as a means of
building the capacity of organizations, the second broad objective of CBPR.
Evaluation Capacity Building

Evaluation capacity building has become an important topic in the evaluation community over the past decade (Preskill & Boyle, 2008). Evaluative capacity building (ECB) can be viewed as a specific form of evaluative inquiry (Amo & Cousins, 2007; Cousins et al., 2004) and is defined as “the intentional work to continuously create and sustain overall organizational processes that make quality evaluation and its uses routine” (Stockdill et al., 2002, p.14). Preskill and Boyle (2008) have offered an expanded definition of ECB which states:

ECB involves the design and implementation of teaching and learning strategies to help individuals, groups and organization learn about what constitutes effective, useful and processional evaluation practice. The ultimate goal of ECB is sustainable evaluation practice, where members continuously ask questions that matter, collect, analyze, and interpret data, and use evaluation finding for decision making and action. (p. 444)

To understand the implications of ECB to IKT, it is important to note that ECB is not only about capacity to do evaluation but to use evaluation. Therefore organizations not only engage in ongoing inquiry but they continually use the emerging and contextual findings. If evaluative inquiry were to be considered a form of IKT, then it could be said that ECB supports sustainable IKT.

While process use also results in individuals and organizations learning about evaluation, ECB is unique in that it includes “clearly identified objectives” (Preskill & Boyle, p. 450). It is this intentionality that ensures maximum learning both from and about the evaluation (Harner & Preskill, 2007). Evaluators who engage in evaluative inquiry for ECB draw on a number of direct (workshops, training programs) and indirect (participating in the evaluation) strategies to help meet these objectives.
A growing body of empirical evidence has demonstrated support for the role of ECB in building evaluation skills (Arnold, 2006), increasing individual and organizational commitment to evaluation (Compton, Baizerman, Preskill, Rieker & Miner, 2001), creating positive attitudes towards evaluative inquiry (Atkinson, Wilson & Avula, 2005), and enhancing use of evaluation findings (Compton et al., 2001; Lawrenze, Thomas & Clarkson, 2008). Labin and colleagues (2012) have conducted the first formal synthesis of the ECB literature, which sought to answer four questions:

1. What are the needs preceding ECB efforts?
2. What strategies are being used for ECB and what implementation variables are being reported?
3. What evaluation approaches and methods are being used to assess ECB efforts?
4. What outcomes of ECB are being reported at the individual and organizational levels? (p. 312)

The fourth question is particularly relevant from an IKT perspective, as the ultimate goal of IKT involves changes in health care practice. Following an extensive database and journal content search, a total of 61 evaluation cases where ECB was employed were included in the final review (Labin, Duffy, Meyers, Wandersman & Lesesne, 2012). In relation to the fourth question, the authors found that 92% of the articles reported change at the level of the individual change and 77% of the cases demonstrated organizational change. At the individual level 36% reported changes in attitude, 51% changes in knowledge, 88% identified changes in behaviour and finally 39% reported increased evaluation use. From an organizational perspective 72% of cases reported process, policy and practice changes, 13% found ECB enhanced leadership, 28% of cases...
identified a shift in organizational culture, 54% reported enhanced mainstreaming of evaluation and 46% of cases reported that evaluation resources were enhanced with ECB activities (Labin et al., 2012). Unfortunately, the exact outcomes used to determine change were not reported in the study and the authors acknowledge the very limited reporting of measures and quantitative data as a weakness of the study. Two examples highlight the contributions that ECB could make to IKT.

Lawrenze and colleagues (2008) used a collaborative immersion approach to build evaluation capacity in two schools over a four-year period: one that was an administrative led process the other teacher led. Both projects involved a team of university evaluators, administrators and teachers who developed and implemented the evaluation together. Indirect and direct ECB methods were used, although exact methods were not specified in the article. In both projects the impact of ECB was primarily on participants’ use of findings and not the capacity to conduct evaluation. The authors reported “all teachers noted personal changes as a result of the project. Most talked about improved understanding, teaching skills and greater knowledge of how to teach the curriculum” (p. 73). The authors also reported ECB facilitated sharing of ideas: “the partnership brought different perspectives – other ideas, identified weak points and helped with their teaching” (p. 73). Lawrenze et al. (2008) concluded that some degree of internal sustainability was developed at both school locations, but the administration led evaluation team developed evaluation skills more rapidly and was more likely to have long-term sustainability. Sustainability of evaluative inquiry is an important dimension in ECB and Kirkhart’s (2000) theory of influence could be a useful framework to explore time as a source of influence.

The case study described by Lawrenze and colleagues (2008) highlights the clear influence ECB has on evaluation use. Working collaboratively in the evaluation process enabled participants to learn about their program and make direct changes to their educational practices.
Less effective was the impact ECB had on the ability to conduct evaluation. From an IKT perspective, the findings suggest that it may be enough for clinicians to engage in evaluative inquiry if use and practice level changes are the primary goal of ECB. However, organization leadership and support may be required to develop evaluation skills and sustain evaluative inquiry over the long term. Preskille and Boyle (2008) examined the ECB experiences of 25 evaluators and 13 clients and found that not only was leadership support critical, but the readiness for organizations to engage in evaluation capacity was an area that also needed to be explored. Volkov (2008) also reported the importance of an organizational leader’s commitment to ECB in a qualitative case study exploring ECB in a private foundation.

Compton and colleagues (Compton et al., 2001) presented the Collaborative Evaluation Fellowship Program, a program sponsored by the American Cancer Society to develop evaluation capacity within the organization and train graduate students in program evaluation. The Collaborative Evaluation Fellowship Program was grounded in a utilization-focused approach and saw evaluative inquiry as a way to develop and support organizational learning. The Collaborative Evaluation Fellowship Program paired graduate students with local American Cancer Society offices, conducting 86 evaluations over the course of five years. Use was the primary criteria in which to measure the effectiveness of the Collaborative Evaluation Fellowship Program. Within the first year, 12 of the 14 studies were found to have “clear and tangible” (p. 36) use by the American Cancer Society, although no details were provided. The authors reported one case example of a program, “Road to Recovery” being redesigned based on Collaborative Evaluation Fellowship Program findings and a national evaluation plan developed. While the Collaborative Evaluation Fellowship Program was designed to build the evaluation capacity of the American Cancer Society no description or data were provided on the evaluation skills acquired by the participants.
Clearly evaluative inquiry, like community based participatory research, has demonstrated the ability to build organizational capacity. Both Compton and colleagues (2001) and Lawrenze and colleagues (2008) have demonstrated that enhanced use of evaluation findings is one of the primary outcomes of ECB. The studies also highlight the interconnectedness of key evaluation domains, including process use, evaluative inquiry, participatory evaluation and ECB that Cousins et al (2004) has outlined in their framework examining organizational learning capacity. While this framework is visually busy, it reflects the reality that these domains are intertwined and work together to support the role of evaluative inquiry as a form of IKT.

Preskill and Boyle (2008) have offered a list of 36 potential ECB objectives categorized by the knowledge, skills (behaviors) and affective domains. Thirty-three of these objectives focus on building the individual’s or organization’s capacity to conduct evaluation. For example, enhancing skills in data collection, interpreting results, and developing a logic model. Only three relate to developing the capacity to use the evaluation findings. For example, “communicate and report evaluation processes and findings using a variety of strategies” (p. 450). Use then represents a minor focus of capacity building objectives. But as demonstrated in the previous section, use was the major outcome of capacity building efforts, even if enhanced use was not the primary intention. An evaluation designed to facilitate IKT would specifically (a) attend to the use and translation of research and evaluation data, and (b) build organizations skills and capacity to continue to translate research and evaluation data into practice thereby ensuring effective health services and optimal patient care.

Conclusion

The review of the literature has identified a number of interconnected dimensions within evaluation that support the role of evaluative enquiry as a mechanism of IKT. Not only can evaluative inquiry support individual and team learning but also it appears to have the potential to
build the capacity of health care to conduct knowledge translation. One intention of this research is to examine the value of opening up the definition of IKT to include other forms of systematic inquiry, such as evaluation. The frameworks by Henry and Mark (2003), along with Kirkhart (2000) can serve to understand the complexities and dimensions of evaluation as a mechanism for knowledge translation.
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Chapter 3: Conceptual Frameworks

Evaluation has not previously been conceptualized as a mechanism for integrated knowledge translation. Two frameworks from the evaluation literature have considered the broader implications of evaluation and served to guide this research:

(a) Integrated Theory of Evaluation Influence (Kirkhart, 2000)

(b) Pathways of Influence (Henry & Mark, 2003; Henry & Mark, 2004)

Evaluation Influence

Kirkhart (2000) has proposed an “integrated theory of influence” (p. 8) to more broadly account for the many ways both evaluation findings and processes may impact individuals and organizations. The term influence replaces ‘use’ to enable a more multifaceted look at the effects of evaluation. Kirkhart’s (2000) theory of influence includes three dimensions: (a) source, (b) intention and (c) timeframe. The dimensions of influence are seen as non-linear, multifactoral and interactive. See Figure 3.

Source refers to the “agent of change or starting point of the generative process of change” (Kirkhart, 2000, p. 8). Kirkhart includes both results based and process based influences within this dimension. Results based influence includes instrumental, conceptual and symbolic use. Process use influence includes the cognitive, affective and political dimensions.

Intention is described as the “extent to which evaluation influence is purposefully directed, consciously recognized and planfully anticipated” (p. 11). Kirkhart acknowledges both the intended and unintended consequences of evaluation under this dimension. Both unintended and intended consequences can be the due to results based or process based influences.

Time, the final dimension of Kirkhart’s theory “refers to the chronological or developmental periods in which evaluation influence emerges, exists, or continues” (p. 14).
Kirkhart describes time as having immediate, end-of-cycle and long-term influence. While three distinct timeframes have been outlined, time is considered along a full continuum.

Kirkhart identifies nine applications of the theory, including two that are relevant to the current proposal: (a) to more clearly map out the influence of evaluation and, (b) to facilitate the empirical study of utilization. Kirkhart’s theory of influence served to map the influence of evaluation on knowledge translation by examining the dimensions of source, time and intention. The framework also helped to identify which dimensions are most critical in evaluations designed to support knowledge translation.

Figure 3: Integrated Theory of Evaluation Influence, adapted from “Reconceptualizing evaluation use: An integrated theory of influence” by K. Kirkhart, 2000, New Directions for Evaluations, 88, 5-24.

**Empirical Evidence for the Integrated Theory of Evaluation Influence**

While Kirkhart (2000) presented her Integrated Theory of Evaluation Influence over a decade ago, little published empirical support could be found. Rebollosa and colleagues
(Rebollosso, Fernandex-Ramirez & Canon, 2005) examined the influence of two separate educational evaluations using Kirkhart’s (2000) theoretical framework. One evaluation used a top down approach the other used a developmental, participative approach. The authors described numerous intended and unintended influences from the developmental, participatory evaluation. These influences were both process-based and result-based and were immediate, end-of-cycle and long-term. The authors identified only limited influences of the top down evaluation, and those reported influences were not at the near-by school district, but rather at the distant school district.

Kirkhart’s framework clearly enabled Rebollosso and associates (2005) to map out the influences of two different approaches to evaluation. However, the authors described change processes, but did not have a mechanism within Kirkhart’s framework to fully articulate how the specific evaluation mechanisms might have influenced those changes. For example, how did the top down evaluation influence another school district and not the district in which it was conducted? While Kirkhart (2000) provides a broader conceptualization of use and offers an important framework in which the proposal will draw on, the work of Henry and Mark (2003) extends the concept of influence and provides an approach that can explore causal influences of evaluation.

**Pathways of Influence**

Henry and Mark (2003) build on Kirkhart’s (2000) framework by offering multiple levels, pathways and mechanisms to explain the influence of evaluation. The foundation of their framework lies in the premise that the ultimate goal of evaluation is social betterment. In order to achieve social betterment, changes resulting from an evaluation need to be linked back to the evaluation processes. Henry and Mark (2003) view evaluation as an intervention and offer a framework to understand the influence of evaluation at three levels: individual, interpersonal and
collective (organizational). Pathways link evaluation activities and influence.

Each level has four to six mechanisms, outcomes and forms of influence that may occur as a result of an evaluation. At the individual level six attitudes and behaviors are identified including: attitudinal change, salience/importance, elaboration, priming, skill acquisition and behavioral change. Within the level of interpersonal influence five mechanisms are identified: justification, persuasion, change agent, social norms, and minority-opinion influence. The third level, the collective, describes the “direct or indirect influence of evaluation on the decisions and practices of organizations, whether public or private” (Henry & Mark, 2003, p. 298). Four mechanisms further define this level, which include agenda setting, policy-oriented learning, policy change, and diffusion. (See Figure 4).

The use of pathways provides a mechanism to explore causal relationships and would enable the identification of change processes that may occur during evaluation, allow researchers to understand the more specific dimensions of evaluation influence and interactions at each level and lastly support a variety of research, including quantitative studies on context and processes. Traditionally KT studies have focused on individual level changes (Greenhaulgh, Robert, MacFarlane, Bate & Kyriakidou, 2004). The Pathways of Influence framework (Henry & Mark, 2003; Mark & Henry, 2004) provides an opportunity to specifically consider the influence of an evaluation as a mechanism for IKT at the interpersonal and organizational levels.

**Empirical Evidence for the Pathways of Influence**

Only a handful of empirical studies have been conducted that examine Henry and Mark’s Pathways of Influence (2003). Christie (2007) used evaluation scenarios to examine the influence of three sources of evaluation information, including large-scale evaluation, case study and anecdotal evidence, on decision-making.

Decision-making was categorized as a behavioral change represented at the level of the individual. An online questionnaire was sent to 326 individuals and completed by 131 respondents. The study found that all three sources of data were used to influence decision-making. While the pathways framework provided an opportunity to examine one component (behavioural change) at one level (individual) the study did not utilize the full capacity of the framework. For example, by including other individual dimensions such as attitude, the author could have examined how changes at the individual level may be linked to changes at other levels of the framework. Nonetheless, Christie offers an example of the framework and discussion of how it may be applied to more complex scenarios.
More recently Appleton-Dyer and colleagues (2012) built on Henry and Mark’s framework (2003) and presented a conceptual model of evaluation influence within public health partnerships. The authors identified a number of features as important in the evaluation of public health partnerships and include evaluation attributes, partnership functioning, stakeholder evaluation behaviour and characteristics, contextual factors along with the elements of evaluation influence. This paper provides an example of how the Henry and Mark (2003) model can be applied to different evaluation contexts.

Conclusion

Evaluation Influence (Kirkhart, 2000) and the Pathways of Influence (Henry & Mark, 2003) have been used to frame this research study due to their ability to offer a broader perspective of evaluative inquiry’s influence on individuals and organizations. Evaluative inquiry is used purposefully as a mechanism of IKT in an effort to bridge the KT and evaluation literature and explore an expanded conceptualization for IKT.
References


Chapter 4: Overarching Methodologies

The dissertation is presented as three discrete manuscripts informing the overall purpose for research. The research was conducted in two phases. Phase one explored and described the primary care context, in which Phase two was conducted. Phase two involved the implementation of an evaluation designed to facilitate KT. Details of each study design are described within each manuscript found in Chapters five through seven. The overarching methodology used a prospective, multiple-methods case study design. Phase one used a multiple case study design and Phase two used a single case design (Creswell, 2009; Yin, 2009, Stake 1995).

Case studies involve the collection of detailed information using a variety of data collection procedures over a sustained period of time and seek to investigate a phenomenon within real-life context (Stake, 1995; Yin, 2009). The concept of evaluative inquiry as a mechanism for IKT is novel and case study design provided an in-depth exploration of the meaning, process and influence of a KT approach to evaluation. Data collection included numerous sources of evidence including semi-structured interviews, documents, e-newsletters, questionnaires, and a reflective journal. Ultimately, the methodology offered a deeper understanding of the role of evaluation in KT by allowing the research to examine the complexities of the program and the processes of change. It is hoped that findings from this work will set the stage for further research in this area.

The study falls under a constructivist paradigm and is aligned with the constructivist perspective of IKT. This paradigm “recognizes the importance of the subjective human creation of meaning, but doesn’t reject outright some notion of objectivity. Pluralism, not relativism, is stressed” (Miller & Crabtree, 1999, p. 10).
Timeline

Phase one occurred over a six-month period from February to July, 2012 and was used to inform Phase two. Data collection and preliminary analyses occurred prior to the start of Phase two. Phase two occurred over an eleven month-period extending from May 2012-March 2013. Design and implementation of the evaluation occurred between May 2012 and December 2012 and the final confidential evaluation report “XX Family Health Team Memory Clinic: Evaluation Report” was submitted January, 2013.

Ethics

Ethics approval from Queen’s Health Sciences Research Ethics Board was obtained prior to the initiation of each phase of the study. Refer to Appendix A-B for Ethics Approval.

Study Context

All three studies occurred in Family Health Teams in Ontario, Canada. FHTs are health care organizations designed to provide collaborative, interprofessional primary care. Other models of primary care exist in Ontario but FHTs represent the first large-scale implementation of an interprofessional approach to primary care. A recent report recommended that FHTs “become the norm for primary care” (Drummond, 2012, p. 24) in Ontario. The first wave of FHTs was initiated in 2004 and there are currently just over 200 teams in Ontario. Each FHT has its own governance framework and operates independently. While all FHTs include physicians and nurses, the interprofessional make-up of each team differs depending on patient rosters and the initial government proposals. There are clear accountability guidelines regarding patient outcomes and specific expectations of service; however, the exact nature of programs and processes of service delivery varies from one FHT to another. As occupational therapy only recently received funding as an interdisciplinary health provider in 2010 it was unclear as to how the profession is being integrated and implemented in the team. Anecdotal evidence at the time
of the study design suggested that occupational therapists will play a large role in working with older adults, and more specifically in the area of memory disorders, including dementia.

A Memory Clinic at a FHT in Southeastern Ontario provided the context in which the influence of evaluation on knowledge translation was examined. The FHT in which the program operated was a newly formed health organization that began operations in the spring of 2011. The program was in the development phase at the start of the evaluation and was comprised of an occupational therapist, two nurses, two physicians, a social worker, a pharmacist, an Alzheimer Society representative and the FHT’s Executive Director.

**Entry into the Program**

The FHT in which Phase two was conducted was the only FHT in the region that employed an occupational therapist on staff, and therefore was identified for participation in the evaluation and research study. As occupational therapy was a recently funded profession within FHTs, this setting offered an opportunity to examine a program that was not only developing within a new FHT, but included a profession whose role was emerging within the primary care setting. Situating the research in such an emergent context was thought to create a flexible and open environment in which to introduce a novel, KT approach to evaluation.

Entry into the FHT was done through the Executive Director who was responsible to the Board of Directors of the FHT to advise on issues of evaluation, policy, quality monitoring, and health human resources. The researcher/evaluator initially met with the Executive Director of the FHT to discuss the potential implementation of the evaluation and research project and preliminary approval was provided. The Executive Director presented a briefing of the proposed evaluation and research to the FHT’s Board of Directors for final approval. An evaluation contract was drawn and signed by the FHT, the researcher/evaluator and PhD supervisor prior to the start of the evaluation (Appendix C).
The Executive Director introduced the researcher/evaluator to the Memory Clinic team members. Upon receipt of ethics approval, a formal letter of information/consent forms were distributed to each member of the Memory Clinic Evaluation Team to request participation in the study.

**Trustworthiness**

A number of strategies were used to enhance the trustworthiness of both Phase one and Phase two of the study. Member checking was done at the end of each interview to ensure the interview accurately reflected participants’ views, thoughts and feelings. Participants were contacted if questions arose or further clarification regarding data was required. For Manuscript one, two sites were contacted to obtain clarification regarding site and physicians numbers. All occupational therapists were contacted after initial data collection to confirm referral processes. For Manuscript two and three, the researcher met with Memory Clinic Team members two months following the evaluation to (a) confirm the knowledge translation activities that were identified in manuscript two, and (b) clarify patient education materials (Carlson, 2010; Creswell, 2009). Multiple data sources, multiple data types and multiple respondents and perspective were used to enable triangulation of the data.

Phase one included a team of researchers in addition to the investigator’s PhD supervisory committee. Triangulation occurred within the research team who reviewed the interpretations and conclusions at both interim and final analysis. The use of multiple case studies in Phase one provided an opportunity to replicate the case across four sites. Phase two was conducted by the investigator with mentoring from her PhD supervisory committee. Throughout the study the investigator had regular contact with her PhD supervisor to discuss emerging data, coding and interpretations.
The investigator was responsible for collecting all data in both Phase one and Phase two, thereby removing another potential source of error. The investigator followed pre-developed scripts and documents were reviewed using a priori document review forms to maintain consistency. The use of a case study database facilitated the organization and storage of all case study data. All evidence was stored electronically.

**Evaluation Design**

The study conceptualized evaluation as change process and intervention, as others in the evaluation literature have done (Henry & Mark, 2003; Mark & Henry, 2004). While there is convincing evidence to demonstrate both CBPR and evaluative inquiry create contextual knowledge and build the capacity of communities neither bodies of literature has focused specifically on how they do or could function as a mechanism of IKT. Viewing evaluative inquiry as a KT intervention encourages the evaluator to use strategies and processes to support both evaluative inquiry and research knowledge translation. In doing so evaluative inquiry as a mechanism for IKT is made explicit. This is a novel perspective and has not been presented in the literature.

The design and implementation of the evaluation was informed by: (a) *The Program Evaluation Standards* (Yarborough, Shulha, Hopson & Caruthers, 2011); (b) *Developmental Evaluation* (Patton, 2011); (c) Participatory Evaluation (Cousins & Whitmore, 1998; Cousins, Whitmore & Shulha, 2013); and (d) KT-Informed Evaluation (Donnelly, 2012). Each is described in detail below.

**Program Evaluation Standards**

*The Program Evaluation Standards* (Yarborough et al., 2011) served to guide the evaluation and provided a foundation in which to conduct an ethical and quality evaluation.
Developmental Evaluation Approach

Developmental evaluation is a distinct approach to evaluation whose purpose is program or organizational development and occurs in settings where program goals are emerging and evolving (Patton, 2008). Traditionally evaluation has been viewed as formative or summative. Formative evaluation is an orientation to evaluation that “focuses on ways of improving and enhancing programs rather than rendering definitive judgment about effectiveness” (Patton, 2008, p. 114). Summative evaluation, on the other hand “provides data to support a judgment about the program’s worth so that a decision can be made about the merit of continuing the program” (Patton, 2008, p. 114). Summative evaluation occurs after the completion of a project or for ongoing projects after stabilization of the program, while formative evaluation typically occurs during the beginning phases of a program or to prepare for a summative evaluation. The distinction between developmental and traditional program evaluations is that developmental evaluation “supports the development of innovations and adaptation of interventions in dynamic environments” (Patton, 2011, p. 5). Developmental evaluation occurs in complex environments where measures are dynamic and emerging and evaluation provides feedback to support the development process; the best way to describe the context for this research.

At the start of the study the Memory Clinic was in the process of being conceptualized and developed within the context of a new and dynamic FHT. With the recent addition of occupational therapy to FHTs in Ontario, the role of this profession within memory clinics was also emerging and evolving. Given the complexities of the program and context, a developmental evaluation was most congruent with the current phase of the program’s cycle (Patton, 2011).

Participatory Evaluation Approach

A developmental evaluation naturally involves close engagement with stakeholders, where the evaluator is seen as part of the team, bringing an evaluation perspective to
development process (Patton, 2011). Therefore, the evaluation also adopted a participatory approach where the evaluator collaborated with program stakeholders throughout the evaluation process (Cousins & Whitmore, 1998). More specifically, the evaluation adopted a practical participatory evaluation approach whose “central function [is to foster] evaluation use” (p. 88). Just as integrated knowledge translation is grounded in participatory forms of research, so too did the knowledge translation focused evaluation adopt a participatory approach. As described in Chapter two, Cousins and Whitmore (1998) outline three dimension of collaborative inquiry; control of evaluation process, stakeholder selection for participation and depth of participation. The evaluation considered each of the dimensions as follows:

- **Control of evaluation process:** The evaluator led the technical evaluation decisions, with strong input and collaboration from the Evaluation Committee at all stages of the evaluation. The evaluator, in collaboration with the Evaluation Committee was responsible for guiding the development, implementation, analysis and reporting of the evaluation.

- **Stakeholder selection for participation:** All organizational stakeholders were represented on the Evaluation Committee. Membership of the Evaluation Committee included: (a) all members of the Memory Clinic; (b) one Alzheimer Society member representing the broader community memory clinics/programs; and (c) the Executive Director who represented membership from the broader FHT and who was not a member of the Memory Clinic. The initial plan was also to include a patient or family representative. One individual was approached and declined membership, after which the Memory Clinic Evaluation Committee felt the committee was not ready to include a patient representative.
• Depth of participation: Participation from all members was encouraged, (i.e. co-
development of the evaluation questions, design), and was supported through monthly 
Evaluation Process Meetings, evaluation activities and frequent online communication 
and updates. Input was received during the development, implementation, analysis and 
reporting of the evaluation. With the participants’ consent, all publications, including the 
scientific poster and final report contained the names of all Evaluation Committee 
members.

**Knowledge Translation-Informed Evaluation**

Evaluative capacity building (ECB) is a specific form of evaluative inquiry (Preskill & Boyle, 2008) that involves “the intentional work to continuously create and sustain overall 
organizational processes” (Stockdill, Baizerman, & Compton, 2002, p. 14). Intentionality was 
seen as an overarching and essential element in an evaluation designed to facilitate KT and build 
the knowledge translation capacity of the program. This form of evaluation has not been formally 
described but is informed by the ECB literature.

Drawing on both the knowledge translation and evaluation literature a KT-informed 
evaluation was designed to be intentional in facilitating the application of emerging evaluation 
knowledge into practice and attended to the empirical evidence (original studies or synthesized 
knowledge) that grounded the program and the clinicians within the program. The evaluation was 
cognizant of how empirical and formalized knowledge informed each phase of the evaluation: (a) 
ensuring evaluation questions are informed both by context and external evidence and, (b) that 
emerging and final findings were considered in light of current research.

A KT approach to evaluation involved the active development of opportunities for 
clinicians and other stakeholders to develop the skills to engage in KT. A KT- informed 
evaluation also looked to facilitate connections and collaborations among knowledge networks
(i.e. Canadian Dementia Research and Knowledge Exchange), local researchers/evaluators and communities of practice.

**Summary**

The intentions of bringing these approaches together was to orchestrate a quality and collaborative evaluation that facilitated the development and refinement of the Memory Clinic through the ongoing translation of research and evaluative data. On completion of the evaluation the goal was to determine the extent to which the Memory Clinic will have the skills and capacity to continue to translate research and evaluation data into practice ensuring effective services and optimal patient care.
References


Chapter 5: The Integration of Occupational Therapy into Primary Care: A Multiple Case Study Design

Introduction

There is a clear fit between occupational therapy and primary care. Both view health in a holistic manner and seek to support individuals and communities in achieving and maintaining a healthy lifestyle (Letts, 2011; Howey, Angelucci, Johnston & Townsend, 2003). While there is evidence to support the role of occupational therapy in health promotion and prevention, there have been few practice examples of occupational therapy within primary care settings (Clark et al., 1997; Richardson et al., 2010).

The lack of an occupational therapy presence in primary care can be attributed to a number of factors (Klaiman, 2004). First and foremost, there has not been funding for occupational therapy in primary care, both in Canada and internationally (Klaiman, 2004). Second, primary care has traditionally been delivered in solo practitioner models (McColl et al., 2009). Finally, the occupational therapy profession has traditionally focused on the rehabilitation or remediation of function versus health promotion (Tse, Penman & Simms, 2003).

In 2003, the First Ministers of Canada committed to ensuring that half of Canadians would have access to multidisciplinary primary care teams by 2011 (Health Canada, 2004). While this has not yet been achieved, the province of Ontario’s commitment to health reform has resulted in the establishment of Family Health Teams, an innovative model of interprofessional primary care (Hutchinson, Levesque, Strumpe & Coyle, 2011). There are currently 200 teams that serve approximately 25% of the province’s population.

Each Family Health Team is interprofessional in nature; however there is considerable variability in structure, size and organizational dimensions. A Family Health Team may consist of a single site or may be comprised of multiple offices that have common programs or structures.
such as an electronic medical record (EMR), programs and management. The complement of interdisciplinary health professionals also varies according to the specific needs of the community.

While the initial list of funded interdisciplinary health providers did not include occupational therapists, in March 2009 the Ontario government committed funds to include occupational therapy services in Family Health Teams (Ontario Society of Occupational Therapists, 2013). At the initiation of the study 20 teams had occupational therapists within their team complement. Ontario’s initiative is one of the first large-scale integration of occupational therapy into primary care teams in North America.

A growing number of national and international studies have documented the structures and processes to support interprofessional primary care teams (Belle Brown et al., 2012; Sargent, Loney, & Murphy, 2008). However, few of these studies have included occupational therapy within the team complement and no study has exclusively examined the implementation of occupational therapy into a new or existing primary care team.

A handful of articles have examined the integration of other professionals into primary care teams (Bradley et al., 2008; Dolovich et al., 2008; Kolodziej, Remillard, & Neubauer, 2010). While these findings might provide insights for occupational therapy, each profession entering primary care will have unique features and support the team through unique roles. Occupational therapists have a long-history in working in team-based environments and therefore the implementation of occupational therapy services may be experienced differently than professions that have been primarily consultative.

Interprofessional teams are poised to play a greater role in the delivery of primary care in Canada and abroad (Drummond, 2012; Standing Senate Committee on Social Affairs, 2012). It is anticipated that more disciplines will continue to enter primary care, making it critical to
understand how professionals are being introduced into primary care teams. The purpose of the paper is to examine how occupational therapy is being integrated into primary care teams and understand the structures and processes supporting the integration.

**Methods**

The study aimed to explore the primary guiding question: What structures and processes support the integration of occupational therapy in Family Health Teams? A multiple case study design (Yin, 2009) was conducted that included four Family Health Team sites within the province of Ontario, Canada. Case study research seeks to investigate real life experiences within the context in which it occurs and involves the collection of detailed information using a variety of data collection methods (Yin, 2009; Stake, 1995, Salminen, Harra & Lautama, 2006). As there are few documented examples of occupational therapists in primary care, a case study design enabled an in-depth exploration of how occupational therapy was being integrated into interprofessional primary care teams. As per case study methodology as outlined by Yin (2009) each case provided an opportunity for the replication of the outlined questions and methods.

**Site Identification**

Four cases (Family Health Teams) were identified from the approximately 20 that employed occupational therapists at the time of the study. The sites were chosen to reflect different dimensions of service provision that may influence the role and integration of occupational therapy. The literature on interprofessional collaborative practice has identified certain elements that support interprofessional collaborative care, including: (1) EMR, (2) team size, and (3) co-location of health professionals (McColl et al., 2009; Bradley et al., 2008). Each dimension was considered in the identification of the cases. Two further dimensions were considered in the case selection; academic versus community and rural versus urban. While there
is little evidence examining the role of OT in primary care, the literature has described occupational therapy working with a wide range of client populations and conditions (Richardson et al., 2010). Therefore the nature and duration of clinical experience of occupational therapist as well as the full-time equivalency (FTE) were also thought to be important elements to consider in the identification of cases. Purposeful sampling of sites was used with the intent to sample breadth of communities, teams, and occupational therapists.

Participants

Information letters were sent to the Executive Director at each site describing the study and seeking approval for participation. All occupational therapists working at the Family Health Teams were asked to participate. The Executive Director and the lead physician were also invited due to their leadership and decision making roles on the team. In addition, any member of the team that provided collaborative patient care with the occupational therapist was also considered to be eligible for the study. The occupational therapist(s) at each Family Health Team acted as the main contact for liaising and coordinating interviews with the staff.

Ethics approval was provided by Queen’s University Health Sciences Research Ethics Board.

Data Collection

Data collection drew on multiple forms of evidence including semi-structured interviews, document analyses and questionnaires. The principal investigator (CD) visited each Family Health Team to retrieve documents for analyses, distribute questionnaires and conduct interviews with key informants. See Table 1 for list of disciplines interviewed at each site.
Table 1

Interview Summary

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All interviews were conducted between the February-May 2012 using a semi-structured interview guide (Appendix D-G). Questions were developed by the research team and were informed by the literature on interprofessional collaborative primary care (Belle Brown et al., 2010; Sargeant, Loney & Murphy, 2008). Questions fell under five broad categories including: roles (how would you describe your role, how did you establish your role), physical space (i.e. location of team members and primary care sites), community collaborations, collaborative practice (i.e. nature, processes and structures to support collaborative practice) and processes (i.e. nature and use of electronic medical record). Additional questions regarding funding for occupational therapy were included in the interview guide for the Executive Director and questions related to clinical practice were removed.

Program documents included job descriptions, occupational therapy assessments, team mission and vision. The web pages of each Family Health Team were viewed to obtain further information about team collaboration, and sites were contacted if further questions about the nature of occupational therapy services were identified. Two sites were contacted to clarify demographic information (number of sites and number of physicians) and the occupational therapist(s) at each site was contacted to provide further details on the referral process to
occupational therapy. A Family Health Team Profile was completed by each Executive Director to obtain descriptive information about the Family Health Team demographics, including the type of electronic medical record system, number of rostered patients and health professional make-up (Appendix H). An Occupational Therapy Profile was completed by each occupational therapist to obtain descriptive information about their educational and work (Appendix I).

**Data Analyses**

Both within-case and cross-case analyses were conducted (Yin, 2009; Stake, 1995). Pattern matching was then used as the overall analytic strategy. This approach “compares an empirically based pattern with a predicted one” (Yin, 2009, p. 106), where propositions are developed prior to data collection in order to identify a predicted pattern of variables. Propositions for this study were derived from the literature on interprofessional collaborative practice. A number of factors have been found to support interprofessional practice. One of these is the extent to which there is a shared understanding of team member’s roles and scope of practice (Sargeant, 2008). This was felt to be particularly relevant for the study as occupational therapists were new professionals within the teams. Studies have also identified the nature of team processes and organizational structures to be important influences on collaboration, and the nature of team processes was anticipated to influence the integration of occupational therapy (Xyrichis & Lowton, 2008) The use of electronic medical records (EMR) have become standard in Family Health Teams in Ontario, Canada (Howard, Brazil, Akhtar-Danesh & Agarwal, 2011) and have already been found to support internal communication. Occupational therapists’ access and use of EMRs thus become an important element to consider (Bradley et al., 2008). Therefore, the two study propositions were:
1. Integration of occupational therapy into the Family Health Team will depend on the understanding of occupational therapy role by team members, and structures to support interprofessional collaborative practice.

2. The EMR will be pivotal in supporting the integration of occupational therapy.

Each case was first analyzed individually, followed by cross-site analyses to determine common themes (Stake, 1995). Data obtained from documents were extracted using apriori document analysis forms (Appendix J-L). Tables and matrixes were used to visually examine the data for each case and across cases. Qualitative interview data were digitally recorded and transcribed verbatim by a research assistant. Atlas ti, a qualitative data analysis and research software program, was used to code data and identify themes both within and across cases. All transcripts were read and re-read by the primary author and preliminary codes were established. A number of strategies were used to establish trustworthiness (Krefting, 1991). Four transcripts were read and independently coded by a second investigator (LL) using the preliminary coding structure. Transcripts were selected from four different health professions to ensure the coding structure could be applied across transcripts. Any discrepancies in coding were noted and discussed until consensus was reached. Two revisions to the coding structure were made; the first involved collapsing two codes into one code, the second revision involved renaming a code to better reflect the essence of the statements being captured.

A second strategy to establish trustworthiness involved member checking. Occupational therapists were provided with a preliminary summary of their site and asked to contact the primary author if any errors were noted, or if additional information should be included. None of the participants reported any errors or provided further information.

A third strategy involved triangulation of data methods, sources and investigators. The study included a number of data methods including interviews, questionnaires and document
analyses. Each contributed to the understanding of how occupational therapists are integrated into primary care and structures to support the integration. Participants included members from a range of disciplines across four sites in order to provide different perspectives and experiences on the integration of occupational therapists. Finally, the investigation team was made up four occupational therapists; two academics (CD, LL), one administrative (CB) and one clinician working in primary care (CC). The diversity of the team brought unique perspectives to the design, implementation and analyses and grounded the study in both research and practice.

**Results**

Table 2 provides a description of the four sites. Patient rosters ranged from 7,200 to 42,000 patients and sites were located in both rural and urban centres. Three sites were community sites and one was an academic site. The academic site had a dual mandate to provide both primary care services, and to educate medical students/residents and other health disciplines. Occupational therapists were all relatively new to their positions with a range of 3 to 18 months. Occupational therapists in two sites had less than five years experience, while two sites had occupational therapists with 15 and more years of experience. Each site had a unique complement of health providers, which included: chiropodists, psychologists, social workers, dieticians, physician assistants, pharmacists, patient educators, mental health workers, health promoters, respiratory therapists, case managers, nurses, nurse practitioners, and physicians.
Table 2

*Site Profiles*

<table>
<thead>
<tr>
<th></th>
<th>Case 1</th>
<th>Case 2</th>
<th>Case 3</th>
<th>Case 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Urban/Rural</strong></td>
<td>Rural</td>
<td>Urban</td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td><strong>Academic/Community</strong></td>
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<td>Community</td>
<td>Community</td>
<td>Academic</td>
</tr>
<tr>
<td><strong>OT FTE</strong>*</td>
<td>2 x 0.5</td>
<td>1.0</td>
<td>1.0</td>
<td>2 x 1.0</td>
</tr>
<tr>
<td><strong>OT Clinical Experience</strong></td>
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<td>&lt; 5 years</td>
<td>&lt; 5 years</td>
<td>&gt; 20 years</td>
</tr>
<tr>
<td></td>
<td>Pediatrics</td>
<td>General Rehab</td>
<td>General Rehab</td>
<td>Chronic Pain</td>
</tr>
<tr>
<td></td>
<td>Older adults</td>
<td>General Rehab</td>
<td>General Rehab</td>
<td>General Rehab</td>
</tr>
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<td><strong>Rostered Patients</strong></td>
<td>46 000</td>
<td>7 200</td>
<td>26 468</td>
<td>28 000</td>
</tr>
<tr>
<td><strong>Number of Sites</strong></td>
<td>22</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td><strong>OT onsite with physicians</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>EMR used across sites</strong></td>
<td>Yes</td>
<td>No (3 of 4)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>OT access to EMR</strong></td>
<td>Yes</td>
<td>Yes (3 of 4)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>EMR Use</strong></td>
<td>Referrals, charting, informal communication (messaging)</td>
<td>Referrals, charting, informal communication (messaging)</td>
<td>No access at time of study</td>
<td>Referrals, charting, informal communication (messaging)</td>
</tr>
<tr>
<td><strong>Patient Charting</strong></td>
<td>EMR Referrals through EMR and administered through central office.</td>
<td>EMR Referrals received directly by OT through the EMR.</td>
<td>Paper Files Referrals received to central administration by fax.</td>
<td>EMR Referrals received directly by OT through the EMR.</td>
</tr>
<tr>
<td><strong>Referral Process to OT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Referrals to OT</strong></td>
<td>Referrals made by physician. Other health providers may refer to occupational therapy; with physician notification through EMR.</td>
<td>Referrals can be made by any team member or patient self-referral.</td>
<td>Referrals made by physician. Other health providers may refer to occupational therapy, with physician notification.</td>
<td>Referrals can be made by any team member or patient self-referral.</td>
</tr>
</tbody>
</table>

*Full-time equivalency*
Case One: Very Large Rural Community Family Health Team

In Case one the occupational therapists along with the interdisciplinary health providers and administrative staff were located in two buildings in the largest regional town, while the physicians worked in distributed clinics across the region. Despite the lack of co-location each key informant reported a strong sense of collaboration and connection. The EMR was the key structure for collaboration and integration of occupational therapy into the Family Health Team; face-to-face interaction with physicians is limited.

Case Two: Small Urban Community Family Health Team

Case two was a small Family Health Team with four separate sites located in a large urban setting with a culturally diverse patient population. The occupational therapist was located with nursing and other interdisciplinary health providers across the street from one of the main physician sites. Lack of co-location was described as a key barrier in the integration of occupational therapy. The Family Health Team was planning a new building to house all team members.

Case Three: Large Rural Family Health Team, One Occupational Therapist

Case three was a large rural Family Health Team providing primary care to approximately 45% of the local population. Having only been recently approved as a Family Health Team, the team was largely in the development phase. The Family Health Team had four separate sites. The occupational therapists and other interdisciplinary health providers were located at one site along with the administrative staff. Each site had its own EMR that could not communicate between sites. At the time of the study the occupational therapist did not have access to the EMR. The long-term goal was to move to one accessible EMR system.
**Case Four: Urban Academic Family Health Team**

Case four was an urban academic Family Health Team with two sites; each with a full interprofessional complement of professions. Services were organized by interprofessional care teams, where patients are designated to a team of clinicians. Two full-time occupational therapists worked between the two sites. The Family Health Team was part of the university Department of Family Medicine and therefore had a dual objective of providing primary care services and training family medicine residents, along with an expectation of research.

**Cross Case Analysis**

While each Family Health Team was structured to meet the unique needs of their patients and communities, three main themes and eight subthemes were identified that influenced integration of occupational therapists into the Family Health Teams: understanding of occupational therapy, collaboration, communication and trust. See Figure 5 for visual outline of the themes and subthemes.

*Figure 5. Understanding the Integration of Occupational Therapy into Primary Care: Themes and Subthemes*
1. Understanding Occupational Therapy

Fundamentally, an understanding of occupational therapy was critical and the tipping point for integration into the team. As referrals originated from team members, a basic understanding of the role of occupational therapy and patients who could benefit were required. Interdisciplinary health care providers and nurses described previous and current working relationships with occupational therapists, which in turn led to an understanding of the occupational therapy role within Family Health Teams.

The other integrated health professionals have been amazing. So I think they have a good idea of what OT is and I think a lot of them have worked with OT in the past (Occupational Therapist) 2P11:33:82

An understanding of and experience with occupational therapy in turn created a level of respect and natural integration into the team. “There’s a very healthy respect among our IHPs [interdisciplinary health providers] for the skill sets that they have and there’s a desire to include one another in the initiatives that they take on” (Executive Director) 2P1:14:23. However, physicians had less direct day-to-day contact with occupational therapists, and less familiarity with the role of occupational therapy. “I feel that most family doctors didn’t and still don’t have a great understanding of the OT role” (Physician) 4P4:1:6.

Ultimately respondents felt that when team members had a good understanding of occupational therapy, referrals were made to the service. “That was the basis of our success here… that people really get what we do” (Occupational Therapist) 1P1:93:220.

Conversely, less familiarity with the role of occupational therapy was felt to result in an underutilization of services. “It’s underused, because I don’t think everyone knows what the OT can do” (Nurse Practitioner) 2P5:5:13.
**Educating the Team.** Occupational therapists across all sites used a number of strategies to educate physicians and team members about occupational therapy including formal presentations, educational rounds, ‘meet and greets’, information booths, brochures and information letters. Occupational therapists provided information about the profession, particularly, the services they currently offered within the Family Health Team along with examples of potential services that could be provided. All opportunities were seen as positive and contributing to an increased understanding of occupational therapy. “I’m working on trying to educate the team in what OTs can do” (Occupational Therapist) 2P5:5:13.

Promoting the role of occupational therapy was a particularly important element during the early integration into the team and a role that needed to be consciously adopted by occupational therapists.

**Engaging Physicians: A Physician Champion.** Physicians were seen as critical to the integration of occupational therapists as they were a key source of referrals. The identification of a physician lead, or physician liaison for occupational therapy was seen as an important strategy to enhance physician understanding and champion the occupational therapy discipline within the Family Health Team. Information from physicians to physicians was felt to have greater authority and credibility. “The communication was coming from a physician that they trust and he was saying ‘Use these services” (Occupational Therapist) 1P1:94:221.

A lack of physician engagement regarding the occupational therapy role was seen to significantly influence the integration of the role.

My regret about the occupational therapy program is that we haven’t done a good enough job of engaging the physician group in establishing that program…we’re definitely not utilizing her to the fullest extent that we could in her occupational specialization (Executive Director) 2P1:6:11
Enhancing Understanding through Research and Teaching. Team members at the academic Family Health Team had additional requirements to engage in both research and teaching activities. As a result, Care four had a number of unique strategies that served to increase the understanding of occupational therapy and support a deeper integration into the team.

There are two absolutely primary mandates of clinical care and education and then obviously scholarly work … you can’t really separate clinical cases from education in this [Family Health Team]. So our nurses are doing so much of the clinical care and we are reviewing our teaching and the allied health group, including the OT’s, are absolutely woven into that. From co-bookings, to horizontal electives, to the more structured learning opportunities with the rounds, to working with different groups of the learners so family medicine residents and allied health workers sharing the case together. Some of the family residents teach the more junior learner and then going to an allied health person for some input. (Physician)

4P4:26:38

Training was a reciprocal and iterative activity; building an understanding of occupational therapy and supporting collaborative patient care. Occupational therapists were expected to participate in interprofessional teaching rounds, one-on-one resident training, education clinics and occupational therapy student mentorship. Each activity offered an opportunity for the team to be exposed to the role of occupational therapy and work with the discipline.

One of the really helpful things that [the occupational therapists] did is to take some time at our interprofessional rounds and walk us through their vision in 6 months. Here are the types of cases that are getting referred, and here are success stories of why it was helpful to be involved. Here are some priority areas for us to think about.
And that was again, a really nice diplomatic way of increasing our understanding.

(Physician) 4P4:11:14

None of the other sites had formal structures in which to provide physician education, nor were they involved in any residency training.

A number of team members at Site four were involved in research with occupational therapists at the affiliated University and had been previously exposed to the role of occupational therapy in primary care. This research experience was felt to support the integration of the occupational therapist by offering a deeper understanding of the role. “I think we were better positioned already for a level, a deeper level of understanding of the role of OT and PT in primary care” (Physician) 4P4:3:8.

Enhancing understanding through research cultivated opportunities to integrate occupational therapy into clinic programs.

I didn’t know much about chronic pain and [the OT] has been working in chronic pain for over 20 years so I was interested in being part of the research project and she has been mentoring me in that role so we have now created a new [pain] group

(Social Worker) 4P2:25:43

2. A Culture of Collaboration

While an understanding of occupational therapy facilitated referrals to occupational therapists, collaboration was seen as a benchmark of occupational therapy’s integration into Family Health Teams. Each site agreed that building team collaboration was a deliberate and intentional process. “We very deliberately, pretty much, do everything as a team with clinical work” (Physician) 4P4:22:36.

Strong collaboration among interdisciplinary health providers was seen across all sites. In some cases assessments and interventions were conducted together with other interdisciplinary
health providers. “[Occupational therapist] and I have gone to a couple of home visits together; because the person was appropriate for my services and her services” (Social Worker) 3P9:20:74.

As many interdisciplinary health providers were also new to primary care they collaborated to support each other in their mutual integration into the team. “[the interdisciplinary health providers] … that’s my biggest source of support … so a lot of my referrals are actually coming from other allied health” (Occupational Therapist) 3P11:33:82. Opportunities to collaborate at the point of care supported the integration of occupational therapy. However across sites there was notably less collaboration between the interdisciplinary health providers and physicians. “The physician group is not engaged strongly enough with the other health providers” (Executive Director) 2P1:16:23.

Less collaboration with physicians was attributed to a number of factors. First and foremost primary care has traditionally been practiced as a solo enterprise. “[The physicians] have always been the general practitioner that has done everything for their patients” (Executive Director) 3P7:41:104. There was a sense that interprofessional collaboration may diminish the physicians’ sense of control. “I am sure there are a lot of physicians that do not like the ball being taken from them” (Physician) 1P5:16:53.

As physicians could see the benefit of occupational therapy services, opportunities for collaboration would be enhanced. “As physicians refer to the occupational therapist and have comfort level in what they’re getting back, that [occupational therapy] will improve [patient care]. More referrals will come and there will be more of an interaction” (Physician) 3P10:55:22.

As the shift to interprofessional teams was relatively new, it was also felt that physicians were not used to having access to so many resources and needed to gain comfort with a team based approach. “They’re not used to having this type of resources available to them on a daily basis in their clinics” (Executive Director) 3P7:49:118.
**Program Based Care:** Each site offered a number of health promotion and chronic disease management and prevention programs ranging from mental health, falls prevention, chronic pain and diabetes management. Aligning occupational therapy services within current programs of care provided an opportunity to integrate into the team. “There’s a COPD group that’s held here and I provide some consultation to that group and I’m slowly tying to integrate myself into some other groups we’re going to be starting” (Occupational Therapist) 1P1:4:9.

Integration into programs occurred in a number of ways. In some cases occupational therapists noted a gap in program offerings, which led to the development of a new program. More frequently, occupational therapists or other team members identified programs that had high volume or wait lists that would benefit from an occupational therapy perspective. “Our program is really busy... it’s great to have that opportunity to put that person with [the occupational therapist] that specializes and might be able to have the time to do it” (Social Worker) 3P9:38:86.

The program focus also provided new opportunities to collaborate and engage in program development. “One of our ideas is to have a caregiver stress program… that was going to be a collaboration between [occupational therapist] and myself and the mental health therapist” (Social Worker) 3P9:31:76. At two of the sites physicians were aligned with specific programs, which provided a formal opportunity to connect with physicians.

**Collaborating With Each Other.** As essential as interprofessional collaboration was in supporting the integration of occupational therapy, the ability to collaborate with occupational therapy colleagues both within and outside of the Family Health Team was also important. Occupational therapists shared resources, engaged in clinical consultations, and provided strategies to each other to support integration into the team. “This whole group of occupational
therapists [working in FHT’s] are pioneers in the OT role. So any way we can support one another” (Occupational Therapist) 1P3:62:225.

Having two occupational therapists at one Family Health Team was seen to facilitate the integration of the role in number of ways. Most importantly it provided professional support and confidence to try new roles and share ideas. Simply having two individuals increased exposure to occupational therapy within the Family Health Team and enhanced the professional profile. “To have each other … I can’t imagine doing this role … as one person” (Occupational Therapist) 1P1:27:54.

3. Communication and Trust

Communication and trust were essential components of the integration of occupational therapy and were supported by a number of strategies including co-location, EMR and formal and informal meetings and gatherings.

Facilitating Communication: The Electronic Medical Record. A single and accessible EMR was a critical feature in supporting the integration of occupational therapy into Family Health Teams. The EMR enabled both formal and informal communication with physicians and other team members through the messaging system and patient records. The instant messaging function served as an internal communication system. “I think the EMR allows us to communicate effectively. We can instant message and that piece provides opportunity” (Social Worker) 1P2:24:65.

The EMR provided a means to collaborate when co-location of team members was not possible, supporting virtual interprofessional teams. “The EMR is fabulous because not only can you communicate back and forth, but everyone can see everyone’s charts. It is like one big family medicine chart” (Physician) 1P5:12:4.
The EMR was also seen to support efficient and informed clinical practice. “The OT gets a snapshot of that patient and they’re better equipped to do what they need to do. And to get to the point a lot quicker” (Physician) 1P3:40:127.

**Building Trust: Co-location.** While an integrated EMR provided a foundation for communication, the opportunity for team members to connect face-to-face was pivotal in developing relationships and supporting the integration of occupational therapy. The importance of occupational therapy being located with the entire team cannot be underestimated. Only one of the four cases had a full interprofessional team located in the same building, however two of the other cases had plans to consolidate their clinics. Co-location offered opportunities for occupational therapists to engage in informal communication, have ‘hallway consults’ and be visually present; all of which contributed to understanding the OT role and building of trust.

There are other times where you are not sure if [occupational therapy] would be helpful or not. It is much more relevant to have an [informal] case conversation first and then whatever you end up writing in [the EMR] references the conversation, which is obviously much richer. (Physician) 3P4:15:22

One site created team rooms where all team members worked in a common desk area, along with common lunch rooms and meeting spaces. When co-location occurred only with other interdisciplinary health providers and nurses, the benefits of communication and understanding were also identified; however as physicians were a key source of referrals their physical presence was viewed as a critical. “Physically we don’t see the [physicians] very often. I think that can spark some reminders, or spark some ideas, as well as is great for relationship building” (Social Worker) 4P9:45:110.

**Interprofessional Meetings and Gatherings.** Formal meetings provided opportunities for team members to interact, most notably in cases where occupational therapists were off-site
from physicians. “Just going to the meeting is an opportunity to talk, see what everyone does”.

(Occupational Therapist) 1P1:66:143

Just as important as meetings, social gatherings supported team building and enabled the team to get to know each other as individuals. We’ve spent some good networking sessions … you get to know that person and all of a sudden “OK, I’ll trust you with my patient” (Executive Director) 1P3:19:73

Ultimately, the integration of occupational therapy into the primary care teams was grounded in three key factors: trust, understanding, and communication. Meetings and gatherings provided opportunities to facilitate connections and team building.

Discussion

Integration has been described as one end of the continuum that extends from complete autonomy and independence at one extreme to complete integration of professional services at the other (Glendinning, 2003). In this study, the integration of occupational therapists was observed to range along this continuum and varied both between and within the Family Health Teams. In these cases, occupational therapists were more integrated with the other interdisciplinary health providers such as social workers and pharmacists, than with either nurses or physicians. Vertical and horizontal integration have been used to describe the integration of health services. Horizontal integration refers to the grouping of similar organizations or services, while vertical integration “services a network of organizations that provides or arranges to provide a coordinated continuum of services to a defined community” (Devers et al., 1994). Within the Family Health Teams occupational therapists tended to work closely and collaborate with other allied health professionals in the delivery of health services. Allied health professionals had a common goal of supporting the physicians in the delivery of primary care. While each had different disciplinary perspectives, occupational therapists could be described as
being horizontally integrated with their allied health counterparts. Each was remunerated in a similar fashion, worked in close physical proximity, had informal communication structures and provided some degree of collaborative patient care.

In contrast, occupational therapists had relatively little direct contact and few interactions with physicians. The occupational therapy role was seen as supporting the continuum of health services within the Family Health Team and integration could be envisioned as being vertical relative to the physicians. This is congruent with the literature reporting that a key barrier in the implementation of interprofessional teams has been the hierarchical structures within primary care (Craigie & Hobbs, 2004, Poulton & West, 1999; Shaw, De Lusignan & Rowlands, 2005). Of note, however is a recent study suggesting that younger cohorts of male physicians are more likely to collaborate with occupational therapists, and other health professionals than older counterparts or younger female physicians (Sarma, Devlin, Thind & Chu, 2012). Occupational therapists at the academic site experienced a high level of integration into the team, including with physicians, nurses and other interdisciplinary health providers. Given the focus on collaboration and teamwork in the training of family medicine practitioners, it makes sense that younger physicians who have had experience with interprofessional collaboration enact this as practicing physicians.

This study also found that the extent of occupational therapists’ integration into Family Health Teams was influenced by the nature of services provided. Integration was more fully realized within chronic and complex disease programs of care, such as a diabetes or seniors program, than one-time referrals to occupational therapy. This study suggests a plausible explanation for this phenomenon. The more structured programs served to identify and formalize a team of providers and offered an opportunity to develop common patient goals and a shared vision of service delivery. This in turn facilitated communication and the implementation of
processes to support the programs, such as meetings and common program outcomes. Russell and colleagues (2009) examined chronic disease management programs and found that organizational features had the greatest influence on patient outcomes. In particular, those clinics with the presence of a nurse practitioner had better outcomes and high-quality chronic disease management care was found most commonly in clinics with an interprofessional team. The success of chronic disease management programs in part contributed to the collaborative nature of the care, highlighting the importance and benefit of integrating professionals within programs of care.

At the same time it is recognized that not all care provided by occupational therapists within primary care teams will be program based. Leutz (1999) described five laws for integration, one of which was “you can integrate all of the services for some of the people, some of the services for all of the people, but you can’t integrate all of the services for all of the people” (p. 83). This may hold true for occupational therapists in the sense that certain elements of their work within the teams may be more individual and consultative in nature.

The literature has described a number of factors that support interprofessional teamwork in primary care (Xyrichis & Lowtown, 2008; Shaw, De Lusignan & Rowlands, 2005; Poulton & West, 1999). Xyrichis and Lowton (2008) identified both team structures and team processes that support collaboration. As was seen in this study, Family Health Teams with a greater number of structures to support teamwork had occupational therapists that were more fully integrated. Processes that were seen to support the integration of occupational therapist included co-location, a common EMR, formal and informal communication structures and team meetings. Each of these processes naturally facilitated the integration of occupational therapy into the team by building trust, understanding and familiarity. It was the processes and structures, more than the personal characteristics of the occupational therapist that appeared to influence integration.
However, the two sites with the greatest supports also had occupational therapists with substantial work experience. Further research is required to explore the relationship between personal characteristics and the integration process. A recent study examined teamwork within 21 Family Health Teams in Ontario, Canada (Howard, Brazil, Akhtar-Danesh & Agarwal, 2011). A survey was used to identify organizational factors contributing to the functioning of an interprofessional primary care team. The study found that culture, leadership and EMR functionality predicted team climate. Each of these elements was also seen to support the integration of occupational therapy in this study.

Studies examining the integration of pharmacists into primary care reported some lack of understanding of the role of the pharmacist, but not to the extent found in this current study (Bradley et al., 2008; Dolovich et al., 2008; Kolodziejak, et al., 2010). It is not surprising that the lack of understanding about a profession’s role impedes their integration into the team. The current siloed approach to the training of health care practitioners and practice of health care may be a contributor (Pecukonis, Doyle & Bliss, 2008). For disciplines new to primary care, there will be a natural learning curve about both the roles of other professionals as well as their own role in a new practice setting. Kolodziejak and colleagues (2010) outlined a step-by-step process to support the integration of pharmacists into established primary care teams. Part of the process of integration included defining the role prior to joining a team and determining early credibility. The current study found a number of intentional strategies were used to integrate occupational therapy within the team, however more formal guidelines to Family Health Teams who have new professionals could further support integration.

The study also found that informal and formal support by occupational therapy colleagues was also helpful in supporting integration. Communities of practice have been shown to support
knowledge translation (Barwick, Peters, Boydell, 2009; Li et al., 2009) and this could be another intentional strategy that is enacted.

Interprofessional education occurs “when two or more professions learn with, from and about each other to improve collaboration and the quality of care” (CAIPE, 2002). In the case of the academic Family Health Team, the educational processes designed to support physician learning provided a natural opportunity and environment to educate team members of the occupational therapy roles. Without such structures, the occupational therapists at the other sites did not have a forum to provide formal physician education. A growing amount of literature on interprofessional education suggests that experiential based learning is an effective strategy to teach health professionals the competencies of collaborative practice (Payler, Meyer & Humphris, 2008; Sargeant, 2009). While there are only a small number of academic Family Health Teams, there is much to be learned about the research and teaching activities that can support the integration of new team members.

It must be remembered that this study was limited to four sites. Given the influence of structures and processes on collaboration and integration, it is anticipated that additional sites might have provided further insights into the variety of other assets or constraints to interprofessional integration. Occupational therapy is a new profession within Family Health Teams and the paper focuses on the early integration in the team. Therefore the integration of occupational therapy will continue to evolve and be shaped by individual, team and organizational development. The study was exploratory in nature and while it provides insights into the emerging role of occupational therapy within a primary care context, the results cannot be broadly generalized.
This study builds the foundation for further research. A longitudinal study would provide insights into how health professionals are integrated into teams over time. It would also be of value to understand how integration influences health outcomes and more specifically to use a framework of systems integration in which to understand interprofessional primary care teams. Finally, it would be important to explore how professionals within Family Health Teams were integrated into the broader community services.

**Conclusions**

With an increased emphasis on interprofessional primary care, new professions will continue to be integrated into primary care teams. Based on the current study the following strategies and structures should be considered to support occupational therapists entering primary care teams.

1. Occupational therapists entering primary care need to formally include the education of team members in their professional role. Education on the role of occupational therapy and services provided needs to be directed to all team members, with specific focus on physicians.

2. Occupational therapists need to ensure they gain full access to the EMR to support both informal communication, through the internal messaging features, as well as formal patient documentation and referrals.

3. Occupational therapy fieldwork placements can provide a mechanism to engage the team in learning about other professions. Student occupational therapists should also be involved in the education of team members.

4. When possible, occupational therapists should actively participate in educating students from other health disciplines, including offering shadowing opportunities, providing handouts, arranging co-bookings or developing in-services.
5. Occupational therapists need to actively develop their role in existing interprofessional groups and programs offered within the primary care setting. Working within a structured program provides an opportunity to work closely with team members and can facilitate a deeper understanding of the occupational therapy.

6. Occupational therapists need to attend networking events, meetings, inservices and social functions to build relationships with team members.

The study adds to the growing body of literature that has identified structures and processes to support interprofessional collaboration in primary healthcare. Exploring the integration of an emerging discipline in primary care underscores the necessity of ensuring team members have an understanding of the roles and scope of each team member. The study also highlights the critical role that communication structures, such as formalized meetings and EMR’s, have in supporting the integration of new professions.
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Chapter 6: Supporting Knowledge Translation Through Evaluation

Introduction

Each year the Canadian Institutes of Health Research (CIHR) spends roughly 700 million dollars on health research (Graham & Tetroe, 2006). Despite Canada’s clear commitment to research, the literature has consistently demonstrated that transfer of research findings into practice is slow, complex, and often unpredictable (Bowen & Graham, 2013). As a result, a significant gap exists between what is known from the literature and what is practiced (Bowen & Graham, 2013). There is a rapidly growing body of evidence in health care focused on the translation of knowledge. Knowledge translation (KT) is defined as “a dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge to improve health, provide more effective health services and products and strengthen the healthcare system” (Canadian Institutes of Health Research, 2013).

Both the KT and the program evaluation literature have focused on the evaluation of knowledge translation activities (Ashley, 2009; Brousselle, Contandriopoulos & Lemire, 2009; Chambers, Wilson, Thompson, Hanbury, Farley & Light, 2011; Davison, 2009; Ginexi & Hilton, 2006; LaBelle Oliver, 2009). It is significant that to date there has been little, if any, record of attempts to use evaluation in support of knowledge translation. The objective of the paper is to introduce a KT-informed evaluation. This is a novel approach for thinking about both evaluation and KT, and one that has not previously been described. The paper will describe the strategies and mechanisms used to influence KT during an evaluation and illustrate the role of an evaluator in an evaluation designed to facilitate KT.
Knowledge Translation

Many terms have been used to describe knowledge translation including knowledge transfer, knowledge exchange, knowledge mobilization, research utilization, implementation research and dissemination (Graham et al., 2006). While each of these terms has similar meanings, they do not cover the breadth of what is meant by concept KT; that is all steps between the creation of new knowledge and its application. Within Canada, and in particular health care, the Knowledge to Action (KTA) process (Graham et al., 2006) is used to conceptualize knowledge translation.

The KTA cycle is divided into two components: knowledge creation and action. Within the knowledge creation phase knowledge is synthesized into products and tools for clinical application, while the action phase consists of activities to assist the application of knowledge. Knowledge is primarily that which is derived from empirically based research, however the definition provided does consider less formalized knowledge (Bowen & Graham, 2013). Both the fields of evaluation and KT currently conceptualize the role of evaluation at the end of the action cycle.

Two broad forms of KT exist: end-of-grant KT and integrated knowledge translation (IKT) (Gagnon, 2011). End-of grant knowledge translation refers to the dissemination of research findings upon project completion and the vast majority of the literature has focused on this (Grimshaw et al., 2004; Kitson & Bigsby, 2008). This form of KT has traditionally focused on researcher-initiated activities that push research findings into practice; for example conference presentation, clinical practice guidelines, and actionable knowledge nuggets (CIHR, 2013). There is however, little definitive evidence to support any one KT strategy and there is now a clear recognition of the context specific nature of knowledge translation (Bowen & Graham, 2013; Greenhalgh, 2011; Greenhalgh & Wierinha, 2010; Grimshaw et al., 2004; Menon, Korner-
As a result, there is increasing emphasis being placed on developing collaborative partnerships between researchers and end-users to better understand local context, and knowledge needs in order to facilitate knowledge use (Bowen & Graham, 2013; CIHR, 2013; Jones, Cifu, Backus & Sisto, 2013; Kiston & Bigsby, 2008).

Integrated knowledge translation (IKT) is the term used to describe this approach and refers to the “active collaboration between researchers and research users in all parts of the research process” (Graham et al, 2006, p. 21). Integrated knowledge translation has similarities to participatory research, action research or participatory action research. (Gagnon, 2011). The common theme in all of these approaches is that research findings will be more relevant and therefore implemented by the end users if they are actively involved in all phases of the research process (Bowen & Graham, 2013; Gagnon, 2009).

**Evaluation and Knowledge Translation**

The central focus of evaluation is on practice driven questions, with the intended use of both its processes and results being directed to improving programs and organizations (Weiss, 1998). The field of evaluation has long been interested in issues of use; with ample illustrations of different types of use (Shulha & Cousins, 1997; Kirkhart, 2000; Mark & Hentry, 2003; Patton, 1997; Patton, 2007). Patton (2008) has written about utilization-focused evaluations, which he describes as an “evaluation done for and with specific intended primary users for specific and intended uses” (p. 39).

While the literature on use focuses specifically on the evaluation process and results, KT emphasizes the application of synthesized research to enhance health and health services (CIHR, 2013). Adding a KT lens can intentionally integrate synthesized research into the evaluation, connect programs to clinical and research networks and conceptualize evaluation as mechanism
to translate knowledge into practice. This study sought to answer the overarching question: How can evaluative inquiry be designed to facilitate knowledge translation?

**Context**

An evaluation of a Memory Clinic at an interprofessional primary care organization in the province of Ontario, Canada provided the context in which to describe a KT-informed evaluation. The primary care clinic in which the program operates was a newly formed health organization that opened in the spring of 2011. The evaluation was conducted between May 2012 and December 2012.

The Memory Clinic was part of an informal group of primary-care based memory clinics within the province of Ontario. With long wait times to access specialist services, the objectives of the Memory Clinic were to facilitate the early diagnosis of memory disorders and provide community and caregiver support in a primary care context. Patients and caregivers attended a 2-hour interprofessional assessment. Following the assessment a diagnosis was made and an individual care plan was provided. The Memory Clinic was offered on a monthly basis to patients with memory impairments and their families and was delivered by an interprofessional team of health providers including two physicians, two nurses, an occupational therapist, a social worker, a community pharmacist and an Alzheimer Society representative (Lee et al., 2010).

**Evaluation Approach**

The evaluation drew on a number of approaches that included Participatory Evaluation (Cousins & Whitmore, 1998) and Developmental Evaluation (Patton, 2011). The evaluation was also informed by efforts to support a KT approach to evaluation. The Program Evaluation Standards (Yarborough, Shulha, Hopson, & Caruthers, 2011) provided a foundation to conduct an ethical and quality evaluation. The intention of bringing these approaches together was to
orchestrate a quality and collaborative evaluation that facilitated the development and refinement of the Memory Clinic through the ongoing translation of research and evaluation data.

**Participatory Evaluation**

There has been an increasing recognition that engagement in the research process is an important factor in supporting the translation of knowledge (Bowne & Graham, 2013; Jones et al., 2013; Menear, Grindrod, Coust, Norton & Legare, 2012). The underlying premise of IKT is the engagement of both knowledge creators and users in systematic inquiry (Graham et al., 2006). As IKT is grounded in participatory forms of research, this evaluation was designed to support knowledge translation by adopting a participatory approach.

A participatory approach to evaluation involves some degree of collaboration between those conducting the evaluation and the stakeholders (Cousins, Whitmore & Shulha, 2013). Cousins and Whitmore (1998) have described two types of participatory evaluation; practical participatory evaluation (PPE) and transformative participatory evaluation (TPE). The latter emphasizes program empowerment in an effort to “democratize social change” (p. 90) and is aligned with participatory action research in principles and background (Cousins & Whitmore, 1998). The former approach was adopted for the evaluation as it is well positioned to inform knowledge translation due to its emphasis on the practical needs of knowledge users in the practice setting and its “focus on increasing the use of evaluation results through the involvement of intended users” (Smits & Champagne, p. 428).

Cousins and Whitmore (1998) outlined three dimensions of collaborative inquiry; control of technical evaluation decisions; diversity of stakeholders selected for participation; and depth of participation. Each dimension was considered in the evaluation design. For this evaluation, the evaluator ultimately led the technical evaluation decisions, with strong input obtained from program members at all stages throughout the evaluation. All organizational stakeholders were
represented in the Evaluation Committee, whose membership included Memory Clinic clinicians, along with the Alzheimer society representative and the organization’s Executive Director; providing clinical, community and administrative perspectives. The original intention was to include a patient on the Evaluation Committee however due to both pragmatic and philosophical issues a patient representative was not part of the final committee membership. Members participated in the evaluation through monthly Evaluation Process Meetings and email communication, offering feedback and input into all aspects of the evaluation including the design, interpretation of data and translation of findings into the program. Due to time constraints, face-to-face meetings were scheduled on a monthly basis and as a result weekly electronic updates were sent to the Evaluation Committee and community stakeholders as a way to support the team’s ongoing involvement in the evaluation, provide research updates and share information on knowledge networks.

**Developmental Evaluation**

Developmental evaluation is a distinct approach to evaluation whose purpose is program or organizational development, and occurs in settings where program goals are emerging and evolving (Patton, 2008). A developmental approach offers ongoing and emerging data to help shape and refine programs and is well aligned with knowledge translation, which is seen as a “dynamic and iterative process” (CIHR).

The evaluation of the Memory Clinic began during the process of development within the context of a new and dynamic interprofessional primary care clinic. The interprofessional model of primary care was new and the roles of the professions within the Memory Clinic and the broader team were emerging and evolving. Given the complexities of the program and context, a developmental evaluation was most congruent with the current phase of the program’s cycle (Patton, 2011).
Knowledge Translation-Informed Evaluation

Drawing on both the KT and evaluation literature, a KT-informed evaluation was designed to be intentional in facilitating the application of emerging evaluation knowledge into practice and attended to the empirical evidence (original studies or synthesized knowledge) that grounded the program and the clinicians within the program. The evaluator was cognizant of how empirical and formalized knowledge informed each phase of the evaluation: (a) ensuring evaluation questions are informed both by context and external evidence and, (b) that emerging and final findings were considered in light of current research.

A KT approach to evaluation involved the active development of opportunities for clinicians and other stakeholders to develop the skills to engage in knowledge translation. A KT-informed evaluation also looked to facilitate connections and collaborations among knowledge networks (i.e. Canadian Dementia Research and Knowledge Exchange), local researchers/evaluators and communities of practice.

Methods

A single case study design was used (Yin, 2009; Stake, 1995) to describe the strategies and mechanisms to influence knowledge translation during an evaluation of a Memory Clinic. Case study research provides an opportunity to examine a phenomenon within a real life context (Yin, 2009). Given that this approach to evaluation has not been formally described, a case study design offered an opportunity to gather an in-depth understanding of one exemplar evaluation.

Data Collection

The case study was descriptive in nature and used three data sources: an evaluation log; interviews; and weekly e-newsletters. Table 3 presents the data collection timeline.
Table 3

*Data Collection Timeline*

<table>
<thead>
<tr>
<th>Data Collection</th>
<th>Pre</th>
<th>Post</th>
<th>Follow-up</th>
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<tr>
<td>Interview</td>
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<td>E-Newsletter</td>
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<td>Evaluation Log</td>
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**Evaluation Log.** An evaluation log was maintained by the primary investigator (CD), who was also the primary evaluator of the program. Entries were made following interactions with the Memory Clinic to document evaluation processes and KT activities. All evaluation log entries followed the ORID framework, a method for focused discussion presented in the business literature (Stanfield, 2000) that has been adapted to guide reflective journaling (Villeneuve, Jamieson, Donnelly, White & Lava, 2010). ORID involves four consecutive stages: Objective, Reflective, Interpretive, and Decisional (Appendix M). Each entry attended to the four ORID stages and included: (a) a description of the KT event including date and nature of the event, (b) evaluator reaction to the event, (c) interpretation and analysis of the event and (d) a description of how the KT event will guide future KT events. Log entries were entered directly and sequentially into a word processing document. Log entries began January 2012, four months prior to the start of the evaluation, to document the planning and conceptualization of the study and continued until the completion of the evaluation in December 2012.

**Interviews.** Interviews were conducted with the Memory Clinic team members before the start of the evaluation, upon completion and at three-month follow-up (see Table 4). In total twelve interviews were conducted which lasted between 20 and 60 minutes. All interviews were
conducted by the primary author (CD) and followed a semi-structured interview guide. The study was part of a larger study examining the role of evaluation as mechanism for IKT and questions were included that sought to identify, understand and describe any KT strategies used by Memory Clinic team members. Each interview was digitally recorded and transcribed verbatim by a research assistant.

**E-Newsletter.** Weekly e-newsletters were sent to the Memory Clinic Evaluation team, selected community members and forwarded to the physicians within the primary care organization. The e-newsletters included evaluation updates, links to resources and learning activities. E-newsletters documented KT activities and were the third data source for the study (see Figure 6).

**Data Analyses**

Transcripts and evaluation log entries were read and re-read by the primary author and preliminary codes were established. Evaluation log and interview data were analyzed using inductive line-by-line coding to identify emerging themes. Codes were identified and organized using Atlas.ti, a qualitative data analysis software program. Weekly e-newsletters were reviewed by the primary author and all KT strategies were extracted and organized by type in an excel spreadsheet. Frequencies for each KT activity were calculated. Member checking was performed to improve trustworthiness of the findings. Memory Clinic team members were provided with interview summaries and asked to contact the primary author if any errors were noted, or additional information should be included. None of the participants reported any errors or provided further information. Ethics approval was provided by University Health Sciences Research Ethics Board (approval #6006766).
Results

Three broad themes emerged in the analyses of the interviews, e-newsletters and evaluation log: Context, Supporting Knowledge Translation and Building Knowledge Translation Capacity. Each will be described in detail.

1. Context

Context was a strong influence on the KT strategies used throughout the evaluation. The following four contextual elements were identified in the evaluation: primary care setting, interprofessional collaborative practice, the developmental phase of the program and organizational leadership.

Primary Care Setting. The Memory Clinic was part of a community primary care organization and as a result none of the clinicians had direct access to the local University educational events (lectures, rounds, in-services) or library resources (electronic journals). The primary author, together with other team members identified learning opportunities. Sources of information included dementia networks, websites of relevant organizations. When possible, research articles were identified from open access sources and hard copies were made available to the whole team. “I realize that although I am providing summaries of research none of the team has access to the library system at [local University] and couldn’t access the original articles even if they wanted to” (Evaluation Log, July 26, 2012).

Given the complex and individual needs of each patient in the primary care setting, clinicians had very patient-specific research and knowledge needs. Learning was often required on a patient-by-patient basis. “I am using the internet and am doing relevant searching, but I would rather have something specific to what I am doing” (Memory Clinic Member, P6:6:3). In response, every attempt was made to ensure empirical research and resources offered to the team
were relevant to current clinical issues and needs. The patient-specific focus also influenced evaluation activities and how emerging results were shared to enhance application.

Sharing patient data is an excellent way to engage clinicians in shaping the program. The clinicians are all very engaged…I can see one of the roles of a KT informed evaluation, in particular, is to make measurement and outcomes clinically relevant.

(Evaluation Log, July 26, 2012).

**Interprofessional Primary Care.** Interprofessional collaboration is a new model in primary care practice. The Memory Clinic offered team members a structured opportunity to work as an interprofessional team and created an environment in which the team was receptive to learning and program development. “I think the fact that the Memory Clinic is new and an exemplar of interprofessional collaboration within the [primary care clinic] creates a deeper commitment to both the evaluation and openness to dementia research and networks” (Evaluation Log, September 13, 2012). The Memory Clinic became a model team within the primary care clinic “I would definitely like to run every program like the Memory Clinic team just because it is organized and clear and you know what everyone’s role is and everyone has an equal say” (Memory Clinic Team Member, P6:6:11).

The team members were learning not only about each other’s roles, but also their own role. In response the evaluation was intentionally designed and implemented to facilitate team learning by: (a) including all members in each element of the evaluation, (b) ensuring evaluation questions attended to the perspectives of all team members, (c) integrating research into the evaluation that was drawn from interprofessional journals and responded to team issues, and (d) identifying dementia networks and communities that were interprofessional in nature.
**Developmental phase.** The evaluation began prior to the implementation of the first Memory Clinic. One of the objectives of the evaluation was to inform the development of the program. In the early stages, the evaluation helped the team to articulate the Memory Clinic’s objectives and develop the specific questions and data collection strategies. Initiating the evaluation in the development phase of the program sensitized the team to emerging evaluation data and dementia research and created receptivity to feedback. “Getting the feedback…seeing what kinds of things we can improve on, and then being receptive to feedback” (Memory Clinic Team; P2:2:22). Coupled with receptivity was an openness to make changes. “We have to be able to change what we find needs to be changed” (Memory Clinic Team Member, P3:3:18).

To foster and support a culture of development, communication with the team was frequent and responsive.

It could be that different KT strategies are used depending on where the evaluation sits on the continuum. In developmental [evaluation] it is about building knowledge networks, identifying knowledge resources to build the program and using ongoing communication strategies to inform the program of data (Evaluation Log, January 24, 2012).

**Organizational Leadership.** Organizational leadership was fundamental in supporting a KT-informed evaluation. Two types of leadership were observed; organization-based and practice-based. Over the course of the evaluation the team physician assumed a practice-based leadership role regarding dementia knowledge and modeled the translation of research and evaluation data into practice. Primary care is largely physician driven and as a result physicians are influential members on an interprofessional primary care team. In a KT-informed evaluation the importance of physician support in translating knowledge within an interprofessional primary care team cannot be underestimated.
While practice-based leadership served to model and support the integration of evaluation and empirical evidence into practice, organization-based leadership supported the processes and structures to implement a KT-informed evaluation.

I can see that [the executive director] has truly been a champion of this evaluation… from an evaluation perspective she has been instrumental. But also from a KT perspective she has been forwarding the weekly newsletters to the broader FHT and has emailed me content to include. Without someone at this level taking on this role and supporting the processes it would be very difficult to engage the group and to support a KT approach (Evaluation Log, September 13, 2012).

Examples of organization-based leadership included: coordination of monthly Evaluation Process Meetings, management of communication within the team and the larger primary care practice, support of research opportunities and facilitation of program refinements. Each of these activities created a context that supported KT and a responsiveness to the evaluation process.

2. Supporting Knowledge Translation

A number of activities were woven throughout the evaluation that supported KT. Knowledge translation activities were both evaluator and team initiated and both planned and spontaneous. Three intentional activities were implemented by the evaluator to support knowledge translation; weekly e-newsletter, monthly Evaluation Process Meetings and maintaining a presence. Table 4 provides an overview of the strategies and approaches that were used to support the translation of explicit knowledge throughout the evaluation.
Table 4

Knowledge Translation Activities

<table>
<thead>
<tr>
<th>Knowledge Translation Activity</th>
<th>Initiated by</th>
<th>Frequency</th>
<th>Intended Knowledge User</th>
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<tbody>
<tr>
<td><strong>Process Meetings</strong></td>
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<tr>
<td>Infusing Empirical Evidence into Evaluation Processes</td>
<td>Evaluator</td>
<td>8 articles linked to evaluation processes</td>
<td>Memory Clinic Team</td>
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<tr>
<td>-Developing program objectives, evaluation questions, patient and caregiver feedback questionnaire</td>
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<tr>
<td>Distribution of journal articles</td>
<td>Evaluator</td>
<td>12*</td>
<td>Memory Clinic Team</td>
</tr>
<tr>
<td>Patient case reviews</td>
<td>Evaluator</td>
<td>3</td>
<td>Memory Clinic Team</td>
</tr>
<tr>
<td>Summary of emerging evaluation findings</td>
<td>Evaluator</td>
<td>5**</td>
<td>Memory Clinic Team</td>
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<tr>
<td>E-Newsletter</td>
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<tr>
<td>Evaluation updates</td>
<td>Evaluator</td>
<td>26</td>
<td>Memory Clinic Team</td>
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<tr>
<td>Journal article summaries</td>
<td>Evaluator</td>
<td>25</td>
<td>Memory Clinic Team</td>
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<tr>
<td>Media reviews</td>
<td>Evaluator</td>
<td>5</td>
<td>Memory Clinic Team</td>
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<tr>
<td>Dementia network learning events and resources</td>
<td>Evaluator</td>
<td>9</td>
<td>Memory Clinic Team</td>
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<tr>
<td>Alzheimer Society events and resources</td>
<td>Evaluator</td>
<td>26</td>
<td>Memory Clinic Team</td>
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<tr>
<td>Research Conferences</td>
<td>Evaluator</td>
<td>5</td>
<td>Memory Clinic Team</td>
</tr>
<tr>
<td>Local dementia research</td>
<td>Evaluator</td>
<td>3</td>
<td>Memory Clinic Team</td>
</tr>
<tr>
<td>Resources</td>
<td>Evaluator</td>
<td>3</td>
<td>Memory Clinic Team</td>
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<tr>
<td><strong>Other Knowledge Translation Activities</strong></td>
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<tr>
<td>Distribution of journals articles at Memory Clinics</td>
<td>Team</td>
<td>1</td>
<td>Memory Clinic Team</td>
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<tr>
<td>Distribution of notices of upcoming community events at Memory Clinic</td>
<td>Team</td>
<td>4</td>
<td>Memory Clinic Team</td>
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<tr>
<td>Email alerts regarding upcoming activities</td>
<td>Team</td>
<td>8</td>
<td>Memory Clinic Team</td>
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<tr>
<td>Webinars</td>
<td>Team/Memory Clinic Network</td>
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<td>Memory Clinic Team</td>
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<tr>
<td>Dementia related seminars</td>
<td>Team</td>
<td>2</td>
<td>Memory Clinic Team</td>
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<tr>
<td>Email alerts regarding research/resources</td>
<td>Team</td>
<td>4</td>
<td>Memory Clinic Team</td>
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<tr>
<td>Dementia clinical reasoning flowcharts</td>
<td>Team</td>
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<td>Memory Clinic Team</td>
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<tr>
<td>Community educational events</td>
<td>Team</td>
<td>3</td>
<td>Patients/caregivers</td>
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<tr>
<td>Patient education materials</td>
<td>Team</td>
<td>3***</td>
<td>Patients/caregivers</td>
</tr>
<tr>
<td>Primary Care Clinic Blog</td>
<td>Team</td>
<td>1 entry</td>
<td>Patients/caregivers</td>
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* represents total number of articles distributed to the team
** number of times emerging evaluation results were summarized and discussed
*** number of educational packages (1 personalized education package provided by the Alzheimer Society, 1 Dementia Information available at Memory Clinic, 1 Driver Resources)
**Weekly E-Newsletter.** A weekly e-newsletter was one of the primary KT activities used throughout the evaluation. In total, 27 newsletters were sent over the course of the evaluation and included 23 research articles, 5 news events and connections to 9 dementia networks or communities. Each newsletter included four elements: (a) evaluation updates (working documents, summary of meetings, patient feedback summaries), (b) a summary of a research article or notable item in the media related to a clinical issue or discussion, (c) news from or links to dementia networks and communities of practice, and (c) local Alzheimer Society events. The e-newsletter was sent through email to members of the Memory Clinic and selected members of the broader community, including the lead physician of the provincial Memory Clinic network. The newsletter was also forwarded to all physicians within the primary care practice. See Figure 6 for an example of a weekly newsletter.

The e-newsletter provided a mechanism to intentionally integrate pertinent research into the evaluation in a format that could be viewed at a convenient time and location. The provision of timely and emerging evaluation findings was congruent with the developmental nature of the evaluation. “It is difficult trying to balance your day in clinical practice in general with the research side, so actually having someone send it to me is pretty good and at the end of the day to read” (Memory Clinic Team Member, P1:1:2).

Program members identified the newsletter as one of their primary sources of research over the course of the evaluation.

[The evaluator] would send out the memory clinic newsletters; all the research that [the evaluator] had talked about or identified in it, that’s how I got my research. So that is a big part of informing my work that I am doing that was keeping up on what [the evaluator] was sending us (Member Clinic Team Member P1:1:1).
Figure 6: Sample Evaluation Newsletter

The newsletters also helped to situate the evaluation within the broader research on memory disorders.

The weekly updates were good, I read everything, and it gave me a chance to be a part of the community and seeing that people are out there doing similar things and it really opened my eyes to what research is being done in practice (Memory Clinic Team Member, P4:4:4).

**Monthly Process Meetings.** Monthly Process Meetings were held one to two weeks after each Memory Clinic. The objectives of the meeting were to reflect on the previous Memory Clinic and identify any refinements to the program delivery. The format of the Process Meeting was open and therefore responsive to evolving issues. The Process Meeting provided a face-to-
face opportunity to infuse KT activities into the evaluation and included; (a) patient case reviews, (b) sharing of formalized (i.e. research articles) and tacit knowledge (practice examples) and (c) the intentional integration of relevant research into evaluation activities. More than simply a series of activities, the meetings helped to build a foundation for KT and facilitate the translation of the team’s implicit knowledge. “Process meetings set an excellent tone of program development and the evaluation lens is a natural fit” (Evaluation log, July 26, 2012).

Three patient case reviews were included in two of the six Process Meetings. The review process included an in-depth chart review and links to relevant literature, and resources. Critical clinical events triggered the reviews in both cases, therefore offering the team timely and relevant feedback and an opportunity to examine what works (or doesn’t) and how it works “…case studies I find really helpful…how do we make it work, what does that mean and how does that translate” (Memory Clinic Team Member, preP3:3:5). Case reviews also helped to contextualize data and general clinical issues such as driving and dementia. “I think the case reviews provided an opportunity to review the data on an individual patient level, which allows the team to interpret the data in relation to a specific clinical event, rather than in an aggregated way” (Evaluation Log, August 17, 2012).

Process meetings provided a forum to embed research within evaluation processes. Aligned with a participatory approach the program members were actively involved in the development of program goals, evaluation questions and interpretation of emerging data. Pertinent research was identified and intentionally embedded into each process either through a summary of a key article or distribution of related research in the weekly e-newsletter.

My plan for the patient satisfaction questionnaire is to purposefully highlight the article upon which I will draw questions from. I hope to demonstrate how their own questions [that the team identified] mesh with what is found in the literature
and provide a more structured framework for their own thinking (Evaluation Log, July 10, 2012).

**Having a presence: Supporting team initiated KT.** Many KT activities occurred over the course of the evaluation that were not initiated by the evaluator, but influenced the evaluator role. While there was intentionality in supporting KT during the Process Meeting and e-newsletters there was an organic quality in how clinicians shared both tacit and formalized knowledge. There were many examples of team members sharing resources including research articles, websites and community dementia events during the Memory Clinic. These resources were typically offered to the group in an informal manner. In other cases the team initiated knowledge translation activities that were targeted to specific knowledge needs of the Memory Clinic, such as participation in a webinar and organizing an in-service by a local expert.

It was critical to be attuned to the strategies the program was initiating and engaging in, as these in turn guided the KT activities used by the evaluator. An awareness of how the team translated knowledge and the types of knowledge being translated highlighted the importance of ensuring the evaluator had a presence within the program in order to be responsive to the knowledge needs that were often not formally identified. The attendance of the evaluator at each Memory Clinic not only provided an understanding of the clinical processes and the knowledge needs of the team but also reinforced the importance of evaluative inquiry.

I may not have a clinical role, but I can see the importance of the informal sharing of knowledge and team building. As an evaluator this can help me provide relevant evaluation data, but from a KT perspective it enables me to ensure the community/network information is relevant to the team and the research informing practice connects with specific patients and issues. I also get to see how the team
shares information and the type of knowledge they convey (Evaluation Log, August 16, 2012).

The Alzheimer Society representative played a unique role in KT within the program and deserves specific mention. From a clinical perspective she linked patients to community programs. However from a KT perspective the addition of a community stakeholder offered many unique opportunities. The Alzheimer Society representative regularly communicated local dementia events through emails and distribution of brochures/handouts, introduced research conducted by the Alzheimer Society and created venues for Memory Clinic team members to translate knowledge to patients and caregivers in the community. For example, two Memory Clinic team members developed education programs for individuals with dementia and their caregivers. These programs were held at the Alzheimer Society and advertised through the Alzheimer Society.

The community stakeholder not only enhanced the evaluation process but also served as an intermediary for dementia knowledge.

[the Alzheimer Society Rep] does an excellent job of connecting with the community and using those connections to facilitate KT…she does an excellent job modeling this to the team…and brings a broader community perspective in. I think the community linkage is critical and [the Alzheimer Society Rep] has really demonstrated this…I think having a community partner on a primary care team is critical from a KT perspective…I see the richness at multiple levels 1) as an intermediary for the team, to provide a broader perspective, and 2) to support KT to patients/caregivers/families (Evaluation Log, November 14, 2012).
3. Building Capacity to Engage in Knowledge Translation

Building the capacity of the Memory Clinic to engage in KT activities was viewed as building the skills of team members to identify and apply relevant and quality knowledge, to support the delivery of the Memory Clinic and engage in scientific inquiry. Capacity-building was largely done through the participatory processes and KT activities of the evaluation.

A local conference on aging was identified by the evaluator (CD) and provided an opportunity for the team to present the Memory Clinic evaluation protocol. None of the members had previously presented at a conference and the process of submitting an abstract, developing a poster presentation and presenting at the conference offered a way to develop the team’s skills and build KT capacity.

I think submitting to the [aging conference] is an excellent KT capacity building opportunity. It will allow the team to go through the process of writing up and submitting an abstract to a conference. If successful, they will then go through the process of crafting a poster. Because the conference is local it is the ideal opportunity to network both at a clinical level, but also be involved as presenters. I think including a dissemination component into the evaluation allows the team to see how their own data can both inform their team, but the broader community (Evaluation Log, August 17, 2012).

In addition to the conference, three opportunities arose over the course of the evaluation for the Memory Clinic to engage in research projects. As part of the provincial network of Memory Clinics, team members were invited to participate in a research project on KT. Two other research projects connected the team to a local and national group of researchers. While neither research project was underway at the end of the evaluation both served to establish
connections with researcher networks and will ultimately contribute to building KT capacity of the team.

**Discussion**

In this KT-informed evaluation the role of evaluator can be conceptualized as that of a knowledge broker. A knowledge broker is an emerging KT strategy. Those who take on this role have been described as “persons or organizations that facilitate the creation, sharing and use of knowledge” (Meyer, 2010, p 119). The literature has described knowledge brokers as being responsible for a range of activities including; linking researcher with knowledge users, appraising and disseminating relevant literature, identifying knowledge sources and adapting knowledge for local contexts (Conklin, Luskc, Harris & Stolee, 2013; Dobbin et al., 2009; Lomas, 2007; Rivard, Russel, Roxborough, Ketelaar, Bartlett & Rosenbaum, 2010). In this study the evaluator functioned as a knowledge broker, with an emphasis on situating emerging program data within the broader research literature, disseminating contextually relevant literature and connecting the program to conferences, research opportunities and dementia networks.

Knowledge brokering has been described as working “between worlds” (Meyer, p.122) and it has been argued that evaluation is ideally situated to bridge the worlds of research and practice (Brown Urban & Trochim, 2009). Brown Urban and Trochim (2009) introduced the Systems Evaluation Partnership (SEP), a process that maps empirical evidence to evaluation questions and outcome measures using visual causal diagrams. While SEP is one specific approach to supporting research-practice integration through evaluation, the current study demonstrates a broader role for an evaluator in a KT-informed evaluation and one that is woven throughout the evaluation.

Conklin and colleagues (2013) have described knowledge brokers as agents who support the capacity of groups to “find, create, share and use relevant knowledge” (p. 5). Similarly within
evaluation, the goal of evaluation capacity building (ECB) is “sustainable evaluation practice” (Preskill & Boyle, 2008, p. 444). The current study drew on the ECB literature and used a participatory approach to engage the team in evaluation and knowledge translation activities with the intent to the build capacity of the team to create and translate knowledge. Preskill and Boyle (2008) presented a model of ECB and identified ten strategies to develop evaluation capacity of individuals and groups. The current study employed three of the outlined strategies to build the team’s knowledge translation capacity: involvement in the evaluation process; meetings; and use of technology. Given the KT focus, participation in a scientific conference and connections to research networks were additional strategies used to build knowledge translation capacity. No specific training was included to build KT skills, however future evaluations could include workshops, webinars, or in-services. Such training could have a dual emphasis on evaluation and skills to support knowledge translation therefore reinforcing the role of evaluation as a vehicle to bridge research and practice.

In a synthesis of the ECB literature Labin and colleagues (2012) also identified organizational level strategies including building leadership support. Garcia-Irarte, and colleagues (2011) have described how one individual served as an effective catalyst for building evaluation capacity within a community based organization. Similarly, in health care, a systematic review found that opinion leaders, both alone or with other strategies promoted evidence-based practice (Flodgren, Parmelli, Gattellari, O’Brien, Grimshaw & Eccles, 2011). The current study highlights not only the importance of organizational leadership, but also the fact that different forms of leadership, both practice and organization based, supported knowledge translation in primary care settings in different ways. Organization-based leadership served as a catalyst and provided the structure to conduct a KT-informed evaluation. In contrast the practice-
based leader functioned as an opinion leader, shaping practice and modeling knowledge translation.

Being attuned to the organizational context has been identified as an essential element for both KT and evaluation (Bowen & Graham, 2013; Graham et al., 2006; Jones et al., 2013; Yarborough et al., 2010). From an evaluation perspective, understanding the interprofessional primary care setting can ensure the use of context specific evaluation strategies to support KT. Physicians have been found to be critical to the integration of new professions into primary care teams (Donnelly, Brenchley, Crawford, & Letts, 2013). Extending this finding to evaluation suggests the identification of a physician leader can be an important strategy to support the integration of a KT-informed evaluation into a primary care team. This study supports such an assertion and encourages evaluators to be sensitized to the unique contexts in which KT-informed evaluation are conducted.

The primary care setting also has unique issues related to KT. Primary-care clinicians see patients when health issues first arise and when issues may not be clearly articulated. Primary care services are broad and provided to a range of conditions across the lifespan. (Beaulieu, Proulx, Jobin, & Kugler, 2011; Menear et al., 2012). In addition, the literature has found that primary care clinicians rely heavily on interactions with colleagues to inform practice (Gabbay & le May, 2004; Papanno et al., 2008). With the above factors in mind, Menear and colleagues (2012) have encouraged the field of primary care to adopt IKT approach as a way of enhancing uptake of research findings. The current study has demonstrated how a KT-informed evaluation could serve to facilitate the integration of patient specific and contextually based knowledge. Further research will be needed to demonstrate how such an approach can influence the practice of primary care clinicians.
The developmental approach supported a KT-informed evaluation, with the focus on adapting the program and engaging in ongoing feedback. The KT strategies reflected the development stage of the program and the approach of the evaluation. Frequent communications and meetings fit with the early knowledge needs of the team and their openness to making changes. However, a KT approach might look very different in an established program using a summative evaluation. Rather than exposing the program to new research or establishing connections to knowledge networks, the evaluation/evaluator might focus on building the capacity of the program to engage in KT activities, deepen relationship within networks or function more formally as a broker between researchers in the field and the program. Further research needs to be done to understand the approaches and strategies of a KT-informed evaluation at various program phases.

While a developmental approach was aligned with certain KT activities, a participatory approach was fundamental to the KT-informed evaluation (Cousins & Whitmore, 1998). This study demonstrated that not only was stakeholder participation important, but the evaluator also required a deep level of participation within the program. Huberman (1999) introduced the term ‘sustained interactivity’ (p. 291) to describe the long-term, joint engagement between researcher and teachers. Huberman (1999) found that sustained interactivity resulted in enhanced utilization of research in practice and that interactions were critical in the reciprocal flow of knowledge between researchers and practitioners. This study supports Huberman’s body of research and highlights the importance of evaluator engagement with the program and its stakeholders.

The evaluation employed a number of KT activities that go beyond traditional evaluation processes; drawing on skills similar to that of a knowledge broker. Not only does the evaluator require skills to conduct a quality and ethical evaluation, but also an understanding of the program situated within research and practice networks. While the study has described potential
activities that a KT-informed evaluation might use, it is recognized that many other activities, strategies and approaches could also be used, which would depend on a number of factors including feasibility and context.

Reflecting on the KTA cycle, the study suggests an expanded role for evaluation. Conceptualizing evaluation as a change process considers the intentional strategies used during the evaluation as explicit mechanisms to support KT. This is very different that the current view of evaluation within the KT literature that where evaluation is assigned the role of quality control, constructing judgments about the merit and worth of KT activities.

One of the limitations of the study was the use of a single case. Given the influence of context on knowledge translation, multiple case studies would have provided further insights into strategies and approaches used in a KT-informed evaluation. The evaluation occurred in the developmental phases of the program and it is anticipated that the knowledge translation will continue to evolve and be shaped by personal growth and organizational development. The study was descriptive in nature and while it provides insights into the nature of a KT-informed evaluation in a primary care context, the results cannot be broadly generalized.

**Conclusion**

This study provides the first known description of a KT-informed evaluation and suggests that adding KT to the repertoire of evaluation purposes is a natural extension of the field. The evaluation community has a longstanding interest in the use of systematic evaluative inquiry processes and products. Given that the purpose of KT is to engage individuals in the synthesis, dissemination, exchange and ethically sound application of knowledge, collaborative evaluative approaches appear to promote this interest in a potentially powerful way.
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http://www.cihr-irsc.gc.ca/e/39033.html


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Chapter 7: Evaluation as a Mechanism of Integrated Knowledge Translation

Introduction

Despite the importance placed on using evidence to inform practice there continues to be a wide gap between what is known and what is practiced (Bowen & Graham, 2013). Knowledge translation (KT) strategies have traditionally focused on push activities, however there is an increasing emphasis placed on developing collaborative partnerships between researchers and end-users to better understand local context, and knowledge needs in order to facilitate knowledge use (Bowen & Graham, 2013; Greenhalgh, 2010, Greenhalgh & Wieringa, 2012). Integrated knowledge translation (IKT) is the term used to describe this approach and it refers to the “active collaboration between researchers and research users in all parts of the research process” (Canadian Institutes of Health Research, 2013).

Evaluation is identified as one of seven steps in the action cycle of the Knowledge to Action Process; a framework to conceptualize the movement of knowledge into practice (CIHR). Within this framework evaluation is situated at the end of the cycle to determine the efficacy of KT interventions. The evaluation literature has begun to recognize unique features of KT evaluations and has described attributes to consider when evaluating KT activities (Davison, 2009). While both disciplines have focused on the evaluation of knowledge translation activities (Bhattacharyya, Esty & Zwarenstin, 2011; Davision, 2009; Graham et al., 2006; LaBelle, 2009) neither has explored the role evaluation can play as a mechanism for knowledge translation. The purpose of the paper is to examine the role of evaluative inquiry as a mechanism for IKT in a primary care setting.

Knowledge Translation in Primary Care

It has been recognized that primary care has unique issues related to KT. In primary health care, problems are presented early when issues may not be clearly articulated and where broad
health services are provided to a range of conditions across the lifespan (Menear, Grindrod, Clouston, Norton, & Legare, 2012). Primary care clinicians have been found to rely heavily on clinical practice guidelines however these are primarily developed for single diseases making them difficult to apply to patients with multiple chronic conditions (Menear et al., 2012, Beaulieu et al., 2008). A recent paper exploring KT and primary care stressed the importance of using an IKT approach in this setting (Menear et al., 2012). Both evaluation and KT have been recognized as integral components of primary care (Menear et al., 2012, Collier, 2011; Jaakkimainen et al., 2006), but to date there has been little, if any, record of attempts to use evaluation in support of knowledge translation. This study was designed to provide important insights as to how evaluation can facilitate KT.

**Program Evaluation and Integrated Knowledge Translation**

Evaluation can be differentiated from research by its central focus on practice driven questions and goals of program and organizational improvement (Weiss, 1981). Research on the other hand seeks to address identified gaps in theories or disciplinary knowledge (Alkin & Taut, 2003). Both research and evaluation have to do with systematic knowledge that is collected using scientific methods; where empirical observations are made and valid conclusions are communicated (Alkin & Taut, 2003). The fundamental difference between research and evaluation lies in their purpose and it is this very difference that makes evaluation ideally suited as a mechanism of IKT.

**Participatory Inquiry**

The underlying premise of IKT is “the mutual engagement of knowledge creators and users in systematic inquiry” (Graham et al., 2006, p. 21). In the many forms of evaluation, stakeholder participation is purposefully cultivated to facilitate learning and knowledge building (Cousins & Whitmore, 1998; DeLuca, Poth & Searle, 2009; Patton, 2008; Suarez-Herrera,
Springett & Kagan, 2009). These practices reflect early ongoing research on how participation enhances relevancy and therefore stakeholder use of evaluations (Preskill & Torres, 2000; Shulha & Cousins, 1997). A recent survey of American Evaluation Society members found that 98% of respondents felt that one of the primary roles of evaluators is to engage stakeholders (Fleischer & Christie, 2009).

**Evaluation Use, Evaluation Influence**

For over thirty years, use has been seen as one of the biggest issues in the field of evaluation (Cousins, Whitmore & Shulha, 2013). It is the term most widely used in evaluation to refer to the contribution evaluation makes to programs, individuals and organizations (Yarborough, Shulha, Hopson & Caruthers, 2011). Four foundational types of use have been described, three of which attend to the evaluation results, including instrumental, conceptual and symbolic use (Kirkhart, 2000). A fourth, process use, has been described as “individual changes in thinking, attitudes and behaviour, and program or organization changes in procedures and culture that occur among those involved in evaluation as a result of the learning that occurs during the evaluation process” (Patton, 2008, p.15). More recently, the term evaluation influence has been presented to integrate the vast writings on use and provide a framework to more broadly understand evaluation use (Kirkhart, 2000). The construct of use serves a unifying concept that can help to bring together the fields of evaluation and KT.

Participatory approaches to evaluation are considered a pre-requisite for process use (Amo & Cousins, 2007). Process use, referred to by some as simply a “bi-product of evaluation (Amo & Cousins, 2007, p. 6) lies at the core of the argument for evaluative inquiry as a mechanism for IKT. Amo and Cousins (2007) conducted a comprehensive literature review on process use and identified 18 studies from 1984 to 2005. The literature review found that process use has been found to enhance learning (17 cases), change in action or behaviors (15 cases) and
change in affect or attitude (13 cases) (Amo & Cousins, 2007). This empirical evidence supports the theory of process uses and provides a strong argument to consider evaluation as a mechanism of IKT.

**Framework to examine the influence of evaluation**

While IKT is often described as a process akin to participatory research, very little work has been done to elucidate the elements and processes of IKT. Lapaige (2010) has offered the only known framework of IKT, which was designed to address the unique element of global public health and does not necessarily have broad applicability across all health care settings.

Evaluation theorists Henry and Mark (2003) offer a framework, the Pathways of Influence, that can explore the complexities and dimensions of evaluation as a mechanism for IKT. The framework examines the influence of evaluation at the level of the individual, interpersonal and collective. Evaluation is conceptualized as an intervention and change process.

The framework is grounded on the premise that the ultimate goal of evaluation is social betterment (Henry & Mark, 2003; Mark & Henry, 2004). In order to achieve social betterment, changes resulting from an evaluation need to be linked back to evaluation processes. Social betterment within a health care context can be viewed within the definition and goal of KT “to improve the health of Canadians, provide more effective health services and products and strengthen the healthcare system” (CIHR, 2013).

For evaluation to be considered a mechanism for IKT, evidence must be obtained to demonstrate how evaluation can support both knowledge creation and its application to practice. The Pathways of Influence (Henry & Mark, 2003; Mark & Henry, 2004) was used to identify change process that occurred during the evaluation and served to ground the research questions: How does participation in an evaluation influence a) individual members in the program, b) interpersonal behaviours, and c) the collective primary care organization.
**Context**

An evaluation of a Memory Clinic at an interprofessional primary care organization in the province of Ontario, Canada provided the context for the study. The primary care organization in which the program operates began operation in the spring of 2011. The evaluation was conducted between May 2012 and December 2012.

The Memory Clinic was part of an informal group of primary-care based memory clinics within the province of Ontario. Prior to the implementation of the Memory Clinic, all members completed a formal training to gain knowledge in the area of dementia. With long wait times to access specialist services, the objectives of the Memory Clinic were to facilitate the early diagnosis of memory disorders and provide community and caregiver support in a primary care context. Patients and caregivers attended a 2-hour interprofessional assessment. Following the assessment, a diagnosis was made and an individual care plan is provided. The Memory Clinic was offered on a monthly basis to patients with memory impairments and their families and was delivered by an interprofessional team of health providers including two physicians, two nurses, an occupational therapist, a social worker, a community pharmacist and an Alzheimer Society representative (Lee et al., 2010).

**Evaluation Approach**

The evaluation drew on a number of approaches that included Participatory Evaluation (Cousins & Whitmore, 1998; Cousins et al., 2013) and Developmental Evaluation (Patton, 2011). The evaluation was also informed by efforts to support a knowledge translation approach to evaluation. The Program Evaluation Standards (Yarbrough et al., 2011) provided a foundation to conduct an ethical and quality evaluation. The intention of bringing these approaches together was to orchestrate a quality and collaborative evaluation that facilitated the development and refinement of the Memory Clinic through the ongoing translation of research and evaluation data.
Knowledge Translation-Informed Evaluation. The study used a novel approach to
evaluation, described as KT-informed evaluation. The KT-informed evaluation was designed to
be intentional in facilitating the application of emerging evaluation knowledge into practice and
attended to the empirical evidence (original studies or synthesized knowledge) that grounded the
program and the clinicians within the program. The evaluation was cognizant of how empirical
and formalized knowledge informed each phase of the evaluation: (a) ensuring evaluation
questions were informed both by context and external evidence, and (b) that emerging and final
findings were considered in light of current research. Three intentional activities were included
in this approach; weekly e-newsletters, monthly Evaluation Process Meeting to review and
discuss emerging findings and an evaluator presence in the program. A detailed description of
this approach has been presented in manuscript two.

Participatory Evaluation. The underlying premise of IKT is the engagement of both
knowledge creators and users in systematic inquiry (Graham et al, 2006). As IKT is grounded in
participatory forms of research, this evaluation was designed to support knowledge translation by
adopting a participatory approach. Participatory evaluation involves some degree of collaboration
between those conducting the evaluation and the stakeholders (Cousins et al., 2013).

The extent to which an evaluation is participatory can be determined by mapping the
evaluation process onto three dimensions of collaborative inquiry (Cousins & Whitmore, 1998;
Cousins et al, 2013); control of technical evaluation decisions, diversity of stakeholders selected
for participation and depth of participation. Each dimension was considered in the evaluation
design. In this evaluation, the evaluator ultimately led the technical evaluation decisions, with
strong input obtained from program members at all stages throughout the evaluation. All
organizational stakeholders were represented in the Evaluation Committee, whose membership
included Memory Clinic clinicians, along with the Alzheimer society representative and the
organization’s Executive Director; providing clinical, community and administrative perspectives. Members participated in the evaluation through monthly Evaluation Process Meetings and email communication; offering feedback and input into all aspects of the evaluation including the design, interpretation of data and translation of findings into the program.

**Developmental Evaluation.** Developmental evaluation is an appropriate approach to evaluation when the program itself has yet to be structured and implemented. It is most useful in settings where programs are emerging and evolving (Patton, 2011). The evaluation of the Memory Clinic began during the process of the program’s development within the context of a new and dynamic interprofessional primary care clinic. The interprofessional model of primary care was new and the roles of the professions within the Memory Clinic and the broader team were emerging and evolving. Given the complexities of the program and context, a developmental evaluation was most congruent with the current phase of the program’s cycle (Patton, 2011).

**Methods**

A prospective, multiple methods case study design was employed (Yin, 2009; Stake, 1995). Case study research focuses on understanding a given phenomenon in a real-life environment and involves the collection of detailed information using a variety of data sources (Yin, 2009; Stake, 1995). There have been no records of any attempts to use evaluation as a mechanism of IKT and case study design offered a methodology to gain an in-depth understanding of if, how, and why evaluation can be used as a mechanism of IKT. Ethics approval was provided by University Health Sciences Research Ethics Board (approval #6006766).

**Participants**

The case study was the evaluation of a Memory Clinic. All individuals who were members of the Evaluation Committee at the start of the evaluation were invited to participate. Six of the
seven original members agreed to participate at the outset of the study. One member who did not participate at intake agreed to do so at follow-up. Due to incomplete data, questionnaires from the seventh participant were not included in the analysis, however a follow-up interview was conducted and included in the study. Two additional members joined the Evaluation Committee over the course of the 8-month evaluation, but were not included in the sample.

Data Collection

Table 5 provides a summary of the overall data collection tools and timing of administration. Multiple sources of data were collected over 11-months, at three points in time. Tables 6, 7, and 8 provide an overview of data collection tools and study questions.

Table 5

Data Collection Timeline

<table>
<thead>
<tr>
<th>Data Collection</th>
<th>Pre</th>
<th>Post</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edmonton Research Orientation Scale</td>
<td>✦</td>
<td>✦</td>
<td></td>
</tr>
<tr>
<td>Collaborative Practice Assessment Tool</td>
<td>✦</td>
<td>✦</td>
<td></td>
</tr>
<tr>
<td>Memory Clinic Knowledge Questionnaire</td>
<td>✦</td>
<td>✦</td>
<td></td>
</tr>
<tr>
<td>Interview – understanding individual and interactive levels</td>
<td>✦</td>
<td>✦</td>
<td></td>
</tr>
<tr>
<td>Interview – understanding the collective level</td>
<td></td>
<td></td>
<td>✦</td>
</tr>
<tr>
<td>Program Documents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation Log</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 6

**Study Instruments: Individual Level**

<table>
<thead>
<tr>
<th>How does participation in a KT-informed evaluation influence individual members in the program?</th>
<th>Instrument</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a). <em>Attitudes</em> about research and evaluation?</td>
<td>Edmonton Research Orientation Survey</td>
<td>before and after evaluation</td>
</tr>
<tr>
<td></td>
<td>Evaluation Log</td>
<td>throughout the evaluation</td>
</tr>
<tr>
<td>1b) <em>Knowledge about</em>:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) memory clinics</td>
<td>Memory Disorders Knowledge Questionnaire</td>
<td>before and after evaluation</td>
</tr>
<tr>
<td>(ii) research networks and community resources</td>
<td>Memory Disorders Knowledge Questionnaire</td>
<td>before and after evaluation</td>
</tr>
<tr>
<td>1c). <em>Skills</em> to use research and evaluation data?</td>
<td>Edmonton Research Orientation Survey</td>
<td>before and after evaluation</td>
</tr>
<tr>
<td></td>
<td>Interview – Evaluation Committee</td>
<td>before and after evaluation</td>
</tr>
<tr>
<td>1d). Clinical practice?</td>
<td>Interview – Memory Clinic</td>
<td>before and after evaluation</td>
</tr>
<tr>
<td></td>
<td>Evaluation Log</td>
<td>throughout the evaluation</td>
</tr>
<tr>
<td></td>
<td>Document Analysis</td>
<td>throughout the evaluation</td>
</tr>
</tbody>
</table>
### Table 7

**Study Instruments: Interaction/Interprofessional Team Level**

<table>
<thead>
<tr>
<th>How does participation in a KT-informed evaluation Influence interpersonal behaviours?</th>
<th>Instrument</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2a) Team collaboration?</td>
<td>Collaborative Practice Assessment Tool</td>
<td>before and after evaluation</td>
</tr>
<tr>
<td></td>
<td>Evaluation Log</td>
<td>throughout the evaluation</td>
</tr>
<tr>
<td>2b) Interaction with networks?</td>
<td>Interview – Evaluation Committee</td>
<td>before, after evaluation</td>
</tr>
<tr>
<td>2c) Communication about research and evaluation?</td>
<td>Evaluation log</td>
<td>throughout the evaluation</td>
</tr>
<tr>
<td>2d) Communication to patients?</td>
<td>Document analysis</td>
<td>throughout the evaluation</td>
</tr>
<tr>
<td></td>
<td>Interview – Evaluation Committee</td>
<td>after evaluation</td>
</tr>
</tbody>
</table>

### Table 8

**Study Instruments: Collective Level**

<table>
<thead>
<tr>
<th>How does participation in a KT-informed evaluation influence the collective?</th>
<th>Instrument</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>3a) Participation in research and evaluation?</td>
<td>Interview – Executive Director, Physician Lead</td>
<td>after, 3 months post</td>
</tr>
<tr>
<td>3c) Use of research and evaluation data?</td>
<td>Interview – Executive Director, Physician Lead</td>
<td>after, 3 months post</td>
</tr>
</tbody>
</table>
Edmonton Research Orientation Survey. The Edmonton Research Orientation Survey (Pain, Hagler & Warren, 1996) is a self-report tool that asks participants about their attitudes toward research and about their potential to use research findings. The assessment contains 38 items with four subscales. The items are scored on a 5-point Likert scale from strongly disagree to strongly agree, with higher scores indicating a more positive research orientation. The Edmonton Research Orientation Survey (EROS) was developed in the context of rehabilitation and has been used across health disciplines, including nursing (Pain, Magill-Evans, Darrah, Hagler, & Warren, 2004; Bonner & Sando, 2008; Henderson, Winch, Hozhauser & DeVries; Pain, Magill-Evans, & Pain, 1997). The EROS has demonstrated internal consistency reliability (Cronbach’s alpha =0.83-0.89) and content and concurrent validity in rehabilitation, nursing and general hospital settings (Squires, Estabrooks, O’Roude, Gustavsson, Newburn-Cook, & Wallin, 2011). This is the first known use within a primary care setting.

Collaborative Practice Assessment Tool. The Collaborative Practice Assessment Tool (CPAT) (Schroder et al., 2011) is a self-report questionnaire designed to assess individual team members’ perceptions of collaborative practice. The CPAT contains 56 items across eight domains that have been identified in the literature as relating to interprofessional collaborative practice. Results of two pilot tests have demonstrated that the CPAT is a valid and reliable tool (Schroder et al., 2011).

Memory Clinic Knowledge Questionnaire. The Memory Clinical Knowledge Questionnaire (MCK) was developed for this study by the authors to assess participant’s knowledge about assessment and intervention practices related to memory disorders (Appendix P). No similar measures were found in the literature. The MCK questionnaire consists of 6 close-ended and 3 open-ended questions asking respondents about their confidence and breadth of
knowledge related to memory disorders as well as memory assessments and interventions currently used.

**Interviews.** Fourteen interviews were conducted with participants from the Evaluation Committee. Interviews lasted between 20 and 60 minutes. Questions were developed by the primary author with input from the research team and guided by Mark and Henry’s Pathways of Influence framework (Henry & Mark, 2003; Mark & Henry, 2004) (Appendix N-O). Interviews were conducted with all participants before and after the evaluation. Participants were asked how the evaluation influenced individuals’ clinical practices, knowledge and attitudes. Questions were also asked about how the evaluation influenced interactions with team members, patients and other knowledge networks. Three month follow-up interviews were conducted with two individuals identified to have influence at the level of the collective. Follow-up interviews included questions from the pre and post interviews as well as questions regarding the influence of the evaluation on the health care organization.

**Evaluation Log.** An evaluation log was maintained by the primary author (CD), who was also the primary evaluator of the program. Entries were made following interactions with the Memory Clinic to document evaluation processes and knowledge translation activities. All evaluation log entries followed the ORID framework, a method for focused discussion presented in the business literature (Stanfield, 2000) that has been adapted to guide reflective journaling (Villeneuve, Jamieson, Donnelly, White & Lava, 2009). ORID involves four consecutive stages: Objective, Reflective, Interpretive, and Decisional. Each entry attended to the four ORID stages and included: (a) a description of the knowledge translation event including date and nature of the event, (b) evaluator reaction to the event, (c) interpretation and analysis of the event and (d) a description of how the KT event would guide future KT events. Log entries were entered directly and sequentially into a word processing document.
Program Documents. Program documents included patient handouts, educational materials, program meeting minutes and final evaluation report.

Data Analyses

Pattern matching was used as the overall analytic strategy. This approach “compares an empirically based pattern with a predicted one” (Yin, 2009 p. 106), where propositions are developed prior to data collection in order to identify a predicted pattern of variables. Propositions for this study were derived from the theoretical framework of Henry and Mark (2003) and informed by the knowledge translation literature.

1. Individuals who engage in a KT-informed evaluation will:
   a) have a greater knowledge of assessments and interventions of memory disorders.
   b) have a positive attitude towards research and evaluation.
   c) refine clinical practices and process based on empirical evidence and evaluation results and processes.

2. Being engaged in a KT-informed evaluation will support program interactions and build knowledge translation capacity within the team.

3. The primary care organization will develop structures and practices to ensure data and evidence inform health service delivery and program development (i.e. use of electronic medical record to collect and use patient data).

Data were entered into an excel spreadsheet and tables were used to visually examine the data. Descriptive analysis was performed on the EROS (Pain et al., 1996) and CPAT (Schroder et al., 2011). Item averages were calculated for EROS (Pain et al., 1996) due to missing data, and subscale and total score averages were calculated for the CPAT (Schroder et al., 2011). A paired t-test was used to determine statistically significant differences between pre and post CPAT (Schroder et al., 2011) subscales and total scores. The statistical software program SPSS was
used and significance was set at $\alpha = 0.05$. Qualitative interview data were digitally recorded and transcribed verbatim by a research assistant. Atlas ti, a qualitative data analysis and research software, was used to code data and identify themes. The primary author read all transcripts and a preliminary coding table was established. Transcripts were re-read, resulting in the collapse of ten codes, due to overlap. In total 20 codes were included in the final coding table from which seven broad themes emerged. Because of the small number of participants quotes included in the manuscript are not identified by health profession.

A number of strategies were used to establish trustworthiness (Krefting, 1991; Golafshani, 2003). Two transcripts were read and independently coded by a second investigator (LS) using the final coding structure. A second strategy to establish trustworthiness involved member checking. Participants were provided with interview summaries and asked to contact the primary author if any errors were noted, or if additional information should be included. None of the participants reported any errors or provided further information.

A third strategy involved triangulation of data methods, sources and investigators. The study included a number of data methods including interviews, questionnaires and program documents. Each contributed to the understanding of the influence of evaluation and how it can be used as a mechanism for IKT. Participants included members from a range of disciplines, who were both internal and external to the organization to provide different perspectives and experiences of participating in the evaluation. Finally, the investigation team was made up of two occupational therapists (CD, LL), one evaluation researcher and practitioner (LS), and one educational researcher (DK). The diversity of the team brought unique perspectives to the design, implementation and analyses and grounded the study in both research and practice.
**Results**

The evaluation was found to influence the individuals, team and broader organizations in ways that were both intended and unintended. Seven overall themes were identified across the individual, interpersonal and collective levels. See Figure 7 for an overview of the themes.

<table>
<thead>
<tr>
<th>Individual</th>
<th>Team</th>
<th>Collective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Knowledge</td>
<td>Roadmap for Sustainability</td>
<td>It will .. in time</td>
</tr>
<tr>
<td>Orientation to Practice-Based Inquiry</td>
<td>Evaluation: A Common Ground</td>
<td>Diffusion across Organizations</td>
</tr>
<tr>
<td>Shaping Clinical Practice</td>
<td></td>
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</tr>
</tbody>
</table>

*Figure 7: Evaluation for Knowledge Translation: Themes and Subthemes*

**Influence on the Individual**

**Local Knowledge.** Individuals obtained knowledge from a range of both formal and informal sources. The sources of knowledge evolved over the course of the evaluation. Pre-evaluation questionnaires identified resources found within the Memory Clinic Training Manual as the most frequent source of formalized knowledge. Following the evaluation however, the weekly evaluation e-newsletter was identified as the source most frequently accessed for information. Virtual practice networks and online materials also provided important resources for participants.

Team members were a critical source of knowledge. During post-evaluation interviews, all but one of the members identified the team as the first place they would turn to for information. In addition to the immediate team, individuals from the Memory Clinic training team were also identified as key sources of information. In these situations, communication was
primarily between similar disciplines, for example the nurse at the Memory Clinic would contact the nurse at the training site. Overall, when knowledge was local and research was considered within context it was seen as relevant and directly applicable. “I want the local, and the reliable [information], and a study from Toronto, from someone with who knows what credentials, isn’t any help to my clients that are here right now” (FpP7:8:46).

The intentional knowledge translation strategies used during the course of the evaluation (Donnelly, 2012), coupled with evaluation processes and emerging results provided the team with local practice-based knowledge.

The evaluation informed my practice for sure, because not just the evidence-based approach and articles that [the evaluator] was sending, but also we have program objectives and knowing what our focus was informed me as well (PostP1:1:4).

**Orientation to Practice Based Inquiry.** While a KT-informed evaluation sought to sensitize individuals to research the Edmonton Research Orientation Scale (EROS) (Pain et al., 1996) did not demonstrate any shift in orientation towards research. EROS subscale scores could not be calculated due to missing data on a number of items; most notably within the Involvement in Research and Evidence Based Practice subscales. As a result the average rating per item was calculated (see Table 9). Item averages remained essentially the same across all four subscales, with two subscales slightly lower at follow-up and one slightly higher, suggesting the evaluation had minimal impact on the individual’s orientation towards research. Knowledge related to five aspects of research increased slightly from pre-to-post evaluation. There was no change in time spent reading or participating in research or research related activities.

While general research orientation, as measured by the EROS (Pain et al., 1996), remained unchanged, interview data highlighted the role evaluation played in making research more accessible.
I think [the evaluation] humanized the idea of research instead of it being all the research out there that I am not part of, so this brought it into my realm of general practice and day to day practice (postP4:4:1).

Table 9

*Edmonton Research Orientation Scale (EROS)*

<table>
<thead>
<tr>
<th>EROS Subscale</th>
<th>Pre-evaluation (n=5)</th>
<th>Post-evaluation (n=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuing Research</td>
<td>3.7*</td>
<td>3.7*</td>
</tr>
<tr>
<td>Research Involvement</td>
<td>3.7</td>
<td>3.5</td>
</tr>
<tr>
<td>Being on the Leading Edge</td>
<td>3.8</td>
<td>3.9</td>
</tr>
<tr>
<td>Evidence Based Practice</td>
<td>2.4</td>
<td>2.2</td>
</tr>
<tr>
<td>Total:</td>
<td>3.4</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Understanding Research

| Research Design                 | 2.6                  | 2.8                   |
| Statistics                      | 2.6                  | 2.8                   |
| Research articles in journals   | 3.4                  | 3.7                   |
| Grant application procedures    | 1.8                  | 1.8                   |
| Ethical review procedures       | 1.8                  | 2.0                   |

*item averages on a 5-point scale.

The evaluation served to orient clinicians to practice based inquiry, bridging the research-practice divide. “It seems so practical, it just seems so natural and I always saw research as more academic” (postP4:18:48). Through the evaluator’s presence and engagement in the evaluation, clinicians not only gained knowledge about the process of conducting an evaluation, but more specifically how knowledge created through evaluation translated to practice. “Having [the evaluator] so involved helped us learn more about what an evaluation is, what it looks like, how it works into the day-to-day stuff we are learning, and how it translates” (postP1:42:92).
The KT-informed evaluation sought to model sustainable practice-based inquiry. While the evaluation did not appear to influence individuals’ orientation or attitude to research broadly, it supported an orientation to local practice-based inquiry and knowledge.

**Shaping Clinical Practice.** Changes to clinical practice were documented over the course of the evaluation and were related to both the evaluation processes and results. Not only did individuals gain knowledge during the evaluation they were receptive to making changes to practice as a result of this knowledge. “We have to be open to change what we find does need to be changed…you have to be willing to change” (postP3:6:30). Over the course of the 8-month evaluation a number of refinements were made to the assessment and intervention practices and Memory Clinic processes. Refer to Table 10 for description of changes that were made and how the evaluation process linked to these changes.

Three elements of the evaluation were seen to influence clinical practice; knowledge gained from engagement in the evaluation process, empirical evidence provided during the evaluation, and emerging evaluation results. Participant engagement in evaluation created a culture of learning and laid the foundation for knowledge translation. “When you see [the evaluation] and you’re involved in it, and doing it, it’s more hands on, it’s more practical, it’s apt to be more useful” (postP3:25). Similarly, evaluator engagement in the program supported knowledge translation.

having you so involved has helped us learn about what an evaluation is and what it looks like, how it works into the day to day [information] we are learning and how it translates...you being involved really helped us getting it and understanding it (postP1:42:92).

Fundamentally, the knowledge translation focus of the evaluation sought to support patient care “this evaluation…it is being done to produce better quality patient care and I think
we all know that now” (postP1:41:90). Weekly e-newsletters, offered a source of empirical evidence upon which practitioners grounded their assessment practices.

Table 10

*Influence on Clinical Activities and Processes*

<table>
<thead>
<tr>
<th>Program Modifications</th>
<th>Evaluation Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment</strong></td>
<td></td>
</tr>
<tr>
<td>1. Addition of a gait assessment into the assessment protocol.</td>
<td>Memory Clinic Network Conference Weekly Evaluation Update - E-Newsletter Memory Clinic Process Meeting</td>
</tr>
<tr>
<td>2. Addition of vital statistics into the assessment protocol.</td>
<td>Memory Clinic Network Conference Memory Clinic Process Meeting</td>
</tr>
<tr>
<td>3. Additional of “Since we last saw you”, an assessment of community supports into the assessment protocol.</td>
<td>Evaluation Process Meeting Evaluation results – Chart Audits, Patient and Caregiver Feedback</td>
</tr>
<tr>
<td><strong>Intervention/Follow-up</strong></td>
<td>Evaluation Activities</td>
</tr>
<tr>
<td>1. Enhancement of educational materials (driving, enhanced mail-out package, educational binder)</td>
<td>Evaluation results - Patient and Caregiver Feedback Weekly Evaluation Update - E-newsletter</td>
</tr>
<tr>
<td><strong>Memory Clinic Processes</strong></td>
<td>Evaluation Activities</td>
</tr>
<tr>
<td>2. Stopping of Evaluation Process Meetings</td>
<td>Evaluation Process Meeting</td>
</tr>
<tr>
<td>4. Assessment Summary Forms (Under consideration at end of evaluation.)</td>
<td>Evaluation Process Meeting Evaluation Results – Chart Review</td>
</tr>
<tr>
<td>6. Patient chart scanned into EMR</td>
<td>Evaluation results - Physician feedback</td>
</tr>
</tbody>
</table>
Just knowing what is happening…the updates and some of the research articles…that
guides me and that started the gait [assessment] process, so it helped us if we got stuck in
our ways and gave us new ideas (postP2:2:4).

Interventions were also supported by the intentional knowledge translation activities of the
evaluation.

What we developed here was a [patient education] binder...some tips about eating
and exercise and all of that was pulled from the evidence based practice stuff I
pulled from Dr. [X.] or things [the evaluator] sent us or things that the team
provided that they found to be helpful (postP1:35:66).

The Memory Clinic team was particularly receptive to emerging data derived from patient
and caregivers, which in turn had a strong influence on Memory Clinic processes and clinical
practices. The patient focus was seen at the clinical level and many of the clinicians identified
that patient interactions was the element of clinical practice most influenced by the emerging
evaluation data. “I have learned to ask more open ended questions and dig deeper and get better
detailed answers” (postP5:6:24). Another clinician reported “it has changed the way I do the
testing and assessments, building that relationship” (postP6:9:24).

The Memory Clinic was part of a larger network of clinics and receiving the ongoing
feedback from the emerging evaluation also gave individuals the confidence and the structure to
refine their practice. It also gave clinicians confidence in their own clinical practice.

We kept refining the process based on the feedback, based on [the evaluation],
refined it, refined it, refined it, and the whole collection of information from the
patients, and how we recognize that, and how we record that, and access it later. We
are more confident (postP4:21:56).
Feedback also supported changes to program delivery. “So, once we got that feedback…
that changed how we were thinking about educating people and the timing of the education”
(postP1:36:68). Changes were also made to administrative processes based on feedback “We kept
changing our forms and making them better” (postP2:10:28).

Participants reported an increased use of memory related assessments and interventions
over the course of the evaluation. Individuals (n=5) reported using an average of 3 assessments
(range 1-5) on the pre-evaluation Memory Disorders Knowledge Questionnaire, compared with an
average of 8 (range 4 to 17) assessments after the evaluation. The same trend was observed for
interventions. Individuals (n=5) reported using an average of 2 (range 0 to 3) interventions when
working with individuals with memory disorders before the evaluation and an average of 5 (range
3 to 8) interventions on the post-evaluation questionnaire. Referral to community supports was
not identified as an intervention strategy on the pre-evaluation questionnaire, whereas all but one
of the respondents on the post-evaluation questionnaire reported accessing community resources
for patients and their families/caregivers.

Influence on the Interpersonal

Roadmap for Sustainability. With the exception of the early addition of a community
pharmacist and physician, team membership remained stable over the course of the 8-month
evaluation. However, as the evaluation was concluding the team underwent substantial personnel
changes, including two members going on maternity leave, the addition of another pharmacist
and two members leaving the primary care clinic; including the Executive Director. Only one
month after the evaluation was completed, five new members had joined the team, representing a
62 per cent turnover rate.

As membership changed, so too did the teams knowledge that was co-created over the
course of evaluation. Prior to the changes in personnel “We were all sitting in that room together,
so I know that information that I got from you…and you heard what I got…we all heard” (fP7:19:104). However, as new members entered “we don’t really know what everyone else [knew]” (fP7:19:100).

Despite new membership there was a commitment to sustaining the team’s clinical knowledge base and building on the evaluation “we want to keep learning” (postP5:11:63). One of the original team members informally took on the responsibility of creating strategies and mechanisms to transfer knowledge to the new members, passing along “the essential building blocks of this clinic and [handing] them out to everyone…so you have got a pillar who continues” (fP4:4:26). Strategies included laminating summaries of memory disorder assessments and the development of a memory disorder clinical reasoning flowchart.

Supporting the team’s informal KT leader, were formalized tools that provided a roadmap for the team. “None of us could do this alone, so many people have given us the tools…[XX] just making sure the tools are handed down in their original, authentic form” (fP4:6:54). There were clear supports to translate clinical knowledge however there was less evidence that structures were in place to support ongoing learning through evaluation. On one hand the evaluation was seen as one tool within the KT toolkit, offering processes to both collect data and provide ongoing feedback to the team. “[the evaluator] has given us clinical applications that actually will guide what we do” (fP4:7:66). On the other hand, no formal procedures were in place to facilitate data collection and reporting. Unlike with the clinical knowledge, no team member had informally stepped into the role to translation evaluation knowledge or practices.

**Evaluation: A Common Ground.** The evaluation of the Memory Clinic began during the early formation of the team, and prior to the start of the implementation of the clinic. The evaluation provided a common ground for the team members, all of whom came from different disciplinary backgrounds. Through the participatory processes of the evaluation, the team
developed program goals and objectives. This process had a number of benefits to the team. First it encouraged the team to shed their disciplinary focus.

Hearing what kind of things people said for goals, it was not what I expected. From the doctor, I would have expected it would be to give a clearer diagnosis. But instead it was to support the client and the caregiver (postP2:28:77).

Second, the program goals and objectives served to centre the team and pull members towards a common focus. “Those first few meetings trying to take the objectives and keep them in mind…and just to have clear objectives that we shared” (postP4:21:56).

The emerging evaluation findings offered program based knowledge, which crossed disciplinary boundaries. Team members were required to make sense of how the information influenced the team as a whole and then their individual practices. One team member reflected on how the emerging evaluation results heightened her awareness of the need to strengthen collaborative practice.

It heightened my awareness of caregiver burnout, the need for the services here…the need to find strong partnerships especially with the Alzheimer’s society and working side by side…and somehow being more mindful of collaborative practice (postP1:11:28).

The team viewed the Memory Clinic as a model of interprofessional collaboration in the primary care clinic. “It would be great if our other programs were run like that” (postP6:12:30). Because of the commitment to the team, there was also a commitment to the evaluation.

I think the fact that the Memory Clinic is new and an exemplar of interprofessional collaboration within the [primary care clinic] creates a deeper commitment to both
the evaluation and openness to dementia research and networks (Evaluation log, September 13, 2012).

Results of the Collaborative Practice Assessment Tool (CPAT) (Schroder, et al., 2011) further demonstrated the team’s collaboration. All domains of the CPAT scores increased over the course of the evaluation, with a total CPAT score before the evaluation of 321 and 362 following the evaluation (Table 11). All but three of these increases were statistically significant.

Table 11

<table>
<thead>
<tr>
<th>Collaborative Practice Assessment Tool (CPAT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPAT Subscale</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Mission (56)</td>
</tr>
<tr>
<td>Relationships (56)</td>
</tr>
<tr>
<td>Leadership (63)</td>
</tr>
<tr>
<td>Roles (70)</td>
</tr>
<tr>
<td>Communication (48)</td>
</tr>
<tr>
<td>Community (28)</td>
</tr>
<tr>
<td>Conflict (42)</td>
</tr>
<tr>
<td>Patient Involvement (35)</td>
</tr>
<tr>
<td>Total (398)</td>
</tr>
</tbody>
</table>

* p<0.05

Conflict and communication were the two domains that demonstrated the greatest change scores. The results of the opened ended questions reiterated communication as a team strength as well as the establishment of a culture of collaboration, involving trust, respect and openness to others ideas. The team created a term to capture the collaborative spirit they felt. “Teamy, we call it” (fpP4:).

Influence on the Collective

It will... in time. There was little evidence to suggest that the primary care organization in which the Memory Clinic was situated was influenced by the evaluation. While the evaluation
was seen as foundational to the development of the Memory Clinic, the influence on the primary care clinic was not felt. “I just don’t know if it has trickled down to the broader health team…I think it will in time, and I think that as other programs evolve. I think it is foundational” (fpP3:26:118). No formal evaluation structures were in place for any other programs and there were no reported plans to formally introduce evaluation to other programs.

Over the course of the evaluation, no changes regarding the use of the Electronic Medical Record (EMR) for evaluation purposes were reported. Both before and after the evaluation the EMR was primarily used for patient booking, charting and communication purposes. “It is just for recording and booking” (preP1:1:2). “To get a medical history and see what other people have done with the client…and then we use more the messaging for the referrals” (preP2:14:40). However there was an acknowledgement that the EMR could facilitate ongoing evaluation. “I think that it is the next step. I think we have the paper end of things…now we need to put that over to the EMR” (postP3:17:80). From an administration perspective, the EMR was also used for statistical purposes to identify numbers of patients and to obtain targeted outcomes for mandated reporting; not as a means to inform practice.

The open-ended responses on the CPAT (Schrolder el al., 2011) suggested an overall lack of communication between the Memory Clinic and broader primary care organization, which included 7 physicians, a dietician, a nurse practitioner, and a respiratory therapist. Post-evaluation CPAT results identified the need for collaboration with the broader clinic as the most important area of improvement within their own team. Additionally, communication to the broader primary care clinic was identified as a challenge to the team’s own collaboration. Given the lack of communication at a clinical level, it is not surprising that the evaluation did not exert an influence on the primary care organization.
**Diffusion across organizations.** Despite the lack of influence on the immediate organization, its unintended influence was demonstrated in two external organizations. In the first case, one of the members of the Memory Clinic team, who represented a community agency, described how the evaluation changed how she would collect data to inform her practice. As a result, new data collection mechanisms were created that subsequently altered the practices of another individual within the second organization. “I learned more about how I might be able to collect that type of information…I was able to give that information to my co-worker…and then he went and changed [how he collected information]” (fpP1:21:114).

In the second case, the Executive Director became a manager at a new health organization and brought evaluative thinking with her. The implications of this experience laid the foundation for thinking of how evaluation might be embedded into the new organization. “Evaluation; we have to…build a framework or some sort of guidelines for every program that we do…there is an evaluation component” (fpP2:1:2).

So while the capacity of the original primary health organization did not appear to be enhanced, individuals who were involved began to see themselves as having a responsibility for carrying over what they had learned through evaluative inquiry into their new settings.

**Discussion**

Ultimately this study sought to encourage more expansive thinking about the purposes for and mechanisms of IKT by demonstrating the influence evaluation had at the level of the individual, interpersonal and collective.

**Supporting Practice-based Knowledge**

At the level of the individual, a KT-informed evaluation influenced individuals’ knowledge about the program, attitudes towards practice-based knowledge and clinical practices
and processes. Both the emerging evaluation results and activities, including weekly e-newsletters, were important sources of knowledge. The study clearly supports the literature that has found primary care clinicians rely heavily on practice-based tacit knowledge and colleagues (Bhattacharyya et al, 2011; Pappano, Connes, McIntosh, Humiston & Roma, 2008). An ethnographic study exploring decision making of primary care clinicians, found clinicians rarely accessed, appraised, and used explicit evidence directly from research or other formal sources (Gabby & leMay, 2004). Instead, the authors describe the use of ‘mindlines’; internalized tacit guidelines, in part informed by brief reading, but primarily informed by their interactions with each other, with opinion leaders, and by other sources of largely tacit knowledge. Mindlines are built on early training, their own and their colleagues' experience and reinforced by the collective practice. The KT-informed evaluation process was particularly congruent with the notion of building mindlines through its emphasis on practice-based knowledge, integration of context sensitive research, and a participatory approach that offered opportunities to interact and engage in the process of inquiry.

Clinicians’ self-reported orientation and participation in research did not change over the 8-month evaluation. A few factors may have contributed to this. Questions on the EROS (Pain et al., 1996) relate specifically to research and do not use broader terms of inquiry or evaluation to which the clinicians may have more readily related. As well, the Memory Clinic makes up only a small portion of clinicians’ roles within the primary care organization and therefore the evaluation of the Memory Clinic may not have been influential enough to tip the clinicians’ orientation or attitude towards research. The results provided further evidence however that primary care clinicians are still not oriented toward research. Evaluation has been described as ideally situated to bridge the research-practice divide (Urban & Trochin, 2009). The KT-informed evaluation facilitated a positive attitude towards practice-based inquiry and the learning
that occurs in this process. There is a growing body of literature on the role of evaluation in supporting both individual and organizational learning (Preskill & Torres, 1999a; Preskill & Torres, 1999b; Preskill & Torres, 2001). This study lends further support to this work and highlights evaluations important role in knowledge exchange in primary care.

The evaluation processes, results and intentional KT activities were seen to influence clinical practices. Evaluation literature often reports on the influence of evaluation practices on behaviours in educational and social services contexts (Amo & Cousins, 2007; Brandon & Singh, 2009), and this is the first known study to report behavioural changes a primary care context. In the field of evaluation this form of influence is referred to as process use (Patton, 2008). These results provide support for evaluation as a mechanism of IKT by demonstrating engagement in a participatory evaluation can influence health care practices. Patient and caregiver feedback data appeared to have the greatest influence on practice behaviours and was the impetus for many of the ongoing program refinements. This is an interesting finding and offers a more fine-grained understanding as to the sources of data that may be most influential to clinical behaviours.

Christie (2007) used the Pathways of Influence (Henry & Mark, 2003; Mark & Henry, 2004) to examine influence of evaluation data on decision makers actions. Christie (2007) found that large scale and case study data were most influential, suggesting that different contexts and stakeholders attend to data in different ways. In a primary care setting, evaluation processes and results may be most influential when there is a clear link to patient services and outcomes. This study did not include patients or families on the evaluation committee however these results suggest that including this stakeholder perspective could further sensitize the team to patient data.

A fundamental goal of KT is to “improve the health of Canadians” (CIHR, 2013). This study explored the behaviours of the clinicians, but did not examine how the evaluation influenced patient and family outcomes. Because the evaluation began prior to the start of the
program there was no baseline data upon which to measure changes in patient outcomes. Further research that includes patient outcomes is required to more fully explore the role evaluation of evaluation as a mechanism of IKT.

**Interpersonal**

The evaluation was seen to influence interpersonal behaviours through the development of social norms. Research on interprofessional collaboration in primary care has identified the development of common patient goals as an important indicator of team function (Poulton & West, 1999; Shaw, DeLusigana & Rowlands, 2005). The results of the study suggest that an evaluation can also provide a common goal and focus for a primary care team. The evaluation was seen to influence the team’s social norms, supporting the team in thinking beyond their disciplinary boundaries and develop a shared vision and common language. No other studies could be found that examined the influence of evaluation on interprofessional primary care practice. With increasing focus on interprofessional models of primary care and emphasis on quality improvement initiatives it is important to understand how evaluation can support collaboration and is an area that warrants further exploration. Despite the small participant numbers, a significant difference was found on five of the eight CPAT (Schroder et al., 2011) subscales, suggesting that the CPAT (Schroder et al., 2011) could be a potentially powerful tool to examine interprofessional collaboration.

While the evaluation helped establish common program goals and objectives, three months after the evaluation ended the team was almost entirely new. Turnover of program personnel is common within health care and an important element to consider in any KT study. A study conducted in a hospital environment reported one-year turnover rates of 49% for allied health, 29% for nurses and 9% for physicians (Waldman, Kelly, Arora & Smith, 2004). Woltmann and colleagues (2009) examined the impact of turnover on evidence-based practices.
Seventy one per cent of respondents reported that turnover influenced the implementation of the evidence-based guidelines (Woltmann, et al., 2009).

Within the current study the team had developed clear strategies to translate clinical knowledge to new members. There was less evidence of strategies to support the ongoing use of program-based evidence, or the translation of evaluation knowledge to new members. This finding has a number of potential implications for future KT-informed evaluations. Looking back to the three dimensions of participatory evaluation (Cousins et al., 2013), the evaluator led the overall evaluation with input from the team. While this ensured the ongoing implementation of processes to support learning and knowledge exchange during the evaluation, it did not adequately consider the maintenance of these after its completion. In other words the long-term influence of the KT-informed evaluation to support ongoing knowledge translation appeared limited. The results suggest that divesting control, or a graded approach, where the evaluator fades out over time, might enable the evaluation to have greater long-term influence. However, further research needs to be completed to determine the longer-term impact of a KT-informed evaluation and what elements and activities could help support long-term influence.

The fact that one individual led the strategies to translate clinical knowledge, suggests that the influence of one person should not be underestimated. Garcia-Irarte, and colleagues (2011) have described how one individual served as an effective catalyst for building evaluation capacity within a community based organization. Similarly, a systematic review found opinion leaders, both alone or combined with other strategies, were effective in promoting evidence-based practice (Flodgren, Parmelli, Gattellari, O’Brien, Grimshaw & Eccles, 2011). These studies, as well as results from the current study suggest that a KT-informed evaluation also needs a dedicated leader. Primary care organizations should consider formally identifying an individual...
or role within the team to translate evaluation knowledge and facilitate processes that support evaluation as an ongoing form of IKT within primary care.

**Collective**

The study found the evaluation did not have any immediate influence on the primary care organization in which the Memory Clinic was situated. To some extent this is contrary to what would be expected based on the growing body of literature on evaluation capacity building. Evaluation capacity building (ECB) is described as the “intentional work to continuously create and sustain overall organizational processes that make quality evaluation and its uses routine in organizations” (Stockdill, Baizerman & Compton, p. 14). A recent systematic review of the ECB literature found that 92% of evaluations reviewed produced changes at the level of the individual and 77% demonstrated organizational level changes (Labin, 2012).

The Pathways of Influence can help to explain these findings. The intentional evaluation activities were focused on supporting KT at the level of the individuals and interpersonal, suggesting that evaluation processes and activities are most likely to influence the level at which they are targeted. In other words, building individual knowledge does not appear to directly influence the collective. The KT literature has largely described interventions that have targeted individuals and there is increasing attention being paid to organizational level interventions (Greenhalgh, Robert, MacFarlane, Bate & Kyriakidou, 2004). As evaluations have been shown to support organizational learning, future KT-informed evaluations are encouraged to include activities that specifically target the organization.

**Understanding the findings within context**

Case study methodology is inherently about understanding complex phenomenon in real life contexts (Yin, 2009) and the findings of this study must be considered in light of the context in which they occurred. The Memory Clinic was delivered in an interprofessional primary care
setting and it is important to consider the unique elements of this setting. Primary care is still largely delivered by family physicians, and it is only relatively recently that other health professionals have been included within the primary care team. A recent study examined the integration of occupational therapists into primary care and found that a number of factors supported their integration into the primary care team, including the development of trust, an understanding of team roles and the opportunity to work within programs of care (Donnelly, Brenchely, Crawford & Letts, 2013). Each of these elements was also found to support the integration of the KT-informed evaluation within the Memory Clinic.

Another contextual factor related to the fact that the Memory Clinic team had just been created and was in the process of completing their formal training when the evaluation was initiated. In addition, the team was part of an informal provincial network of Memory Clinics. Each of these contextual features contributed to the ultimate success of the evaluation as a mechanism of IKT; linking the team to a broader network and priming the team to evaluation results and empirical research. However it is also difficult to exactly determine the influence of the evaluation versus what learning would have naturally occurred, as well as what learning is attributed to being part of the network.

**Future Research**

The case study method provided an in-depth look at one KT-informed evaluation and while it provides insights into the role and potential of evaluation as a mechanism of KT, the results cannot be generalized broadly. It is anticipated that additional sites could provide further insights into the influence of evaluation in supporting knowledge exchange. Given that the study only included follow-up at 3-months, it would be of interest to examine the long-term influence of a KT-informed evaluation one to two years after the evaluation. Intentional KT activities were focused on the individuals and team. Future work is required that includes activities targeted at
building KT capacity of the organization. Finally, additional studies should consider the influence of a KT-informed evaluation on patient outcomes.

**Conclusion**

This study provides the first known exploration of the role of evaluation as a mechanism of IKT. The purpose of IKT is to engage individuals in the synthesis, dissemination, exchange and ethically sound application of knowledge, and the results of this study demonstrate that a collaborative evaluative approach promote this interest in a potentially powerful way. Evaluation is a fundamental component in building quality primary care and is ideally situated to support individual, team and organizational learning by offering an accessible form of participatory inquiry.

This research identified a number of strategies, structures and approaches that supported knowledge translation throughout the evaluation. The following recommendations are offered to individuals or organizations considering employing evaluation as a mechanism of IKT.

1. A participatory approach is a basis requirement for any KT-informed evaluation. Engagement of stakeholders should be as deep as is feasible within the program’s context in order to support learning and knowledge translation.

2. A KT-informed evaluation requires the evaluator to have sustained and deep interaction with the program. Doing so provides an understanding of (a) the program and its processes, (b) the types of knowledge that is valued and used, (c) the format in which knowledge is best received, (d) team interactions, (e) organizational culture.

3. The evaluator must capitalize on the knowledge-brokering role of the community stakeholders, providing them with opportunities and structures to both bring knowledge into the program, and share program knowledge with the broader community.
4. The evaluator needs to commit to gaining a strong understanding of the empirical literature that grounds the program. Not only does this provide credibility, but provides the foundation to ensure that relevant and contextual empirical evidence is woven throughout the evaluation.

5. The evaluator needs to gain an understanding of the broader knowledge networks that can inform the program. Many knowledge networks function as online communities and therefore the ability to navigate and critique online resources is required.

6. Because the goal of a KT-informed evaluation is to support ongoing refinements to practice there needs to be frequent and ongoing communication of both emerging evaluation results and relevant empirical evidence and resources. The evaluator must be sensitive to the frequency of communication, so as not to overwhelm the program.

7. Within a primary care setting the EMR holds potential as a tool to communicate emerging evaluation results and integrated empirical evidence to the team and organization. It is recommended that the EMR be used as much as feasible to support the KT-informed evaluation.

8. The evaluator needs to build in opportunities for the program to engage in conversation around emerging evaluation results and actively support knowledge exchange. For example, regular meetings that focus on meaningful program data and attend specifically to patient feedback and data will likely enhance the integration of this knowledge into practice.

9. The evaluator must be intentional in building the capacity of individuals, the team and the organization. The Evaluation Capacity Building literature is an important resource that can help guide capacity building in KT-informed evaluations. Findings from this research
show that activities must targeted both the individual and organization to ensure the KT-informed evaluation exerts an influence at each of these levels.
References


http://www.implementationscience.com/content/6/1/83.


Chapter 8: Implications and Future Directions

Countless articles, including this research, have begun by providing staggering statistics about the long lag times between research and its integration into practice or by describing the gaps between what is practiced by clinicians and what is ‘known’ (Grimshaw, Eccles, Lavis, Hill & Squires, 2012; Bowen & Graham, 2013). It is not without irony that researchers are driving this burgeoning field of knowledge translation; billions of dollars of research funds worldwide have been dedicated to KT, over two-dozen medical journals contain the word ‘translational’ in their title, and there are thousands of published research articles on this topic (Greenhalgh & Wieringa, 2011).

The field of knowledge translation (KT) aims to close the research-practice gap through the development and implementation of KT strategies, which include a variety of professional, financial, organizational, and regulatory interventions aimed at changing healthcare professional behaviour (i.e., change decision making, change treatment, and management) to be aligned with evidence-based recommendations (Scott et al., 2012).

As Scott and colleagues (2012) articulate, the onus is fundamentally on health professionals (or end users) to respond to interventions and strategies implemented by researchers to translate knowledge to practice. Knowledge, that within health services, equates to randomized controlled trials (RCTs), systematic reviews or meta-analyses driven by researchers. So as long as research fails to be incorporated into practice, researchers will continue to add to the growing body of research to understand why this is so. This study reinforces what has been consistently presented in the literature; namely, that health professionals seek contextually relevant, program and patient specific knowledge from colleagues (Beaulieu et al., 2008; Gabbay & Le May, 2011). Greenhalgh and Wieringa (2011) have observed that, “The ‘translation’ metaphor has, arguably,
led to particular difficulties in the fields of ‘evidence-based management’ and ‘evidence-based policymaking’ – where it seems that knowledge obstinately refuses to be driven unproblematically into practice” (p. 501).

The impetus for this research was to examine a broader form of inquiry and explore the influence of contextual program knowledge at the level of the individual, team and organization. This is the first known study to examine the role of evaluation as a mechanism for integrated knowledge translation (IKT), and with the growing emphasis on knowledge exchange this study challenges KT researchers not only to broaden their conceptualization of knowledge, but also the notion of IKT. The findings of my research have a number of implications on (a) how IKT is understood and enacted, and (b) program evaluation and the evaluators that conduct them.

Methodology: Strengths and Limitations

My overall approach to this research was case study methodology and was informed by case study methodologists Robert Yin (2010) and Robert Stake (1995). Robert Yin (2010) was influential in the overall design, conceptualization of the cases and implementation of the studies. Stake’s (1995) work offered insights in the cross case analysis of multiple case studies in Manuscript one. The goal of Phase one was to obtain an understanding of the contextual features of an interprofessional primary care setting. In this regard a multiple case study design was an effective approach and grounded my evaluation in Phase two of this research. The single case study design used in Manuscripts two and three provided me an opportunity to explore deeply, the implementation of a novel KT-informed evaluation. This approach was congruent with the writings of Trisha Greenhalgh who suggests case study methodology as an approach in understanding how interactions might be facilitated and supported within the knowledge exchange process (Greenhalgh, 2010; Greenhalgh & Wierinha, 2011). It is anticipated the
inclusion of additional cases in Manuscripts two and three would have created more robust results; however, given the resources and time available, this was not feasible.

The case study design offered me a rich understanding of how evaluation can be a mechanism for IKT, however the results cannot be generalized. While this is not the purpose of case study research, it encourages future studies to consider designs whose results would be generalizable to a broader audience. For example, an intervention design, such as cluster randomized controlled trial, could be used to compare the influence of KT-informed evaluations versus formative evaluations across multiple Family Health Teams. Such a study requires significant resources, but would provide a design that holds significant authority within the health care research community (Grimshaw, et al., 2012).

Data collection methods involved one-on-one interviews and questionnaires to obtain the perspective of individual participants. In both studies interview templates were developed and informed by the relevant literature and frameworks. Interview templates in Manuscript one drew on the literature related to interprofessional collaboration (Belle Brown et al., 2010; Sargeant, Loney, & Murphy, 2008). Manuscripts two and three drew on both KT (Dobbins et al, 2009; Davison, 2009) and evaluation use literature (Henry & Mark, 2003; Mark & Henry, 2004). Interviews were semi-structured and offered me an opportunity for further probing, with questions that were consistent across participants and linked to the propositions of each case study. This served to enhance the trustworthiness of the data, but this approach may have unintentionally focused the participants’ responses and not provided an opportunity for them to fully describe their experiences as a professional working on an interprofessional team, or participating in a KT-informed evaluation.

Both studies took place within the context of an interprofessional primary care setting and the use of focus groups could have provided an opportunity for the team to engage in a dialogue
that could have offered insights into how the evaluation influenced team interactions and experiences. Focus groups have been considered to offer a more natural environment to enable people to interact than interviews and can be used to facilitate a shared understanding of a phenomenon (Kreuger & Casey, 2000).

There are relatively few methodological papers on case study design and those that are published largely refer to the work of Yin (2009) and Stake (1995) (Baxter & Jack, 2008; Salminen, Harra, & Lautama, 2006). In particular, there is sparse description and writing on case study analysis. Yin (2009) opens the chapter on Analyzing Case Study Evidence by stating “The analysis of case study evidence is one of the least developed and most difficult aspects of doing case studies” (p. 127). Stake (1995) offers this opening to his chapter on Analysis and Interpretation “There is no particular moment when data analysis begin. Analysis is a matter of giving meaning to first impressions as well as to final compilations. Analysis essentially means taking something apart” (p. 71). So while the benefit of case study research is the wide range of data sources and approaches the challenge to me lay in the analysis and integration of vast amounts of data (Yin, 2009).

Pattern matching was the approach used for the data analysis in this research, with a priori propositions developed to guide the analysis of multiple data sources (Yin, 2010). This approach was inherently deductive in nature and provided me with a strategy to frame the data and link this to the framework of the study. A more inductive approach, as suggested by Stake (1995) may have provided the opportunity to consider other emerging themes.

Another factor in the design that influenced the analysis was the small number of participants in Manuscripts two and three. As a result descriptive statistics, such as correlations among questionnaires, had little value. This additional level of analysis could have offered further interpretation as to the influence of evaluation as a mechanism of IKT.
The conceptual framework, The Pathways of Influence (Mark & Henry, 2003) guided the research and was chosen for a number of reasons. The pathways approach provided the ability to examine different kinds of consequences of the evaluation, including both cognitive and behavioural as well as changes in interactions, structures and organizational processes. The KT literature has encouraged a greater focus on organizational structures and the Pathways of Influence (Mark & Henry, 2003) offered an explicit focus on the level of the collective, which many KT frameworks do not (Graham et al., 2006). In addition, the Pathways of Influence (Henry & Mark, 2003; Mary & Henry, 2004) framework included the dimension of time and the results of this study suggest that the influence of an evaluation designed to support KT continues beyond the conclusion of the evaluation.

What the Pathways of Influence (Henry & Mark, 2003; Mary & Henry, 2004) offers to our understanding of iKT is the ability to consider how specific KT processes might be involved in the influence pathways. Doing so enables a more fine-grained analysis into how and why certain elements of participatory inquiry may exert an influence on health practices and patient outcomes. What the Pathways of Influence does not offer is a more complete conceptual model of iKT including the contextual factors, and an explicit consideration of the types and nature of knowledge. Lapaige’s (2010) framework of IKT in the context of global health includes such dimensions and more explicitly outlines potential relationships and interactions. This research contributes to our understanding of IKT and moves the field a step closer to a conceptual framework of iKT.

**Implications to Integrated Knowledge Translation**

The results of this study provide an opportunity to reflect on the definition of IKT and examine three foundational elements of IKT: research, integration, and collaborative inquiry. Each in itself is a complex phenomenon and it is beyond the scope of this final chapter to conduct
a comprehensive analysis, however this reflection will lay the groundwork for future research and support a broader understanding of IKT.

In integrated KT, stakeholders or potential research knowledge users are engaged in the entire research process. By doing integrated KT, researchers and research users work together to shape the research process by collaborating to determine the research questions, deciding on the methodology, being involved in data collection and tools development, interpreting the findings, and helping disseminate the research results. This approach, also known by such terms as collaborative research, action-oriented research, and co-production of knowledge, should produce research findings that are more likely be relevant to and used by the end users. (Canadian Institutes for Health Research, 2013)

**IKT: Research**

As currently defined, IKT is ultimately about conducting and disseminating research. The consequence of such a narrow focus on research is to ignore other potentially more feasible, and clinically embedded forms of inquiry that inform health care; for example evaluation (Yarbrough, Shulha, Hopson & Caruthers, 2011) and continuous quality improvement (Tricco et al., 2012). This research provides evidence that program evaluation not only engages knowledge users in the co-creation of contextually relevant program knowledge but also supports the use of this knowledge to shape health care practice.

One of the most intriguing findings of this research was the view individual practitioners held towards research. At the start of the study I had proposed that engaging in a KT-informed evaluation would create positive attitudes towards research. A significant finding however was that even though the team engaged in evaluative inquiry, received weekly newsletters containing program and patient specific research and attended a research conference where they presented a
‘scientific’ poster, team members maintained a stable belief that research was largely separate from their work and inaccessible. In fact, I might suggest that clinicians actively distanced themselves from the notion of using ‘research’, even as they themselves were actively engaged in collaborative inquiry around the application of emerging ideas in their field of practice.

Given the single case study design, it is difficult to know if these results would be replicated at another FHT. Findings in this study however support previous research findings that primary care clinicians rarely use formalized, explicit sources of research knowledge (i.e. clinical practice guidelines) in day-to-day patient interactions (Gabbay & le May, 2011). Because of the contextual nature of program evaluation members of the Memory Clinic were invested in the evaluation process, and felt connected to the results of their inquiry, which in turn provided a sense of legitimacy to the knowledge that they created for their own use.

This study suggests that if IKT is truly about enhancing knowledge use through collaborative inquiry, the research and KT community must expand their view not just about knowledge, but about how knowledge is created. If not, the old adage “keep doing what you are doing and you will continue to get what you are getting” will hold true.

**IKT: Integration**

Exploring the concept of integration can provide further insights into IKT and the role of evaluation. In IKT the researcher is described as “engaging and integrating those who will need to act on the findings, the knowledge users, into the research process” (Parry, Salsberg & Macaulay, 2009). From this perspective knowledge users are integrated into the research process. Relatively minimal attention has been paid to this ‘integration’ process in the literature, and what is available has focused on facilitating knowledge users into the research process (CIHR, 2013; Bowen & Graham, 2013).
This study however presents an alternative perspective to integration. As an evaluator of a KT-informed evaluation I sought to integrate myself into the Memory Clinic. Given that this study was being conducted within a new model of interprofessional primary care and, as the evaluator, I would be a new team member, it was of particular importance to understand the elements that supported the integration of new team members. The first phase of my research sought to understand the integration of occupational therapy into primary care teams. Trust, communication, understanding of roles and an intentional focus on collaboration were critical features found to facilitate integration. The results of this research informed the integration of myself as the evaluator, and the integration of evaluative inquiry into the Memory Clinic over the course of the eight-month evaluation.

As a member of the Memory Clinic team, I received all communications regarding the Memory Clinic, attended the monthly Memory Clinics and program meetings and was invited to learning events associated with the Memory Clinic. As a member of the team, the evaluator role was seen as a unique professional contribution, just as the occupational therapist, physician or nurse. In essence, I was engaged in what Huberman (1999) has described as sustained interactivity, the ongoing interaction between researcher/evaluator and practitioner.

Sustained interactivity had a number of consequences. First, the mystique and maybe even fear of evaluation was removed, as evaluation became a routine part of the Memory Clinic. With the routine came an openness to discuss emerging evaluation results and refine clinical practices. As an evaluator I had a better understanding of the program’s knowledge needs and was able to integrate empirical research that was responsive to emerging program questions and evaluation findings. In my dual role as a researcher I gained incredible insight into knowledge translation and what this looks like up close and over time. Being situated in a community practice, I saw KT happening outside of the academe, and with few formal supports.
The implications of this research to the understanding of IKT are multiple. First, my work underscores that evaluation and other forms of situated inquiry (i.e. continuous quality improvement) naturally lend themselves to a deep level of interaction with the programs where knowledge will be applied. Second, reframing who is being integrated into what can fundamentally change the dynamic of KT. Third, this research suggests that knowledge translation might best be viewed on a continuum based on the level of integration of researchers/evaluators (traditional producers of knowledge) (see Figure 8). On one end of the continuum is Embedded KT, the deepest level of integration, where producers of knowledge are deeply embedded within the context of inquiry. Integrated KT sits in the middle of the continuum, where knowledge users are integrated into the program or project being led by researchers/evaluators. End-of-grant KT sits on the other end of the continuum, where knowledge producers have an understanding of context but superficial connection to knowledge users. It is anticipated that the type and nature of inquiry would influence the type of KT that knowledge producers are engaged in. For example evaluation would be more aligned with Embedded and Integrated KT and basic discovery research would be aligned with End of Grant KT.

Figure 8: Knowledge Translation Continuum

IKT: Collaborative Inquiry

The literature has increasingly emphasized the need to use participatory approaches to support knowledge exchange (Bowen & Graham, 2013; Greenhalgh, 2011; Greenhalgh & Wieringa, 2010).
However no research was found that identified or described elements of participatory approaches that were most effective in supporting knowledge translation. As I used a number of activities and strategies to support knowledge translation in this research, I turned to a range of diverse sources to inform their nature and implementation. In part, I drew on the knowledge brokering literature to identify the type of activities (i.e. locating and summarizing research evidence). The literature on interprofessional collaboration and the results of Phase one also provided an understanding of the context of interprofessional primary care and mechanisms to help integrate activities into the team. Finally, the evaluation literature, particularly the work on evaluation capacity building (ECB) (Stockdill, Baizerman & Compton, 2002), offered examples of activities to facilitate ECB. While these were not specific to KT, they provided important insights and perspectives.

Given the dearth of information in the literature, my own experiences designing a KT-informed evaluation, and the findings of this research, I assert that it is not enough to simply state IKT is a form of participatory research. It is important to document and describe the activities used during participatory inquiry to begin to understand which activities, under what conditions are most effective in supporting KT. This research provides a starting point for this work. Like many broad KT strategies, (i.e., audit and feedback, knowledge brokering), participatory research is an approach to inquiry that will naturally encompass specific activities and strategies that support the use of its processes and results. There is momentum within the KT field to develop frameworks to encourage researchers and knowledge users to articulate the exact elements used within broad KT interventions (H. Colquhoun, personal communication, March, 2013). Doing so will help unpack the black box of participatory research and help articulate what falls under the cluster of participatory approaches currently described as IKT.
Two reviews of participatory research articulate this issue. Viswanathan and colleagues (2004) outline the elements and best practices for community-based participatory research. Two core characteristics were identified: “(1) the reciprocal co-learner relationship between the researcher and researched and (2) the immediate and direct benefit of using new knowledge for taking collective action and effecting social change” (p. 25). These refer to the output of CBPE and nowhere in the review are the activities or methods used to develop relationships, build capacity or exert social change that is described. In a recent review to determine the benefits of participatory research, Jogosh and colleagues (2012) acknowledge that it has been difficult to assess outcomes related to CBPR because the actual mechanisms of change are rarely addressed.

While Huberman (1999) reported the benefits of sustained interactivity to knowledge utilization, he also found what researchers did or did not do during those interactions was also found to be of substantial influence on the use of research.

The definition of IKT likens this to a variety of participatory research approaches (CIHR, 2013). However, I suggest that IKT is not simply a form of participatory research; where researchers and end users jointly develop and conduct research to contribute to gaps in theory or areas of knowledge. Instead, what differentiates IKT from participatory research is a collaborative approach to inquiry whose primary focus is on supporting knowledge exchange to improve the delivery of health care. In other words, IKT is focused on translating explicit knowledge into practice and not the generation of social theory. Contribution to theory development may in fact occur, but this is not the primary focus. I would emphasize that IKT not only includes specific activities to engage individuals in a collaborative process of inquiry, but also intentional activities to introduce additional sources and networks of explicit knowledge, and promote dialogue to facilitate the construction of shared meaning.
Based on this research I would also assert that not all collaborative inquiry is IKT and there are features unique to IKT. A recent publication within the evaluation literature has sought to develop a common set of principles for collaborative inquiry; with collaborative evaluation as an “umbrella term” (p. 14) that encompasses a range of approaches that involve “evaluators in leadership positions working with stakeholders to produce evaluative knowledge” (Cousins, Whitmore & Shulha, 2013, p. 13). Bringing a number of approaches under one collective provides an opportunity to examine the essential features of collaborative evaluation. Moving forward, the field of KT could draw on the work being done within evaluation and begin to conceptualize IKT, (or embedded KT) as a cluster of collaborative approaches bounded by common features, activities and philosophies. In this way, IKT would be a more inclusive concept and value broader forms of inquiry and knowledge exchange.

**Benefits and Challenges of IKT**

I have alluded to the benefits of IKT when describing the consequences of sustained interactivity however these were focused at the level of the evaluator-practitioner. There is also potential benefit from an organizational standpoint, which has received less attention. While this research did not identify any specific organizational level changes, examples from the literature offer insights. In a review of the benefits of participatory research Jagosh and colleagues (2012) highlighted the enhanced capacity of organizations to establish new connections and relationships with other agencies as well as engage in new projects and activities. Within evaluation, the research has found that evaluation capacity building influences organizational policies and practices as well as supports the mainstreaming of evaluation (Labin, Duffy, Meyer, Wandersman & Lesesne, 2012). These results suggest the potential of an IKT approach to both influence organizational policies, and mainstream KT within the organization.
It would paint an incomplete picture not to acknowledge some of the challenges that I experienced in ‘doing IKT’ and others that have been highlighted in the literature. While I was embedded in the Memory Clinic, I continued to remain within a University system, with its own very different values, incentives and commitments. Because this was a time-limited project, this did not become an issue, but for researcher/evaluators with an academic portfolio it could be challenging to function between two very different cultures. It has been acknowledged that IKT takes time to build trust and relationships and to learn the implicit and explicit communication structures and norms (Parry et al., 2009). I experienced this, and once established I also realized that relationships need ongoing efforts to be maintained. The third challenge is the potential power differences between researcher/evaluators and practitioners (knowledge users) and potential for those in positions of privilege to inadvertently abuse this power (Cousins & Simon, 1996; Parry et al, 2009; Greenhalgh and Wienigra, 2011). Parry and colleagues (2009) outline structures and processes that can be implemented to facilitate the development of equitable collaborations; however, it is something that at all times needs to be considered. As the dimensions of IKT continue to be fleshed out there no doubt will be further critique and exploration of the nuances of this approach.

**Implications for Evaluation**

This research has a number of implications for the field of evaluation. The Program Evaluation Standards offer “an integrated guide for evaluating programs” (Yarbrough et al., 2011, p. xii) and were designed to apply to a wide range of settings from health care to universities to government organizations. As a result of their broad reach, the implications of this research will be explored through the lens of these standards (Yarborough et al., 2011).
Utility Attribute

Manuscript two and three introduced a novel approach to evaluation and conceptualized evaluation as a mechanism of IKT. Just as this research encourages the field of knowledge translation to expand their thinking on mechanisms of knowledge translation, this study also encourages a broader conceptualization of evaluation use. A KT-informed evaluation is ultimately concerned with utility and this research can inform the Utility Standards by offering an expanded set of purposes and contexts wherein evaluators can apply their repertoire of skills and thus intentionally employ evaluation as a mechanism of IKT. Table 12 attends to each of the Utility Standards and offers additional recommendations to consider when implementing a KT-informed evaluation.

Table 12

Utility Attribute: Additional Recommendations for KT-Informed Evaluation

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<tr>
<th>Program Evaluation: Utility Standards</th>
<th>Additional Recommendations for the implementation of KT-Informed Evaluation</th>
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<tbody>
<tr>
<td>U1: Evaluator Credibility</td>
<td>• Stay current with the empirical evidence that informs the program.</td>
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<td></td>
<td>• Become aware of research networks/communities that can support the program.</td>
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<tr>
<td>U2: Attention to Stakeholders</td>
<td>• Create conditions and opportunities for stakeholders to share resources, empirical evidence, community programming that can further inform the program and the emerging evaluation findings.</td>
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<td>U3: Negotiated Purposes</td>
<td>• Be explicit in articulating one of the purposes of the evaluation is to support knowledge translation.</td>
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<td>• Help stakeholders develop ways to talk about evaluation and develop with stakeholders a shared understanding of the language associated with knowledge translation.</td>
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<tr>
<td>U4: Explicit Values</td>
<td>• Learn what knowledge and knowledge translation activities stakeholders’ value, how strongly these values are held and the degree to which they are congruent with organizational values.</td>
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<tr>
<td></td>
<td>• Reflect on the implications of specific, strongly held values of knowledge and KT activities.</td>
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### Feasibility Attribute

The Feasibility Attribute attends to the “factors affecting evaluation feasibility” (Yarborough et al., 2011, p. xxvii). The attribute became relevant to this discussion due to the duration and intensity of my involvement in the KT-informed evaluation. A number of intentional activities were used to support knowledge translation. I attended to empirical evidence, knowledge networks, and local community events while continuously supporting ongoing evaluation activities. Not only did these responsibilities require significant time to implement but the professional background to identify appropriate resources and the skills to access the appropriate scientific journals and synthesize and summarize key ideas. In other contexts, these activities may not be possible to implement for a host of reasons. While

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<td><strong>U5: Relevant Information</strong></td>
<td>- Respect all forms of knowledge (tacit and explicit) stakeholders contribute. - Ensure empirical evidence attends to the context and needs of the program. - Retain responsibility for the usefulness of sources of knowledge.</td>
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<tr>
<td><strong>U6: Meaningful Processes and Products</strong></td>
<td>- Evaluators who make the effort to learn about how various stakeholders view knowledge and the barriers to KT will be better positioned to build meaningful processes. - Adapt KT processes to address diverse stakeholders needs. - Regularly revisit stakeholders’ KT needs and expectations.</td>
</tr>
<tr>
<td><strong>U7: Timely and Appropriate Communicating and Reporting</strong></td>
<td>- When possible embed KT activities into existing program structures through such mechanisms as meeting agendas and websites. - Develop a KT plan for translating the evaluation results within the broader community.</td>
</tr>
<tr>
<td><strong>U8: Concern for Consequences and Influence</strong></td>
<td>- Assess formally and informally the consequences of KT activities. - Be aware of KT strategies that are known to support long term changes in health practices and patient outcomes.</td>
</tr>
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</table>
evaluators must balance time and financial resources within the context of the program, additional research is required to determine ‘what’ and ‘how much’ is in fact required to support KT during evaluation.

**Implications for Evaluators**

There remains a widespread belief that the key to effective evaluator practice is the application of strong methodological skills, and that these skills can be equally and aptly applied to a range of contexts, program and fields of practice. This view is evident in the discussion regarding evaluator competencies (King, Stevahn, Ghere & Minnema, 2001; Stevahn, King, Ghere & Minnema, 2005). The Canadian Society for Evaluation has expanded on this notion in requiring the demonstration of five broad evaluator competencies in order to receive a designation of evaluator. These competencies are reflective practice, technical practice, situational practice, management and interpersonal practice competencies (Canadian Society for Evaluation (CSE), 2013). It is particularly relevant to note that there is little if any discussion about the need for evaluators to have current content knowledge related to the evaluand or its context (CSE, 2013).

The introduction of a KT-informed evaluation has potentially significant implication for evaluators. Most importantly, evaluators will need to have content knowledge about the program in order to integrate relevant external evidence, connect programs to knowledge networks and conduct activities to build the KT capacity of organizations.

Within the field of evaluation there are both theorists and practitioners who believe that evaluators must maintain a detached orientation, and that evaluation is inherently about making judgments about a program’s merit, worth and significance (Alkin, 2004). In a KT-informed evaluation, evaluators need to be deeply embedded in the process as I was in this study (see Figure 8 above).
In a KT-informed evaluation, evaluators will adopt a knowledge-brokering role. Along with content knowledge, evaluators will be required to have skills to respond to the knowledge needs of the program and organization, identifying, summarizing and communicating relevant external evidence. This evidence may not necessarily be limited to published empirical research. Relevant evidence might include forms of clinicians’ explicit and implicit knowledge that when examined, might inform the program, the evaluation process and results. In this research, I also included articles from newspapers, interviews and blog postings, each item linking to an event within the program and scrutinized for rigor and relevancy. As a knowledge broker, the evaluator is also required to be aware of the potential connections between the programs and organizations to relevant knowledge and research networks. These connections will create two-way relationships; programs would gain external knowledge, but also have the opportunity to translate program knowledge outward.

It will be important to continue developing an understanding of the roles and competencies required of an evaluator conducting KT-informed evaluations. Davison (2009) has identified a list of evaluation indicators to support the evaluation of KT interventions and has classified these under two broad principles of knowledge translation: interaction and knowledge use. These indicators can also serve to identify activities, roles and strategies that an evaluator might employ in a KT-informed evaluation.

There can be many potential benefits for the evaluator who adopts a KT-informed evaluation. In an environment where there is heightened interest in the translation of knowledge, explicitly attending to KT can broaden the evaluators influence and relevance. By attending to KT, evaluators can more explicitly draw on the growing research in KT to further support evaluation practices. Adopting a KT-informed approach to evaluation can also serve as a catalyst to build further skills and knowledge to foster use.
Table 13

*KT Informed Evaluation Activities, Roles and Strategies*

**Interaction**

- Develop communication channels, processes and context between knowledge translation actors
- Support working relationships among stakeholders
- Develop ongoing forum for sharing among stakeholders
- Develop opportunities for collaboration
- Create a shared vocabulary among stakeholders
- Ensure that knowledge is relevant to and understood by the target audiences
- Take on brokerage role among stakeholders
- Be engaged as co-researcher

**Knowledge Use - Application**

- Inform policy or agenda setting
- Inform decision making in relation to individuals or in relation to police and practice within systems and institutions
- Change behavior, awareness, communication or interaction patterns
- Create and support interventions

Adapted from Davison (2009, p. 82-83)

While there are clear benefits, there are evaluators who may feel that adopting a KT-informed lens is beyond the scope of an evaluator’s role. Others may feel that evaluators who are deeply embedded in a program will become more aligned with organizational development than evaluation. For those evaluators who do not have direct access to large libraries (i.e., government and university libraries) it may be difficult and expensive to gain quick and easy access to external evidence. Given the ongoing focus on knowledge translation, evaluators will need to consider their role in relation to KT and begin to consider the contribution and role of evaluation.

**Policy implications**

There have been a number of recent provincial initiatives and policy documents within the province of Ontario, Canada that creates a context that is ideally situated to receive and
potentially implement recommendations from this research. The provincial government recently published Ontario’s Action for Health Care (Ontario, 2012), a policy document that provides a blueprint for provincial health care. Two elements within this report have direct relevance for my research. First, primary care was described as the “natural anchor for patients in our health care system” (p. 8). The current provincial focus on primary care will naturally sensitize decision makers to primary care research, and highlight the importance of embedding KT in this point of the health care system. Second, the provincial goal to “expand our focus on quality improvement to family health care, and ensure that all family health care providers are equipped to integrate the latest evidence-based care into their practice” (p. 9). There is a clear emphasis on closing the knowledge to practice gap and this study is timely in its ability to offer insights into strategies to support this goal.

In conjunction with this policy document, Health Quality Ontario (HQO), an arms-length organization of the Ministry of Health and Long Term Care was established in 2012 following the amalgamation of five other agencies. The mandate of HQO is to “evaluate the effectiveness of new health care technologies and services, report to the public on the quality of the health care system, support quality improvement activities and make evidence-based recommendations on health care funding” (Health Quality Ontario, 2012).

In keeping with the goal of Action for Change and in line with the mandate of HQO, as of April 2013, every FHT and Community Health Centre is now required to submit a yearly Quality Improvement Plan. These Quality Improvement Plans are designed to support continuous quality improvement within primary care. No plans have been articulated as to the Quality Improvement Plan review process, or how the plans will explicitly be used to support evidence-based practice.

My work suggests that not only can a KT-informed evaluation provide program specific knowledge to support ongoing professional learning and program improvements, but also
strategies and activities can be intentionally included to support learning. As a form of embedded inquiry, Ontario’s Quality Improvement Plans can gain insights from the KT-informed evaluation processes. Specifically, applying an IKT orientation would: (a) include activities to promote individual and organizational learning so Quality Improvement Plans do not simply become a yearly administrative exercise, (b) ensure the continuous quality improvement process is collaborative in nature and inclusive of interprofessional perspectives, (c) embed opportunities for discussion and reflection so teams can make meaning of the data, and (d) use the Quality Improvements Plans to identify relevant research and knowledge networks to further support learning. This study also suggests there is a need to either intentionally build capacity of individuals, teams and organizations to facilitate continuous quality improvement within primary care, or to provide financial or human resources to support the ongoing learning and improvement process.

**Personal Implications**

On a personal note, this research has also had significant implications. The foundations for my research began long before I began this dissertation and the term knowledge translation became mainstream. As a research graduate from a Master’s program, I worked as a Clinical Research Associate with a Spinal Cord Program at large Rehabilitation Centre. While much of my time focused on conducting grant driven research, a portion was dedicated to working with rehabilitation clinicians to articulate and develop research to inform specific clinical questions. I did not have a name for this, but looking back, I realize I was, to some extent, engaging in what I now refer to as IKT. This experience was formative and has naturally aligned me with a constructivist lens. As I complete my dissertation and return to my academic position I am struck by the profound influence of my research. Moving forward, I see clearly that my research will be
integrated with, and if possible, embedded into practice. The richness of perspective and the complexities of context will deepen the quality and meaning of my work and experiences.

**Future Research**

This study is the first known description of a KT-informed evaluation and lays the foundation for a number of future studies.

1. Three KT strategies were described within manuscript two; e-newsletter, meetings and evaluator presence. Further research is needed to examine other strategies that can be used to influence knowledge translation during evaluation.

2. This study relied on a participatory approach to build knowledge translation capacity. Future studies are encouraged to include specific educational events or workshops to build knowledge translation skills within the team and organization. For example, a workshop on identifying knowledge networks, navigating internet resources, and using the EMR to inform practice.

3. Results of this study suggest that the influence of a KT-informed evaluation continues beyond the conclusion of the evaluation. Follow-up occurred at three-months post evaluation. It would be informative to examine the long-term influence of a KT informed evaluation and include the collection of data at six-months, one year and two years following the completion of the evaluation.

4. This study lends further support to the importance of social interactions in the creation and translation of knowledge in primary care. It was beyond the scope of this current research, however the use of social network analysis could be a useful tool in which to examine the pathways of influence.

5. This study did not include patients or families on the Evaluation Committee, despite the original intention to do so. While the evaluation obtained patient feedback and perspective
through interviews and questionnaires, membership on the Evaluation Committee would likely further enhance the interpretations of both dementia related research and evaluation findings. Study two demonstrated that primary care providers are keenly interested in patient specific knowledge and it would be informative to study the influence of patients and/or caregivers in a KT-informed evaluation.

6. Manuscript 2 highlighted the important role community stakeholders can play in a KT-informed evaluation. The community stakeholder not only brought (a) knowledge about dementia, (b) local community programs, and (c) agency initiatives to the program, but facilitated the translation of the programs knowledge to the local community. In this way the community stakeholder functioned as an intermediary and highlights the importance of attending to the knowledge-brokering role of stakeholders. Further research is needed to examine more explicitly the role of community stakeholders in supporting KT and to better understand how to capitalize on community stakeholders as KT intermediaries.

**Conclusion**

This research is the first known exploration of its kind and encourages more expansive thinking about the purposes for and mechanisms of knowledge translation. This study suggests that adding knowledge translation to the repertoire of evaluation purposes is a natural extension of the field. The evaluation community has a longstanding interest in the use of systematic evaluative inquiry processes and products. Given that the purpose of knowledge translation is to engage individuals in the synthesis, dissemination, exchange and ethically sound application of knowledge, collaborative evaluative approaches appear to promote this interest in a potentially powerful way.
References


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http://www.implementationscience.com/content/7/1/50


QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD-DELEGATED REVIEW
February 01, 2012

Ms. Catherine Donnelly School of Rehabilitation Therapy Queen's University

Dear Ms. Donnelly

Study Title: REH-508-11 The Emerging Role of Occupational Therapy within Family Health Teams File # 6006519 Co-Investigators: Dr. L. Letts, Ms. C. Brenchely, Ms. C. Crawford

I am writing to acknowledge receipt of your recent ethics submission. We have examined the protocol, document analysis forms, data collection forms, interview scripts, summary table: methods, data collection and data collection form, revised introductory letter, revised OT consent form, revised physician lead consent form, revised ED FHT consent form, revised FHT member consent form for your project (as stated above) and consider it to be ethically acceptable. This approval is valid for one year from the date of the Chair's signature below. This approval will be reported to the Research Ethics Board. Please attend carefully to the following listing of ethics requirements you must fulfill over the course of your study:

Reporting of Amendments: If there are any changes to your study (e.g. consent, protocol, study procedures, etc.), you must submit an amendment to the Research Ethics Board for approval. Please use event form: HSREB Multi-Use Amendment/Full Board Renewal Form associated with your post review file # 6006519 in your Researcher Portal (https://eservices.queensu.ca/romeo_researcher/)

Reporting of Serious Adverse Events: Any unexpected serious adverse event occurring locally must be reported within 2 working days or earlier if required by the study sponsor. All other serious adverse events must be reported within 15 days after becoming aware of the information. Serious Adverse Event forms are located with your post-review file 6006519 in your Researcher Portal (https://eservices.queensu.ca/romeo_researcher/)

Reporting of Complaints: Any complaints made by participants or persons acting on behalf of participants must be reported to the Research Ethics Board within 7 days of becoming aware of the complaint. Note: All documents supplied to participants must have the contact information for the Research Ethics Board.

Annual Renewal: Prior to the expiration of your approval (which is one year from the date of the Chair's signature below), you will be reminded to submit your renewal form along with any new changes or amendments you wish to make to your study. If there have been no major changes to your protocol, your approval may be renewed for another year.

Yours sincerely,

[Signature]

Chair, Research Ethics Board
February 01, 2012

Investigators please note that if your trial is registered by the sponsor, you must take responsibility to ensure that the registration information is accurate and complete
QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD

The membership of this Research Ethics Board complies with the membership requirements for Research Ethics Boards and operates in compliance with the Tri-Council Policy Statement, Part C Division 5 of the Food and Drug Regulations, OHRP, and U.S. DHHS Code of Federal Regulations Title 45, Part 46 and carries out its functions in a manner consistent with Good Clinical Practices.

Federalwide Assurance Number: #FWA00004184, #IRB00001173

Current 2012 membership of the Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board: Dr. A.F. Clark, Emeritus Professor, Department of Biochemistry, Faculty of Health Sciences, Queen's University (Chair) Dr. H. Abdollah, Professor, Department of Medicine, Queen's University Dr. R. Brison, Professor, Department of Emergency Medicine, Queen's University Dr. M. Evans, Community Member

Dr. S. Horgan, Manager, Program Evaluation & Health Services Development, Geriatric Psychiatry Service, Providence Care, Mental Health Services, Assistant Professor, Department of Psychiatry Ms. J. Hudacin, Community Member

Ms. D. Morales, Community Member Ms. P. Newman, Pharmacist, Clinical Care Specialist and Clinical Lead, Quality and Safety, Pharmacy Services, Kingston General Hospital

Dr. W. Racz, Emeritus Professor, Department of Pharmacology & Toxicology, Queen's University

Ms. S. Rohland, Privacy Officer, ICES-Queen's Health Services Research Facility, Research Associate, Division of Cancer Care and Epidemiology, Queen's Cancer Research Institute Dr. B. Simchison, Assistant Professor, Department of Anesthesiology, Queen's University Dr. A.N. Singh, WHO Professor in Psychosomatic Medicine and Psychopharmacology

Professor of Psychiatry and Pharmacology, Chair and Head, Division of Psychopharmacology, Queen's University, Director & Chief of Psychiatry, Academic Unit, Quinte Health Care, Belleville General Hospital Dr. E. Tsai, Associate Professor, Department of Paediatrics and Office of Bioethics, Queen's University
Appendix B: Ethics Approval Manuscript 1 and 2

QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD-DELEGATED REVIEW

April 04, 2012

Ms. Catherine Donnelly School of Rehabilitation Therapy Louise D.
Acton Building Queen’s University

Dear Ms. Donnelly

Study Title: REH-517-12 Evaluative Enquiry as a Mechanism for Integrated Knowledge Translation File # 6006766 Co-Investigators: Dr. D.A. Klinger, Dr. L. Letts, Dr. L. Shulha

I am writing to acknowledge receipt of your recent ethics submission. We have examined the protocol, overview of data collection tools, Memory Clinic Knowledge Questionnaire, Professional Roles Questionnaire, Interview Script – Evaluation Committee, Interview Script Memory Clinic Evaluation Team, Chart Review Form, ORID Framework for Evaluation Log, Interview Script – ED and Physician Lead, Information Letter, Consent Form – Lead Physician, Consent Form – Executive Director, Consent Form – Memory Clinic Evaluation Committee – (Non-Clinical Member) and Consent Form – Memory Clinical Evaluation Committee (Clinical Member) for your project (as stated above) and consider it to be ethically acceptable. This approval is valid for one year from the date of the Chair's signature below. This approval will be reported to the Research Ethics Board. Please attend carefully to the following listing of ethics requirements you must fulfill over the course of your study:

Reporting of Amendments: If there are any changes to your study (e.g. consent, protocol, study procedures, etc.), you must submit an amendment to the Research Ethics Board for approval. Please use event form: HSREB Multi-Use Amendment/Full Board Renewal Form associated with your post review file # 6006766 in your Researcher Portal (https://eservices.queensu.ca/romeo_researcher/)

Reporting of Serious Adverse Events: Any unexpected serious adverse event occurring locally must be reported within 2 working days or earlier if required by the study sponsor. All other serious adverse events must be reported within 15 days after becoming aware of the information. Serious Adverse Event forms are located with your post-review file 6006766 in your Researcher Portal (https://eservices.queensu.ca/romeo_researcher/)

Reporting of Complaints: Any complaints made by participants or persons acting on behalf of participants must be reported to the Research Ethics Board within 7 days of becoming aware of the complaint. Note: All documents supplied to participants must have the contact information for the Research Ethics Board.

Annual Renewal: Prior to the expiration of your approval (which is one year from the date of the Chair’s signature below), you will be reminded to submit your renewal form along with any new changes or amendments you wish to make to your study. If there have been no major changes to your protocol, your approval may be renewed for another year.

Yours sincerely,

[Signature]

Chair, Research Ethics Board
April 04, 2012

Investigators please note that if your trial is registered by the sponsor, you must take
responsible to ensure that the registration information is accurate and complete

QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD

The membership of this Research Ethics Board complies with the membership requirements for Research Ethics Boards and operates in compliance with the Tri-Council Policy Statement; Part C Division 5 of the Food and Drug Regulations, OHRP, and U.S DHHS Code of Federal Regulations Title 45, Part 46 and carries out its functions in a manner consistent with Good Clinical Practices.

Federalwide Assurance Number: #FWA00004184, #IRB00001173

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Dr. S. Horgan, Manager, Program Evaluation & Health Services Development, Geriatric Psychiatry Service, Providence Care, Mental Health Services, Assistant Professor, Department of Psychiatry Ms. J. Hudacin, Community Member

Mr. D. McNaughton, Community Member Ms. P. Newman, Pharmacist, Clinical Care Specialist and Clinical Lead, Quality and Safety, Pharmacy Services, Kingston General Hospital

Dr. W. Racz, Emeritus Professor, Department of Pharmacology & Toxicology, Queen's University

Ms. S. Rohland, Privacy Officer, ICES-Queen's Health Services Research Facility, Research Associate, Division of Cancer Care and Epidemiology, Queen's Cancer Research Institute Dr. B. Simchison, Assistant Professor, Department of Anesthesiology and Perioperative Medicine, Queen's University Dr. A.N. Singh, WHO Professor in Psychosomatic Medicine and Psychopharmacology

Professor of Psychiatry and Pharmacology, Chair and Head, Division of Psychopharmacology, Queen's University, Director & Chief of Psychiatry, Academic Unit, Quinte Health Care, Belleville General Hospital

Dr. E. Tsai, Associate Professor, Department of Paediatrics and Office of Bioethics, Queen's University Dr. E. VanDenKerkhof, Professor, School of Nursing and Department of Anesthesiology and Perioperative Medicine, Queen's University
Appendix C: Evaluation Contract

April 10, 2012

Dear XXX,

This letter is to confirm details of the evaluation of the Memory Clinic at the XX by Catherine Donnelly, of the Assessment and Evaluation Group at the Faculty of Education, Queen’s University.

The program evaluation during the development and early implementation phase of the Memory Clinic will help to:

- Describe the Memory Clinic and its relationship to community resources and programs.
- Describe how care providers and program users experience the early implementation of the Memory Clinic. These descriptions will lead to a summary of perceived strengths and weaknesses in implementation, to be used as feedback for continued program development
- Articulate the characteristics of the users who might best benefit from the Memory Clinic
- Mobilize processes and information that can support further evaluation opportunities
- Understand how the Memory Clinic influences access to other medical services

The outcome of the evaluation will provide an early understanding of the Memory Clinic and develop a framework for a future outcome evaluation. Evaluation reporting will occur throughout the evaluation in the form of formal and informal briefs to the Evaluation Committee. A final evaluation report will be provided to the XX, with information summaries suitable for dissemination to families and patients as well as policy and decision makers. Specifically these summaries will remain sensitive to the requirements of a proposal to conduct a large-scale program evaluation that will examine the Memory Clinic and patient and program outcomes.

This work will require the evaluator to meet with the Memory Clinic Evaluation Committee, Memory Clinic Staff, patients and families. Access to these individuals will be negotiated with the Evaluation Committee. The evaluation will adopt a participatory approach, with decisions about who to include in data collection and analysis and the desired depth of participation of members of the Evaluation Committee to be made as the evaluation unfolds.

The evaluator will require access to program documents that help to describe the program and patient outcomes. This will include data from the patient’s charts and may also include briefing notes, meeting agendas, minutes, program descriptions, links to webpages.

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Based on the implementation timeline of the Memory Clinic the evaluation will run from April 2012 to December, 2012. This contract will cover the period from April 2012 to December 2012. The evaluation is being conducted pro bono as part of the lead evaluators PhD dissertation.

If this is an agreeable way to proceed, please sign and return one copy of this letter to me Rm A224, Faculty of Education, Queen’s University. We look forward to working with you on this project.

Sincerely,

Catherine Donnelly PhD (c)
Principle evaluator
Queen’s University

Lyn Shulha PhD
Director, Assessment and Evaluation Group
Queen’s University

We agree to the terms and conditions outlined above
Appendix D

Occupational Therapy Interview Script

Role
1. How would you describe your primary role in the Family Health Team?
2. How did you establish your role?
3. Describe your client profile.
4. Describe any other roles you would like to take on.
5. What are the barriers/supports to expanding the occupational therapy role?
6. How is your current role similar to other OT roles/positions you have held?
7. What are the supports to OT in FHT?
8. What are the barriers to OT in FHT?
9. Do you feel OT is a good fit within your FHT?
   a. Please describe why or why not.
10. Do you feel OT is a good fit with primary care?
    a. Please describe why or why not.

Physical Space
11. Do you have your own personal office?
    a) If no, where do you work?
12. Do you have an assessment/intervention room or space? Please describe.
13. How are assessment/intervention spaces accessed?
14. Who has priority for space use?

Community Collaborations
15. Describe your interactions and relationships with other occupational therapists outside of
    the Family Health Team?
16. Describe your interactions and relationships with other health professionals outside of the
    Family Health Team?

Collaborative Practice
17. Describe how occupational therapy is integrated within the team.
18. Describe the interprofessional communication in the FHT?
19. What are the opportunities for formal and communication?
20. How do you navigate potential overlap in scopes of practice?
21. Describe any processes or structures that help to support interprofessional (IP) collaborative practice in your FHT.
22. Describe any barriers to IP collaborative practice in your FHT.
23. How is collaborative practice in FHT’s similar or dissimilar to other experiences you may have had working on an IP team?

Processes – Accountability
24. What is the process for making and receiving referrals?
25. Describe your electronic medical records system (EMS)?
26. How do you interact with the EMS?
27. Do you have specific outcomes that you collect?
a. If yes what?
b. If no, what are you considering?
28. Describe the processes/structures you have in place to ensure ongoing continuous improvement?
29. What information should be collected to indicate quality OT care?
30. Is the OT role being evaluated?
   a. If no, do you see a value in this?
   b. What questions you would like to ask?
Appendix E
FHT Team Members
Interview Script

Role
1. Describe your role of the Family Health Team.
2. How did you establish your role?
3. Describe your client profile.
4. How would you describe the OT role on the FHT?
5. Describe the contributions the OT has made to the FHT to date?
6. What was your understanding of OT prior to working with OT?
7. Has this changed since working with an OT? If yes, in what ways?
8. What other roles do you see for OT in the FHT?

Physical Space
9. Do you have your own personal office?
   a) If no, where do you work?
10. Do you have an assessment/intervention room or space? Please describe.
11. How are assessment/intervention spaces accessed?
12. Who has priority for space use?

Community Collaborations
13. Describe your interactions and relationships with other occupational therapists outside of
    the Family Health Team?
14. Describe your interactions and relationships with other health professionals outside of the
    Family Health Team?

Collaborative Practice
15. In what ways do you collaborate with OT?
16. Describe how occupational therapy is integrated within the team.
17. How do you navigate potential overlap in scopes of practice?
18. Describe any processes or structures that help to support interprofessional (IP) collaborative practice in your FHT.
19. Describe any barriers to IP collaborative practice in your FHT.
20. How is collaborative practice in FHT’s similar or dissimilar to other experiences you may have had working on an IP team?

Processes – Accountability
21. What is the process for making and receiving referrals from OT?
22. Describe your electronic medical records system (EMS)?
23. How do you interact with the EMS?
24. Do you have specific outcomes that you collect?
   a) If yes what?
   b) If no, what are you considering?
25. Describe the processes/structures you have in place to ensure ongoing continuous improvement?
26. What information should be collected to indicate quality OT care?
Funding

1. How did you receive funding for the OT?
2. Did the funding received match your request?
   a. b) If no, what percentage of funding did you receive?
   b. c) Do you plan to request additional funding?

Role

3. Describe the OT role you envisioned on the Family Health Team?
4. How is the OT role currently being implemented?
5. How would you describe the OT role on the FHT?
6. Describe the contributions the OT has made to the FHT to date?
7. What was your understanding of OT prior to working with OT?
8. Has this changed since working with an OT? If yes, in what ways?
9. What other roles do you see for OT in the FHT?

Collaborative Practice

10. In what ways do you see the OT collaborating with other FHT members?
11. Describe how occupational therapy is integrated within the team.
12. How do you navigate potential overlap in scopes of practice?
13. Describe any processes or structures that help to support interprofessional (IP) collaborative practice in your FHT.
14. Describe any barriers to IP collaborative practice in your FHT.

Processes- Accountability

15. How do you currently measure the impact of the OT?
16. Do you have specific outcomes that you collect?
   a. If yes what?
   b. If no, what are you considering?
17. Describe the processes/structures you have in place to ensure ongoing continuous improvement?
18. What information should be collected to indicate quality OT care?
Appendix G
Lead Physician
Interview Script

Funding

1. How did you receive funding for the OT?
2. Did the funding received match your request?
   b) If no, what percentage of funding did you receive?
   c) Do you plan to request additional funding?

Role

3. Describe the OT role you envisioned on the Family Health Team?
4. How is the OT role currently being implemented?
5. How would you describe the OT role on the FHT?
6. Describe the contributions the OT has made to the FHT to date?
7. What was your understanding of OT prior to working with OT?
8. Has this changed since working with an OT? If yes, in what ways?
9. What other roles do you see for OT in the FHT?

Collaborative Practice

10. In what ways do you see the OT collaborating with other FHT members?
11. Describe how occupational therapy is integrated within the team.
12. How do you navigate potential overlap in scopes of practice?
13. Describe any processes or structures that help to support interprofessional (IP) collaborative practice in your FHT.
14. Describe any barriers to IP collaborative practice in your FHT.

Processes – Accountability

15. How do you currently measure the impact of the OT?
16. Do you have specific outcomes that you collect?
   a. If yes what?
   b. If no, what are you considering?
17. Describe the processes/structures you have in place to ensure ongoing continuous improvement?
18. What information should be collected to indicate quality OT care?
Appendix H
Family Health Team Profile
Questionnaire

1. What wave is your Family Health Team? ______________________

2. What is the approximate number of rostered patients? _____________________

3. What is the approximate number of unrostered patients? _____________________

4. Please identify the team members and their corresponding FTE

<table>
<thead>
<tr>
<th>Team Member</th>
<th>FTE</th>
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5. How many separate sites do you have? ______________________

6. How closely are these sites integrated? (i.e. do they follow similar policies, have access all health professionals?)

7. Which electronic medical record do you use? ______________________

8. Is this EMR consistent across sites? ______________________

9. Does your patient roster have specific or special needs? (i.e. older adults, home visits)

__________________________

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Appendix I
Occupational Therapy Profile Questionnaire

1. Date graduated: ___________________________________________________

2. University where degree was obtained: ________________________________________

3. Years working as an Occupational Therapist:____________________________________

4. Positions held:

<table>
<thead>
<tr>
<th>Employer/Nature of position</th>
<th>Dates</th>
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5. Time in current position:

6. Clinical focus of current position?

7. Special courses/training in primary care related assessment/intervention? (i.e. chronic disease management). Please list.

8. Do you feel there are specific gaps in your knowledge or areas you would like to gain expertise?
### Appendix J

Family Health Team Program Description
(Mission/Vision/Organizational Chart)
Document Review Form

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Present</th>
<th>Description</th>
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<tbody>
<tr>
<td>Focus on interprofessional primary care</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Description of specific or specialty programs</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Focus on team collaboration</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Description of team members</td>
<td>Yes/No</td>
<td></td>
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<tr>
<td>Description of team member roles</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Nature of communication structures between team members described</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Nature of relationship between team members described or outlined?</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Nature of relationship between team members described or outlined?</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Focus on patient centred primary care</td>
<td>Yes/No</td>
<td></td>
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<tr>
<td>Description of interprofessional environment?</td>
<td>Yes/No</td>
<td></td>
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</table>
Appendix K  
Electronic Medical Record/Documentation  
Review Form

1. EMR major entry headings (OT and FHT Practice):

<table>
<thead>
<tr>
<th>Heading</th>
<th>Discipline (s)</th>
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</tbody>
</table>

2. Templates used: Yes/No  
   Nature/type of visit:  
   Condition specific:  
   Referral based:

3. Patient reminders/flags: Yes/No  
   If yes, OT specific or targeted: Yes/No  
   Describe OT specific reminder: ___________________________________________

4. EMR accessible by all team members: Yes/No/Variable access

5. Option for joint charting or team documentation: Yes/No

6. EMR used by all team members: Yes/No  
   If no, what method of documentation? _______________________________________

7. EMR data used for evaluation purposes? Yes/No

8. EMR data used for continuous quality improvement? Yes/No

9. Does EMR include quality indicators or benchmarks? Yes/No
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Years of experience</td>
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</tr>
<tr>
<td>Requirement of specific expertise or background?</td>
<td></td>
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<tr>
<td>Degree type (BSC, MSC or either)</td>
<td></td>
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<tr>
<td>Pay scale/annual salary</td>
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<td>Percentage FTE</td>
<td></td>
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<tr>
<td>Specific role or clinical focus identified</td>
<td></td>
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<tr>
<td>Description of FHT</td>
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<tr>
<td>Description of interprofessional environment?</td>
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<tr>
<td>Other important/descriptive feature of the job description?</td>
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Appendix M

ORID Framework

1. **Objective level (in it comes)**

Present information, report facts, and describe the situation/experience. Offer a sensory impression: what was seen and heard, as well as any touch, smell, or taste involved. What scenes do you remember? What words or phrases caught your attention? Who was there? What did people say? What events do you remember?

2. **Reactive/responsive level (processing the experience by feeling it – in your gut)**

Describe personal reactions, associations, emotions and images associated with the experience. What was your first response to the situation/experience? What about the experience angered, excited, frustrated, intrigued or frightened you? What memories or internal images were triggered by the experience? What were high (or low) points of the experience? What moved slowly (or quickly) for you? What concerned you?

3. **Interpretive level (processing the experience by thinking about it – in your head)**

Discuss the meaning, value, significance, purpose and implications of the experience. What was most significant about it and why? Why was it important to you? What insight did you gain from this? Why did this happen? Why did it happen this way? How can you make sense of this experience – what did it mean to you? How does this experience relate to others you have had, the values you hold, and the things you already know?

4. **Decisional level (out it goes)**

Come to some conclusions about the experience. Resolve how to use your learning from this experience in the future. What next steps might you take? What do you feel committed to as a result of this experience? What change is needed? What would you say about this event/experience to someone who was not there?

Adopted from Stanfield, 2000
Appendix N
Semi-structured Interview Script

Research Question: How does participating in the evaluation enhance skills to identify and use research and evaluation data?

1. Has the evaluation helped you to identify research and evaluation?
   1b. If yes: How?
2. Has the evaluation helped you to use research and evaluation?
   2b. If yes: How and in what ways?
3. What skills do you feel you need to help you identify and use research and evaluation data?
4. How would you go about obtaining these skills?

Research Question: How does participating in the evaluation influence the clinical practice within the memory clinic?

1. Since the evaluation has started have you made any changes to your clinical practice?
   1b. If yes: Is this a result of being involved in the evaluation?
   1c. If yes: How has the evaluation changed your practice?
   1d. If yes: What changes have you made?

Research Question: How does participating in the evaluation enhance interaction with networks of memory clinic researchers and practitioners?

1. Have you worked or collaborated with local practitioners or community agencies?
   1b. If yes, what area of practice has this been related to?
2. Have you connected with any research networks or communities of practice?
   2b. If yes, what area of practice has this been related to?
3. Has the evaluation made you more aware of networks, communities of practices or community agencies in the area of memory disorders?
   3a) In what ways did the evaluation enhance your awareness?

Research Question: How does participation in the evaluation influence communication to patients?

1. Do you provide patient/caregiver education materials?
   1b. If Yes: Have you made any changes to the type or nature of educational materials since the evaluation started?
   1c. If yes: Is this a result of being involved in the evaluation?
   1d. If yes: How has the evaluation changed your communication with your patients?
   1d. If yes: How did the evaluation influence these changes?
Appendix O
Semi-structured Interview Script
Executive Director and Physician Lead

Research Question: How does the evaluation influence the Family Health Team’s participation in research and evaluation?

Research Question: How does the evaluation influence how the Family Health Team uses research and evaluation data?

1. Has the evaluation of the Memory Clinic prompted plans for any future evaluations?
2. Has the evaluation of the Memory Clinic influenced the collection of data (i.e. patient outcome data, provider interventions).
3. Has the evaluation influenced your use of the EMR?
   3b. If yes: What changes have you made to your EMR?
4. Do you plan on using your EMR data for evaluative purposes?
5. Has the evaluation stimulated the Family Health Team to engage in research or become members of any research networks?
6. Do you feel the evaluation enhanced the capacity of the FHT to conduct evaluations?
7. Do you feel the evaluation has enhanced the capacity of the FHT to use data they currently collect?
   7b. If yes: do you feel the data has helped provide better care?
8. Do you feel the evaluation has influenced how the FHT uses research to guide practice?
Appendix P
Memory Disorders Knowledge Questionnaire

1. I have worked with individuals with memory disorders for:
   < 1 year  1-5 years  5-10 years  >10 years

2. I am confident in my knowledge of memory disorders.
   Disagree  Somewhat Disagree  Somewhat Agree  Agree

3. I am aware of the current literature in my field related to assessment of memory disorders.
   Disagree  Somewhat Disagree  Somewhat Agree  Agree

4. If I needed to find current literature about memory disorders I would know where to find this.
   Disagree  Somewhat Disagree  Somewhat Agree  Agree

5. Please describe your current sources of information you use to inform your knowledge of memory disorders.

6. Is this typical of the sources of information you use to inform the rest of your practice?
   Yes  No

7. Please describe the current assessment you use when working with individuals with memory disorders:
current literature in my field related to the interventions for memory disorders.

Disagree  Somewhat Disagree  Somewhat Agree  Agree

9. Please describe the current interventions you use when working with individuals with memory disorders: