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Understanding the Roles of Physiotherapists Within Ontario Primary Health Care Teams: A Mixed Methods Inquiry

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Graduate Program in Health and Rehabilitation Sciences
A thesis submitted in partial fulfillment of the requirements for the degree in Doctor of
Philosophy
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UNDERSTANDING THE ROLES OF PHYSIOTHERAPISTS WITHIN ONTARIO
PRIMARY HEALTH CARE TEAMS: A MIXED METHODS INQUIRY

(Spine title: Roles of Physiotherapists within Ontario Primary Health Care Teams)

(Thesis format: Integrated Article)

by

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Graduate Program in Health and Rehabilitation Sciences

A thesis submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

The School of Graduate and Postdoctoral Studies
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**UNDERSTANDING THE ROLES OF PHYSIOTHERAPISTS WITHIN
ONTARIO PRIMARY HEALTH CARE TEAMS: A MIXED METHODS
INQUIRY**

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requirements for the degree of
Doctor of Philosophy

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ABSTRACT

A mixed methods program of research was undertaken in order to better understand the roles of physiotherapists within Ontario primary health care (PHC) teams. A profile of Ontario PHC teams (Family Health Teams and Community Health Centres) was generated to determine the complement of providers and provision of health programming within each PHC team. This first study provided an important contextual backdrop as well as a means to purposefully sample participants for the two following studies. The second study used qualitative descriptive method to explore the perceptions of family physicians and nurse practitioners related to the inclusion of physiotherapists (PTs) within Ontario PHC teams. The final study used grounded theory method to generate an explanatory scheme to explicate how PTs currently working within Ontario PHC team enact practice. Overall, Family Health Teams (FHTs) and Community Health Centres (CHCs) were characterized by diverse teams and both models offered health programming. Physiotherapists were integrated into these teams to a limited degree however, particularly within FHTs. Perceptions of family physicians and nurse practitioners unanimously described the benefit of including PTs within PHC teams, particularly in the areas of musculoskeletal health and chronic disease management. Finally, PTs within PHC teams were found to enact five inter-related roles: manager, evaluator, collaborator, educator and advocate. The enactment of these roles were found to be impacted by three contexts: interprofessional team, community and population served, and organizational structure and funding. Overall, the findings support the inclusion of PTs within Ontario PHC teams. In addition to describing the areas of practice and specific roles relative to PTs contribution within Ontario PHC teams, this inquiry also explained how PTs enacted these roles. Further, this program of research articulated how the three above noted contexts impact how PTs practice in order to fulfill Ontario's PHC mandate.

KEYWORDS

Community Health Centres, Family Health Teams, Interprofessional Collaboration, Primary Health Care, and Physiotherapists.

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LIST OF ABBREVIATIONS

AOHC.....Association of Ontario Health Centres

CDM.....Chronic Disease Management

CHC.....Community Health Centres

COPD.....Chronic Obstructive Pulmonary Disease

ER.....Emergency Room

FHT.....Family Health Team

FP.....Family Physician

HHR.....Health Human Resources

ICF.....International Classification of Functioning, Disability and Health

LIHN.....Local Integrated Health Network

MOHLTC.....Ministry of Health and Long-Term Care

MSK.....Musculoskeletal

NP.....Nurse Practitioner

OHIP.....Ontario Health Insurance Plan

OPA.....Ontario Physiotherapy Association

PT.....Physiotherapist

PC.....Primary Care

PHC.....Primary Health Care

WHO.....World Health Organization

CHAPTER ONE

INTRODUCTION

Primary Health Care: Expanding the Concept of Primary Care

A pivotal point in the evolution of our concept of health occurred in 1978 with the International Conference on Primary Health Care in Alma-Ata, which led to the universal recognition that health was a critical contributor to socioeconomic development and peace (World Health Organization (WHO), 1998). At this point, primary health care (PHC) was declared the model for global health policy (Magnussen, Ehiri, & Jolly, 2004). Requiring a change in socioeconomic status and distribution of services, PHC represented an important focus on health system development (Magnussen et al., 2004).

Primary health care as defined by WHO (2002) is a broad concept that emphasizes the provision of service for all people along the continuum of health from promotion to curative and rehabilitative care. In Canada, PHC is generally understood as the current descriptor of first contact services. The four key features that differentiate PHC from primary care are: collaborative teams, , access, information and healthy living (Romanow, 2002). Thus, a key concept of PHC is the recognition that health care professionals working collaboratively, as opposed to in silos, can positively impact the health of individuals, and their communities (Advisory Group of Interprofessional Practitioners, 1997; Brown, Stewart, Harris, & Reid, 2003; Grumbach & Bodenheimer, 2004; Mariott & Mable, 2000; Zwarenstein, Reeves, & Perrier, 2005).

As an evolution of the traditional concept of primary care, moving beyond a strictly biomedical concept of health, PHC evolved to provide promotive, preventative, curative and rehabilitative services. In order to optimize PHC and mitigate or alleviate sub-optimal application of its key principles it must be understood that it can only be achieved through a coordinated, interprofessional

approach that engages all of the stakeholders in the process (individuals, communities, health care practitioners, decision-makers and policy makers).

The demanding task of how to organize and deliver services, recognizing a current model of health to best meet health-related expectations of Canadians, is one of the key issues facing Canadian health policy. Currently health human resources (HHR) shortages, and a shift in service delivery from hospital to community, are placing increased demands on the delivery of health care services by primary care practitioners (Cott, Devitt, Falter, Soever, & Passalent, 2007; Romanow, 2002). As such, a gap between supply and demand prevails. Health care reforms informed by the acknowledged effectiveness of team-based care in making strategic use of HHR while simultaneously improving outcomes have surfaced in Canada to bridge this gap (Advisory Group of Interprofessional Practitioners, 1997; Mariott & Mable, 2000; Romanow, 2002; Brown et al, 2003; Zwarenstein et al, 2005). Consequently, PHC has come to the forefront and interprofessional team-based models advocated.

Considered to represent the conceptual basis for the definition, measurement and policy formulation for health in the 21st century, the WHO's International Classification of Functioning, Disability and Health (ICF) (WHO, 2001), a biopsychosocial model of health, is highly congruent with the concept of PHC. The ICF provides a framework that not only represents the current paradigm shift to a more holistic model of health but also highlights the need for a diverse team of health care professionals to attend to the multiple interactive dimensions of health acknowledged therein. Correspondingly, the concept of PHC mandates a diverse team of providers.

Healthy Living

In Canada, as is the case among other industrialized countries, the impact of chronic disease continues to drive health system change. More than half of Canadians (16 million people) live with chronic illness. In Ontario specifically, almost 80 percent of Ontarians have been diagnosed with a chronic condition by

the age of 45 years, and of these, approximately 70 percent have been diagnosed with two or more chronic conditions. The economic burden of chronic disease and disability in Ontario is estimated at 55 percent of the total direct and indirect health costs (Statistics Canada, 2003). Despite this, Ontarians with chronic conditions, especially older persons who are most at risk for functional decline, are currently not receiving the necessary management (Richardson, Letts, Chan, Stratford, Hand, Price, et al., 2010).

In addition to the acknowledgment that chronic disease incidence is on the rise, the recognition that Ontario's current health care system does not provide the comprehensive management that is required for individuals with chronic conditions has been a critical catalyst for change at the primary service level (Advisory Group of Interprofessional Practitioners, 1997). Alternative models of health care delivery that include a broad range of providers to care for people with chronic conditions describes a summary of existing recommendations to attend to current needs and expectations (Brooks, 2008; Russell, Thille, Hogg, & Lemelin, 2008).

Cancer and cardiovascular disease, including type-two diabetes, top the causes of mortality in Ontario (Statistics Canada, 2003). Importantly, modifiable risk factors related to these diseases have been identified and include: smoking, physical inactivity and poor dietary habits (Mokdad, Marks, Stroup, & Gerberding, 2004). For example, 90 percent of type-two diabetes, 80 percent of coronary artery disease and one third of all cancers can be avoided by the implementation of healthy diets, increased physical activity and the cessation of smoking (WHO, 2003). Further, a principle cause of disability in Canada relates to the musculoskeletal impairment associated with a multitude of chronic conditions (Brooks, 2006; 2008). The current prevalence of chronic disease and associated disability provides a persuasive argument to shift attention and prioritize resources towards health promotion and disease prevention efforts. Not surprisingly, as mentioned earlier, healthy living is one of the founding pillars of the concept of PHC.

Ontario Primary Health Care Models

Founded in 1972, the longest standing model of PHC in Ontario has existed within Community Health Centres (Association of Ontario Health Centres (AOHC), 2007). Community Health Centres (CHCs) are community-governed organizations that provide PHC and community development services using interprofessional teams of providers (often including physicians, nurse practitioners, dietitians, physiotherapists, occupational therapists, health promoters, counselors and others) who are paid by salary, rather than through a fee-for-service system (AOHC, 2007). The CHC model represents a distinct approach to delivering PHC due to the fact that CHCs: (1) offer a range of services that focus on the underlying causes of poor health status, (2) employ a range of different professional care providers who are all salaried promoting diversity, (3) offer programs specifically tailored to the community and (4) are held accountable to community-governed boards (Suschingg, 2001).

Currently there are 56 CHCs, with associated satellite sites across Ontario (AOHC, 2007). The CHC model has been in operation for over 30 years and until very recently has been the primary model of service delivery providing comprehensive services at the first point of contact congruent with the concept of PHC. A recent study, analyzing the impact and practice features of different first-contact service models (fee-for-service, Family Health Groups and Health Service Organizations) on chronic disease management in Ontario, found that chronic disease management was superior in CHCs (Russell et al., 2009). Furthermore, clinicians in CHCs reportedly found it easier than those in the other models to promote higher-quality care, in part due to interprofessional collaboration (Russell et al., 2009). Specifically, CHCs scored 10 to 15% higher in overall performance (evidence-based indicators for: diabetes, coronary artery disease, congestive heart failure and hypertension), when compared to the other practice models studied (Russell, Dahrouge, Hogg, Geneau, Muldoon, & Tuna, 2009). Similarly, CHCs more consistently attend to issues related to health promotion, specifically through addressing lifestyle behaviours (Hogg, Dahrouge,

Russell, Tuna, Geneau, Muldoon, et al., 2009). These results support the founding principles of PHC, from the Canadian perspective, as described earlier.

Despite the long-standing nature of CHCs, this model of care has only been available to a small proportion of Ontarians. The success of this model, particularly in the areas of health promotion and chronic disease management translated to the need to offer this holistic (promotive, curative and rehabilitative) model of care, to the majority of Ontario's population. Traditionally, the majority of health care provided in the community has been delivered by single or group physician practices that are remunerated by a fee-for-service or capitation model of funding (Abelson & Lomas, 1990; Dahrouge et al, 2009). Notably, the interprofessional component that is a central feature of current Ontario PHC models is absent from these modes of service delivery.

With mounting evidence in support of PHC renewal in Ontario, and the availability of monies (e.g. Primary Health Care Transition Fund) to invest into renewal initiatives, additional models of PHC intended to improve care through the use of team-based care have been developed. Teams of professionals who focus on healthy living are understood to better match current health-related needs and expectations of Ontarians. Two such initiatives recently implemented in Ontario have been Family Health Teams (FHTs) and Nurse Practitioner-Led Clinics, both developed by the Ministry of Health and Long- Term Care.

The "cornerstone" of PHC renewal in Ontario, refers specifically to the FHT initiative, established in 2005 by the Ministry of Health and Long Term Care (Ministry of Health and Long-Term Care (MOHLTC), 2006). Essentially, the FHT initiative describes the establishment of interprofessional health care teams to improve the delivery of PHC services in Ontario (Meuser, Bean, Goldman, & Reeves, 2006; MOHLTC, 2006). In particular, these teams are to be developed such that they are tailored to meet specific local community needs, emphasizing comprehensive chronic disease management and health promotion strategies.

Current estimates indicate that the number of approved FHTs exceeds 170 (in various stages of implementation), with commitment from the Ontario government to continue the approval process until there are 200 operational teams (MOHLTC, 2011a; Rosser, Colwill, Kasperski, & Wilson, 2011). Providers who are interested in becoming a FHT must go through an extensive six stage application process which essentially enables the MOHLTC to determine the scope of services proposed relative to the identified profile of the population served, as well as the comprehensiveness and feasibility of the business plan (MOHLTC, 2007). Only groups of physicians who hold Ministry status as a Family Health Group or Family Health Network are eligible to apply (MOHLTC, 2007). Physicians and nurses make up the “core” of these teams.

Developed almost two years after the first wave of FHTs in 2005, the first Nurse Practitioner-Led Clinic was established in late 2007 in Sudbury. Situated in a similar fashion to FHTs, Nurse Practitioner-Led Clinics describe the provision of PHC provided by a range of health care professionals who will work collaboratively to provide comprehensive, accessible and coordinated family health care services to a defined population, the majority of which does not currently have a PHC provider (MOHLTC, 2009). Currently there have been 25 clinics approved at varying degrees of implementation, with all anticipated to be operational by 2012 (MOHLTC, 2011b).

Thus, like the CHC model, the FHTs and Nurse Practitioner-Led Clinics are positioned to: 1) approach health care proactively (oriented towards health) rather than reactively (oriented towards disease); 2) lessen the incidence of chronic disease (primary prevention¹); and 3) reduce the impact of existing chronic disease (secondary² and tertiary prevention³), thereby enhancing the

¹ Primary prevention avoids the development of a disease. Most population-based health promotion activities are primary preventive measures.

² Secondary prevention activities are aimed at early detection, thereby increasing opportunities for intervention to prevent progression of the disease and emergence of symptoms.

health of individuals, families and communities. Health promotion strategies within these models of PHC are suggested to focus on smoking cessation, physical activity and dietary behaviours, while chronic disease management programs are situated to include education sessions with a focus on self-management (MOHLTC, 2006). Physiotherapists are one such provider group positioned to contribute to these PHC models.

Physiotherapists in Primary Health Care

Physiotherapists (PTs) are first contact, autonomous self-regulating professionals, who are equipped with the necessary education and experience to address the needs of health promotion and disease prevention, both on an individual and community level (Soever, 2006). As direct access, primary health care professionals, they are present at all levels of care (primary to tertiary) and assist individuals in achieving maximum functional capacity across the lifespan (Ontario Physiotherapy Association (OPA), 2006). The profession of physiotherapy is anchored in the movement sciences and focuses on understanding how movement takes place (Canadian Physiotherapy Association, 2000). Specifically, PTs have extensive education and training in areas of neuromusculoskeletal, cardiopulmonary-vascular and neurological care. As such, PTs are well positioned to assist with current health promotion and chronic disease management practices within Ontario's PHC models (OPA, 2006).

Principles of PHC reform recognize the merits of interprofessional collaboration. Within Canada, decisions regarding team composition are based on the provincial models of PHC and on the health needs of the local population (Soever, 2006). Rehabilitation is considered to be a key dimension of PHC renewal (WHO, 2002) and primary care physicians are encouraged to work

³ Tertiary prevention reduces the negative impact of an already established disease by restoring function and reducing disease-related complications and secondary impairments.

alongside PTs to enhance outcomes (Brooks, 2006). Further, the paradigm of the practitioner who has the initial contact with the patient is shifting away from traditional roles. Recently, nurse practitioners have started to play a more significant role in the delivery of PHC services (Advisory Group of Interprofessional Practitioners, 1997). In addition to physicians and nurse practitioners there are a number of functions within PHC that can be provided by other professionals, including PTs. Specifically, it has been suggested that PHC teams need to integrate PTs into their day-to-day work and offer physiotherapy services within the PHC environment (Eldar, 2000).

The current literature suggests that the inclusion of PTs within PHC teams could result in positive health outcomes (SUCH AS...) and lower costs (Cott et al., 2007; Soever, 2006). The evidence to support PTs' role in PHC is accumulating in all areas of practice, with the following sections outlining evidence most relevant to Ontario PHC. Notably, there is more available research related to musculoskeletal health, likely due to the high prevalence of musculoskeletal conditions and the higher proportions of PTs that work in this area of practice.

Neuromusculoskeletal Health: Non-Urgent Care

In many countries, PTs function as first contact health care providers. Direct access to PTs with extensive experience in musculoskeletal health has naturally led to PTs functioning as triaging agents, and in some cases practicing in a capacity beyond the traditional scope of practice to improve health care delivery. Evidence supports the enhancement of outcomes at both the level of the patient and organization relative to PTs functioning in these roles. For example, PTs who function as triaging agents within an extended scope of practice in the United Kingdom (UK), have been successful in reducing the wait time for orthopaedic consultation within their community by nine months, with a high degree of patient satisfaction (Hattam & Smeatham, 1999). Similarly, the Targeted Early Access to Musculoskeletal Service Project in Wales

demonstrated the benefits of using PTs as triage agents in order to best direct patients to the most appropriate service (Maddison, Jones, Breslin, Barton, Fleur, & Lewis, 2004). This project resulted in a significant reduction in referrals to orthopaedic surgeons and rheumatologists, as well as a high rate of satisfaction, with 88% of patients indicating their care to be good or excellent (Maddison et al., 2004). Further, back pain clinics staffed by PTs were developed in a group of demographically representative practices in a typical UK health authority. Patients were referred to these clinics by their general practitioner and were managed by PTs according to best practice guidelines for lower back pain (Pinnington, Miller, & Stanley, 2004). The majority of patients were seen at these back pain clinics within 72 hours of referral. More than 70% of patients required only a single clinical visit, less than 5% were referred for specialist consultation and the remaining patients were referred to an appropriate rehabilitation service (Pinnington et al., 2004). Similar programs have been established in Scotland, resulting in a 50% reduction in orthopaedic specialist waitlists (Rymaszewski, Sharma, McGill, Murdoch, Freeman & Loh, 2005).

In the United States of America (USA), the Department of Veteran's Affairs (VA) has recognized the benefit of using PTs as first contact providers. Chronic health conditions such as obesity, diabetes and osteoarthritis are prevalent within the veteran population. Within the model used by VA in Salt Lake City, patients are triaged directly to physiotherapy for management based on an established algorithm of care (Murphy, Greathouse, & Matsui, 2005). Similar models of care are utilized by Kaiser Permanente (the largest non-military not-for-profit health maintenance organization in the USA) in Northern California (Murphy et al., 2005).

In Canada, like the UK and USA, several institutions have responded to the challenge of managing the wait list for hip and knee joint arthroplasty by extending the role of PTs working in interprofesional teams. Extended roles refers to the use of medical directive(s) to authorize additional controlled actions such as ordering appropriate diagnostic images and laboratory tests to facilitate

complete independent musculoskeletal management (Daker-White, Carr, Harvey, Woolhead, Bannister, & Nelson, 1999; Childs, Whitman, Sizer, Flynn, & Delitto, 2005). Notably, inclusion of extended-role PTs in a pilot project of The Alberta Bone and Joint Institute (2007), reduced the wait for hip and knee replacements from 35 weeks to 6 weeks.

Similarly, in Ontario, a new model of service involving PTs working along side orthopaedic surgeons within hospital orthopaedic clinics has proven to be effective. A study examining this role at the Hotel Dieu Hospital in Kingston found: 1) a 100% agreement between PTs and orthopaedic surgeons opinions regarding a patients' need for surgery, 2) improved access to service, and 3) high patient satisfaction of service (Aitken, Atkinson, Harrison, & Hope, 2007). Similar results were found at the Holland Centre in Toronto (Roberts, Kennedy, MacLeod, Findlay, & Follish, 2008). Although these Ontario examples pertain to hospital-based care that is not first contact, certainly they highlight a successful model of practice that could enhance the provision of PHC.

A key argument relative to using PTs in triaging roles for musculoskeletal health relates to more effectively managing the high proportion of musculoskeletal-related complaints presented to family physicians. Approximately 30% of visits to family physicians in Ontario relate to musculoskeletal complaints (Pinney & Regan, 2001). Lower back pain alone accounted for 25% of family physician visits and is cited as the most common reason to visit an orthopaedic surgeon or neurosurgeon (Iron, Jaakimainen Rothwell, Li & Laupacis, 2004). Further, only 20% of patients who are referred to an orthopaedic surgeon actually require surgery (Aiken et al., 2007; Soever, 2006). Additionally, the Canadian Standards of Care in arthritis management are currently not being met due to long wait lists to access rheumatologists (Lundon, Shupak, Sunstum-Mann, Falet, & Schneider, 2008; MacKay, Veinot, & Badley, 2008).

Arguably, reducing the number of inappropriate referrals to a finite number of orthopaedic surgeons and rheumatologists would be achieved most effectively with better utilization of the acknowledged expertise of PTs in the assessment and conservative management of musculoskeletal health. In a study by Childs and colleagues (2005), PTs have been found to have higher scores on a standard orthopaedic examination when compared with medical students, physician assistants, nurse practitioners, interns, and general practitioners. The more experience a PT had in orthopaedics (reflected by a specialist designation) the closer the scores were to those of orthopaedic surgeons, while nurse practitioners and physician assistants had the lowest scores. Similar trends have been described in other studies (Daker-White et al., 1999; Gardiner & Turner, 2002; Moore, Goss, Baxter, Debaradino, Mansfield, & Fellows, 2005).

Neuromusculoskeletal Health: Urgent Care

The evidence to support the utility of PTs within emergency departments of hospitals is also growing. Evidence indicates that the use of PTs within emergency departments has improved both service provision and patient satisfaction. Considering the prevalence of individuals presenting to the emergency department with acute knee injuries, investigators in the UK developed the Acute Knee Screening Service (AKSS) which involved PTs performing all assessments and directing all aspects of management of individuals presenting to the emergency department with an acute knee injury (Jibuike, Paul-Taylor, Maulvi, Richmond, & Fairclough, 2003). The PTs in this study did function in an extended scope capacity and as such were able to order diagnostic tests if needed. The majority of patients seen in the AKSS were treated and discharged from the service without further review. Of the patients sent on to trauma clinic, diagnostic tests as ordered by the PT indicated significant abnormality in 85% of cases (Jibuike et al., 2003). Thus it was concluded that the AKSS, using a PT, was a valuable contribution to improving service provision. As far as patient satisfaction is concerned, patients were more satisfied with care provided by PTs for soft-tissue injuries when compared with

nurses and physicians (McClellan, Greenwood, & Bengner, 2006). Additionally, in the USA, PTs within the military have a long history of functioning as direct access musculoskeletal experts (Greathouse, Schreck, & Benson, 1994).

The current data points to the benefit of including PTs to assist with urgent care needs, however, more research needs to be undertaken to flesh out this emerging role. The application of this evidence to newer models of interprofessional practice could assist in explicating the role for PTs within PHC.

Cardiopulmonary-Vascular Health

In light of the prevalence of cardiovascular disease and respiratory disease in Canada, one cannot regard the role of PTs within PHC without considering the contribution of PTs towards cardiopulmonary-vascular health. Physiotherapists have an established history of working with patients diagnosed with a variety of respiratory diseases including chronic obstructive pulmonary disease (COPD) and asthma at both primary and secondary levels within the health care system. Thus, PTs employ pulmonary rehabilitation for individuals across the lifespan. Pulmonary rehabilitation generally includes: exercise prescription, patient self-management, and psychological support, including smoking cessation support and motivation for enhancing physical activity (Canadian Physiotherapy Association, 2009). Recent evidence shows that the improvements in health related quality of life for patients with COPD are attributable to pulmonary rehabilitation that is delivered specifically by PTs (Puhan, Scharplatz, Troosters, Walters, & Steurer, 2009; Young, Dewse, Ferguson, & Kolbe, 2008).

In the UK, PTs currently function within an extended scope of practice within cardiopulmonary-vascular care. Physiotherapists in these roles order and administer inhalations, order and interpret chest x-rays and draw arterial blood gases (The Chartered Society of Physiotherapy, 2003). Physiotherapists with expertise in cardiopulmonary-vascular health could ultimately enhance health

promotion efforts and improve the chronic disease management with Ontario PHC models.

Contemporary lifestyle conditions include: ischemic heart disease, hypertension, stroke, obesity, diabetes, cancer, smoking-related conditions, and pulmonary conditions such as emphysema, chronic bronchitis and asthma (Dean, 2009). Given their commitment to providing effective non-invasive interventions, and their approach to health as rooted in the WHO's ICF, it has been expressed that PTs are in a pre-eminent position to focus on prevention and management of lifestyle conditions (Dean, 2009). Within the context of Ontario PHC, the behaviours of: 1) physical activity, 2) healthy eating and 3) smoking cessation provide the foundation of health promotion efforts (MOHLTC, 2006). These factors are known to be the top three modifiable risk factors related to the above-mentioned lifestyle conditions and in combination create the best opportunity to manage chronic disease. For example, a comprehensive 2004 review demonstrated that the combination of carefully prescribed exercise and diet modification was far superior in the treatment of obesity when compared to the modification of diet alone (Orzano & Scott, 2004).

Exercise prescription within first-contact health care settings is regarded as an essential means to promote health (Rhodes & Fiala, 2009). Despite this, only 22 to 48% of patients with lifestyle conditions receive specific advice regarding physical activity or exercise (Charkravarthy, Joyner, & Booth, 2002). Cardiovascular screening is essential in order to best prescribe aerobic exercise and/or physical activity and PTs are the professionals who have the skills to perform this screening (Scherer, Noteboom, & Flynn, 2005). Physiotherapists are generally well-known for their expertise related to exercise prescription and physical activity counseling and evidence supports PTs as "effective" prescribers of exercise (Rhodes & Fiala, 2009). Physiotherapists can thus champion the "exercise" component of current health promotion and chronic disease management efforts within Ontario's PHC models. Notably, a recent randomized controlled trial concluded a reduction of planned hospital days as well as

improved patient satisfaction by including services delivered by PTs who focused on chronic disease management within a FHT in Hamilton (Richardson et al, 2010).

Physiotherapists within Primary Health Care in Ontario

Interestingly, despite the emphasis of health promotion and chronic disease management within PTs' scope of practice and the evidence to support the inclusion of PTs within PHC models, PTs were not one of the professional groups who secured funding within FHTs. Physiotherapists are also not currently funded under Nurse Practitioner-Led Clinics (MOHLTC, 2009). In Ontario, PTs rarely work within the same physical settings as physicians and nurse practitioners. The majority of PTs deliver service through private clinics (Cott et al., 2007). It is not surprising then that physicians and nurse practitioners have cited the cost of private physiotherapy as a major barrier for their patients to access this important service (Cott et al., 2007). The cited benefits related to the inclusion of PTs within PHC teams internationally are as follows: (1) higher patient satisfaction (Bingisser, Joos, Fruhauf, Caravatii, Knoblauch & Villiger, 2001; Jones, Cooper, and Riley, & Dobbs, 2002), (2) decreased wait times for physiotherapy consultation (Hackett, Bundred, Hutton, O'Brian, & Stanley, 1993; Stanley, Miller, Pinnington, Rose, & Rose, 2001), (3) increased cost-effectiveness (Hackett et al., 1993), (4) reduced number of inappropriate referrals to specialists (O'Cathain, Froggett, & Taylor, 1985) and (5) improved patient-related outcomes, such as quality of life, exercise tolerance and health status (Bingisser et al., 2001; Jones et al., 2002). Considering the above noted factors, including PTs within PHC teams is well supported.

Importantly, the term *physiotherapy* is not protected in Ontario, whereas the title *physiotherapist* is protected. As such, *physiotherapy* is often described as an available service in a multitude of health care settings in Ontario and is not always delivered by a PT. The Canadian Physiotherapy Association contends that "physiotherapy is exclusively performed by a PT or another trained individual

working under his/her direction and supervision. If an assessment or intervention is not provided by a PT or under the direction of a PT, it is not physiotherapy and should not be represented or funded as such" (CPA, 2000, p.3). Despite this, it is unknown how "physiotherapy" or "exercise prescription", both of which are central to chronic disease management, are being enacted, if at all, with CHCs, FHTs, and Nurse Practitioner-Led Clinics and if so, by whom.

Although, PTs are currently funded within the CHC model, recent research indicated that only 6 PTs are employed within the 56 operating CHCs (Passalent, Borsy, & Cott, 2007). The lack of incorporation of PTs within CHCs has recently been advocated as a key area of further exploration when considering current PHC renewal efforts and the discrepancy between demand and provision of publicly-available physiotherapy services (Passalent et al., 2007). Emphasizing promotive and rehabilitative services, CHCs, FHTs and Nurse Practitioner-Led Clinics all appear to require a greater prevalence of rehabilitation professionals and where musculoskeletal health and exercise prescription are concerned, PTs specifically. Thus the lack of integration of PTs within these models points to an evident gap in our current delivery of PHC in Ontario.

The current emphasis on PHC renewal coupled with the emergent nature of the FHTs and Nurse Practitioner-Led Clinics amounts to a great opportunity to investigate and to gain a deeper understanding of these PHC models in relation to the gap regarding the lack of integration of PTs. Furthermore, there is a request for research related to PHC to ensure the appropriate research capacity exists in Canada (Russell, Geneau, Johnston, Liddy, Hogg, & Hogan, 2007). Therefore, conducting research to better understand current PHC models is considered to be a priority.

Profiling Current Ontario Primary Health Care Models

A search for information related to the composition of current CHCs, FHTs, and Nurse Practitioner-Led Clinics (which included personal communication with experts⁴ within these models) revealed that data related to the composition of these models of service delivery does not currently exist (AOHC, 2005; MOHLTC, 2006). An understanding of who currently delivers service within CHCs, FHTs and Nurse Practitioner-Led Clinics is a critical first step to better understand the role of PTs within these models (either the roles they currently hold or the roles they might be well suited for). Since the concept of PHC highlights the provision of services related to health promotion and chronic disease management, the question of who is providing these services immediately surfaces. Similarly the question of which specific conditions or groups are targeted populations within these models needs to be explored. Recent research found that PTs were perceived to be important team members within PHC, particularly where musculoskeletal health and chronic disease management was concerned; however access issues and budget constraints continue to be significant barriers for their integration within Ontario PHC models (Cott, Landry, & Mandoda, 2009).

If PHC requests a focus on health rather than disease with the achievement of “health” in the broad context, related to the contribution of multiple providers, then the lack of inclusion of PTs may represent a barrier to fully enacting PHC. Thus, the purpose of this scholarly work was to understand the role (and enactment thereof) of PTs within Ontario PHC models. The first phase of the research program was intended to establish a profile of current Ontario PHC models, particularly related to the composition of providers and the provision of health programming. The development of this profile was informed

⁴ Dr. Julie Richardson (McMaster University), Dr. Mary Ann McColl (Queen’s University), Dr. Lisa Jaakimainen, (Institute for Clinical Evaluation Sciences) and Ms. Dale McMurchy (Canadian Institute of Health Research) are all experts in the area of Ontario PHC models and were all consulted prior to development of this research program

by an extensive literature review as well as consultations with experts in the domain of primary health care in Ontario. The second study aimed to determine perceptions held by family physicians (FPs) and nurse practitioners (NPs), considered “core” providers within Ontario PHC models, regarding the integration of PTs within Ontario PHC models. Together these two studies contextualized the central part of the program of research, the third and final study (using grounded theory method), exploring the current process of enactment of PTs’ roles within Ontario PHC teams. This research employed a mixed-methods approach.

Mixed Methods Research

Differentiating Quantitative and Qualitative Methods

Mixed methods research involves collecting and analyzing both quantitative and qualitative data. Quantitative data includes closed-ended information that is numerical in nature. The analysis of quantitative data generally consists of statistical analyses designed to answer specific research questions or test hypotheses (Creswell & Plano Clark, 2007). Conversely, qualitative data consists of open-ended information that is typically represented by words. The analysis of qualitative data typically follows the process of aggregating the words into categories of information to generate themes with the purpose to explore a particular topic (Creswell & Plano Clark, 2007). Thus, the seeking of a specific knowledge claim requires a particular research question and a complementary research method. Depending on the topic of study, both quantitative and qualitative research may be required to fully understand the research problem. By mixing the datasets of quantitative and qualitative methods into a program of research, the researcher can then come to a richer understanding of the problem of inquiry.

Mixed Methods: A Distinct Research Paradigm

Although “mixing” of qualitative and quantitative methods is not new, positioning *mixed methods research* as a third overarching research paradigm is relatively new, particularly in the health sciences (Johnson & Onwegbuzie, 2004). Bringing together the desirable elements of qualitative and quantitative methods, mixed methods research is grounded in pragmatism (Johnson & Onwegbuzie, 2004). That is, mixed methods research fits together the insights provided by qualitative and quantitative research into a workable solution (Johnson & Onwegbuzie, 2004). Likewise, mixed methods research focuses around the practical need to solve a problem. A key feature of mixed methods research is its methodological pluralism, which frequently results in enhanced or more informed research when compared to monomethod research (Cresswell & Plano Clark, 2007).

As with any research design, the methods selected should have as close a “fit” to the research question and the researchers’ ontological and epistemological positions as possible (Hesse-Biber & Leavy, 2004). Methods are secondary to the paradigm that anchors the research. Because qualitative research is based on entirely different epistemological and ontological assumptions compared to quantitative research, validity criteria that are typically adhered to for quantitative studies are considered by many to be inappropriate if applied to qualitative research (Whittemore, Chase, & Mandle, 2001). Thus, both qualitative and quantitative portions of the research program must attend to issues of quality in ways that are congruent with the respective methods and their associated assumptions.

Importantly, mixed methods research has been advocated as a key contributor for rigorous and sound methodological investigation in public health research (National Institute of Health, 1999) and primary care (Borkan, 2004; Creswell, Fetters, & Ivankova, 2004). Specifically, criteria to enhance the rigor of mixed methods research has been established for primary care studies and

include: explicit identification of reasons for mixing quantitative and qualitative data, the types of data collected and analysis procedures used, the priority given to quantitative and qualitative methods, the complementary sequence of methods and finally the phase in which the integration of methods occurs (Creswell et al., 2004; Creswell & Plano Clark, 2007). Additionally, it has been suggested by the Centre for Effective Practice (based within the Department of Family Medicine and Community Medicine at the University of Toronto) that the collection of both quantitative and qualitative data will best clarify the development needs, design implementation initiative and evaluation mechanisms relative to FHTs (Meuser et al., 2006). Further, the pragmatic undertones that characterize mixed methods research are commensurable with post-positivist assumptions.

Specifically, this program of research employed an Explanatory Mixed Methods Design (Creswell & Plano Clark, 2007). The overall purpose of this type of design is that qualitative data helps to explain and build upon the initial quantitative results. The Explanatory Design is a two-phase design, starting with the collection and analysis of quantitative data, and followed by the subsequent collection and analysis of qualitative data (Creswell & Plano Clark, 2007). The Participant Selection Model was the specific variation of the Explanatory Design used in this inquiry. One of the primary purposes of the quantitative data in the Participant Selection Model is to identify and purposefully select participants for a follow-up, in-depth qualitative study (Creswell & Plano Clark, 2007). In the case of this program of research, the quantitative data were used in this manner for the two follow-up qualitative studies. Additionally, this model emphasizes the qualitative portion of the research (Creswell & Plano Clark, 2007).

Validity in Qualitative Research

Epistemological Purism and Pluralism

A tension that greatly influences the development of validity criteria in qualitative research relates to the expansion, proliferation, and evolution of qualitative research approaches over time (Whittemore et al., 2007). As a result,

much discussion has ensued regarding the alignment of philosophy, epistemology and methodology and thus the purist movement emerged. Selecting research methods has been viewed as not simply a technical choice; rather, methods have been proposed to be based on the underlying philosophical, ideological, ethical and political assumptions (Moccia, 1988; Maxwell, 1992). Although the purist movement has advanced the status of qualitative inquiry, debate exists in this regard as some scholars feel constrained by the artificial boundaries imposed by the exclusive alignment of philosophy, epistemology and methodologies (Whittemore et al., 2001). Despite these unresolved tensions, consensus is emerging regarding a pluralist approach to knowledge development.

Pragmatism is an American philosophical position inherent in mixed methods research. A philosophical approach of pragmatism matches the best methods with specific research questions and issues (Patton, 1990). A pragmatic worldview recognizes the context-bound nature of inquiry and also aligns well with post-positivist assumptions (Creswell & Plano, 2007). Thus, a mixed design of inquiry, guided by a pragmatic worldview is well suited to investigating the role of physiotherapy with PHC models in Ontario. Importantly, the research approaches that are mixed should be done so in ways offering the best opportunities for answering the research question(s) at hand.

Description versus Grounded Theory

Specific research methods should flow from the worldview that grounds the research and that these methods should also best satisfy the objectives of the associated research. Thus, the debate related to which method is best (for example a purely descriptive method versus a method that focuses on theory generation) rests on the congruency of methods chosen relative to the research question and assumptions of the researcher(s) and how those methods are operationalized. Qualitative description is the most commonly used qualitative method within health science literature (Caelli, Ray, & Mill, 2003; Sandelowski,

2000) and it also the most common method used in mixed methods research studies (Creswell & Plano Clark, 2007).

Although pure qualitative description has been criticized for lacking rigor from a purist research perspective (Whittemore et al., 2001), a pragmatic approach to research supports qualitative description as a valuable and distinct mode of qualitative inquiry and particularly useful for health science research (Sandelowski, 2000). Qualitative description is desirable when post-positivist assumptions underlie the objectives of the research project (i.e., when researchers are attempting to uncover a relatively objective description of the facts). In other words, researchers are in search of the truth. The assumption is such that researchers can actually capture what is truly there. When used in a manner that recognizes the underlying assumptions of this method and when paired with an appropriate worldview (either post-positivist or pragmatic), qualitative description can be the method of choice in certain instances. Importantly, note that qualitative descriptive method does not refer to one that is less rigorous, but rather refers to an analysis of less interpretive penetration (Sandelowski, 2000).

On the other hand, grounded theory method is desirable when the desired outcome is to obtain more than a description of phenomena, but rather generate theory in order to explain phenomena and the relationship of components of the phenomena under study. Three major schools of grounded theory are commonly cited: Glaser's emergent approach (Glaser & Strauss, 1967), Strauss and Corbin (1998) or Corbin's and Strauss' (2008) pragmatic approach and Charmaz's (2006) constructivist interpretation of grounded theory. The Glaserian view leans toward the positivist definition, which assumes a universal truth exists and can be represented. The pragmatists and constructivist views hold that both knowledge and truth are provisional. Pragmatist and constructivist theory differ from each other in that pragmatist theory has a more explicit goal to solve problems through explanation or prediction, whereas constructivist more readily recognize the impact of interpretation. What makes a theory grounded for a pragmatist is that

the theory is derived from and with the participants who construct the theory. Specifically, it is not the events themselves that are the focus of pragmatic grounded theory, but rather the meanings given to events/interactions by the study participants are the keys. Pragmatic grounded theory also acknowledges that doing interpretive work and conceptualizing data are necessary in order to have a language to discuss the phenomena (Morse, Stern, Corbin, Bowers, Charmaz, & Clarke, 2009).

Grounded theory tends to be more abstract and has the potential for offering explanation rather than description. Further, grounded theory has the potential to reveal social processes (Corbin & Strauss, 2008; Glaser & Strauss, 1967) and is especially useful in areas that lack existing study (Stern, 1980). So, grounded theory is considered to be the method of choice when the objective of the research relates to gaining a deeper understanding of or attempting to explain a social process. Considering that each school of grounded theory is underpinned by its own ontological, epistemological and theoretical beliefs, it is important to ensure consistency between how methods of grounded theory are applied within the research study to ensure congruency with the associated worldview.

Research Objectives

Focusing on the problem related to the under-representation of PTs within Ontario PHC teams, this mixed methods inquiry aimed to gain a deeper understanding of PTs roles within current Ontario PHC models. The first study focused on the two pillars that pertain more to the contemporary broad vision of health; specifically: 1) the diversity of interprofessional teams, and 2) healthy living, reflected by the provision of health programming. Thus determining who currently comprises these teams, as well as what health programming is offered. The FHT data was emphasized in this study as no literature related to team complement or health programming was currently available for this novel PHC. In the second study, perceptions of FPs and NPs related to the inclusion of PTs

within Ontario PHC teams were explored (qualitative description) such to better determine the perceived contributions of PTs within Ontario PHC teams. The third and final study (pragmatic grounded theory) sought to explicate how services provided by PTs are currently enacted. Thus this program of research was designed to determine the: who, what and how in order to better understand the contribution PTs could make and currently do enact relative to Ontario PHC teams. As such, both quantitative and qualitative research methods were required. Appendix A outlines a flow chart of the research program.

Ethics Approval

Ethics approval for this inquiry was received from The University of Western Ontario's Review Board for Health Sciences Research Involving Human Subjects (# 16317E). Refer to Appendix B to view ethics approval and to Appendices C-J for supportive research methods documents for all three studies.

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CHAPTER TWO

ONTARIO PRIMARY HEALTH CARE TEAMS: PROVIDER COMPLEMENT AND HEALTH PROGRAMMING

Background

Primary health care (PHC) as defined by the World Health Organization (WHO) is a broad concept that emphasizes the provision of service for all people along the continuum of health from promotion to curative and rehabilitative care (WHO, 2002). In Canada, PHC is generally understood as the current descriptor of first contact services, defined by four key features: collaborative teams, access^{2.1}, information^{2.2} and healthy living^{2.3} (Romanow, 2002). It is these four “pillars” that differentiate PHC from primary care (PC) traditionally focused predominantly on the curative domain of health. Thus, a key concept of PHC is the recognition that a diverse team of health care professionals working collaboratively, can positively impact the health of individuals, and their communities (Advisory Group of Interprofessional Practitioners, 1997; Brown, Stewart, Harris, & Reid, 2003; Grumbach & Bodenheimer, 2004; Mariott & Mable, 2000; Zwarenstein, Reeves, & Perrier, 2005), as would a focus on health living rather than the curing of disease. The optimization of PHC and mitigation or alleviation of sub-optimal application of its key principles requires a coordinated interprofessional approach that engages all of the stakeholders (i.e. individuals, communities, health care practitioners, decision-makers and policy makers).

2.1 Access is thought to be enhanced through the use of a diverse team such as to increase capacity within primary health care settings; and also refers to extended hours provided within these settings.

2.2 Information refers to enhanced information exchange through the use of electronic medical records as well as an emphasis on providing patients with information to promote health and enhance self-management of chronic conditions.

2.3 Healthy living refers to an emphasis on health promotion and chronic disease management, inclusive of self-management and acknowledges a more comprehensive approach to health, one that extends beyond the focus of curing disease.

Primary Health Care in Ontario

Within Ontario, the majority of first contact care has traditionally been delivered through a single provider model, referred to as the fee-for-service model. Family physicians (FPs) in this model function as the entry point within the health care system and coordinate the provision of services for their patients accordingly. Until the 1980s, the primary “alternative” to the fee-for-service model in Ontario, existed within Community Health Centres (CHCs).

Founded in 1972, CHCs represent a distinct model of first contact care (Association of Ontario Health Centres (AOHC), 2007). In contrast to the fee-for-service model, CHCs are community-governed organizations that provide PHC and community development services using interprofessional teams of providers who are paid by salary, rather than through a fee-for-service system (AOHC, 2007; Suschnigg, 2001). The fee-for-service model has been most closely aligned with PC; whereas care delivery by interprofessional teams within CHCs more congruent with PHC. Despite recommendations within the Hastings report (Hastings, & Vayda, 1986) advocating a widespread implementation of CHCs, the uptake of the CHC model in Ontario was slow through the 1980s and 1990s. The implementation of CHCs only increased in more recent years, as PHC renewal became a focus relative to healthcare restructuring. Currently there are a reported 56 CHCs, with associated satellite sites across Ontario (AOHC, 2007, Suschnigg, 2001).

In the 1980s, other models of PC were introduced as FPs expressed increasing concern regarding both quality of care for patients and work life balance for themselves in meeting practice demands (Canadian Medical Association, 1994). Health Service Organizations were implemented as the first attempt to mitigate some of the escalating cost relative to the fee-for-service model while at the same time improving the provision of PC. Similarly, Family Health Networks and Family Health Groups were instituted in the early 2000s with hopes to direct a larger proportion of PC service provision through practices

of groups of doctors who were paid in a capitation system (Dahrouge, Hogg, Russell, Geneau, Kristjansson, Muldon, & Johnston, 2009; Suching, 2001). The above three models were hypothesized to control provincial health care expenditures as well as to improve efficiency within the health care system. What differentiated these three models from the fee-for-service model primarily related to method of remuneration to the physicians who owned the respective practices (Abelson & Lomas, 1990; Dahrouge et al, 2009, Muldoon, Rowan, Geneau, Hogg, & Colson, 2006; Suchnigg, 2001). However, the recognition that proficient single-provider medical care although necessary may in itself be insufficient to meet contemporary expectations of comprehensive care, is exemplified within Ontario's PHC mandate emphasizing the importance of diverse collaborative teams.

Two Ontario studies have provided support for team-based approaches inclusive of non-physician providers at the primary level. First, a study comparing disease prevention and health promotion practices across Health Service Organizations, CHCs and fee-for service found that CHCs reported a greater tendency to use non-physician providers to carry out these practices as well as a greater variety of programs (Abelson & Lomas, 1990). Second, a recent study, analyzing the practice features and impact of different first-contact service models (fee-for-service, Family Health Groups, Health Service Organizations and CHCs) on chronic disease management in Ontario, found it to be superior in CHCs (Russell, Dahrouge, Hogg, Geneau, Muldoon & Tuna, 2009). Furthermore, clinicians in CHCs reportedly found it easier than those in the other models to promote higher-quality care, in part due to interprofessional collaboration (Russell et al., 2009). This evidence has given momentum to the PHC renewal effort in Ontario for the development of additional PHC models of PHC that like CHCs, are characterized by the four pillars of PHC: collaborative teams, access, information and healthy living (Romanow, 2002).

Ontario's Family Health Team Initiative

The “cornerstone” of PHC renewal in Ontario, refers specifically to the Family Health Team (FHT) initiative (MOHLTC, 2006). Established in 2005 as an evolution of the CHC model and the aforementioned reform pilots, the FHT initiative describes the establishment of a diverse team of providers who emphasize healthy living (Meuser, Bean, Goldman, & Reeves, 2006; MOHLTC, 2006). In particular, these teams are being developed such that they are tailored to meet specific local community needs, emphasizing comprehensive chronic disease management and health promotion strategies. Similar to CHCs, family physicians (FPs), nurse practitioners (NPs) and nurses are considered to make up the “core” team, with “other” providers added to the complement as required by community need. Within these broad guidelines, each FHT is free to define the team size, composition, governance model, partnerships and program mix to best suit the community (Ragaz, Berk, Ford & Morgan, 2010). In fact, the mandate as well as the list of core providers for FHTs parallel that of CHCs and are congruent with Ontario’s PHC mandate (Table 2.1). The key difference between these two models relates to funding and governance, both of which are issues that pertain to administration. Notably, CHCs also emphasize a commitment to social justice a feature unique to this model, but one that lies outside of the four pillars of PHC. In contrast to previous attempts to reform PC, (i.e. through Family Health Networks and Family Health Groups) the key difference of FHTs relates to the interprofessional nature of this novel model of practice (McColl, Aiken, Birtwhistle, Corbett, Schoder, & Schaub, 2009). Only groups of physicians who hold Ministry status as a Family Health Group or Family Health Network, however, are eligible to apply to the Ministry to become an FHT (MOHLTC, 2007).

Current estimates indicate that the number of approved FHTs exceeds 170 (in various stages of implementation), with commitment from the Ontario government to continue the approval process until there are 200 operational teams (MOHLTC, 2007; Rosser, Colwill, Kasperski, & Wilson, 2011). Given the

congruency between FHTs and CHCs (Table 2.1), FHTs could use the long-standing CHC model as a reference point as they continue to develop. A search for information related to the composition of current CHCs and FHTs (AOHC, 2005; AOHC, 2007; MOHLTC, 2006), which included consultation with PHC experts^{2,4}, confirmed that no such profile of PHC models exists and that the development of such a database would be an important contribution to Canadian PHC research. Further, an understanding of who currently delivers service within these models is a critical first step to gain insight relative to the enactment of Ontario's vision of PHC. Likewise, determining the provision of programming relative to healthy living within these models will shed light on progress made toward Ontario's PHC renewal effort.

Purpose

The purpose of this cross-sectional descriptive study was to establish a profile of FHTs and CHCs, the two existing Ontario practice models sharing a common PHC mandate. Of the four PHC pillars, the study focused on the two more relevant to the contemporary broadened vision of health, specifically: 1) the diversity of interprofessional teams, and 2) healthy living, reflected by the provision of health promotion and chronic disease management programming.

Methods

A comprehensive literature review preceded the data collection process. Three databases (Medline, CINHALL, PubMed and Scopus) were searched using the search terms: primary care, primary health care, team-based care, interprofessional collaboration, Family Health Team and Community Health Centre. Additionally, grey literature (government documents and WHO

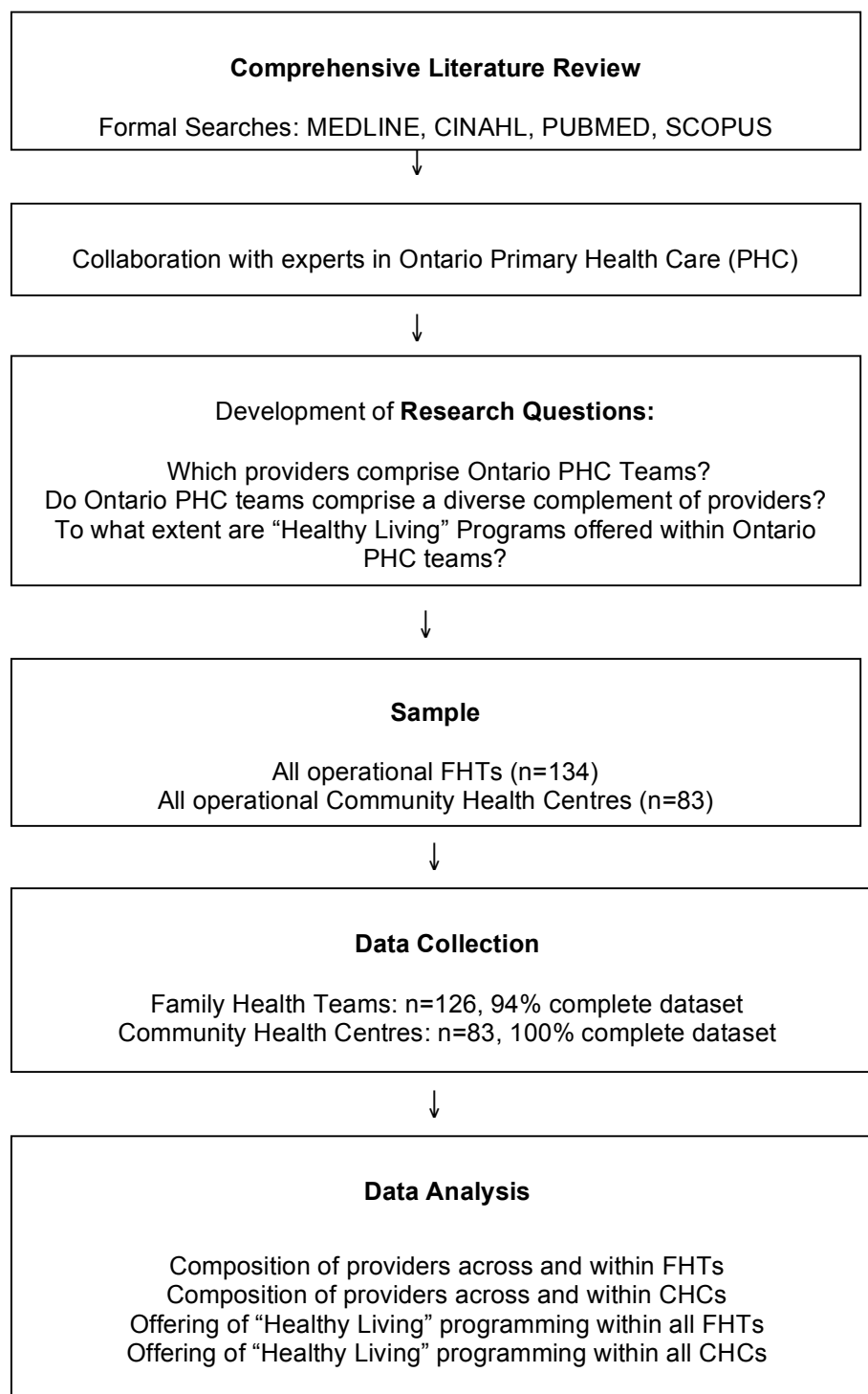
^{2,4} Dr. Julie Richardson (McMaster University), Dr. Cheryl Cott (The University of Toronto), Dr. Mary Ann McColl (Queen's University), Dr. Liisa Jaakkimainen (Institute for Clinical Evaluation Sciences) and Ms. Dale McMurchy (Canadian Institute of Health Research) are all experts in the area of Ontario PHC models and were all consulted prior to development of this research program.

documents) related to PHC was searched. This review informed the data collection process. Requisite data were then collected via systematic interrogation of publicly-available websites as well as a follow-up telephone campaign of all operating Ontario CHCs and FHTs in order to generate the profile that was required to answer the research questions. Refer to Figure 2.1 for a flow chart of the study design.

Table 2.1 Profile of Community Health Centre and Family Health Team Models

	Community Health Centres	Family Health Teams
Vision / Mandate	<ul style="list-style-type: none"> • Team-based model to provide the right care at the right time by the most appropriate provider • Focus on disease prevention, chronic disease management and health promotion • Services tailored to community • Focus on social inequities and vulnerable populations 	<ul style="list-style-type: none"> • Team-based model to provide the right care at the right time by the most appropriate provider • Focus on disease prevention, chronic disease management and health promotion • Services tailored to community
Team Members	<ul style="list-style-type: none"> • Core: Physicians, Nurse Practitioners, Nurses • Non-Core: Dietitians, Health Promoters, Social Workers, Chiropractors, Counselors, Physiotherapists, Spiritual Healers, Others 	<ul style="list-style-type: none"> • Core: Physicians, Nurse Practitioners, Nurses • Non-Core: Dietitians, Social Workers, Pharmacists, Others
Funding Model	<ul style="list-style-type: none"> • All practitioners salaried 	<ul style="list-style-type: none"> • Physicians funded by three models: fee for service, blended, salary • Non-physician providers salaried
Governance	<ul style="list-style-type: none"> • Community Governed • Accountable to community Board of Directors and AOHC 	<ul style="list-style-type: none"> • Generally physician-owned and led (provider model); some community led • Accountable to Board of Directors and MOHLTC

AOHC, Association of Ontario Health Care Centre; MOHLTC, Ministry of Health and Long -Term Care.

Figure 2.1 Study Design Flowchart: Quantitative Study

Sample

All FHTs (n=134)^{2.5} and CHCs including primary and associated satellite sites (n=83) operating in Ontario between August 2009 and December 2009 were eligible for inclusion in the sample.

Data Collection

The database was designed to collect data related to the complement of providers within each FHT and CHC as well as programs specific to healthy living. Specifically the following data were collected for each team: size^{2.6}, geographical region^{2.7}, number of sites per team, number of each provider and healthy living programs. Given that FPs, NPs and nurses are considered to comprise the “core team” within both FHTs and CHCs (AOHC, 2007; MOHLTC, 2006; Meuser et al., 2006), but the PHC mandate requests a diverse team of professionals including “other” health care providers as per community need, a “diverse team” for the purposes of this study was defined as a team with at least four different providers. That is, one “other” provider in addition to the “core providers”. The provider data were collected based on the list (of providers) outlined by the MOHLTC to be eligible for integration with FHTs (MOHLTC, 2005a). In addition to the “core providers”, dieticians, pharmacists and social workers are identified for specific inclusion, being granted preferential funding priority; whereas chiropodists, chiropractors, health educators, health promoters, midwives, occupational therapists, physiotherapists (PTs), and psychologists are listed under “other” potential providers. Similarly, the data related to healthy living were collected according to a list of eight programs (cardiovascular, diabetes, respiratory, mental health, nutrition, pharmacy, arthritis and exercise)

^{2.5} Of the 170 previously cited FHTs that have been approved, at the time of data collection only 134 FHTs were fully operational.

^{2.6} Operational definitions for size were used in accordance with the Quality Improvement and Innovation Partnership (2009).

^{2.7} Identified according to Local Integrated Health Network.

recommended by the MOHLTC for FHTs to enhance chronic disease management (MOHLTC, 2005b). Thus, the design of the database provided a defined subset of providers and programs available within CHCs.

The data were entered into the database in Microsoft Excel for Windows^{2.8}. To ensure high quality data entry, a process of double data entry for 10% of the database was undertaken. This process involved entering raw data on two occasions and comparing differences in data files. Differences were then reconciled with the sources data and an error rate of 0.1 percent or less was considered acceptable to ensure validity of the data.

Data Analysis

The data were analyzed using descriptive statistics. All analyses were conducted within Microsoft Excel for Windows 2003. First, summary statistics were generated across all participating FHTs and CHCs. Secondly, the number of: 1) different providers comprising each FHT and CHC; and 2) programs offered by the individual FHTs and CHCs was determined.

Results

Of the 134 operating FHTs, the research team was able to collect data from 126 teams (94%)^{2.9}. Of the 83 CHCs, including primary and associated satellite sites, the research team was able to collect data from all teams (100%).

^{2.8} Microsoft Excel for Windows 2003, USA

^{2.9} The eight teams in which data was missing spanned across 6 of the Local Integrated Health Networks and were of varying types and sizes and thus don't appear to impose a sampling bias.

Frequency of Providers and Programs

Providers

Examining the composition of providers across FHTs, relative to CHCs, revealed some differences (Table 2.2). Specifically, FPs comprised almost half of the complement of providers across FHTs (49%), which was double that of CHCs (24%). All “other” non-core providers were represented across the CHCs, whereas midwives and occupational therapists were notably lacking on FHT teams. On the other hand, of the three non-core providers granted preferential funding under the FHT initiative (pharmacists, dieticians, social workers), pharmacists alone were somewhat better represented as a proportion of the total number of providers across FHTs (3.2%) compared to CHCs (0.9%).

Table 2.2 Frequency Distribution of Health Care Providers across Ontario Community Health Centres (n=83) and Family Health Teams (n=126)

PROVIDERS	CHCs		FHTs	
	Frequency (n)	%*	Frequency (n)	%*
Core				
Family Physicians	269	24.0	1329	48.7
Nurse Practitioners	203	18.1	397	14.5
Nurses	200	17.8	382	14.0
Non-Core				
Chiroprodists	37	3.3	22	0.8
Chiropractors	2	0.2	3	0.1
Dieticians [†]	108	9.6	152	5.6
Health Educators	33	2.9	25	0.9
Health Promoters	50	4.5	6	0.2
Kinesiologists	2	0.2	3	0.1
Midwives	5	0.4	0	0
Occupational Therapists	8	0.7	0	0
Pharmacists [†]	10	0.9	87	3.2
Physiotherapists	15	1.3	4	0.1
Practical Nurses	23	2.0	55	2.0
Psychologists	33	2.9	68	2.5
Social Workers [†]	124	11.0	197	7.2
TOTAL	1122	100	2730	100

CHCs, Community Health Centres; FHTs, Family Health Teams; * % of total number of providers; [†] providers granted preferred funding for inclusion within FHTs.

Programs

In terms of the provision of programs related to health promotion and chronic disease management (Table 2.3), the median number of programs offered within each FHT was two compared with three within CHCs.

Table 2.3. Number of Ontario Community Health Centres (n=83) and Family Health Teams (n=126) offering the Eight Listed Healthy Living Programs

PROGRAMS	CHCs		FHTs	
	Frequency (n)	%	Frequency (n)	%
Cardiovascular	11	13.3	12	9.5
Diabetes	55	66.3	48	38.1
Respiratory	17	20.5	16	12.7
Mental Health	63	75.9	81	64.3
Nutrition	62	74.7	87	69.0
Pharmacy	4	4.8	33	26.2
Osteoporosis/Arthritis	1	1.2	5	4.0
Exercise	28	33.7	15	11.9

CHCs, Community Health Centres; FHTs, Family Health Teams

Number of Family Health Teams and Community Health Centres with at Least one of the Listed Providers

Providers

Given the larger number (Table 2.2) and ten-fold broader range in the number (Table 2.4) of physicians across individual FHTs (0-119) compared to CHCs (0-12), the aggregated data from the first stage of analysis did not garner a meaningful portrayal of the relative composition of each team from an interprofessional perspective. Thus, the next stage of analysis accounted for this by determining if at least one of the listed providers was represented within each PHC team (Table 2.5). In terms of the 'core' providers (FPs, NPs, nurses), the proportions of FHT and CHC teams inclusive of FPs and NPs were similar, whereas the proportionate representation of nurses was 1.4 fold higher for FHT compared to CHC teams (Table 2.5).

For dieticians, social workers and pharmacists, preferentially funded in addition to the core providers under the FHT initiative, a different perspective was revealed by the secondary analysis. Notably, dieticians and social workers appeared to be under-represented across FHTs in the first stage of analysis (Table 2.2). However, in this second analytic stage, it was evident that proportionately more FHT teams had at least one dietician or social worker when compared to CHCs (Table 2.5). Similarly, pharmacists appeared to be only slightly more represented within FHTs from the first analysis, however this additional analysis revealed that almost half the FHTs had a pharmacist, whereas only 11% of CHCs did.

Conversely, several non-core providers not granted preferential funding in the FHT initiative such as health promoters, midwives, rehabilitation professionals were less well represented in FHTs. This second stage of the analysis highlighted in particular the magnitude of under-representation of health promoters, as 39% of CHCs were found to have at least one health promotion provider compared with only 4% of FHTs (Table 2.5).

Table 2.4 Median Number of Health Care Providers within Ontario Community Health Centres (n=83) and Family Health Teams (n=126)

PROVIDERS	CHCs		FHTs	
	Median (n)	Range (n)	Median (n)	Range (n)
Core				
Family Physician	3	1-12	6	0-119
Nurse Practitioner	2	1-11	2	0-101
Nurses	2	1-16	2	0-29
Non-Core				
Chiropodist	0	0-2	0	0-1
Chiropractor	0	0-1	0	0-2
Dietician [†]	1	0-8	1	0-20
Health Educator	1	0-4	0	0-4
Health Promoter	0	0-2	0	0-1
Kinesiologist	0	0-1	0	0-1
Midwife	0	0-1	0	0
Occupational Therapist	0	0-2	0	0
Pharmacist [†]	0	0-2	0	0-4
Physiotherapist	0	0-3	0	0-1
Practical Nurse	0	0-3	0	0-15
Psychologist	0	0-3	0	0-3
Social Worker [†]	1	0-9	1	0-21

CHCs, Community Health Centres; FHTs, Family Health Teams; [†]providers granted preferred funding for inclusion within FHTs

Table 2.5 Number of Ontario Community Health Centres and Family Health Teams with at Least One of the Listed Providers

PROVIDERS	CHCs (n=83)		FHTs (n=126)	
	Frequency (n)	%*	Frequency (n)	%*
Core				
Family Physician	76	91.2	122	96.8
Nurse Practitioner	76	91.2	111	88.1
Nurse	46	55.4	97	77.0
Non-Core				
Chiroprapist	30	36.1	21	16.7
Chiropractor	2	2.4	2	1.6
Dietician [†]	54	65.1	94	74.6
Health Educator	17	20.4	16	12.7
Health Promoter	32	38.6	5	4.0
Kinesiologist	2	2.4	3	2.4
Midwife	6	6.0	0	0
Occupational Therapist	7	8.4	0	0
Pharmacist	9	10.8	62	49.2
Physiotherapist	11	13.3	4	3.0
Practical Nurse	6	7.2	20	15.9
Psychologist	21	25.3	35	27.8
Social Worker [†]	54	65.1	93	73.8

CHCs, Community Health Centres; FHTs, Family Health Teams; * % of total number of CHCs, FHTs; † providers granted preferred funding for inclusion within FHTs

Calculating Diversity of Providers

The final stage of statistical analysis examining provider composition determined how many of the teams were comprised of more than the three “core” members of FPs, NPs and nurses. The analysis revealed that 108 of the 126 (85.7%) FHTs had at least four different providers. In contrast, 79 of the 83 (95.2%) CHCs were found to have at least four different providers. Although the FHTs were for the most part larger in size, as noted by the higher numbers of various providers within each team, there were providers outside of the “core” team within FHTs. The median number of non-core providers within FHTs was four while the median number of non-core providers within CHCs was five.

Discussion

The purpose of this cross-sectional descriptive quantitative study was to gain an understanding of the structure of Ontario PHC teams, from the perspective of Ontario’s PHC renewal effort. Specifically, two of the four pillars of PHC from the Canadian perspective were examined: 1) the diversity of interprofessional teams and 2) healthy living, reflected by the provision of health programming. As the “cornerstone” of PHC renewal in Ontario, FHTs were the focus of this study, with data from the longstanding CHC model also included. The excellent response rate from the FHTs and CHCs suggests that the profile generated was based on a comprehensive data set.

The findings of this study did reveal a lower median number of health care providers and healthy living programs within FHTs when compared with CHCs. Notably however, 85.7% of FHTs were found to have at least four different providers on the team and offered a median of two healthy living programs. Taking into account the relatively recent inception of the FHT initiative, the teams do appear to be structured in a way to support Ontario’s PHC mandate. The degree of diversity of team composition and healthy living programming specifically within FHTs represents a dramatic improvement from previous restructuring attempts.

In considering the definition of PHC, a broad concept that emphasizes the provision of service for all people along the continuum of health from promotion to curative and rehabilitative care (WHO, 2002), a holistic vision of “health” is evident. Certainly, the inclusion of social workers, dieticians and pharmacists within FHTs, as highlighted in this study, speaks to how different aspects of the person as a whole can now be addressed, satisfying the mandate of PHC to a greater degree. The inclusion of these non-core provider groups in particular likely reflects the granting of priority funding status by the MOHLTC (2006).

There are some groups of providers however, that are either absent from FHTs, or integrated to a very limited capacity, highlighting a potential shortcoming within FHTs and requires investigation. A recent gaps analysis on the FHT initiative found that the lack of explication of operational directives and funding models as they pertain to certain provider groups are likely to hinder the full enactment of PHC through the FHT initiative (Dufour & Lucy, 2010). Similarly, other scholars have found that fee-for-service compensation models limit collaborative interprofessional practice (Cott et al., 2004).

Ragaz and colleagues (2010) determined that although the composition of each FHT is somewhat variable there are common strategies that are critical for success. One of the noted strategies relates to striking a balance between the demands of the team, the community and the MOHLTC (Ragaz, Berk, Ford & Morgan, 2010). It is beyond the scope of this study to explore the impact of administration, i.e. governance and funding, on the enactment of PHC; however, this represents an important dimension of PHC models and in particular a key difference between the CHC and FHT model.

Although there are inherent differences between the FHT and CHC models of care, both encompass the four pillars of PHC from the Canadian perspective. As such, CHCs provided a useful model for comparison purposes within this investigation of FHTs. The findings of this study indicate that both CHCs and FHTs are structurally congruent with Ontario’s PHC mandate. How

the enactment of service provision actually occurs within these models however is still unknown.^{2.10}

Limitations

This study represents a very preliminary step towards understanding the complexities of enacting PHC teams as only two of the four defining pillars of PHC were examined. Although this study provides important insight into the structure of FHTs relative to the established pillars of PHC, the process of service provision within this framework is unknown. Additionally, only Ontario CHCs and FHTs were examined. The features that were examined in this study do not pertain to administrative issues of governance and funding, which were the aspects that characterized previous restructuring attempts within models such as Health Service Organizations, Family Health Networks and Family Health Groups.

Conclusion

Primary health care mandates the provision of services delivered by a collaborative team of providers, ultimately to improve quality of care and health status. In Canada, PHC is generally understood as the current descriptor of first contact services, defined by four key features: collaborative teams, healthy living, information, and access (Romanow, 2002). Thus, representing an expanded perspective of PC, emphasizing health rather than curing disease, requiring a diverse team of providers to adequately attend to the various domains of health. The recent FHT initiative is built on the four pillars of PHC, not unlike CHCs, and is intended to continue to fulfill Ontario PHC mandate. Our data suggest that FHTs do appear to be making notable progress relative to Ontario's PHC mandate and as such a practice model congruent with supporting renewal

^{2.10} A manuscript for this study was submitted to Healthcare Policy November 2011.

efforts. Further research is needed to guide the evolution of FHTs, ultimately to ensure Ontario's PHC mandate is fulfilled.

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CHAPTER THREE

INTEGRATING PHYSIOTHERAPISTS WITHIN ONTARIO PRIMARY HEALTH CARE TEAMS: PERSPECTIVES OF FAMILY PHYSICIANS AND NURSE PRACTITIONERS

Background

Primary health care (PHC) is a broad concept that emphasizes the provision of service for all people along the continuum of health from promotion to curative and rehabilitative care (World Health Organization, 2002). In Canada, PHC is generally understood as the current descriptor of first contact services, characterized by four key features that differentiate it from primary care: collaborative teams, access, information and healthy living (Romanow, 2002). Optimizing PHC and mitigating or alleviating sub-optimal application of its key principles necessitates a collaborative, interprofessional approach that engages all stakeholders in the process (individuals, communities, health care practitioners, decision-makers and policy makers).

In Canada, as is the case among other industrialized countries, the impact of chronic disease continues to drive health system change. The economic burden of chronic disease in Ontario is estimated at 55 percent of the total direct and indirect health costs. Almost 80 percent of Ontarians have been diagnosed with a chronic condition by the age of 45 years, and of these, approximately 70 percent have been diagnosed with two or more chronic conditions (Statistics Canada, 2003). The added recognition that Ontario's current health care system does not provide the comprehensive management that is required for individuals with chronic conditions has been a critical catalyst for change at the PHC level. Alternative models of health care delivery that include a broad range of providers to care for people with chronic conditions describes a summary of existing recommendations to attend to current needs and expectations (Brooks, 2008; Russell, Thille, Hogg, & Lemelin, 2008).

Primary Health Care in Ontario

Founded in 1972, the longest standing model of PHC in Ontario has existed within Community Health Centres (Association of Ontario Health Centres (AOHC), 2007). Community Health Centres (CHCs) are community-governed organizations that provide PHC and community development services using interprofessional teams of providers (often including physicians, nurse practitioners, dietitians, physiotherapists, health promoters, counselors and others) who are paid by salary, rather than through a fee-for-service system (AOHC, 2007). The CHC model represents a distinct approach to delivering PHC due to the fact that CHCs: (1) offer a range of services that focus on the underlying causes of poor health status; (2) employ a range of different professional care providers who are all salaried promoting diversity; (3) offer programs specifically tailored to the community; and (4) are held accountable to community-governed boards (Suschingg, 2001). Currently there are 56 CHCs, with associated satellite sites across Ontario (AOHC, 2007). A recent study analyzing the practice features of different first-contact service models (fee-for-service, Family Health Groups, Health Service Organizations and CHCs) and associated impact on chronic disease management in Ontario, found that it was superior in CHCs (Russell, Dahrouge, Hogg, Geneau, Muldoon, & Tuna, 2009). Considering this within the context of PHC renewal, additional models of PHC (similar to CHCs), intended to improve care through the use of interprofessional teams and a focus on healthy living, have been developed.

Two such initiatives have been recently implemented in Ontario: Family Health Teams (FHTs) and Nurse Practitioner-Led Clinics, both developed by the Ministry of Health and Long-Term Care (MOHLTC) and clearly intended to build on the four aforementioned features of PHC^{3.1}. The “cornerstone” of PHC renewal in Ontario, refers specifically to the Family Health Team (FHT) initiative,

^{3.1} The four pillars of PHC according to the Romanow commission (2002) are: collaborative teams, information, access and healthy living.

established in 2005 (MOHLTC, 2006a). Essentially, the FHT initiative describes the establishment of interprofessional health care teams to improve the delivery of PHC services in Ontario (Meuser, Bean, Goldman, & Reeves, 2006; MOHLTC, 2006a). In particular, these teams are developed such that they are tailored to meet specific local community needs, emphasizing comprehensive chronic disease management and health promotion strategies. Like CHCs, family physicians (FPs), nurse practitioners (NPs) and nurses are considered to make up the “core” team, with “other” providers added to the complement as required by community need. Current estimates indicate that the number of approved FHTs exceeds 170 (in various stages of implementation), with commitment from the Ontario government to continue the approval process until there are 200 operational teams (MOHLTC, 2011a).

Developed almost two years after the first wave of FHTs in 2005, the first Nurse Practitioner-Led Clinic was established in late 2007 in Sudbury. Situated in a similar fashion to FHTs, Nurse Practitioner-Led Clinics describe the provision of PHC provided by a range of health care professionals who will work collaboratively to provide comprehensive, accessible and coordinated family health care services to a defined population, the majority of which do not currently have a PHC provider (MOHLTC, 2009). Currently there have been 25 clinics approved at varying degrees of implementation, with all anticipated to be operational by 2012 (MOHLTC, 2011b). As such, government resources are being directed to these models of practice, highlighting the notion that collaborative and interprofessional care represents the new standard (O’Connor, 2009).

Physiotherapists and Primary Health Care

Physiotherapists (PTs) are first contact, autonomous self-regulating professionals, who are equipped with the necessary education and experience to address the needs of health promotion and disease prevention, both on an individual and community level (Soever, 2006). Specifically, PTs have extensive

education and training in areas of neuromusculoskeletal, cardiopulmonary-vascular and neurological care. As such, PTs are well positioned to assist with current health promotion and chronic disease management practices within Ontario's PHC models.

The current literature suggests that the inclusion of PTs within PHC teams could result in positive health outcomes and lower costs (Cott, Devitt, Falter, Soever, & Passalent, 2007; Soever, 2006). Specifically, benefits cited have included: (1) higher patient satisfaction (Bingisser, Joos, Fruhauf, Caravatti, Knoblauch, & Villiger, 2001; Jones, Cooper, and Riley, & Dobbs, 2002); (2) decreased wait times for physiotherapy consultation (Hackett, Bundred, Hutton, O'Brian, & Stanley, 1993; Stanley, Miller, Pinnington, Rose, & Rose, 2001); (3) increased cost-effectiveness (Hackett et al., 1993); 4) reduced number of inappropriate referrals to specialists (O'Cathain, Froggett, & Taylor, 1985) and (5) improved patient-related outcomes, such as quality of life, exercise tolerance and health status (Bingisser et al., 2001; Jones et al., 2002).

Interestingly, despite the emphasis on health promotion and chronic disease management (CDM) within PTs' scope of practice and the evidence to support the inclusion of PTs within PHC models, PTs lack a presence across Ontario PHC teams. In fact, data generated by the authors for a previous study (Chapter 2) identified inclusion of PTs in only 11 CHCs and four FHTs (funding for whom is through a source outside of the MOHLTC). Also, the 2003 Minister's Accord stated that 50% of Canadians would be receiving PHC from an interprofessional team by 2011, and PTs were part of the recommended provider complement in this national movement (Canadian Intergovernmental Conference Secretariat, 2003). Additionally, the Provincial Coordinating Committee on Community and Academic Health Science Centre Relations advocate for a complement of 14 services to comprise comprehensive patient-centered care, inclusive of "co-ordination and access to rehabilitation" as one of these key primary level services (Glynn, 1996). Family Health Teams are said to use this

list of services to guide their service provision (Rosser, Colwill, Kaperski, & Wilson, 2011).

Although, PTs are currently funded within the CHC model, other researchers have noted that they are represented to a limited degree (Passalent, Borsy, & Cott, 2007). Further, this lack of incorporation has been advocated as a key area of further exploration when considering current PHC renewal efforts and the discrepancy between demand and provision of publicly-available physiotherapy services (Passalent et al., 2007). As far as FHTs are concerned, PTs were originally deemed eligible for preferred funding within these teams (MOHLTC, 2006b); however, this provision was subsequently reversed by the MOHLTC (McColl, Aiken, Birtwhistle, Corbett, Schoder & Schaub, 2009; MOHLTC, 2008). Physiotherapists are also not currently funded under Nurse Practitioner-Led Clinics (MOHLTC, 2009). Thus, the limited integration of PTs within these models points to an evident gap in Ontario's delivery of PHC and perspectives of "core" PHC team members (FPs and NPs) on this issue are currently not known.

Purpose

The purpose of this investigation was to determine the perspectives of FPs and NPs related to the inclusion of physiotherapists within Ontario PHC teams (Appendix A).

Methods

The study was designed based on qualitative description using in-depth (in person, semi- structured) interviews to collect data from "core" health care providers within Ontario PHC models, namely, FPs and NPs. The data were collected between February 2009 and July 2009.

Specific research methods should flow from the worldview that grounds the research and these methods should best answer the research question(s). Thus, the debate related to which qualitative method is best (for example a

purely descriptive method versus a method that focuses on theory generation) rests on the congruency of methods chosen relative to the research question and assumptions of the researcher(s) and how those methods are operationalized. Qualitative description is the most commonly used qualitative method within health science literature (Caelli, Ray, & Mill, 2003; Sandelowski, 2000). Although pure qualitative description has been criticized for lacking rigor from a purist research perspective (Whittemore, Chase, & Mandle, 2001), a pragmatic approach to research supports qualitative description as a valuable and distinct mode of quantitative inquiry and particularly useful for health science research (Sandelowski, 2000). Qualitative description is desirable when post-positivist assumptions underlie the objectives of the research project i.e., when researchers are attempting to uncover a relatively objective description of the facts. Researchers conducting such studies seek descriptive validity, that is, an accounting of events that most people observing the same event would agree is accurate (Maxwell, 1992). Given the post-positivist assumptions that are inherent within qualitative description and that the purpose of the proposed study was to seek an objective account of the participants' perspectives, qualitative description provided a congruent fit.

Sample

In order to generate a wide range of perspectives and information-rich data, maximum variation sampling, a form of purposeful sampling, which allows research to explore the common and unique manifestations of a target phenomenon across a broad range of cases (Graneheim & Lundman, 2004) was used. The goal of the purposeful sampling was to ensure variation from Ontario PHC teams with regard to: (1) type (CHC/FHT/Nurse Practitioner-Led), (2) size (Large/Small/Community/Rural)^{3.2} (3) region (Local Integrated Health Network),

^{3.2} Operational definitions for size were used in accordance with the Quality Improvement and Innovation Partnership (2009). Rural = 0-4 FPs, Small = 5-10 FPs, Community = 11-20 FPs and Large = 21+ FPs

as well as (4) “core” providers (both those who did or did not currently work with a physiotherapist on their team). All participants were sampled from a database of Ontario PHC teams that was generated for a prior study. This database consisted of detailed information related to the composition of each PHC team, demographic characteristics of each team and programming related to health promotion and chronic disease management provided within each team. Potential participants were either mailed or emailed a letter of information outlining the study and an accompanying consent form (Appendices C & D). In the cases of no response from the initial invitation to participate, the selected individuals were contacted by phone 10 days after the initial contact.

Data Collection

Key informant interviews served as an investigation technique for gathering a variety of data in a short time frame and helped to define a broad spectrum of views on a topic. As such, a semi-structured in person interview was conducted with each participant by the investigator (S.D.). The interview guide (Appendices E & F) included questions such as: “Would you have ever considered the inclusion of a physiotherapists within the team?” and “What would you see a physiotherapist doing within the team?” as well as contextual questions related to team composition and interprofessional communication. The interviews were conducted at the various practice sites and lasted approximately 30 to 45 minutes. Demographic data for each participant were collected at the end of each interview (Appendix G) and a total of 20 interviews were conducted. Participants represented all three types of PHC teams, all four sizes of PHC teams, and all 14 Ontario Local Integrated Health Network (LIHNs) health-planning regions. In addition a relatively equal mix of FPs and NPs were

represented, as were participants who did and did not work with PTs. Table 3.1 highlights the final sample demographics.

Table 3.1 Demographics of Final Sample: Descriptive Study

Participant	Provider	Gender	PHC Model	Size Category	Work with PT
001	FP	F	FHT	Community	No
002	FP	F	CHC	Rural	Yes
003	FP	M	CHC	Small	Yes
004	FP	M	CHC	Rural	Yes
005*	FP	F	CHC	Small	No
006	NP	F	CHC	Rural	Yes
007*	FP	F	FHT	Community	No
008	NP	F	CHC	Small	Yes
009*	FP	M*	FHT	Large	No
010	NP	F	NPC	Rural	No
011*	FP	F*	FHT	Community	No
012	NP	F	FHT	Rural	No
013	FP	M	FHT	Small	No
014	NP	F	CHC	Rural	No
015	NP	F	CHC	Rural	No
016	NP	F	FHT	Large	No
017	NP	F	FHT	Large	No
018*	FP	F	FHT	Large	Yes
019	NP	F*	FHT	Community	Yes†
020*	FP	M	FHT	Small	Yes†

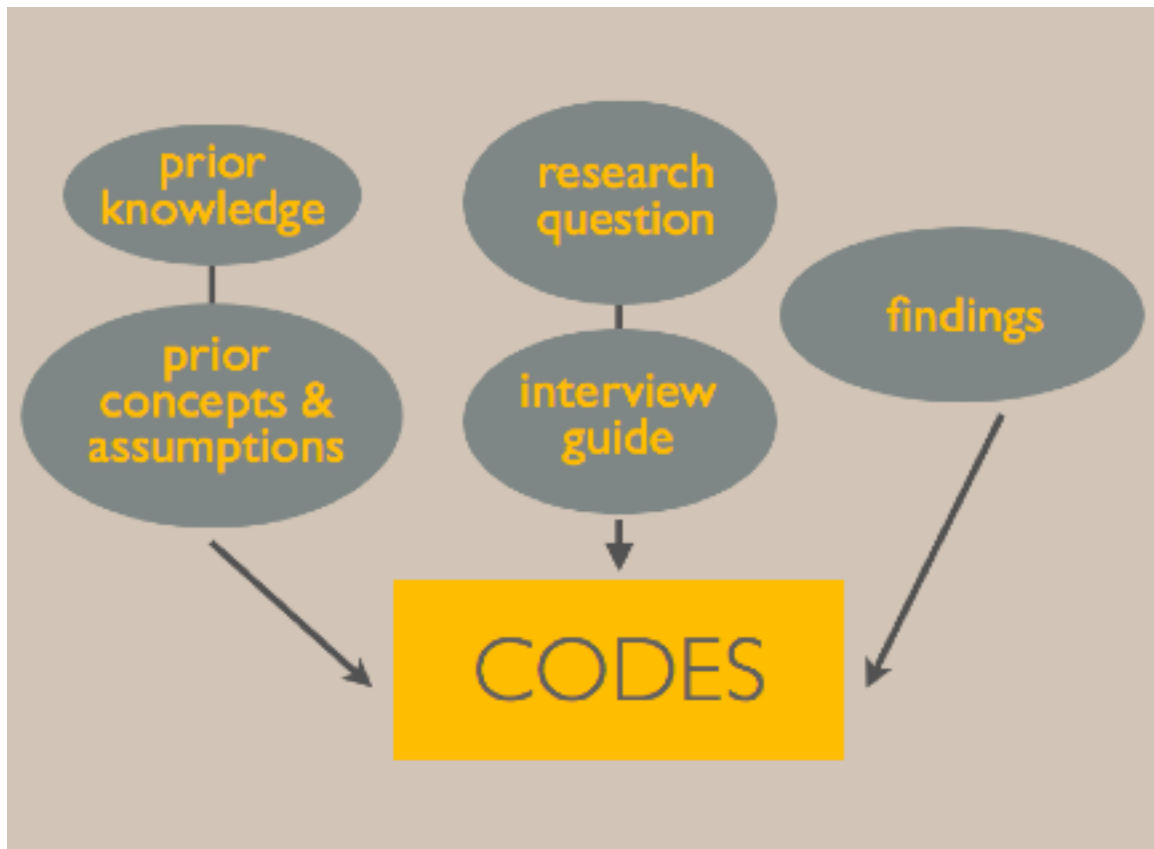
CHC, Community Health Centre; FHT, Family Health Team; NPC, Nurse Practitioner Led Clinic; PT, Physiotherapist; *director/lead of PHC team; † PT on the team but does not work with the participant interviewed.

Data Analysis

All interviews were audiotaped, transcribed verbatim and subsequently checked by the original interviewer (S.D.) for accuracy. Content analysis was chosen for this study given that the objective of the study required data to be described in a way that best reflected the data collected from participants. As with all qualitative research, the process was characterized by the simultaneous collection and analysis of data, and was similarly reflexive and interactive as new data were accommodated and insights gained (Sandelowski, 2000).

In the first phase of the analysis, each transcript was independently reviewed and coded by three researchers to determine the key concepts and patterns emerging from the data. The researchers then met to compare and contrast their independent coding, culminating in consensus that informed the development of the coding template. All transcripts were inputted into NVIVO 8 (QRS International, 2009) in order to facilitate the multi-dimensional coding process, particularly to guide the movement from initial to secondary codes. Codes were considered along continuums from the perspective of both the participant and research to enhance reflexive sensitivity. In addition to the participant-generated data, codes were also informed by prior knowledge, the research question and the interview guides. Figure 3.1 depicts the general coding framework.

Figure 3.1 Coding Framework: Descriptive Study



Source: Rozmovits, L. (2009). Associate Professor, Department of Health Policy, Management and Evaluation, Centre for Critical Qualitative Health Research, University of Toronto, Toronto, Ontario. Reproduced with Permission, August 24, 2010.

The second iteration of the analysis involved generation of reports for the higher order codes, grouping categories together, which ultimately led to the emergence of the key themes, and the exemplar quotes articulating those themes. The research team then met for further synthesis, meta-synthesis and interpretation of themes. Key regularities in the categories were evident after coding only four transcripts. By interview 15, there were no new themes or disconfirming data. However, the research team was committed to completing the remaining five interviews in order to ensure consideration of the full breadth of perspectives based on the outlined sampling criteria.

Credibility and Trustworthiness

Credibility and trustworthiness of the data were enhanced through four principle means: (1) employment of maximum variation sampling; (2) prolonged engagement with the data via in-person interviews; verbatim transcription of interviews and rechecking of the transcripts by the original interviewer; (3) development and maintenance of an audit trail throughout the research process to enhance the transparency of the research process and the associated findings and (4) analysis of transcribed data followed by collaborative team discussions at all stages of analysis (Hesse-Biber & Leavy, 2004; Lincoln & Guba, 1985; Sandelowski, 2000).

Findings

Five key themes emerged from the data in relation to the integration of physiotherapists within Ontario PHC teams: (1) lack of physiotherapists, reflecting a gap; (2) high perceived demand for and value of physiotherapists; (3) possible beneficial outcomes; (4) more appropriate use of health human resources (HHR) and capacity building; and (5) lack of funding, viewed as a key barrier to inclusion.

Lack of Physiotherapists within PHC Teams: An Existing Gap

The current lack of PTs within CHCs, FHTs and Nurse Practitioner-Led Clinics was articulated as a critical gap within Ontario PHC teams. The skill set of physiotherapists was perceived as being valuable, pertinent to clearly defined areas of practice, needed to optimize provision of care within PHC teams. “A physiotherapist would be particularly helpful on the MSK side of things. This is a clear area of practice within the team where a major gap exists and care could really be improved here.” (009, FP, FHT)

In fact, participants spoke to seeing this perceived gap on a daily basis. “I see 100% the utility of physiotherapists within an FHT and I see this with my patients’ conditions on a daily basis.” (001, FP, FHT).

It was felt that because the domain of musculoskeletal (MSK) health particularly, tended to be an area of limited knowledge and skill for FPs and NPs, the absence of PTs, the perceived experts in this area, translated to a tangible gap in current service provision.

“Access to physiotherapy period, is actually the biggest gap in care on our team. We don’t know the specifics of how to diagnose and treat a lot of this stuff [MSK and related issues] and without a funded physiotherapist right on our team, patients simply go without and don’t get the proper care.” (014, NP, CHC)

This sentiment was corroborated by a participant who had previously worked with a PT within their PHC team, but no longer did.

“Physiotherapists know a lot of detailed information that us physicians, nurse practitioners and nurses are rusty on or not up to date. So having that support from a physiotherapist was a huge asset and we really see the gap without her.” (005, FP, CHC)

Physiotherapists in Demand and Valuable: Musculoskeletal Health and Chronic Disease Management

A unanimous perception among participants was that PTs had much to contribute to MSK health, from the perspectives of triage, assessment and management.

“Assessing and triaging towards surgery would be fantastic. It would really help our patients because you know, instead of waiting several months to see an orthopedic surgeon they would be assessed and quickly triaged by the physiotherapist to refer on or not.” (009, FP, FHT)

In particular, from the MSK perspective, a number of participants felt that being able to consult with a PT on the team could mitigate unnecessary diagnostic tests and inappropriate referrals to specialists.

“I suspect that a better use of physiotherapists’ unique skill set would lead to a significant reduction in unnecessary diagnostic tests such as CTs or MRIs not to mention unnecessary waiting for recovery or a consultation with a specialist that they may not really need.” (001, FP, FHT)

The value of consulting with PTs was also described in terms of enhancing chronic disease management (CDM).

“He is not just a clinician he is also an important resource with very specialized knowledge which is critical for a variety of our programs, particularly chronic pain and chronic diseases.” (003, FP, CHC)

Specifically, PTs were commonly described to be of great value where CMD was concerned since they were seen as a provider who could more significantly impact quality of life through self-management strategies.

“A physiotherapist would be so valuable here in terms of really educating the person in the things they can do to change their own movement patterns and reduce their pain. It would be access to someone who really impacts quality of life.” (015, NP, CHC)

Notably, PTs were described as being better positioned to play a role in CDM and self-management efforts when compared with the providers who are currently providing service in these areas.

“Right now we are set up with our nursing staff to do most of the preventative piece and self-management, but to be honest there are many instances where I feel a physiotherapist would be a better person to do this.” (008, NP, CHC)

Specifically, PTs were described as being desired team members in order to provide the needed individualized exercise prescription to patients, which was described as being distinct from lifestyle education.

“Our nurses educate regarding lifestyle that includes being physically active but this is not exercise prescription, it would be so helpful to have.”

(012, FP, FHT)

Physiotherapists: Possible Beneficial Outcomes

Another theme that emerged, related to the potential outcomes that participants believed would come about if PTs were integrated into Ontario PHC teams. Many participants described the possibility of improved outcomes at three levels: 1) individual, such as less reliance on pain medications; 2) health care system, such as less emergency room (ER) visits; and 3) society, such as improved productivity though enhanced return to work.

“Without our PT we are talking more chronic issues, more expensive care, more ER visits and more prescription meds that usually compound the problem rather than solve the problems. We see clients deteriorate before our eyes with a number of presentations. So having more PTs involved is an obvious step forward.” (006, NP, CHC)

In linking with the other themes, these improved outcomes were often articulated within the context of not having an “MSK health expert” on the team and not being able to provide the most appropriate care to patients without a PT.

“Let me list them. Decreased ER visits for inappropriate pain management, more timely return to work, decreased unnecessary invasive testing and expensive diagnostic testing, improved patient and provider satisfaction relative to having a true expert in the MSK and rehab arena.” (007, FP, FHT)

The viscous cycle of impairment that incurs when promotive or primary prevention strategies are not implemented were linked to not having PTs within these teams. This downward spiral was described at both the individual level and societal level.

“Once someone has slipped into a more chronic state, they are not functioning well and then not contributing to society. And when you consider them not working and not paying taxes it really spirals. This could all be avoided.” (016, NP, FHT)

More Appropriate Health Human Resource (HHR) Utilization and Capacity Building

A general sentiment among participants was that the integration of PTs within Ontario PHC teams would lead to more appropriate utilization of the providers that currently practice within these teams.

“I think if we had a PT on the team then physicians wouldn’t be forced to practice outside of their scope of practice so much, covering things we really don’t know in detail. We would be able to focus on the critical things we have expertise in. Like our MDs don’t do psychotherapy here because we have mental health counselors that do that and they do a much better job. The same would be true for anything related to MSK if we had a physiotherapist.” (019, FP, FHT)

Further, participants felt that this more appropriate utilization of providers would not only result in better care, but would ultimately assist PHC teams in being able to enhance their capacity and take on more patients.

“With a physiotherapist added to our team, we could be able to take on more orphan patients and ultimately have larger case loads since you are not spending time assessing and reassessing patients when frankly you don’t even do it right, like going in circles all the time and really wasting everyone’s time.” (012, FP, FHT)

Participants who did in fact work with PTs corroborated this sentiment and described fewer follow-up appointments with complicated patients once these patients were being managed by the physiotherapist on the team.

“Once I have a complicated patient seeing her [the physiotherapist], then suddenly I am not seeing them as much and when they do come in they are talking about things other than their pain and limitations. She [the physiotherapist] is working with them and they are now taking some charge of their problems, and I mean, wow that is fantastic.” (004, FP, CHC)

In connection with the other themes, participants who worked with PTs described how they couldn't envision functioning properly without them, particularly given physiotherapists' expertise in MSK health and thus assisting with this particular portion of the caseload.

“I couldn't imagine how we would function properly without him...the integration of the physiotherapists here significantly alleviates the burden of care...there is so much volume so to have someone take care of the MSK piece, someone who is much better equipped to deal with this, I mean he does such a sophisticated physical assessment and more appropriate treatment that ultimately the patient gets better much quicker.” (003, FP, CHC)

Lack of Funding for Physiotherapists: A Barrier to Enacting Optimal Care

Participants regarded the lack of funding for PTs within Ontario PHC teams with frustration. “We asked for a physiotherapist in our business plan and were not approved for it, so that is the Ministry's decision. From our perspective we see the need for a PT here everyday.” (009, FP, FHT)

Given the mandate of PHC teams, namely a focus on healthy living as opposed to curative care, the lack of funding and support for PTs was perceived by the participants to be a possible oversight.

“When we talk about chronic disease here, which is supposed to be a big focus for us and then the chronic pain associated with this, I mean as far as pain control goes, empowerment, energy conservation and preventing secondary problems...well this is exactly what we need and this is what a physiotherapists could do if we had funding for one.” (010, NP, NPC)

A medical model that was actually antithetical to the vision of PHC was felt to drive incentives as directed by the MOHLTC. This was seen as a barrier to providing the most appropriate care.

“We are really being pushed in terms of medical models. We could certainly use a number of other providers including physiotherapy, but because of the way the Ministry has devised incentives, everything is medical and not necessarily the most appropriate perspective to get patients well and keep them well” (013, NP, FHT).

Linking with the first theme, the lack of PTs within Ontario PHC teams was considered to be a gap in care perceived to be a result of decisions made by the MOHLTC. “Well the big gap in our current team is that we don’t have a physiotherapist and that is the government’s fault.” (020, FP, FHT)

Discussion

The study findings revealed PTs to be perceived as desirable and valuable team members within Ontario PHC teams. As such, the lack of PTs within current Ontario PHC teams was found to be a significant gap in service provision and ultimately a barrier to delivering optimal care. This finding is in consort with international trends moving towards the integration of PTs within PHC teams as well as the Ontario-specific literature addressing this gap (Cott et al., 2007; Cott, Landry & Mandoda, 2009; McColl et al., 2009).

There was an overwhelming perception of PTs as experts in the area of MSK health. Participants indicated that they believed the integration of PTs within their PHC teams could improve: (1) case load management due to the

volume of MSK related issues that present to these PHC settings; (2) accuracy of diagnoses of MSK conditions through a sophisticated clinical physical examination; and 3) appropriateness of requisitions for diagnostic imaging and referrals to specialists. This perception of PT expertise in MSK health reflected the findings of McColl et al. (2009), identifying that 95% of the FHT business plans analyzed requested funding for a PT, most often for programs related to MSK health and pain conditions.

The study findings were not unexpected as approximately 30% of visits to family physicians in Ontario relate to musculoskeletal complaints (Pinney & Regan, 2001), lower back pain alone accounting for 25% of those visits, and cited as the most common reason to visit an orthopaedic surgeon or neurosurgeon (Iron, Jaakimainen, Rothwell, Li & Laupacis, 2004). Further, only 20% of patients who are referred to an orthopaedic surgeon have been shown to actually require surgery (Aiken, Atkinson, Harrison, & Hope, 2007; Soever, 2006). The perceived impact on outcomes found in this study was further consistent with the literature supporting PTs functioning in triaging roles related to MSK health in the United Kingdom, United States of America and Canada (Alberta Bone and Joint Institute, 2007; Hattam & Smeatham, 1999; Murphy, Greathouse, & Matsui, 2005).

Physiotherapists were also described as having much to offer in the domain of CDM, a focal point for Ontario PHC teams. In particular, participants spoke about PTs being able to provide more meaningful advice related to self-management in the areas of physical activity counseling and exercise prescription. Physical activity, healthy eating and smoking cessation are the behaviours that provide the foundation for health promotion for Ontario PHC teams (MOHLTC, 2006). These factors are known to be the top three modifiable risk factors related to the most prevalent chronic conditions, commonly referred to as “lifestyle conditions” and create the best opportunity to manage chronic disease. For example, a comprehensive 2004 review demonstrated that the combination of carefully prescribed exercise and diet modification was far

superior in the treatment of obesity when compared to the modification of diet alone (Orzano & Scott, 2004). Exercise prescription within first-contact health care settings is regarded as an essential means to promote health (Rhodes & Fiala, 2009). Despite this, only 22 to 48% of patients with lifestyle conditions receive specific advice regarding physical activity or exercise (Charkravarthy, Joyner, & Booth, 2002).

Physiotherapists have been likewise generally well known for their expertise related to physical activity and exercise prescription, such expertise being supported by the literature (Rhodes & Fiala, 2009). From an Ontario perspective, a recent study confirmed that FPs and NPs perceive PTs to enhance CDM programs through exercise prescription and health education (Cott et al, 2009), congruent with perceptions of participants in this investigation.

Participants described a number of possible beneficial outcomes, spanning from individual to societal level, when PTs were integrated within Ontario PHC teams, a viewpoint supported by both international (Bingisser et al., 2001; Hackett et al., 1993; Jones et al., 2002; O’Cathain et al., 1985; Stanley et al., 2001) and Ontario-specific literature (Richardson, et al, 2010). A recent randomized controlled trial investigating a rehabilitation program with a strong self-management emphasis based on the Stanford Chronic Disease Management Program concluded improved health outcomes (increased satisfaction with care, reduced hospitalizations) by including services delivered by PTs within a Hamilton, Ontario FHT (Richardson et al., 2010).

Improving access to FPs through a more strategic use of HHR is central to PHC renewal and was a driving factor behind the development of the FHT initiative. It was initially projected that delivering PHC through an interprofessional team, rather than in a traditional single provider model, would allow practices to roster over 50% more patients, drastically reducing the number of orphan patients in Ontario (MOHLTC, 2006a). Participants within the current

study felt that the inclusion of PTs specifically would improve the capacity of PHC teams through more appropriate use of HHR.

The integration of PTs within Ontario PHC teams was well supported by FPs and NPs in this study. The cited key barrier to this integration was lack of funding, a view corroborated by recommendations of a recent policy analysis related to the lack of rehabilitation professionals (including Chiropractors, Occupational Therapists and Physiotherapists) with FHTs (McColl et al. 2009). Notably two of the four recommendations addressed two of the themes that emerged in the current study: (1) enhanced outcomes from individual to societal levels when physiotherapists are integrated into PHC teams; and (2) lack of funding of physiotherapists, a key barrier to enacting the most appropriate care.

In Ontario, PTs rarely work within the same physical settings as FPs and NPs; rather, the majority of physiotherapists deliver services through private clinics (Cott et al., 2007). It is not surprising then that the literature cites cost of private physiotherapy as a major barrier for their patients to access this important service (Cott et al., 2007). The findings of the current study describe the same barriers related to accessing PTs' services within the community that are covered by the Ontario Health Insurance Plan, which further substantiates the need to have PTs integrated right into PHC teams^{3.3}.

Limitations

The current study findings pertain to a sample that reflects the characteristics of PHC teams across Ontario only. The views captured in this study are limited to the "core team", which includes only FPs and NPs and may not reflect those of other providers within PHC teams.

^{3.3} A manuscript for this study was submitted to The Journal of Interprofessional Care, November, 2011.

Conclusion

This study describes perceptions of FPs and NPs who practice within Ontario PHC teams, relative to the integration of PTs within these teams. The mandate of PHC in Ontario articulates a shift to a comprehensive perspective of health that requires a diverse team of health care providers in order to realize aspired improved health outcomes. Physiotherapists lack a presence within these teams and this appears to be rooted at the health care system level, rather than at the level of current core providers (FPs and NPs) within the PHC teams. The lack of PTs within PHC teams also appears to contradict the current PHC mandate and relative espoused reform agendas. Our findings support the current body of international evidence, which indicates that PTs do have a valuable place within PHC teams. In particular, PTs were perceived to be particularly important to enhance service provision in the areas of MSK health and CDM. Further research directed at policy implications is required to address the system barriers that are limiting the integration of PTs within these teams.

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CHAPTER 4

ENACTING PHYSIOTHERAPISTS' ROLES IN ONTARIO PRIMARY HEALTH CARE TEAMS

Introduction

In Ontario, as is the case nationally, the current health care climate reflects one in which the demand for health care services exceeds the system's capacity to supply it. As such, Ontario's existing system has required creative restructuring in order to bridge the gap between demand and supply. Of particular interest, are the reforms at the primary care level where traditional single-provider practices have been reviewed and interprofessional team-based models of practice advocated and implemented. Consequently, primary *health* care as a concept has emerged (Mariott & Mable, 2000; Soever, 2006). Primary *health* care (PHC) is the current descriptor of first contact services, which incorporates the word "health" to highlight the broader understanding of health that has been recognized, as articulated in the World Health Organization's (WHO, 2001) International Classification of Functioning Disability and Health (ICF).

In Canada, PHC is differentiated from primary care (PC) in terms of four features: collaborative teams, information, access and healthy living (Romanow, 2002). The ICF (WHO, 2001) has helped to express the notion that although necessary, proficient physician-provided medical care in isolation, is insufficient in translating to comprehensive care. Rather, a diverse team, inclusive of physiotherapists (PTs) is required. In addition, the contemporary health era has called for greater accountability among all health care providers inspiring the competency-based education movement (Frank & Danoff, 2007). The magnitude of the paradigm shift for 21st century health care, including a holistic perspective of health and competency-based professional education is considerable and is required to meet current societal needs (Frank & Danoff, 2007). The aging population and increasing prevalence of chronic and lifestyle conditions are two

factors that have impacted the need for this paradigm shift. Physiotherapists are acknowledged to play an important role in the ongoing care related to functional decline associated with aging and chronic conditions (Cott, Landry, Mandoda, 2009). As such, the roles PTs play within PHC now and in the future may potentially be considered more essential.

Community Health Centres, the long-standing model of interprofessional PHC in Ontario, have positioned themselves as a service model for expansion of publicly funded physiotherapy services (Cott, Devitt, Falter, Soever, & Passalent, 2007; Passalent, Borsy, & Cott et al., 2007). Similarly, the recent Family Health Team (FHT) initiative in Ontario (MOHLTC, 2006, Meuser, Bean, Goldman, & Reeves, 2006), referred to as the “cornerstone” of PHC renewal, represents another interprofessional service model in which publicly funded physiotherapy could be expanded (Cott et al., 2009). Both CHCs and FHTs are founded on the pillars of PHC and are therefore comprised of interprofessional health care teams to improve service provision within Ontario (MOHLTC, 2006). In both models, family physicians (FPs), nurse practitioners (NPs) and nurses are considered to make up the “core” team, with “other” providers added to the complement as required by community need. Both models acknowledge the value of a complementary team of providers, who can more fully address the various components of health (Pringle, Levitt, Hosbrugh, Wilson, & Whittacker, 2000; Russell, Geneau, Johnston, Liddy, Hogg & Hogan, 2007).

Although PTs are funded within some CHCs, they have yet to be granted funding by the Ministry of Health and Long-Term Care (MOHLTC) within FHTs (Cott et al., 2009; McColl, Aiken, Birtwhistle, Corbett, Schoder & Schaub, 2009). The initial intention of FHTs, consistent with the mandate of PHC, was to include all regulated health professions. However, in recent years, numerous FHTs have applied for funding for PTs to be integrated into their teams only to be unsuccessful in receiving budget approval (McColl et al., 2009). The limited representation of PTs within Ontario PHC teams is notable (Cott et al., 2009; Passalent et al, 2007) given the emphasis on health promotion and chronic disease management that are within PTs’ scope of practice and the evidence to

support the inclusion of PTs within PHC models. Further, the majority of Ontario community physiotherapy services are currently available through the private health care sector, which has translated to limited or no access for many individuals (Cott et al., 2007; Cott et al., 2009). Considering this along side the recommendation that CHCs and FHTs be explored as cost effective options to expand publicly funded community physiotherapy service within Ontario (Cott et al., 2007; Passalent et al., 2007), an understanding of how PTs currently practice and what roles they are playing within these settings is needed.

The roles of any given health care provider are constantly evolving (Verma, Paterson, & Medves, 2006). One challenge of interprofessional collaboration relates specifically to defining provider roles, particularly within a changing health care environment. Another challenge relates to the culture of uncertainty that can be created within interprofessional teams when roles change and evolve (Williams & Sibbald, 1999). Clearly defining provider roles and responsibilities is thought to enhance the positive elements of collaborative practice models (Belanger & Rodriguz, 2008; Soklaridis, Oandasan, & Kimpton, 2007). The “roles” of health care providers are not fixed. Instead, they are constantly negotiated as influenced by changing environments. Thus, considering provider “roles” from a competency-based approach has been thought to facilitate interprofessional collaboration and service provision (Barr, 1998; Stephenson, Peloquin, Richmond, Hinman & Christiansen, 2002).

In Ontario, the MOHLTC has acknowledged common competencies among a list of ten provider groups, inclusive of PTs⁵, highlighting key responsibilities that include: (1) assessment, (2) treatment/management, (3) education/advocacy and (4) referrals/collaboration (MOHLTC, 2005). The MOHLTC contends that these responsibilities are to be considered within each

⁵ The ten providers are: Physicians, Nurses (including Nurse Practitioners), Midwives, Dieticians, Pharmacists, Mental Health Professionals (including Social Workers), Physiotherapists, Occupational Therapists and Chiropractors.

provider's regulated scopes of practice (MOHLTC, 2005). Thus, it would appear that from the perspective of Ontario PHC, the complementary aspects of care refer to the different skills and knowledge each provider brings to the team relative to their scope of practice, within the context of the established common competencies.

Specific to PTs, the competency profile for PTs, updated every five years to reflect the changing health care landscape, currently articulates seven roles (National Physiotherapy Advisory Group, 2009). These roles were adapted from the CanMEDS Initiative, whose goal was to implement competency-based medical education to ensure medical education in Canada was responsive to evolving health needs (Frank & Danoff, 2005). The seven meta-competencies described within the PT profile include: (1) Expert, the central integrative role indicating PTs as experts in function and mobility; (2) Communicator, articulates that PTs use effective communication to develop professional relationships with patients and other stakeholders; (3) Collaborator, highlights PTs' role within interprofessional teams; (4) Manager, encompasses management at multiple levels from direct patient care to managing community resources; (5) Advocate, indicates PTs' responsibility to promote well-being for their patients and communities but also their responsibility to promote their profession; (6) Scholarly Practitioner, highlights PTs' commitment to ongoing learning for the purposes of improving patient outcomes and (7) Professional, indicates PTs' commitment to the highest standard of care through adherence to ethical and legal regulations (National Physiotherapy Advisory Group, 2009).

In light of the evolution of primary care to PHC, which also emphasizes service provision by an interprofessional team, the common roles that have been established across provider groups are important to facilitate collaborative teamwork. Thus, the current PT competency profile reflects the diversity of physiotherapy practice, is informed by evidence, is needs driven and describes common roles across professions lending well to both interprofessional collaboration initiatives and PHC models (National Physiotherapy Advisory

Group, 2009). Also, there is overlap between the roles identified within the current PT competency profile and those listed by the MOHLTC concerning potential providers within Ontario PHC teams.

Physiotherapists are acknowledged to work within diverse contexts of practice spanning a breadth of client populations, areas of practice, settings and funding models that include PHC (National Physiotherapy Advisory Group, 2009), but it is not known how they practice in many of these settings. In an effort to better understand how PTs enact their roles in PHC teams, it is critical to acknowledge and understand both the independent contributions of various professional groups as well as the common competencies that exist across them (Verma et al., 2006). Further, determining and articulating the factors that influence role enactment specific to Ontario PHC teams, represents an important step towards expanding the integration of PTs within these teams.

Purpose

The purpose of this study was to gain an understanding of how PTs enact roles within Ontario PHC teams. More specifically, as the research process evolved, the following research questions were generated:

- How does the PHC mandate influence enactment?
- How does the team influence enactment?
- How does the community served influence enactment?
- How do organizational and structural features influence enactment?

Methodology

To ultimately explicate how PTs enact their roles within PHC teams, an interpretive, process-focused method of inquiry was required. Grounded theory was selected as the optimal method in which to explore the enactment of PTs' roles within PHC for the following reasons: (1) theory tends to be more abstract and has the potential for improving understanding or offering explanation when compared with descriptive methods; (2) theory helps us to begin to think about

action and change and is directly linked to practice (Dewey, 1938; Polanyi, 1958); and (3) grounded theory has the potential to reveal social processes (Charmaz, 2006; Corbin & Strauss, 2008). For the purposes of this study, social process refers to the processes involved in the formation and interaction of a group of persons, in this case, the PHC team. Further, grounded theory promotes “the act of constructing an explanatory scheme from data that systematically integrates concepts, their properties, and dimensions, through statement of relationship” (Corbin & Strauss, 2008, p.64). Considering a number of variables explicated in the Declaration of Self section that follows, pragmatic grounded theory (Corbin & Strauss, 2008; Strauss and Corbin, 1998) was chosen as the best school of grounded theory to draw from.

Declaration of Self

Pragmatic grounded theory was chosen primarily to maintain a pragmatic thread throughout the research program of which this is the final of three studies. Of particular importance, when the researcher, as in my case, is already well acquainted with the topic being investigated pragmatic grounded theory provides a means of dealing with pre-understandings (Strauss & Corbin, 1998; Corbin & Strauss, 2008). I have been deeply connected to the literature related to PTs and PHC throughout the duration of my doctoral studies. Further, I have personal experience enacting service as a PT in multiple community settings. In fact, my motivation for studying the roles of PTs within PHC models stems from my work practicing within a private practice for the past eight years. I have frequently felt that PTs’ skills are not optimized at the community level and believe PTs have a valuable place within all Ontario PHC models. Further, having had the opportunity to work as a preceptor for physiotherapy students undertaking interprofessional clinical placements at the McMaster FHT, I have gained further insights relative to the inclusion of PTs within Ontario FHTs. Therefore, I have had the opportunity to work as a clinician within the private sector as well as within the publicly funded system within an FHT. My exposure to both clinical environments, highlighted differences in services provision

causing me to question how PTs enact their roles with PHC teams and which factors influence the way they ultimately provide service. I do recognize that my participation within the Strategic Family Health Team Planning Committee (invited by the Ontario Physiotherapy Association) has influenced my perspectives related to the integration of PTs within FHTs. My professional experience as a PT could enhance my 'sensitivity' as a researcher within this study given that I may more quickly be able to understand and relate to things the participants discuss (Corbin & Strauss, 2008).

Methods

Sample

Potential participants were identified through a database of providers who currently work within Ontario PHC teams established in a prior study (chapter 2). There are a total of 19 PTs from 15 PHC teams (11 from CHCs and four from FHTs). Considering this finite number, one PT from each PHC team was purposively sampled, with 11 PTs participating in this first round of interviews. The second round of interviews was directed by theoretical sampling. That is, the data from these initial interviews were analyzed and then further perspectives were sought based on the direction the data took and were not pre-established (Corbin & Strauss, 2008). In this round an additional PT who worked within a FHT as a "Chronic Disease Management Facilitator", rather than as a "physiotherapist" per se was identified for interviewing. Also, six of the participants from the first round were interviewed again to explore emerging theoretical concepts from alternative perspectives and to authenticate the direction of the emerging theory. A total of 18 interviews were conducted. Figure 4.1 depicts the participant sample flowchart. The sample reflected perspectives from PTs who work in CHCs and FHTs of all sizes, representing nine of the 14 Local Integrated Health Networks (LIHNs) across the province (Table 4.1).

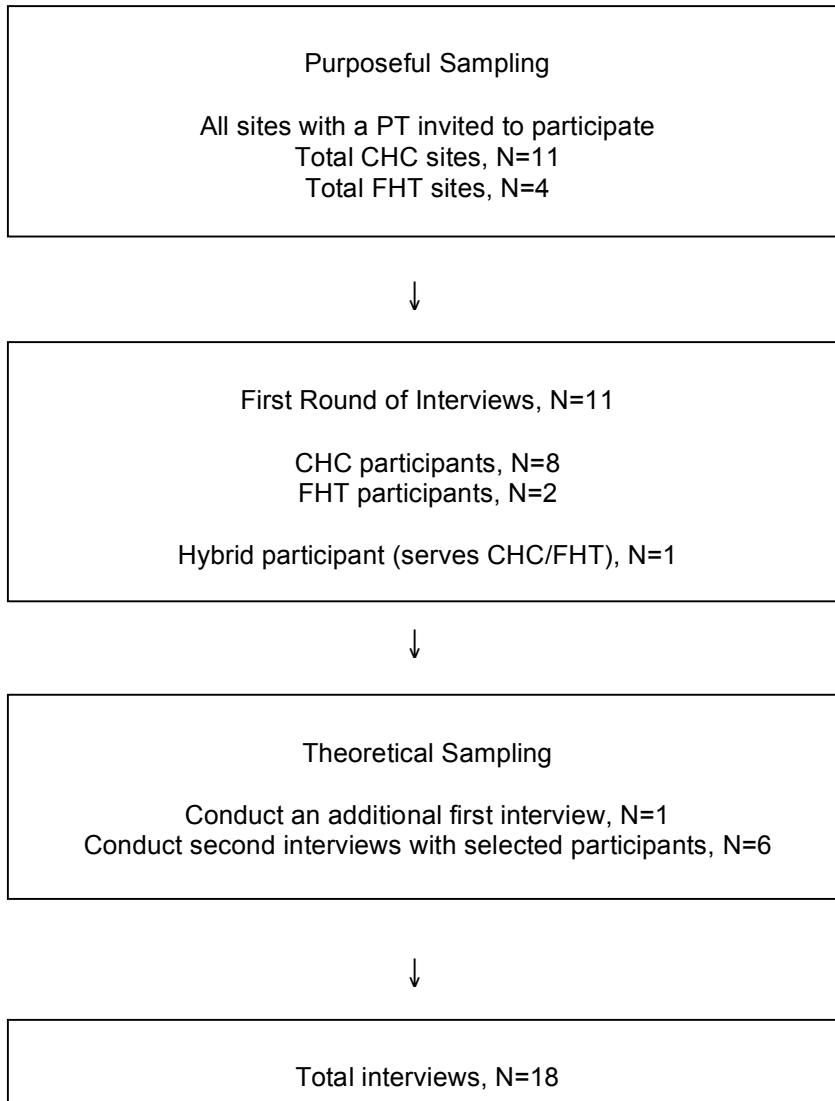
Figure 4.1: Participant Sample Flowchart: Grounded Theory Study

Table 4.1: Demographics of Final Sample: Grounded Theory Study

Participant			Primary Health Care Site	
Identification	Gender	Years in Practice	Primary Health Care Model	Size Category ^{4.1}
001	M	24	CHC	Small
002	F	18	CHC	Rural
003*	M	7	CHC	Rural
004*	F	8	CHC	Rural
005	F	16	CHC	Rural
006	F	1	CHC	Rural
007	F	17	FHT	Community
008*	F	12	CHC	Small
009*	F	10	FHT	Large
010*	F	15	CHC	Rural
011	F	4	CHC/FHT	Rural/Small
012**	F	7	FHT	Large

Rural= 0-4 physicians; Small = 5-10 physicians; Community = 11-20 physicians; Large = 21+ physicians; CHC = Community Health Centre; FHT= Family Health Team; * participants who were interviewed twice; **= participant who was a physiotherapist by profession but functioning as a 'Chronic Disease Management Facilitator'.

^{4.1} Quality Improvement and Innovation Partnership. (2009). Evaluating Family Health Teams. Retrieved on March 28, 2009. Retrieved from <http://www.qiip.ca/>. Note that the size of the PHC team is categorized in terms of the number of physicians within the teams and not according to geographical location.

Data Collection

The selected participants were contacted by phone or email to confirm interest in receiving information about the study. Interested individuals were sent an information letter describing the purpose of the study and the nature of the request for their involvement as well as an accompanying consent form (Appendices H & I). Data were collected from consenting participants in the form of semi-structured, in-depth interviews (conducted by SD). Of the 18 interviews 17 were in-person, at a location of the participants' choosing, typically at the PHC setting in which they worked. One follow-up interview (participant 011) was conducted over the phone. An interview guide (Appendix J) was used and included open-ended exploratory questions such as: How do you negotiate your role as a physiotherapist within the PHC team you are a part of? Tell me about the process of care of a typical client from referral to discharge? How do you collaborate with other team members in order to provide service? However, the interviewer (SD) kept the data collection process open and flexible, deviating from the interview guide in order to enhance the richness of data collected.

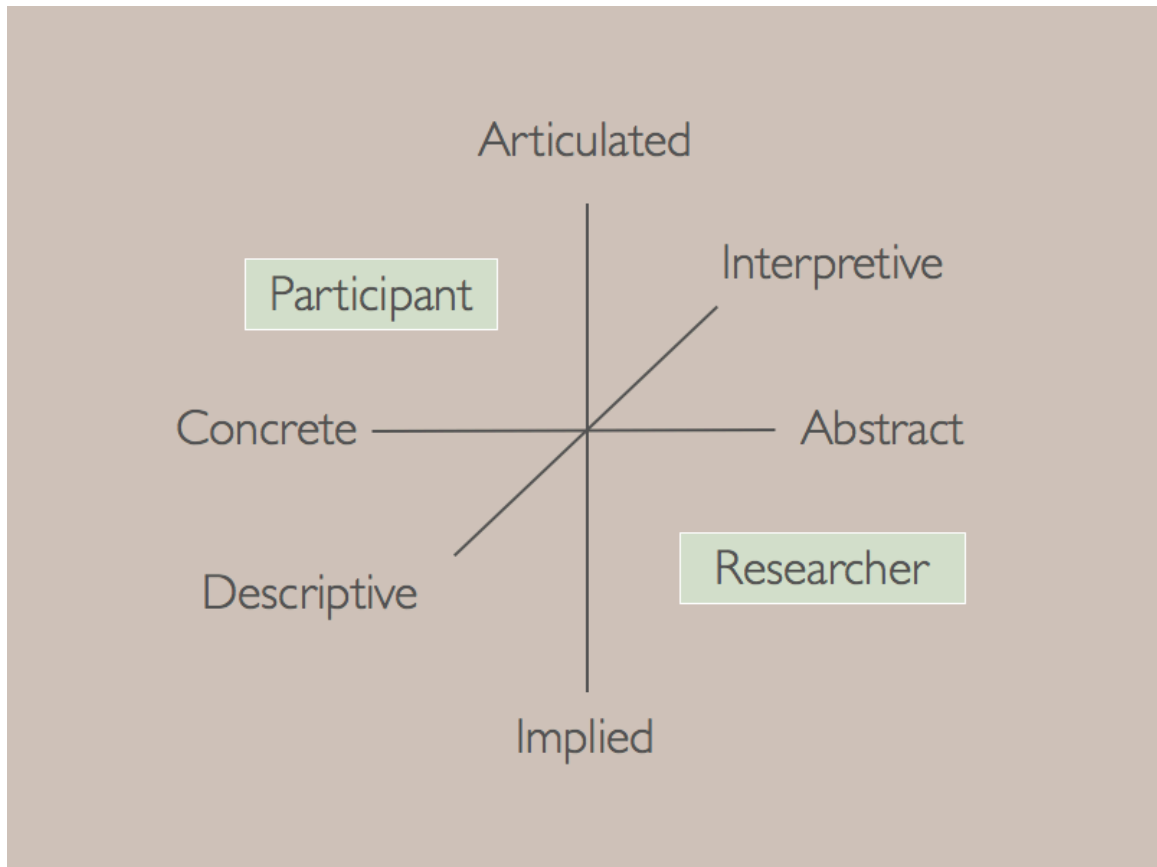
All interviews were audio taped. Memos of observations while at the various interview sites and reflections throughout the analysis were maintained throughout all stages of the research process.

Data Analysis

All interviews were transcribed verbatim, subsequently checked by the original interviewer (SD) for accuracy, and inputted into NVIVO-8 to facilitate analysis (QRS International, 2009). Data collection and analysis occurred simultaneously, following an inductive, iterative process. The iterative process commenced with the study design and encompassed: data gathering, coding, integrated analysis and the final write up. Coding specifically was framed by three progressive stages: open, axial, and selective (Strauss & Corbin, 1998). Open coding consisted of a line-by-line analysis of the transcripts in order to determine codes. In this way the transcripts were broken down in to small

fragments and the fragments were considered from both the perspective of the participant and the researcher in order to label the fragment as a particular code. Figure 4.2 represents the schema used to assist in the development of codes.

Figure 4.2 Process of Analyzing Data and Labeling Codes



Source: Rozmovits, L. (2009). Associate Professor, Department of Health Policy, Management and Evaluation, Centre for Critical Qualitative Health Research, University of Toronto, Toronto, Ontario. Reproduced with Permission, August 24, 2010.

As each new transcript was analyzed, data were compared with existing codes and either coded according to an existing code or a new code was created. This stage of analysis was open and flexible and also involved writing

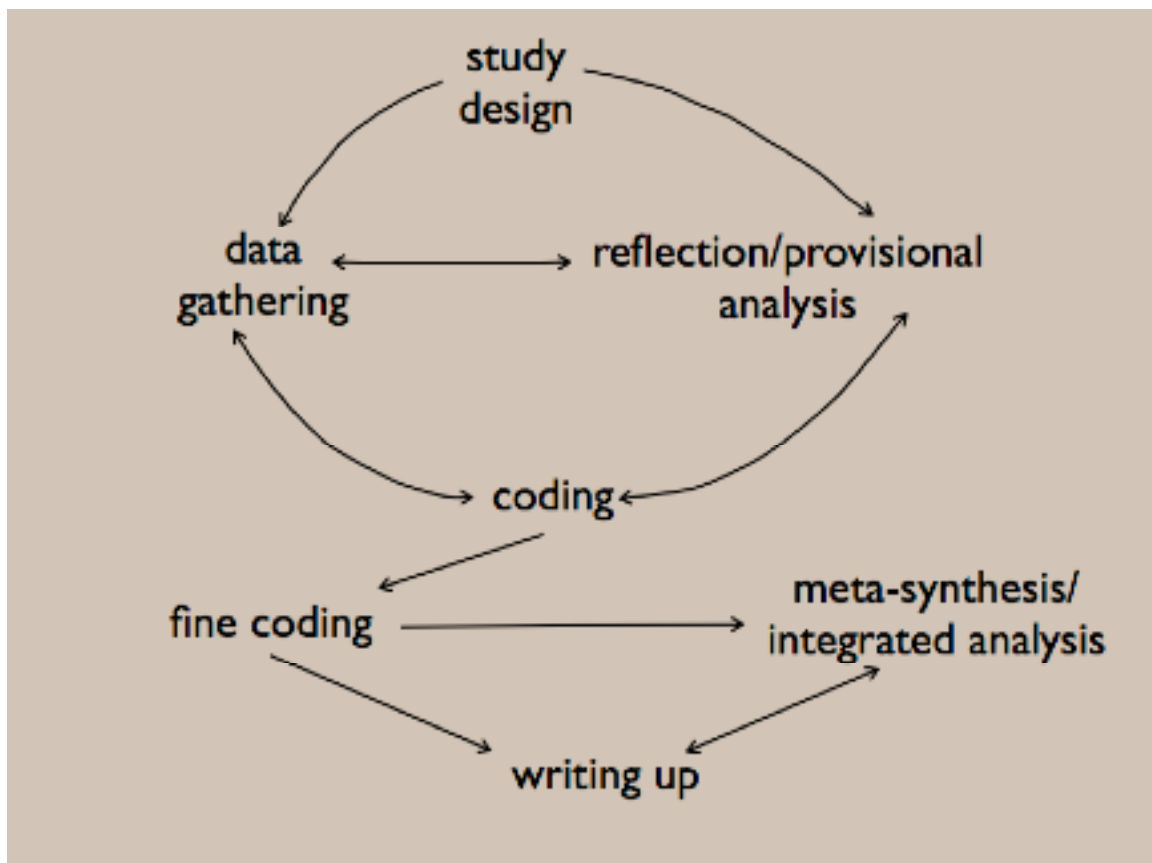
reflective memos that would assist in the later analytic stages. Reflective memos consisted of thoughts and ideas that came out of the analysis process related to either the codes or the research program in general. These reflections were recorded so they were not lost and to enhance the transparency of the analysis process. Engaging in a comprehensive analysis in this initial stage, set a strong foundation for the next phases of analysis.

Axial coding constituted the second stage of analysis. In this stage, codes were compared with each other as well as to the reflective memos in order to form categories. Categories represented similar codes that were brought together through the relating of concepts inherent in the codes. Selective coding was the final stage of coding in which categories were examined and compared with each other in order to develop themes. It was also in this stage that the “core-category” was identified. The core-category is the one that connects all of the developed themes together, thus enabling an “explanation” to be drawn from the “descriptions” within the data. For example, the interprofessional team emerged as the core-category through the following process. Codes including: direct access, referral from team, direct one-to-one patient care, group programming, complement of team, shared care, holistic approach transdisciplinary, engagement with other health providers, electronic medical records, formal communication, and information communication, were developed into categories that included: accessing physiotherapy, system issues, modes of integration, interprofessional team and communicating with team. The categories were then considered along side the interview guide, the PHC mandate (of which ‘Teams’ represents a pillar) and relevant research literature. The theme of interprofessional team was then established and was compared to the other seven themes, five of which were PT roles, and two of which, like the interprofessional team, were contexts. Since the interprofessional team linked all themes, the context of interprofessional team was noted as the core-category. The eight themes, including the ‘core-category’ now formed the basis of the developing theory. At this point theoretical sampling was undertaken to carry out a second round of interview in order explore and refine the emerging theory.

Following pragmatic grounded theory, a review of literature is considered an important source for comparison and can enhance theoretical sensitivity (or one's experience and knowledge related to a topic or situation) to stimulate research questions, enhance theoretical sampling or confirm findings (Corbin & Strauss, 2008). As such, the codes and emerging theory were also considered alongside the current research literature. Specifically, the current Essential Competency Profile for Physiotherapists in Canada (National Physiotherapy Advisory Group, 2009) was a document that was fundamental to analyzing the roles that emerged from this study. In an effort to explore as many perspectives as possible, in addition to incorporating observations and reflective memos into the analysis process, all three stages of coding as well as the final analytic stage, the writing up of the study, involved regular debriefing with the research team (Dr. Deborah Lucy and Dr. Judith Belle Brown). The collaborative debriefing process involved independent coding of transcripts as well as discussions around emerging theoretical concepts throughout the research process.

In the writing stage of the analysis, the explanatory scheme was adapted several times in order to accommodate new insights. Further, in this stage the primary investigator (SD) went back to the field to collect additional data, which was unanticipated, but necessary. Thus, the data collection and analysis were carried out in a dynamic and iterative way until the final version of this study was completed. Figure 4.3 highlights the global dynamic and iterative analysis process, which continued through from the inception of study design through to the final write up.

Figure 4.3 Iterative Analysis Process: Coding and Meta-synthesis



Source: Rozmovits, L. (2009). Associate Professor, Department of Health Policy, Management and Evaluation, Centre for Critical Qualitative Health Research, University of Toronto, Toronto, Ontario. Reproduced with Permission, August 24, 2010.

Credibility & Trustworthiness

A number of steps were taken to maximize credibility and trustworthiness of the emerging theory. First, in person and multiple interviews ensured prolonged engagement with the data. Prolonged engagement with the data is needed to ensure sufficient data generation for theory development and also enhances the researcher's 'sensitivity' as he or she approaches the data (Corbin & Strauss, 2008). Second, theoretical sampling followed the initial purposeful

sample. That is, the data from these initial interviews were analyzed and then further perspectives were sought based on the direction the data took and were not pre-established (Corbin & Strauss, 2008). Third, verbatim transcription of interviews and rechecking of the transcripts by the original interviewer were conducted. Ensuring accurate data from which the later theory will emerge is important for the theory to be credible (Hesse-Biber & Leavy, 2004; Lincoln & Guba, 1985). Fourth, development and maintenance of an audit trail throughout the research process enhanced the transparency of the research process (Lincoln & Guba, 1985). An audit trail is a transparent description of the research steps taken from the start of a research project to the development and reporting of findings. These are records that are kept regarding what was done in an investigation. The audit trail also enhanced reflexivity within the analysis process and helped to move the analysis from a description of categories and themes to and an explanation of process (Corbin & Strauss, 2008).

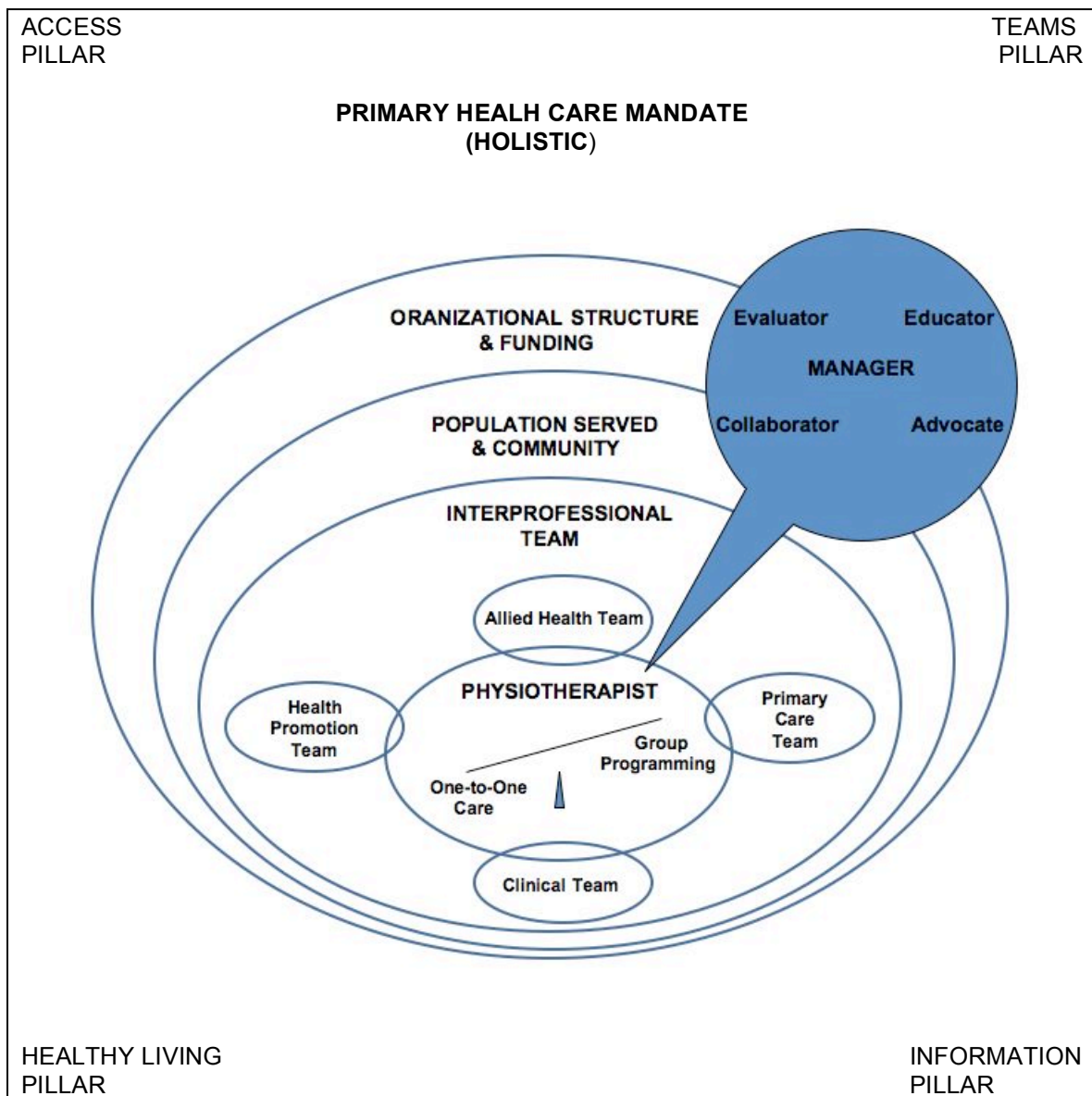
As a fifth means for enhancing credibility and trustworthiness, the coding and related analyses of transcribed data by the interviewer (SD), was followed by collaborative team discussions at all stages. Peer debriefing in this way ensured multiple perspectives were explored throughout the course of the research process (Lincoln & Guba, 1985, Corbin & Strauss, 2008). Sixth, both researcher observations at the interview sites, as well as participant interviews were used as sources of data. These multiple data sources were used as a method of triangulation to ensure fairness with regard to the analytic process (Strauss & Corbin, 1998). Additionally, once the explanatory scheme was finalized, it was compared against the raw data to ensure that in fact it did explain most cases (Corbin & Strauss, 2008). Seventh, the use of a consistent school of grounded theory, in this case pragmatic grounded theory, was used to enhance internal consistency and enhanced overall trustworthiness within the study. Considering that each school of grounded theory is underpinned by its own ontological, epistemological and theoretical beliefs, it is important to ensure consistency between how methods of grounded theory are applied within a particular

research study to ensure congruency with the associated worldview (Hesse-Biber & Leavy, 2004; Strauss & Corbin, 1998; Corbin & Strauss, 2008).

Findings

Enacting PTs' roles within PHC teams in Ontario was found to be variable in nature and occurred in a dynamic manner as framed by Ontario's PHC mandate. In attempts to fulfill the evolved holistic perspective of health, PTs were found to be resourceful and pushed the boundaries of their practice as well as advocated for their place within the PHC team. As PTs negotiated their place within the PHC teams through the above noted processes, they did so within five inter-related roles: (1) manager, (2) evaluator, (3) collaborator, (4) educator, and (5) advocate. The manager role was found to be the central and integrative role as the other four roles were often enacted in support of the manager role. The predominant feature of the manager's role that emerged was the necessity to balance one-to-one versus group programming patient care. Ultimately, this balancing act represented tensions that were negotiated in practice in order to fulfill the four pillars of Ontario's PHC mandate. These tensions are discussed within the discussion section. Three practice contexts were also found to influence how PTs enacted the five interrelated roles: (1) interprofessional team (core context); (2) community and population served, and (3) organizational structure and funding. Lastly, Ontario's PHC mandate was found to frame the contexts that influenced how PTs negotiated their roles. Schematically, the PT was represented in the centre of the process of role enactment, with each context represented by a layer that surrounds the PT (influencing role enactment), and framed by Ontario's PHC mandate. The theoretical explanatory scheme is depicted in Figure 4.4.

Figure 4.4: Enacting Physiotherapists' Roles within Ontario Primary Health Care Teams



Ontario's Primary Health Care Mandate: The Foundation

Primary health care in the Canadian context is founded on the same pillars (Access, Teams, Healthy Living and Information) located at each of the corners of the explanatory scheme articulating the enactment of PTs' roles within Ontario PHC (Figure 4.4). It is this mandate that supports the need to evolve current roles and frames the interactions amongst the three practice contexts and the five PT roles. Participants advocated for their place within PHC teams as they explained the benefit to both patients and the health care system resulting from their inclusion within their respective PHC teams. Specifically, participants indicated improved access, as well as prevention of chronic conditions, linked to the PHC pillar of healthy living.

“Our clients in this setting are so fortunate because physiotherapy is difficult to access...and then that creates more problems with more people having pain and situations becoming chronic that might not have otherwise. But in these Centers where we still can have physiotherapy it makes for a more efficient system, in the long run.” (008, CHC)

Similarly, participants described the emphasis on healthy living (health promotion and chronic disease management) as well as the collaborative team environment as unique and desirable.

“I was awe struck by the emphasis put on health promotion and prevention of diseases, as well as the truly interdisciplinary nature of these Centers...no two CHCs are the same, but generally they all emphasize having health care professionals collaborating and sharing care in a non-profit setting.” (003, CHC)

Further, in relation to healthy living, participants indicated the need to continue to push the boundaries of traditional physiotherapy practice in order to attend better to this pillar of the PHC mandate.

“I am always trying to push the boundaries and place a great emphasis on health promotion. So, trying to keep working with colleagues in the health promotion team to come up with new collaborative programs...we really need to shift more of our energy in that domain.” (006, CHC)

One participant indicated the need to move beyond an impairment model of health, to using the International Classification of Functioning, Disability and Health (ICF) as a mechanism to frame health from a holistic perspective. In this way PTs were both pushing the boundaries of their practice and advocating for their place within PHC teams.

“If we take the ICF model as a framework, so health is seen as a continuum of disease and impairment though to participation. Then we see how each discipline fits or spans across this framework, this can bridge the gaps, and increase knowledge.” (010, CHC)

The fourth PHC pillar, information, was explained by participants in terms of both collaboration with the team and patient education, which are outlined further within the Collaborator and Educator Role sections. Less related to the roles however, and more related to the PHC mandate is the enhanced information sharing within the team through electronic medical records.

“One of the great features we have is the electronic charting system, so whenever I make a client note, I can send that to one of the other providers. That is what really keeps us all in the loop.” (005, CHC)

The use of electronic medical records was described by almost all of the participants as an important mechanism to facilitate collaboration. Importantly, electronic medical records allowed for collaboration across different physical locations in which teams worked, a critical consideration for evolved practice congruent with the PHC mandate.

“Like the situation at other FHTs, we also had to communicate across more than one site, so the EMR is wonderful and allows for that.” (009, FHT)

Thus, the use of electronic medical records ultimately served as a means of connecting team members and facilitating collaboration amongst them even when organizational features located them in different physical spaces. Without electronic medical records, many of the teams, particularly FHTs that have multiple sites, would have difficulty participating in the collaboration inherent in the concept of a team.

Enactment of PT Roles: The Influence of Contexts

The five roles of: manager, evaluator, collaborator, educator and advocator will be outlined in the next sections. The findings related to each role will be described relative to the contexts indicating how the interprofessional team, the community and population served and organizational structure and funding each impact role enactment.

Manager

The central role enacted by PTs within Ontario PHC teams was that of a manager. In this role PTs were found to understand the structure and funding of the health care system and accordingly, provide services that considered the needs of patients within the available human, physical and financial resources. Fundamental to the manager role emerged the concept of an ongoing balancing act between providing one-to-one versus group programming care, a process that changed in relation to the three practice contexts. In this way the balancing act describes the overall management process but, because 'roles' are not fixed, also overlaps with the other four roles.

Interprofessional Team Context

The context of the interprofessional team emerged as the 'core' context of practice early in the iterative data collection and analysis process. The interplay between providers, and in many cases groups of providers (e.g. Allied Health),

dictated to a large degree how PTs went about their day-to-day work. From a general management perspective, participants explained how being situated within the PHC team was the feature that really differentiated them from PTs practicing in community private practices. Likewise, the function of the team was described as enabling the provision of comprehensive care. “Having the network of providers here to provide comprehensive care I have seen to be so important, and you don’t have that in private PT settings.” (009, FHT) In most cases, the team also initiated the process by which patients accessed the PT in the first place.

“I’m finding initially they’re coming through the other health professionals as referrals, and we can refer like the social worker can refer, the dietician can refer, everybody can inter-refer to each other.” (006, CHC)

Integration within the PHC team through formal communication mechanisms, regardless of the practice location (not all PTs were physically located in the same space as the rest of the team), allowed PTs to participate as team members. One participant who provided service at multiple PHC teams within a particular Local Integrated Health Network explained his communication and collaboration in terms of enhancing the overall management of patients.

“Within our own team [place], we have monthly meetings. But we are constantly in collaboration informally in the office or through email. As far as the [place, FHT], we do mobile clinics. Also, the advisory committee meetings for our integrated falls program occur every 6-8 weeks and there is a representative from the FHT at those meetings as well. Being able to talk to other professionals about patient care makes a huge difference...(011, FHT/CHC)

However, the opportunity for informal communication that occurred with team members who did share the same work site was often explained as an important mechanism in fostering shared care.

“We work with the interprofessional team, right in the same building...that is a big difference. So as physios we have team members we can talk to anytime related to other aspects of patients care that are not specific to physiotherapy.” (009, FHT)

In this sense, the proximity of providers specifically was viewed as enhancing communication and collaboration within the team. “The close physical proximity definitely promotes collaboration.” (001, CHC) Drawing upon the skills of the various team members to optimize the management process, participants indicated that both one-to-one care and group programming were needed.

“I mean to me the ideal scenario would be that patients have access to direct one-to-one physio, in a time limited fashion, but that the emphasis within that framework of care is to augment this little bit of individualized care with groups and community resources. That might be exercise classes or education classes where there is physio input, but I don't think the physiotherapists need to run these classes. This is where the contribution of the team is so important.” (003, CHC)

Group programming was perceived as an efficient and appropriate means of delivering care related to health promotion and chronic disease management (healthy living); however the majority of PTs' (particularly those within CHCs) roles were enacted in a one-to-one care model. Emphasis on a one-to-one care model was considered to be a management approach in need of transition to a more evolved approach to care. Thus, PTs were open-minded and interested in pushing traditional boundaries to ensure that how they practiced changed to reflect the much-needed emphasis on healthy living, which required interfacing with the team.

“I mean its 5% or less of our time doing stuff other than direct one-to-one care. That said there is the hope that in the future we can slowly transition to spending more of our time interfacing with the team on health promotion and prevention programming.” (003, CHC)

The Stanford Chronic Disease Self-Management Program, a group program, was regularly cited and considered to be an important aspect of quality service provision that represented an expansion of PTs traditional practice. Utilizing this program highlights the cross-over between the manager and educator roles and also indicates how PTs were consistently pushing the boundaries of their practice in order to better attend to healthy living.

“There was a big expansion when we became trained in the Stanford Chronic Disease Self Management Program...it has been a huge success. We implement them in the program to make change for themselves, to motivate them and setting up action plans and goals and modifying their plans to suit them and using different strategies to self manage, but to actually make the change themselves.” (008, CHC)

Linking the influences of two of the practice contexts, the interprofessional team and the population served and community, participants explained how collaborating with a diverse team was fundamental to managing patients. Beyond the level of the team, connecting with community in order to manage resources was also important to ensure patients got the full compliment of care they required.

“If we identify any other broader health needs we have the wonderful luxury of referring to a really diverse team and a broad group of programming to meet their need and if we can't meet these needs internally, then we also have links within the community for further assistance” (003, CHC)

Population Served and Community Context

Considering the context of the population served and community, participants discussed the importance of a needs assessment to guide practice. Participants acknowledged that they had multiple roles to enact within PHC teams, to which the manager role was central. One function of a needs assessment was explained as helping to determine how PTs could best be used within the team. In this sense PTs were also once again advocating for their place within PHC teams.

“Part of the challenge and opportunity in using physiotherapists within these setting really comes down to the range in services that we can provide and the variety of roles we can play. So, a needs assessment should guide how much time should be allotted to each of those roles....and hopefully be guided by evidence.” (003, CHC)

As for the populations served, a high proportion of participants described their caseloads as being characterized by chronic conditions and multiple system problems. “It has mainly been an older population, chronic disease, chronic pain, multiple system problems...I see so many people with multiple systems problems.” (002, CHC) As such, these characteristics shaped how PTs went about their day-to-day work in managing their caseloads. Given the community need for physiotherapy services in most cases outweighed the capacity to supply, prioritizing patients to see the PT was described as a necessary process from a management perspective. The development of such processes highlights the PTs need to be thoughtful, proactive and dynamic to ensure needs were met.

“When I came to the CHC two years ago, there was not a prioritization system in place and I put one in place because I felt that it was the only way that I could effectively meet the needs of our clients. So, I think such a system is critical. It also allows you to take a look at the demand and supply and from there determine how to organize care...my system is always changing.” (CHC, 004)

Limited community resources were discussed in terms of how they impacted the way in which the PTs managed patients but also how they translated to current gaps in care.

“There are no other PTs here who work with any of the teams except me. Since community physio is not accessible, we often have to look into other community services that are available but that don’t always meet the needs.” (011, FHT/CHC)

The limited supply of PTs and related services that were accessible within the communities meant that in addition to prioritizing, PTs also had to be cognizant of not duplicating the services they provided within the PHC team with those that were accessible within the community.

“If people have their own private insurance or can access physiotherapy services in the community through MVA insurance or WSIB then they cannot come see me. We save our physiotherapy resources for the people who have no other means...which is most of them.” (005, CHC)

In this light, participants spoke about how they negotiated the frequency of treatment such to emphasize the patient self-management aspect. Maximizing access meant being resourceful in terms of how patients were managed relative to the resources available. Many participants spoke to seeing patients for a limited number of visits but a longer session to allow for quality exchange of information and to facilitate empowerment. Partnering with patients so they could take ownership of their ongoing care was a key strategy for PTs’ overall management approach from both the perspective of resource management as well as emphasizing health promotion.

“Typically I will only see my patients once a week, for an hour, and I try to cap it at six visits. I really focus on education and a home exercise program so that the patients don’t need me.” (005, CHC)

In connecting the contexts of both population served and community as well as organizational structure and funding, the existing status of community PT services in Ontario was described as further rationale for PTs to advocate for their place in PHC teams. “I mean OHIP clinics are not funded to give appropriate physiotherapy treatment. It is nothing against the physiotherapists that work there; they are just limited by the system.” (002, CHC) Further, OHIP clinics were critiqued for fostering dependency, rather than self-management, and thus not congruent with managing care in accordance with the concept of PHC.

“We do have two OHIP clinics in the area but, again, it’s not the proper treatment. They’re not given the exercise, they’re not supervised...they’re actually encouraged to be more dependent. They’ve got like a 100 visits that they can go there, and so they in fact encourage that illness behaviour because it is better for them.” (006, CHC)

Organizational Structure and Funding Context

The impact of organizational structure and funding on how PTs enacted their roles emerged throughout the data collection and analysis process and applied to all roles. The organizational structure of different teams as impacted by particular funding structures, was found to be a clear driver of role enactment and was most evident for the central role of manager. Funding and the availability of physical space for PHC teams in many cases established the complement of providers. In turn, the complement of providers influenced how PTs enacted their roles. Since PTs are not funded by the MOHLTC to provide service within FHTs, participants working within FHTs described the alternative funding mechanisms that enabled them to practice within these teams. “I am currently working with the FHT in the capacity as an outreach physiotherapist really so I serve patients at the CHCs and FHTs here. The interprofessional falls prevention program I work within is funded by the LIHN I believe.” (011, CHC/FHT) Working with the PHC team in this capacity meant that in order for PTs to enact

the role of a manager, they needed to work with an assistant or kinesiologist who could carry out follow-up visits for patients. So, the PTs were prescribers of the “physical care” piece of health and kinesiologists were able to assist in the follow through of the PTs’ established care plan.

“So, I am involved in the assessment primarily, usually about two visits, and then we have a rehabilitation assistant who does follow up visits to ensure competence and compliance with the exercise programs. This occurs usually once every other week for another couple of visits...we know that to ensure compliance and to enhance confidence when patients are commencing their treatment program they need ongoing support. But, this can be done by someone else...the PT can be used for things they are experts in and that no one else on the team has that expertise...it is a much more efficient model than having the PT do all the follow up.”

(011, FHT/CHC)

In addition to contributing to a more efficient model of managing patients, PT assistants were able to collaborate with PTs in a way that allowed the role of the PT to evolve and better meet community needs.

“We are so much more efficient with an assistant. I think where we also need to position ourselves if we’re going to provide and efficient productive service then it means we need to embrace the inclusion of assistants. In this setting my assistant has allowed my role to evolve actually...to better meet the needs of the community.” (007, FHT)

In addition to follow-up, the collaboration with, in this case a kinesiologist, was considered to be integral to the PTs management process in the area of health promotion.

“For the health promotion aspect, in addition to the education in the one-to-one, we are fortunate to have the KIN here and this is where the KIN is really useful.” (003, CHC)

Apart from a team complement perspective, physical structure also influenced how PTs enacted their roles. In all cases an emphasis on self-management emerged as an important management strategy for PTs. “Because of the way the FHT is set up, I think really the emphasis on self-management is key in this setting.” (009, FHT) In this way PTs evolved how they practiced by ensuring they empowered patients to truly partner in their care and manage their own health so that they were not dependant on management from the PT. Space, resource limitations, and the organization of teams over multiple physical sites, were described as reasons why PTs needed to be able deliver care in an evolved and dynamic way.

“Space is a challenge for most teams so a traditional PT role with a gym and all the equipment just would not be feasible. Just like how our dieticians travel between multiple team sites on a rotating basis, to ensure they care deliver care in an efficient way to the 15, 000 patients within the practice. I could see a similar model working for PTs.”
(012, FHT)

Related to funding, participants explained how enacting care from a health model rather than an economic model enabled holistic care. “Here, it is a health model, not an economic model and that is why we can really address health in a holistic way.” (002, CHC) Lastly, the funding structure and associated philosophies within some PHC teams were clearly described as facilitating a higher standard of care.

“Within the CHC here there is no emphasis on billing or trying to make a profit and those elements impact the delivery of service in other settings, so between that and working with all the other providers, we can provide a higher standard of care.” (003, CHC)

The ongoing balancing act required to manage patients was highly connected to PTs being open-minded, pushing the traditional boundaries of practice and advocating for their place in PHC teams and crossed all three practice contexts.

Further, managing patients was ultimately connected to PTs enacting their roles as evaluators, educators, collaborators and advocates.

Evaluator

Many participants explained assessment as a primary duty within their respective PHC teams, thus taking on the role of an evaluator. In this role PTs were found to collect assessment data relevant to the patient's needs, establish a physiotherapy diagnosis and prognosis and develop or recommend an intervention plan.

“We would just take in referrals, do our assessments and then make recommendations as necessary or plan for interventions or referral to community resources...Most recommendations are for exercise, splinting, orthotics, and posture. We primarily function as assessors, but if education was needed it could be provided in a group setting and we were involved in that part.” (007, FHT)

As a component of the evaluator role, the concept of PTs functioning as triage agents to enhance the provision of PHC also emerged. Acknowledging the potential role of PTs functioning as triage agents highlights another example of pushing the boundaries of traditional practice as well as advocating for themselves within PHC teams.

“I could definitely see where [a triaging role] would be a really helpful role in this setting and would help to free up some of the other practitioners time so they can deal with other issues. Often the physicians and nurse practitioners come up here from downstairs to ask about MSK issues they are trying to manage so they are coming to us with questions and ultimately using us to triage in some cases. But it would be better to have a PT down there with the primary care team doing that role and then having PTs continuing to do the more complete physiotherapy role up here.” (003, CHC)

Interprofessional Team Context

In considering the context of the interprofessional team, enacting the role of an evaluator was found to be a process that involved the team.

“Initially once someone is referred a screening exam is completed and this is an interprofessional assessment and consists of a very detailed exam that takes about one to two hours. This screen can be carried out by any team member, but from there, the more specific needs are determined and if it is determined that exercises must be prescribed, I do my own physiotherapy evaluation and then I prescribe specific exercises.”

(011, FHT/CHC)

The concept of triage was often linked to PTs’ expertise in the area of MSK health, clearly articulating their place within the team. Physiotherapists’ functioning as experts in this domain was described as being highly valuable, particularly in the area of arthritis care.

“The family physicians and the nurse practitioners are really struggling with pain management and until we came here, their only option was a referral to an orthopaedic surgeon or rheumatologist. The team has been so grateful to now have some guidance in that area.” (007, FHT)

Population Served and Community Context

In certain instances, specific characteristics in terms of the community profile were described as the rationale for having PTs enact their role as an evaluator. In one case the PT was working as an Advanced Practitioner in Arthritis Care.

“Here we are dealing with a large cohort of older adults as [city] is a retirement community. So, with that comes a huge need for physiotherapy and this goes beyond just assessment and triage in the advanced capacity in which we work. That said, we were able to be here in the first place

since there are less rheumatologist and orthopedic surgeons up here. I don't know of any other physiotherapists working in a similar capacity with an FHT." (007, FHT)

In further considering the populations served and community needs, it was emphasized that an evaluator role without an adjunct manager role would result in gaps in care. "Since there was no week-to-week management after the assessment there were gaps in the service." (007, FHT) Further, it was argued that given the emphasis on health promotion and chronic disease management within PHC teams, based on the current population needs, there would be more need for a PT to engage in multiple dynamic roles to ensure holistic care.

"I could see a role for triage for sure, but I tend to think the bigger issue in these centers is on the chronic end of things...or more about promotion of health and prevention of health decline, so I think PTs would have a bigger impact in other roles." (011, FHT/CHC)

Organizational Structure and Funding Context

Taking on the role of an evaluator specifically was discussed in terms of potentially being more feasible within the structure of some PHC teams, when compared to more traditional models of care that involve ongoing one-to-one management and follow-up. Articulating the need to be dynamic and resourceful, one participant explained this notion and also highlighted PT's roles as both an evaluator and an educator.

"I can see the physio being part of the team in terms of an assessor, so having patients come in and maybe going right to see the physiotherapist for certain conditions. In this way I can see them also I can see them working as an educator with patients, so talking to them about how to set up an exercise program, trying to find community resources that will help them achieve their physical activity and mobility goals. Also working as an educator for other health care providers around assessing function as part

of an annual visits for the elderly especially, imbalance, so I think those are all huge pieces that a physio can be part of. Do I see them actually delivering care on a one-to-one model? Not in the setting that I work.”
(012, FHT)

The triaging role was also discussed in relation to the structure of the team. Most teams were set up in a way that the referral to the PT came from the FP or NP and because PTs were not yet able to order diagnostic tests themselves, a triage role was seen as an adjunct to the more comprehensive manager role that PTs provided.

“The triage piece is so important...but so is the follow through. So, as long as there was follow through to somewhere then a triage role here would be good. I think with the expanded scope of practice that is coming for physiotherapists, like ordering diagnostics and communicating a diagnosis physiotherapists would be better set up for that role. Currently, I still need to go back and forth with the doctor where diagnostics are concerned which would make my role as a triage agent here less efficient.” (004, CHC)

Collaborator

Participants clearly articulated one of their roles within the team as collaborators. In this role PTs consulted with other health care providers, collaborating in a way to achieve optimal patient care.

Interprofessional Team Context

The nature of the collaborator role very tightly connected to the context of the interprofessional team. The process of collaboration and consultation with team members on a regular basis characterized the nature in which they practiced.

“Part of the beauty of this setting is that [team members] come to us for collaboration and consultation for anything regarding physical activity. So we are not always responsible in the end for running some of those programs, but certainly we do play a key role to ensure that the content of the program is safe and effective.” (006, CHC)

As collaborators, PTs drew upon the skills of their team to provide holistic care that was continuously evolving.

“We are looking at the person as a whole. The care cannot be provided in a comprehensive way by just one practitioner. There are multiple needs and people need choices and diversity... we all work together and are continually learning about how each of us can play a role in meeting the needs of our clients or in developing our programs so they are more appropriate.” (010, CHC)

In relation to the management of chronic conditions, the collaborative approach to care from a variety of providers was considered to be very important.

“With the chronic conditions there is often a mind set that has developed over time or a sequence of behaviours that have developed that need to be addressed by multiple providers (003, CHC).”

Like the role of a manager, in which an ongoing negotiation between one-to-one and group programming with the team and community was required to provide efficient care, the collaborator role was also perceived to be a role that promoted efficiency within the team.

“I think there is a huge benefit [to consultation] and arguably delivering care this way is much more efficient and very appropriate in certain circumstances. I have actually worked closely with our community health workers and given them some direction and guidance around the physical activity and exercise components of those groups. So, really, I have worked in a consultative role where the groups are concerned.” (004, CHC)

The perceived efficiency of the collaborator role was corroborated by a participant who provided service for CHCs and FHTs.

“We are able to manage such a high volume due to the collaborative approach and use of a rehab assistant to maximize efficiency. I would suspect that the program will expand following evaluation next spring” (011, FHT/CHC).

Population Served and Community Context

Enactment of the collaborator role extended beyond the domain of the team into the domain of the community. In this way PTs enacted their role as collaborators in creative ways to address unmet community needs.

“Earlier this year my colleague and I came up with a wonderful new health promotion program that was a shared program between public health and here. It was a healthy moms, healthy babies program.... we realized that there was a fairly high incidence of new mothers that were having back pain and sometimes that risked having it morph into chronic back pain...we designed an education intervention to address this need.” (003, CHC)

Organizational Structure and Funding Context

Participants who worked within CHCs explained a structure in which various smaller teams of providers worked within the context of the larger interprofessional team and how they “bridged” across these provider group as collaborators.

“The 'teams within the team' is definitely a prominent feature of our interdisciplinary work environment within this CHC, and comes like anything with its own advantages and possible pitfalls. By grouping health care professionals of similar and overlapping disciplines together within a common smaller team and situating us within close proximity to each

other, efficiency is in many ways enhanced for day-to-day client care... Essentially, as PTs we tend to connect all of the teams.” (003, CHC)

Further, the role of a collaborator was explained in terms of a process that corresponded with addressing the person as a whole. Within this process PTs advocated for themselves within these teams given the multi-system approach they take.

“Since we are looking at people holistically here, you need to be able to consult with everyone within the different teams. Here we are organized more or less as one team but certainly the collaboration with the primary care staff as well as allied and health promotion staff is critical for us to be able to run the programs we do and provide the care in a holistic way. Physiotherapists are really able to span all areas as we are trained to take a multi-system approach.” (010, CHC)

Although including PTs into PHC teams through alternative funding mechanisms was viewed as a means to improve access to PT services, often this meant that the PTs lacked presence within the same work site as the other team members. Working within the same physical setting as the team, was viewed by some participants to be important.

“I must say there is a real benefit of being able to deliver the care right within the same working space with the team....lends to the building of trust and learning each others strengths.” (004, CHC)

Educator

Participants described how the nature of the PHC setting lent itself to an emphasis on patient education and empowerment, thus enacting the role of an educator. In this role PTs used effective communication in order to educate patients, team members and other stakeholders in aspects of health related to their scope of practice. Patient education related to the management of specific

issues was explained as being a central aspect of the PTs role, thus highlighting the cross-over between the role of an educator and manager.

“I really see a lot of my role is to identify what movement impairments people have and then to treat those accordingly...both individualized exercise prescription and education are a big component of this.”

(004, CHC)

The emphasis of health promotion and chronic disease management in particular, was related to PTs enacting their role as an educator and was the case in both FHTs and CHCs. Education was often contrasted with “hands on treatment”; both were used, but education was emphasized.

“Some people just needed health promotion and education with respect to prevention. And even when it came to chronic disease management, education was a big component of it. So we would educate and help facilitate rather than treat hands on.” (009, FHT)

Several participants explicated the importance of delivering education in an active group format that empowered patients through the Stanford Chronic Disease Self-Management Program. “I am a Master Trainer for the Stanford Program, and this program is great as it really ensures patients are active participants and that they take ownership of their condition.” (CHC, 006). An emphasis on avoiding dependant health related behaviours, by empowering patients was seen as an important foundation in which PTs practice. Once again, demonstrating cross-over with the manager role as PTs partnered with patients to assist them in becoming their own health managers.

“I’m a big proponent of not making people reliant on us as providers and I think that is terms of client empowerment, you know if you are seeing them once a week and really educating them in terms of their own role related to their health and making them personally responsible to do their own exercises, that is key, and it works well.” (CHC, 004)

Interprofessional Team Context

Given that many PHC teams were organized in a way that all providers referred to each other, the importance of PTs educating the team relative to how they could be best used was evident. “The referral can come from any provider on the team and they are aware of our scope of practice, we have communicated it to them, educated them on what physiotherapists do.” (008, CHC)

The sometimes narrow or limited perspective of a PTs breadth of practice, translated to several participants explaining the need for ongoing education and advocacy to the PHC team with respect to their scope of practice.

“When I first got here they thought that I was an exercise instructor or something. And that was very frustrating. I am still trying to tease out the role and the most appropriate use of my skill set.” (006, CHC)

Workshops were described as an effective platform for team education.

“I think having workshops for the teams is a good way to educate them about what a physiotherapist can do... where do physiotherapists come in to it and where do the health promoters come in etc...” (010, CHC)

Population Served and Community Context

Extending beyond the domain of the team, PTs enacted their roles as educators in collaboration with existing community resources, again highlighting cross-over between the educator and managers roles. “We have partnered with public health and they are doing education sessions with our program and our senior groups.” (011, FHT)

In an effort to promote health, educating the public at large with respect to the importance of exercise prescription was also described as a role PTs within PHC teams needed to enact.

“People have so many barriers to exercising and there is a science underling exercise prescriptions as there is underlying dietetics or pharmaceuticals, but the exercise part often is just left. So we need to educate the team and the public about this.” (010, CHC)

One aspect of community education was described in terms of University curriculums for PTs and the need for professional education to evolve to better match the realities within PHC teams. Participants in this way were once again advocating for change in order to ensure the provision of care continued to evolve as needed to adequately address the ‘healthy living’ PHC pillar. “I think slowly but surely to educating PTs toward health promotion and chronic disease managagemet in the universities. If this is the way of the future...than we need to educate our PTs this way.” (003, CHC)

Organizational Structure and Funding Context

Given the organizational structure of many PHC teams, participants explained how this translated to an emphasis on patient education. In this sense the role of educator and manager were closely linked.

“The nature of this setting does impact how I practice. We have a waitlist so I have to keep that in mind and I mean I spend more time educating someone with a chronic issue, like lower back pain, than I would doing hands on treatment.” (001, CHC)

Advocate

The final role that emerged was the role of an advocate. In addition to advocating for their place within PHC teams, a distinct advocacy role relative to both the patient and community also emerged. In this role PTs identified the broader social determinants of health as barriers for patients in accessing care and identified opportunities to develop strategies to optimize care for patients, communities, populations.

Interprofessional Team Context

Collaboratively identifying and responding to health needs was central to the advocate role. One participant indicated the importance of a team approach in term of addressing the social determinants of health.

“So here we have a large CHC and we have a dedicated HP team that look from everything from safety to food...basically addressing the social determinants of health and develop a wide range of services to address these various areas.” (003, CHC)

In fact the team approach from this standpoint was described as contributing to best-practice as well as job satisfaction.

“I feel strongly that my health promotion team and the larger interdisciplinary team environment are crucial for delivering a high quality of evidence based PT care, especially in a manner that effectively addresses the larger determinants of health and psychosocial challenges. I find this environment very stimulating and rewarding and it's a central reason why I have chosen to work in a CHC setting.” (003, CHC)

Participants indicated that PTs and other providers alike needed to advocate for momentum within current systems to ensure that care provision evolved as needed.

“But also PTs do need to advocate vocally within the teams...For both PTs and primary care professions...slowly shifting our training and our mind-sets away from traditional modes of delivering care...we need to evolve how we do things given the changing landscape of health resources and health needs.” (003, CHC)

Population Served and Community Context

Connecting with the community in an effort to promote health for marginalized populations was one of the really unique aspects of a PTs

advocacy role within the PHC team. This example clearly shows that PTs within PHCs teams are practicing outside the traditional boundaries of physiotherapy practice and also highlights the links between the advocate role, the educator role and collaborator role

“One my favourite things that we do is twice a year we work with the health promotion team and run a special event for a local school children’s breakfast club. A lot of the kids there don’t necessarily have access to great physical activity opportunities, especially after school hours. These children are from families with limited incomes. So we implement some sort of physical activity program.” (003, CHC)

Organizational Structure and Funding Context

Social justice is a concept that extends beyond Ontario’s PHC mandate and is emphasized consistently within the mandates of many CHCs. Participants from CHCs explained the importance of attending to the broader social determinants of health within their practice. “I guess you could say we do a traditional physiotherapy assessment but with a stronger emphasis on the broader determinants of health.” (003, CHC)

Discussion

This study sought to develop a theoretical explanatory scheme to understand the enactment of PTs’ roles within Ontario primary health care (PHC) teams. Physiotherapists within this study were found to enact five inter-related roles: (1) manager, (2) evaluator, (3) collaborator, (4) educator, and (5) advocate, in a fluid and dynamic manner. These roles were congruent with the roles outlined in the current PT competency profile (National Physiotherapy Advisory Group, 2009) and are connected to the fundamental expert role related to function and mobility as articulated by the National Physiotherapy Advisory Group (2009).

In addition to exploring and articulating the actual roles currently enacted by PTs, this study also uncovered specific contexts and provided insight into how the contexts of: (1) interprofessional team, (2) community and population served and (3) organizational structure and funding, impacted PTs' role enactment within PHC teams. These findings constitute important new knowledge generated by this study.

Enacting Inter-related Roles

The central and integrative role enacted by PTs within Ontario PHC teams was the manager role. This role served a connecting function relative to the other roles, as it appeared that the four other roles enacted were done so in support of the manager role. Being mindful of limited resources, PTs managed patients on a one-to-one basis, through group programming offered within their respective PHC teams and through interfacing with and recommending programs available in the community. Thus an ongoing balancing act emerged as an important feature of the manager role. In order to establish a management plan, an assessment and subsequent analysis was always completed, thus an evaluation was necessary. The evaluator role was generally enacted to enable the subsequent manager role. However, some PTs, particularly those who worked with FHTs, emphasized their role as an evaluator. Despite the heterogeneity of PHC teams, a consistent finding related to all PTs functioning in a collaborative manner with both patients and providers. Collaborative competencies have been proposed in the literature as being distinct from common competencies that are maintained across provider groups, representing an important dimension of competence (Barr, 1998). In this study, a unique aspect of the collaborator role related to PTs functioning as a "bridge" between smaller teams within their larger PHC teams. As educators, PTs incorporated patient education into their management plans, ensured ongoing education to their team relative to how their skills could be best used and engaged in educational sessions within their respective communities. Finally, PTs also advocated for both their patients and for their place within the PHC team. Both

these aspects of the advocator role were enacted in an effort to improve patient care and community health. These roles were negotiated in a fluid manner as PTs pushed the boundaries of their practice. With the impending changes to PTs scope of practice (College of Physiotherapists of Ontario, 2011), opportunities for PTs to evolve the roles they currently play within PHC teams may be facilitated.

The literature proposes potential challenges that may occur within health care teams as provider roles evolve (Williams & Sibbald, 1999). Further, the blurring of provider roles within PHC teams has been thought to impede collaborative practice (Soklaridis, Oandasan, & Kimpron, 2007) and lead to role confusion within the team and for patients (Williams & Sibbald, 1999; Rashid, Watts, Lenehan, 1996). In this study PTs were found to enact five inter-related roles in a dynamic manner with no reported challenges. In fact, participants unanimously described working with their respective interprofessionals teams as a positive experience. Thus, the PTs who participated in this study may have worked within teams that promoted synergy among providers as well as fostered a climate of mutual respect. Both factors are linked to enhancing team function and patient care as reported in the literature (Propp, Apker, Zabava Ford, Wallace, Serbenski, & Hofmeister, 2010; Howell, 2009). Ontario PHC teams that include PTs represent a minority of teams. Perhaps these are also teams that are generally well functioning. Moreover, PTs functioning as collaborators that 'bridge' across groups of providers within the PHC team may reduce role ambiguity. These are topics that require further inquiry.

Impact of Contexts on Role Enactment

Interprofessional Team Context

How PTs enacted their roles as influenced by the context of the interprofessional PHC team was a central finding of this study. Specifically, this study explicated how the interprofessional team was fundamental to PTs being able to enact their roles in a dynamic and fluid manner. Functioning within their scope of practice, PTs often interacted within their respective interprofessional

teams or smaller sub-teams within the larger team. Physiotherapists' method of simultaneously enacting their roles as evaluators, collaborators and educators, was found to be central to how they managed their caseloads within the PHC team. Thus, rather than functioning as providers who carried out all of the physiotherapy-related interventions, they drew on their team and community. As such, the interprofessional team represented a key factor that enabled this approach to management. As a precursor to the management plan, the evaluation carried out by PTs was described by participants to be a process that involved the team.

The collaborator role was highly integrated with the context of the interprofessional team. Physiotherapists collaborated with their respective team members, with whom they shared care, in order to maintain the continuity of service delivery within the limits of their available resources. In some instances this took place in the form of the PT being sought out by a fellow team member to determine an opinion regarding a particular patient, in other instances PTs collaborated with team members in order to ensure physiotherapy-related intervention plans were carried out in an appropriate and safe manner.

Drawing on the diverse skills of provider, an interprofessional team is understood to facilitate a comprehensive approach to care (Hall, 2005; Lemieux-Charles & McGuire, 2006; Health Force Ontario, 2007). In this study, PTs were found to interface with individual providers, teams of providers and existing community programs in order to develop and make recommendations for intervention plans. As collaborators, PTs also functioned as a "bridge" that connected various providers and smaller sub-teams within the larger PHC team.

Finding ways to collaborate with fellow team members in order to function effectively was found to be a requirement for shared care within this study. The current literature generally conceptualizes interprofessional teams working within the same physical space and proximity within that space translates to enhanced team function (Brown, Lewis, Ellis, Beckhoff, Stewart, Freeman et al., 2010;

Goldman, Meuser, Rogers, Lawrie, & Reeves, 2010). However, many of the participants in this study, particularly those who provided service to FHTs, were not located in close proximity to their teams.

Enacting the role of collaborator meant attending formal team meetings and using the electronic medical record. Formal team meetings as a mechanism to enhance team function were reported by all participants regardless of the physical structure of the team. Participation in formal team meeting has been shown to enhance team function (Cashman, Reidy, Cody, & Lemay, 2004). Likewise, research also supports the use of electronic medical records to facilitate interprofessional collaboration (Goldman et al, 2010). The PTs who worked within the same physical space as their team highlighted the enhanced relationship building that resulted. The literature confirms the benefits of a team working in the same physical space due to the informal communication and teambuilding that occurs (Brown et al., 2010; Goldman et al, 2010). Recent research suggests that the structure of FHTs, which are often geographically separated, may impede collaboration (Goldman et al., 2010). Notably, the PTs in this study did not describe working in separate physical spaces as other team members as a factor that impacted care in a negative way. Therefore, this study supports the concept of distributed teams not being a barrier to effective collaboration.

Relative to the interprofessional team, PTs enacted their educator role in multiple ways. First, the interprofessional team impacted how PTs provided service for patients. A second manifestation of the educator role pertained to PTs educating the interprofessional team as to the most appropriate use of their unique skills and knowledge within the team. As PHC teams continue to develop and scopes of practice continue to evolve, team members need to be educated on an ongoing basis relative to the optimal use of each provider. The literature contends that a clear understanding of provider roles and responsibilities will enhance the positive elements of collaborative interprofessional practice (Belanger & Rodriguez, 2008; Soklaridis et al, 2007). In this study PTs

acknowledged that ongoing education of the team regarding their contribution represented a needed component to ensure effective shared care. Educating their colleagues characterized to a certain degree how PTs negotiated their roles within their teams. The negotiation of traditional and evolving roles has been found to be an important element of collaboration within Ontario FHTs (Goldman et al, 2010).

The advocate role was less prominent within the interprofessional team context. However, participants explained how the interprofessional team attended to the broader social determinants of health regarding their patients. Also, PTs reflected on the need to advocate for not only ongoing evolution of their roles but across all provider roles to ensure care provision maintained congruency with the needs of the community and population served.

Community and Population Served

Working within communities where demand for physiotherapy and related health services outweighed the capacity to supply, PTs in this study had to be cognizant of available resources. Effectively managing patients, meant being knowledgeable of existing community resources in order to avoid duplication them and using the knowledge and skills of their respective team to share care. In addition, the manager role required developing and implementing prioritization systems to optimize patients' access to physiotherapy services. Organizing service provision relative to community needs and resources is a specified competency for PTs (National Physiotherapy Advisory Group, 2009). This study provides an explanation of how PTs currently working within Ontario PHC teams were able to attend to individual patient and broader community needs with limited resources. Limited access to publicly funded physiotherapy within the community was discussed by all participants in this study and described as a resource issue. Thus, PTs managed patient care through a creative means of interfacing with and recommending community programs that were accessible. In this way PTs maintained their responsibility to arrange for appropriate

substitute services when they were not in a position to carry out intervention plans. Enactment of the evaluator role generally preceded the resourceful method of caseload management. As indicated in the previous section, some PTs indicated their role within the team emphasized evaluation with limited or no opportunity to follow-up with patients. In these cases, PTs acknowledged the gaps in service within the community due to the emphasis on their role as an evaluator within the team versus their role as a manager.

In support of the manager role, enactment of the collaborator role extended into the community. As previously discussed, PTs needed to draw on community services, which sometime included private physiotherapy services, in order to manage their caseloads. Physiotherapists' role as educators also supported the enactment of the manager role. To enhance their role as educators, participants often undertook training beyond their entry-level education to ensure they had the skills required to empower patients to take control of their own health. In this way PTs partnered with patients, either one-to-one or in groups, working with them in collaboration to set attainable goals and develop a means of reaching those goals without dependency on the PT. Thus, the crossover between the roles of manager, collaborator and educator are once again evident with the context of community and population served.

In this study PTs working within PHC believed they were able to facilitate patient self-management by applying an evidenced-based self-management framework, such as the Stanford Chronic Disease Self-Management Program, to their practice. Such programs are supported by the literature (Lorig et al., 2001a; Lorig, et al., 2001b; Richardson, Letts, Chan, Stratford, Hand, Price, Hiltz, et al., 2010). Further, individuals with chronic conditions need self-management skills associated with function in order to manage their health and prevent functional decline (Steverink, Slaets, Schuurmans, & Van Lis, 2001). Supporting patients to self-manage, through education and skill building activities, constitutes an approach to care that is consistent with a population health approach, an approach Canada has adopted for health policy and program development (Barr,

Robinson, Marin-Link, Underhill, Dotts, Ravensdale, Salivaras, 2003). Thus, this study has revealed that PTs practicing within Ontario PHC teams are enacting their roles in accordance with the population health approach that has been adopted by Ontario, which has not previously been studied.

In addition to promoting health at the level of the patient, PTs in this study embraced health promotion as a philosophy that extended to promotion efforts within their respective communities. In this way, PTs enacted an educator role directed to the community and facilitated efforts with respect to primary prevention, again showing congruency with a population-health approach to care. Physiotherapists also alluded to advocacy efforts made to promote health for marginalized populations within their respective communities, although this role as an advocate was emphasized to a lesser degree.

Organizational Structure and Funding

In this study, both the organizational structure of the teams as well as funding were features found to impact the process of role enactment for PTs. The emergence of these factors highlights an important interplay between structure and process that has not been captured in other studies. Some literature contends that organizational factors such as governance and provider complement have minimal impact on team functioning and that process within the team accounts for a higher proportion of the variance within the construct of 'effective team work' (Poulton & West, 1999; Howard, Brazil, Akhtar-Danesh & Agarwal, 2010). Our study enabled the processes of role enactment to be uncovered relative to organizational structure, highlighting a key contribution of this study.

Physical space influenced the dynamic within the various interprofessional teams as discussed within the Interprofessional Team Context section. However, physical space also constituted the key variable related to organizational structure. Limited physical space and the distribution of the interprofessional teams across multiple sites had implications for role enactment.

Specifically the manager role was often enacted as supported by both the collaborator and educator roles. Specifically, limited space translated to PTs finding ways of carrying out intervention plans in a way that was not resource intensive. Drawing on the skills of other team members through the collaboration and connecting patients with existing community resources were two strategies PTs in this study used to manage their caseloads within the limited physical spaces in which they worked. Further, the emphasis on health promotion and chronic disease management translated to PTs also functioning as educators, which worked well within the limited physical space available for interventions. The advocate role was not emphasized within the context of Organizational Structure and Funding. The above-mentioned modes of role enactment employed by the PTs in this study were often contrasted to the traditional practice of PTs where using a gym and other related equipment in an ongoing one-to-one model of care are characteristic.

With regard to funding, PTs in this study noted financial constraints as a barrier to patients accessing a PTs service both within PHC teams and in other community settings. Within PHC teams, PTs described a high demand for their service, resulting in wait times for patients to access them. Participants also indicated that funding for additional PTs or PT assistants would improve access to them within the team. Within the community, the limited access to physiotherapy meant that PTs often had to make recommendations for services or programs as a substitute for physiotherapy services. Funding as a barrier to accessing service from a PT has been noted elsewhere in the literature (Cott et al., 2009). This study demonstrated how funding limitations require PTs to be resourceful with their interprofessional teams and their communities.

In addition to impacting role enactment relative to patient care, the PTs in this study noted that funding structures set up the complement of providers within the team. Consequently, the complement of providers within the PHC team was found to influence role enactment. For example, some PTs worked with PT

assistants or kinesiologists. In these instances, the PTs felt they could expand their roles, as their assistant or kinesiologist assisted in the follow-up of patients.

A team is a multidimensional construct and team structures and processes can vary widely according to membership, scope of work, and interactions (Lemieux-Charles & McGuire, 2006). Further, the type and diversity of clinical experience involved in team decision-making largely accounts for improvements in patient care and organizational effectiveness (Grumbach & Bodenheimer, 2004; Lemieux-Charles & McGuire, 2006). The fact that PTs within this study enacted their roles differently depending on the provider compliment of the team highlights the interdependence of team structure (with funding as a key factor) and process relative to role enactment. Thus this study highlights how PTs have transitioned from the providers who have traditionally carried out health care plans related to experts within their scope of practice. Through the five roles enacted, PTs co-ordinate the process of implementing the care plans of their patients through a collaborative process.

Primary Health Care Mandate

The mandate of PHC and the accompanying restructuring of health care requires all providers to be resourceful and push boundaries in order to evolve how they practice to ensure congruency with the current health care environment. As such, the ICF could be used as a mechanism to frame health holistically (WHO, 2001). This study found that PTs' presence within the PHC team assisted with fulfilling the four pillars of PHC, but more importantly, this study uncovered how PTs negotiated their various roles in order to fulfill the four pillars. The issue of access, one of the PHC pillars, surfaced through multiple tensions in practice. The first tension in practice that surfaced related to teamwork provided within a setting where all team members shared the same physical space versus teamwork provided across distributed settings. Again, team synergies were felt to be maximized when the team practiced within the same physical space, but PTs could access more patients when they worked

across various sites. Another tension related to a balancing act between providing care in a one-to-one care model versus providing care within a group setting. Group programming was viewed by participants to be more efficient and thus could translate to better access. However, the comprehensive nature of the one-to-one care model was perceived as being very important and in some cases necessary.

In addition to potentially improving access, group programming satisfied the other three PHC pillars since this programming emphasized healthy living, required interfacing with the team and emphasized information sharing among team members and patients. Although delivering care in a group format represents an example of care provision consistent with a population-health approach to care, the Institute of Medicine recommends further expansion of traditional roles such as to improve access would involve interactions and with patients in forms other than just face-to-face visits. (Wagner, 1998). Physiotherapists could potentially expand the enactment of their roles in this capacity in the future.

Despite negotiating their roles in ways to emphasize healthy living and to optimize access, PTs still noted current gaps in care within their communities. Considering that PTs' presence within Ontario PHC teams represent the exception rather than the rule and that there are known access issues for PT within Ontario communities (Cott et al, 2007), the gaps in care as delineated by participants in this study are important. It is possible that the gaps in care are magnified in the communities that do not have PTs within their PHC teams. Further research is required.

Implications

As PTs advocate for their profession, positioning themselves to expand their presence within PHC teams, they must recognize their roles as part of the collective evolutionary process. Understanding the enactment of evolving roles within PHC is important to ensure optimal collaborative team function such to

optimize patient and population health outcomes. Absent in the current literature is the notion that PTs have multiple important roles to enact within PHC, that need to be negotiated in a flexible way depending on the team, the community and the organizational structure of the particular service model they practice in. Ultimately, the inter-related nature of the roles enabled PTs to function as a consultant with expertise within their scope of practice as delineated by the National Physiotherapy Advisory Group (2009). Thus, there are potentially numerous beneficial ways in which PTs can be successfully integrated into PHC teams in Ontario. Through articulating how PTs enact their roles within Ontario PHC teams, this study may assist PTs in expanding their presence within these teams. Finally, this study also responds to the recommendation of other PHC researchers indicating CHCs and FHTs as models of care well positioned to expand publicly funded physiotherapy (Cott et al., 2007; Passelant et al., 2007).

Limitations

The current study findings pertain to a sample that reflects the enactment of service provision across Ontario PHC only. The views captured in this study are limited to PTs working within Ontario PHC teams. Given the interprofessional nature of PHC, perspectives of other providers and stakeholders could further develop the emerging theory. Despite the finite number of PTs who work within Ontario PHC teams, a strength of this study pertained to the sample of participants that was secured, which consisted of the majority of PTs who practice within these teams.

Conclusion

Enacting PTs' roles within PHC teams in Ontario was variable in nature and occurred in a dynamic manner as positioned by Ontario's PHC mandate. In attempts to fulfill the evolving holistic perspective of health as dictated by PHC, PTs were resourceful and pushed the boundaries of their practice as well as advocated for their place within the PHC team. Fulfilling the four pillars of Ontario's mandate represented tensions in practice that translated to an ongoing

balance act in managing patients and supporting community health. As PTs negotiated their place within the PHC teams, they did so within five inter-related roles, influenced by three contexts. This study demonstrated that enacting roles such to fulfill the PHC mandate, requires PTs to operate from a broad holistic perspective of health, within the context of a collaborative team and community, ensuring a person-centered and evidenced-based approach to care. Thus, there appears to be multiple ways of successfully including PTs within PHC teams provided that role enactment is context sensitive and framed by Ontario's PHC mandate.

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CHAPTER 5

GENERAL DISCUSSION AND INTEGRATION OF FINDINGS

The purpose of this program of research was to provide insight into physiotherapists' (PTs) roles within Ontario Primary Health Care (PHC) teams. Within this inquiry, combining the datasets of quantitative and qualitative methods using an Explanatory Mixed Methods Design (Cresswell & Plano Clark, 2007) translated to a more comprehensive understanding of the roles of PTs within Ontario PHC teams. The first study (Chapter 2) examined provider complement and health programming in PHC teams to provide a means of purposefully sampling for the two qualitative studies that followed. The second study (Chapter 3) described the perceptions of core PHC team members relative to the inclusion of PTs within PHC teams. The third study (Chapter 4) explored the process of how PTs working within Ontario PHC teams enacted their roles. Thus, the inquiry moved from establishing a profile of PHC teams, to an exploration of process across the three studies, providing a more complete depiction of PTs' roles within Ontario PHC teams. The integration of the findings from each of the three studies will be discussed in the following sections such to answer the over-arching question of this inquiry: What are the roles of physiotherapists within Ontario?

Establishing a Profile

The first study in this program of research resulted in a profile of Ontario PHC teams, specifically Family Health Teams (FHTs) and Community Health Centres (CHCs). Highlighting Ontario's transition towards interprofessional care, FHTs were benchmarked alongside CHCs and appeared to be moving in a positive direction relative to Ontario's PHC mandate. Interprofessional teams inclusive of a varied complement of core and non-core providers were found across both FHTs and CHCs, as were programs addressing healthy living.

Important for the purposes of this program of research, was the finding that some non-core provider groups were either absent from or included to a limited degree within these teams. There were only four PTs across the 126 FHTs and 15 PTs across the 83 CHCs. Thus, the findings from this first study corroborate the literature indicating that PTs are underrepresented in Ontario PHC settings (Cott, Landry, & Mandoda, 2009; McColl, Aiken, Birtwhistle, Corbett, Schoder, & Schaub, 2009).

Health promotion and chronic disease management (CDM) are specific areas of emphasis within Ontario's PHC mandate. Similar to the interprofessional team profile, the first study revealed a variable profile of health programming across FHTs and CHCs alike. Participants (FPs and NPs) in the second study endorsed a role for PTs in the provision of healthy living programs. Of note, participants in the third study (PTs) described health promotion and primary prevention as exciting aspects of their practice within PHC teams. They viewed these areas of practice as an extension of traditional PT practice requiring further evaluation. Thus, a shifting emphasis on health promotion for the PTs was found to be an important finding.

The Challenge of Funding

A topic that emerged out of all three studies was funding. Although both CHC and FHT models operate according to Ontario's PHC mandate, FHTs are accountable to the Ministry of Health and Long-Term Care (MOHLTC), whereas CHCs operate in a variable manner as directed by their respective community-based Boards. This distinction has important implications related to funding. With regard to FHTs, the MOHLTC more recently made the move to not fund some providers initially deemed eligible. Physiotherapists were on the original list of providers to be funded within FHTs; however, the revised list that emerged after the first few waves of FHT implementation no longer included PTs (MOHLTC, 2008). In that respect, a notable finding from the first study was the integration of four PTs within FHTs, although in all four cases, arrangements and

funding for services rendered by the PTs were organized outside of the MOHLTC.

For CHCs, on the other hand, the Board of Directors who are mandated to allocate funding to best meet community needs, determine which providers to fund. An interesting finding from both the second and third studies was that the majority of CHC Boards had not approved funding for a PT. There also seemed to be no clear method of justifying a need or on the other hand no need for a PT across the various CHCs. The somewhat “random” nature of allocated funding for a PT within the CHC model seemed to be compounded by the fact that some CHCs who currently did have funding for a PT were unable to fill the positions. In this sense, PTs themselves may be contributing to their own lack of integration within these teams. Considering PTs themselves as a potential barrier to integration within Ontario PHC teams is a topic that requires further exploration.

What Physiotherapists Contribute

The second study within this program of research captured the perception from FPs and NPs, that PTs were desired PHC team members. This perception was consistent regardless of whether or not PTs were members of the respective teams. Participants articulated a clear gap within their current caseloads that PTs could address based on what PTs did or could contribute, that is, their perceived expertise in the areas of musculoskeletal health and CDM. Taking into account the continued rise in chronic conditions, otherwise referred to as “lifestyle” conditions, it is foreseeable that chronic conditions will represent even higher proportions of patient caseloads in the future. The perceived benefit of a PT is not unexpected considering that in 2003, almost a third of the Ontario population reported having an activity and or participation limitation (Statistics Canada, 2003) and the current state of community physiotherapy services does not meet the needs of Ontarians (Landry & Cott, 2010). Also, as confirmed in this inquiry, PTs were generally well known for their expertise related to exercise

prescription and physical activity counseling, fundamental to musculoskeletal health management and CDM.

How Physiotherapists Practice

With regard to CDM, the PTs who participated in the third study were often providers of the Stanford Chronic Disease Self-Management Program, considered to be the gold standard in self-management (LeFort, Gray-Donald, Rowat, & Jeans, 1998; Lorig, Sobel, Ritter, Laurent, & Hobbs, 2001; Bodenheimer, Lorig, Holmanm, & Grumbach, 2002; Lorig, Philip, Stewart, Sobel, William Brown, Bandura et al., 2001). Self-management support complements traditional patient education in supporting patients to attain their best quality of life within the parameters of their chronic conditions (Bodenheimer et al, 2002). Whereas traditional patient education offers information and technical skills, self-management is founded on the concept of self-efficacy and teaches problem-solving skills (Bodenheimer et al., 2002).

Participants in the second study (FPs and NPs) indicated that PTs seem to be able to provide patients with more meaningful advice related to the self-management of their conditions, particularly in the areas of physical activity counseling and exercise prescription, when compared with other providers within their respective teams. Participants attributed this to the PTs' understanding of pathophysiology related to various disease states, expertise relative to musculoskeletal health and ability to attend to multiple-system issues. This finding suggests that these participants perceived the use of PTs within the domains of self-management and exercise prescription as reflecting more appropriate care and thus a strategic use of health human resources (HHR).

The management of chronic conditions represents a target area of health programming. An essential component of managing chronic conditions is patient self-management. Through their involvement in programming that emphasizes

patient self-management, PTs of the third study extended their role as collaborators beyond the interprofessional team to the patient. Thus, patients were engaged as partners and empowered to take responsibility of their health. Programs designed to support patients to self-manage are grounded in the Chronic Care Model's (Bodenheimer et al., 2002) assumption that the way in which clinical teams interact with patients has a significant impact on (patients') health outcomes (The Health Foundation, 2008). The link between the PTs' collaborator role and patient outcomes requires further study.

Educating the Interprofessional Team

Concerning the interprofessional team, although the FPs and NPs who participated in the second study were able to clearly articulate a need for PTs as well as a clear service gap PTs could address, the areas they described PTs practicing in were relatively narrow. As observed in the third study the enactment of the role as educator was important in the ongoing education of the team related to the best use of the PTs' skills. Albeit narrow, practice areas cited by FPs and NPs, were coherent with those emphasized by the PTs who participated in the third study. Thus, musculoskeletal health and CDM were determined to be the primary areas of practice in which PTs were perceived to be best positioned within Ontario PHC teams. Although areas of practice are distinctly different than the actual roles enacted by PTs, in asking the participants of both qualitative studies (FPs, NPs, PTs) about the role(s) of PTs, the various roles were explained relative to these areas of practice.

In addition to describing the areas of practice that could be addressed by PTs, participants in the second study also indicated different responsibilities PTs could assume within their teams. Family physicians and NPs mentioned that PTs could collaborate on assessment (particularly for MSK health), management and group programming (particularly for CDM). Notably such responsibilities were coherent with the MOHLTC (2005) previously identified common interprofessional competencies and overlapped with the roles PTs actually

enacted as described in the third study. The connections between the findings related to role enactment will be discussed in the next section.

Enactment of Physiotherapists' Roles and the Impact of Context

The final study within this program of research revealed that PTs enacted five inter-related roles: manager, evaluator, collaborator, educator, and advocate, within Ontario PHC teams. The enactment of these roles was impacted by three contexts (interprofessional team, population served and community and organizational structure and funding) and guided by the Ontario PHC mandate. In order for PTs to effectively serve the teams and communities in which they worked, a best fit between the roles and associated context had to be reached. This included balancing between various management strategies such as the provision of service through one-to-one sessions, group programming within the PHC team or recommending programs and services within the broader community. Thus, there was no single means of role enactment that emerged. Rather, role enactment required an understanding of the complex nature of PHC and open-mindedness to allow for innovative practice methods. Also, recognizing PTs as experts within their scope of practice was necessary. This understanding crystallized during the development of the explanatory scheme related to the process of how PTs enacted their roles in the final study.

Importantly, the five roles enacted by PTs represented the actions derived from their expertise within their scope of practice. Physiotherapists functioning as experts within their designated scope of practice, does not represent new knowledge, however the explication of how PTs enact their roles within Ontario PHC teams is new knowledge. Additionally the impact of the three identified contexts on role enactment represents new insights.

Representing the “core” context within the third study, the interprofessional team was found to appreciably impact how PTs enacted their roles. Further, the ability to work with an interprofessional team in general was described as a unique attribute from the perspective of the participants in both qualitative studies

and was also thought to enhance the provision of comprehensive care. Participants in both qualitative studies also cited the benefits derived by the providers in having the support of other team members.

Physiotherapists in the third study were found to enact their roles in a manner that enabled them to enhance care and promote health at the level of the patient, the interprofessional team and the community served. Given the limited resources the PTs had available to them, a key component of their management strategy for patients related to drawing on existing community programs. In addition to being resourceful, drawing on existing community resources also supports patients' in self-managing their respective conditions. Thus, the community and population served emerged as a context that influenced role enactment. Specifically, PTs connected with community resources through their central role as managers. Notably, participants in the second study (FPs and NPs) did not identify coordinating community services for patients as a perceived responsibility for PTs.

Organizational structure and funding was uncovered as the third context that influenced how PTs enacted their roles within PHC teams. Physical space in particular, represented a variable that required PTs to assume their roles as collaborators within their respective teams either within the same physical space or across multiple locations. In spite of the distributed nature of some PHC teams, this feature did not appear to impact the care PTs felt they could provide for patients, nor did it seem to negatively impact their experience of collaboration within the interprofessional team. Conversely, participants in the second study (FPs and NPs) often indicated the distribution of teams across multiple sites as a factor that impeded collaboration. As indicated in Chapter 4, the PTs in this study appeared to collaborate easily across smaller teams within the larger PHC teams and between groups of providers situated within different physical sites, perhaps representing personal characteristics that these PTs had in common. Further study is needed.

This program of research suggests that through enacting the roles of: manager, evaluator, collaborator, educator and advocate, PTs may not only contribute to a more strategic use of HHR, but also enhance efficiency through bringing expertise to existing programs, managing community resources and embracing the skills of other providers. The enactment of these five roles appears to be congruent with fulfilling Ontario's PHC mandate.

Implications

The underrepresentation of PTs within Ontario PHC may have implications relative to the health programming that is offered. The perceptions from participants in the two qualitative studies (Chapters 2 & 3) indicate that the contributions of PTs to health programming are important. Thus, the health programming currently offered at Ontario PHC teams that do not have a PT may be missing an important perspective.

Additionally, the fact that two key areas of practice as well as five inter-related roles and three contexts that impact role enactment within PHC all emerged from this program of research, potentially has implications for PTs as a professional group. A challenge faced by The Ontario Physiotherapy Association in advocating for the integration of PTs within Ontario PHC has been difficulty in articulating the contribution PTs can make. The new insights arising from this inquiry as to areas of practices, roles and the contexts impacting the process of role enactment of PTs currently practicing in PHC teams may thus assist in supporting such advocacy efforts. Further, the findings from this inquiry may inform future curriculum development for entry-level professional education in Ontario, such to better prepare PTs for the multiples roles inherent within PHC teams.

Finally, the identified impact of the PHC specific contexts on role enactment could also have relevance to other providers groups. Specifically, enhancing understanding of which contexts influence how provider roles are

enacted could potentially contribute to more effective PHC teams and a more efficient use of resources.

Contribution to the Research Literature

This inquiry represents an important scholarly contribution to the literature. A valuable contribution of the first study was the establishment of a comprehensive profile of FHTs and CHCs. The development of this profile was required to provide both a contextual back-drop and to facilitate purposeful sampling for the second and third studies with this inquiry. The profile generated however can also inform a variety of future research pursuits.

The second study is the first to describe the perspectives of “core” team members related to the integration of PTs within Ontario PHC teams. In addition to unanimously endorsing a place for PTs within Ontario PHC team, FPs and NPs described PTs contributing to PHC teams in the areas of musculoskeletal health and CDM. The core providers who participated represented all 14 Local Integrated Health Networks clearly articulated a service gap within their respective caseloads that could be address by a PT, which represents new information. Further the findings of this study challenge the claims in a pervious policy analysis study (McColl et al., 2009), indicating that FPs and NPs within FHTs would not want to work with PTs.

The third study is the first to articulate the process of role enactment by PTs within PHC teams and highlights the influence of contextual factors. In addition to describing five inter-related roles, this study also provided an explanation relative to the influence of three contexts. The articulation of these roles and related influence of the contexts highlighted how PTs were able to successfully (from their perspective) negotiate many factors and manage complex caseloads with limited resources. Provider roles within PHC have not been explicated in this way in the literature nor have the contexts that influence PHC models been explained. Further, the third study uncovered new information

regarding the important educator and collaborator roles PTs enacted relative to supporting patients in self-managing their chronic conditions in PHC settings.

Future Research Directions

In moving forward with this research agenda an important issue requiring deeper investigation relates to the roles PTs enact relative to health programming in order to promote health and assist in the management of chronic conditions. Self-management for chronic conditions represents an area of emphasis within PHC and further a topic that challenges all stakeholders. The question of how role enactment could be optimized requires further explanation. Specifically, health programming varied across teams, and only in some cases involved the perspective a PT as the majority of Ontario PHC teams do not have a PT. Thus, evaluations of specific programs that PTs do and do not contribute to are required. Given the context dependent nature of role enactment, evaluations of programs within specific PHC teams could likely yield more meaningful results.

Another research question relates to the perceptions of participants in this program of research that PTs practicing in privately and publicly funded community clinics (where the majority of community physiotherapy services exist) enact their roles differently than PTs in PHC teams. Thus, the need to confirm how PTs within the community are enacting their roles is required.

Evaluation of Ontario PHC teams must be seen as an iterative process and thus, an ongoing requirement. Future research that builds on the insights gained within this program of research could facilitate the optimal composition of providers within teams, mitigate structural features and funding issues and enhance the delivery of health programming.

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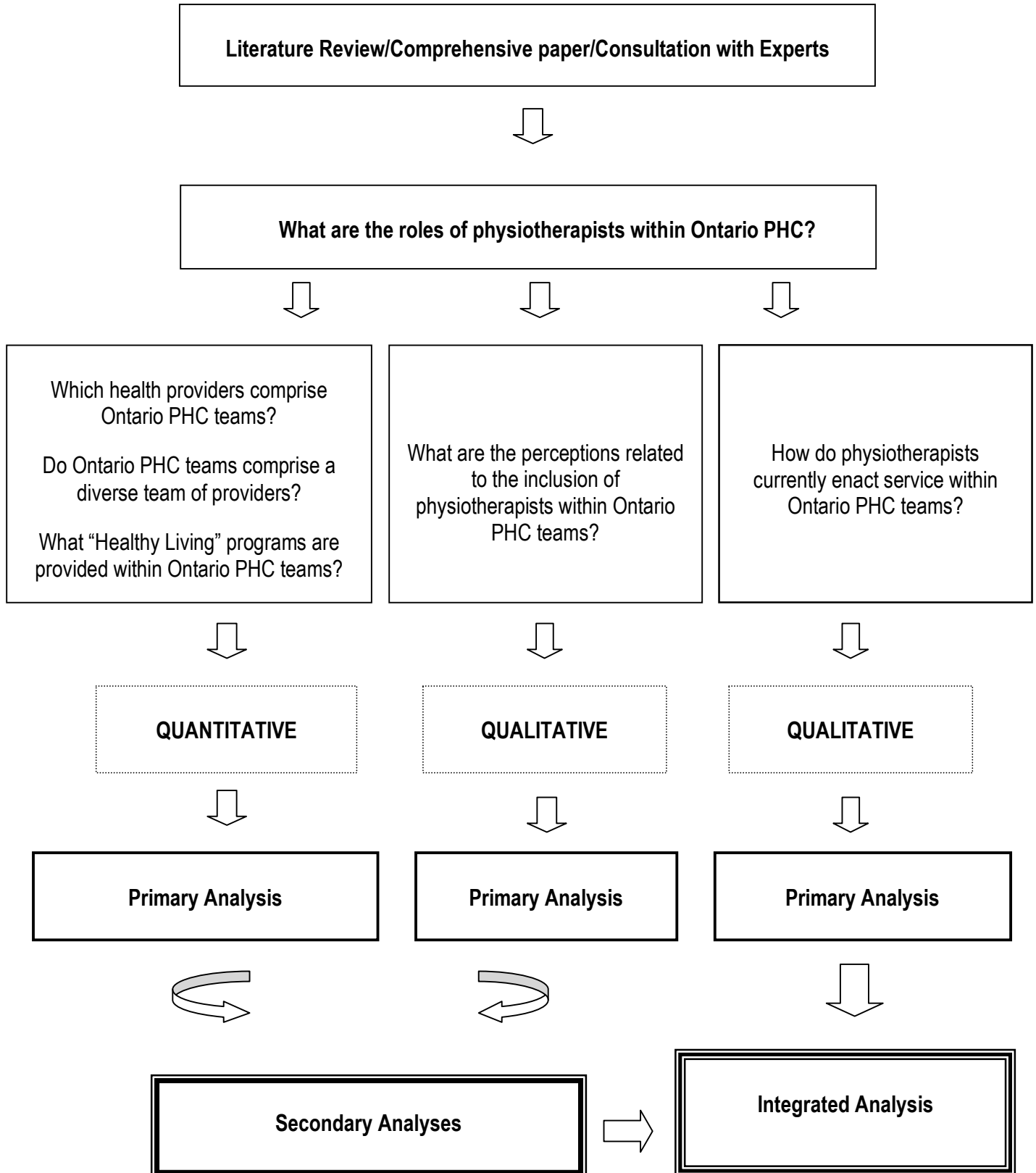
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Appendix A: Research Program Study Design



Appendix B: Ethics Approval

Appendix C : Letter of Information (Descriptive Study)

The Role of Physiotherapists within Ontario Primary Health Care:

A Descriptive Study

Study Principal Investigator

S Deborah Lucy PhD BScMR(PT) Associate Professor

School of Physical Therapy

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Study Co-Investigator

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Graduate Program in Health and Rehabilitation Sciences

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1 INTRODUCTION

You are being invited to voluntarily participate in a research study exploring the role of physiotherapists within various Primary Health Care (PHC) models in Ontario. The study investigators are seeking information related to the perceived benefit of including physiotherapists within Community Health Centres (CHCs), Family Health Teams (FHTs) and Nurse Practitioner-Led Clinics. You have been identified for participation because you are either a physician or nurse practitioner who works within one of the above mentioned PHC models.

This letter contains important information to help you decide whether or not to participate in this study. It describes the purpose of the study, explains what you will be asked to do, and outlines the risks and benefits of participation. Please take the time to read this carefully. After you have finished reading, please feel free to ask any questions you have about the study, and your participation, or if there are any words or phrases you do not understand.

2 PURPOSES OF STUDY

The international literature (particularly the UK, USA and Australia) suggests a number of benefits related to integrating physiotherapists into PHC teams. In Ontario, physiotherapists are known to be integrated into Community Health Centres, but the degree to which physiotherapists are or could be integrated into these PHC teams and novel PHC models (namely Family Health Teams and Nurse Practitioner Led Clinics) is not known. The purpose of this study is to gain an understanding of the perceived benefits of including physiotherapists within Ontario PHC teams.

Initials _____

Page 1 of 3

3 INFORMATION ABOUT STUDY PROCEDURES

You are being asked to participate in a one to one, semi-structured interview. The interview will consist of open-ended questions related to your perceptions related to the inclusion of physiotherapists within PHC teams. The interview should take approximately 30 minutes to complete and will take place in a location of your choice. You will not be compensated for your participation in this research study.

Interviews will be audio-recorded and then transcribed verbatim for analysis purposes. We acknowledge that your responses do not necessarily represent the views of every member of the PHC team to which you are associated. The research team will be conducting approximately 24 interviews.

4 INFORMATION ABOUT RISKS/HARMS

There are no anticipated risks associated with this study.

5 INFORMATION ABOUT BENEFITS

The benefit of participation is your contribution to the information base regarding the integration of physiotherapists within Ontario PHC models.

6 VOLUNTARY PARTICIPATION

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw at any time. If you are participating in another study at this time, please inform the study investigators right away to determine if it is appropriate for you to participate in this study. You may keep a copy of this letter of information for your records.

Initials _____

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7 CONFIDENTIALITY

The investigators will keep your identity and study information confidential. The PHC team (FHT, CHC, NPC) you represent will be assigned a coded participant number and you will not be personally identified in any capacity as a result of your participation in this study. A master list of FHTs will be kept in a secure location, remote from the interview data sheets. Hard copies of transcribed interview data will be stored in a locked filing cabinet inside a secure office. Transcribed interview data will be inputted on a computer with firewall and appropriate security software. There will be no personal identifiers kept on the computer data.

The results of this may be used in presentations or published in scientific reports but your name and identity will not be disclosed. All personnel involved in this study are committed to respecting your privacy. If you would like a copy of the study results, please indicate so via email.

8 CONTACTS

If you have any questions about this study please contact:

Dr S Deborah Lucy

Sinead P Dufour

If you have any questions about your rights as a research participant or the conduct of the study, you may contact: The Office of Research Ethics (519) 661-3036, or email ethics@uwo.ca.

Initials _____

Page 3 of 3

Appendix D: Consent Form (Descriptive Study)**The Role of Physiotherapists within Ontario Primary Health Care:****A Descriptive Study**

I have read the accompanying Letter of Information, I have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Participants Name (printed) _____

Participants Signature _____ Date _____

Printed Name of Person Obtaining Informed Consent

Signature of Person Obtaining Informed Consent

_____ Date _____

The consent form will be retained by the research team

Appendix E: Interview Guide A (Descriptive Study)

The Role of Physiotherapists within Ontario Primary Health Care: A Descriptive Study

(Interview Guide A: Providers who work with a physiotherapist)

- 1) What were your expectations in working with an interprofessional team?
- 2) How has it actually played out?
- 3) Specifically, how is the role of the physiotherapist enacted?

Probe: what would you consider to be the primary duties (i.e. services or assigned tasks) of a physiotherapists within the PHC team in which you work?
- 4) What do you feel the physiotherapist brings to the team?

Probe: what type of care are they able to provide within the practice?
- 5) Have you ever had misgivings related to the inclusion of other health care providers, such as physiotherapists, within the PHC team in which you work?
- 6) Has the inclusion of a physiotherapist within the PHC team in which you work changed the dynamic of the team?
- 7) Has the inclusion of a physiotherapists within the PHC team in which you work, changed your perspective of physiotherapists? If so, how

- 8) Are there any gaps in care that you feel could be bridged by integrating a physiotherapist into the PHC team in which you work? If so, how?

- 9) In your opinion, what is the impact on patient care with the inclusion of a physiotherapist on the PHC in which you work?

Appendix F: Interview Guide B (Descriptive Study)**The Role of Physiotherapists within Ontario Primary Health Care:****A Descriptive Study**

(Interview Guide B: Providers who do not work with a physiotherapist)

- 1) Tell me about the dynamic within the interprofessional team you are a part of?
- 2) What are the strengths and weaknesses in terms of the range of services your team can provide?
- 3) Based on the above, have you ever considered the inclusion of a physiotherapist within your team?

- 4) If so, what would you see a physiotherapists doing within the team?

Probe: what would you consider to be the primary duties (i.e. services or assigned tasks) of a physiotherapists within the PHC team in which you work?

- 5) Does your team currently access services delivered by physiotherapists outside of the team setting?

If so, for what? How?

- 6) Are there any gaps in care that you feel could be bridged by integrating a physiotherapist into the PHC team in which you work?

If so, in what way(s)?

- 7) In your opinion, what would be the impact on patient care with the inclusion of a physiotherapist on the PHC in which you work?

Appendix G: Demographic Information (Descriptive Study)**The Role of Physiotherapists within Ontario Primary Health Care:****A Descriptive Study (Demographic Information)**

Gender: M__ F__

Number of Years in Practice__

Profession: MD__ NP__

LIHN_____

PHC Model: CHC__ FHT__ Nurse Practitioner Led Clinic__

Appendix H: Letter of Information (Grounded Theory Study)

**The Role of Physiotherapists within Ontario Primary Health Care:
A Grounded Theory Study**

Study Principal Investigator

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School of Physical Therapy

The University of Western Ontario

Study Co-Investigator

Sinéad P Dufour MSc(PT) PhD(candidate)

Graduate Program in Health and Rehabilitation Sciences

The University of Western Ontario

1 INTRODUCTION

You are being invited to voluntarily participate in a research study exploring the role of physiotherapists within various Primary Health Care (PHC) models in Ontario. The study investigators are seeking information related to the process of how physiotherapists who work within Community Health Centres (CHCs), Family Health Teams (FHTs) and Nurse Practitioner-Led Clinics (NPCs) are currently delivering service. You have been identified for participation because you a physiotherapist who works within one of the above mentioned PHC models.

This letter contains important information to help you decide whether or not to participate in this study. It describes the purpose of the study, explains what you will be asked to do, and outlines the risks and benefits of participation. Please take the time to read this carefully. After you have finished reading, please feel free to ask any questions you have about the study, and your participation, or if there are any words or phrases you do not understand.

2 PURPOSES OF STUDY

The benefits of integrating physiotherapists into PHC teams is well documented in the literature, however, in Ontario there still appears to be a lack of integration of physiotherapists within both long standing (CHCs) and new PHC models (FHTs and Nurse Practitioner Led Clinics). The purpose of this study is to gain an understanding of how physiotherapists are currently delivering service within these models in order to generate an explanation of service provision by physiotherapists that could assist with future planning of PHC teams.

Initials _____

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3 INFORMATION ABOUT STUDY PROCEDURES

You are being asked to participate in a one to one, semi-structured interview. The interview will consist of open-ended questions related to your perceptions related to the processes of how physiotherapists are currently delivering services with PHC models. The interview should take 30 to 45 minutes to complete and will take place in a location of your choice. You may be asked to participate in a second interview at a later date in order for the research team to follow up on data generated in the first set of interviews. You will not be compensated for your participation in this research study.

Interviews will be audio-recorded and then transcribed verbatim for analysis purposes. We acknowledge that your responses do not necessarily represent the views of every member of the PHC team to which you are associated. The research teams plans on conducting approximately 20 interviews.

4 INFORMATION ABOUT RISKS/HARMS

There are no anticipated risks associated with this study.

5 INFORMATION ABOUT BENEFITS

The benefit of participation is your contribution to the information base regarding the integration of physiotherapists within Ontario PHC models.

6 VOLUNTARY PARTICIPATION

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw at any time. If you are participating in another study at this time, please inform the study investigators right away to determine if it is appropriate for you to participate in this study. You may keep a copy of this letter of information for your records.

Initials _____

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7 CONFIDENTIALITY

The investigators will keep your identity and study information confidential. The PHC team (FHT, CHC, Nurse Practitioner Led Clinics) you represent will be assigned a coded participant number and you will not be personally identified in any capacity as a result of your participation in this study. A master list of FHTs will be kept in a secure location, remote from the interview data sheets. Hard copies of transcribed interview data will be stored in a locked filing cabinet inside a secure office. Transcribed interview data will be inputted on a computer with firewall and appropriate security software. There will be no personal identifiers kept on the computer data.

The results of this may be used in presentations or published in scientific reports but your name and identity will not be disclosed. All personnel involved in this study are committed to respecting your privacy. If you would like a copy of the study results, please indicate so via email.

8 CONTACTS

If you have any questions about this study please contact:

Dr S Deborah Lucy

Sinead P Dufour

If you have any questions about your rights as a research participant or the conduct of the study, you may contact: The Office of Research Ethics (519) 661-3036, or email ethics@uwo.ca.

Initials _____

Appendix I: Consent Form (Grounded Theory Study)**CONSENT FORM****The Role of Physiotherapists within Ontario Primary Health Care:****A Grounded Theory Study**

I have read the accompanying Letter of Information, I have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Participants Name (printed) _____

Participants Signature _____ Date _____

Printed Name of Person Obtaining Informed Consent

Signature of Person Obtaining Informed Consent

_____ Date _____

The consent form will be retained by the research team.

Appendix J: Interview Guide (Grounded Theory Study)

The Role of Physiotherapists within Ontario Primary Health Care:

A Grounded Theory Study (Interview Guide)

1) How did you come to work in this setting?

2) How is the role of a physiotherapist negotiated within the PHC team in which you work?

- probe, scope of practice

- population characteristics

- education/health promotion**/chronic disease management**/pain/function/mobility

- describe your role(s) within the team

3) Tell me about the process of care for a typical client from referral to discharge.

4) How are the duties (i.e. services or tasks assigned) of a physiotherapist differentiated from other team members?

5) Tell me about an instance when your role (as a physiotherapist) was either altered or expanded.

6) How do patients go about seeing the physiotherapist? How is frequency of treatment negotiated?

7) How does the physiotherapist collaborate with the other members of the PHC team to deliver service?

8) How could the current process delivery of physiotherapy services evolve to better meet the needs of patients/other professional team members?

9) If you practiced in another setting, how would your role differ?

Appendix K: Permission of Figures

Date: Tue, 24 Aug 2010 13:45:03 -0400

Subject: Re: Figure

From: XXXXXXXXX

To: XXXXXXXXXXXX

Hi Sinead,

I think this is what you asked for. Let me know if there's a problem.

I grant permission for these diagrams to be used for illustrative purposes in your thesis on the understanding that it will be credited to me and will not be reproduced elsewhere without my express written permission.

Best of luck completing your research.

Linda

VITA

Name: Sinéad Patricia Dufour

Post-secondary Education and Degrees: McMaster University
Hamilton, Ontario, Canada
1996-2000 B.Kin. (Hons)

McMaster University
Hamilton, Ontario, Canada
2001-2003 MSc.PT

The University of Western Ontario
London, Ontario, Canada
2006-2011 Ph.D

Honours and Awards: Province of Ontario Graduate Scholarship
2008-2009, 2009-2010, 2010-2011

Graduate Teaching Assistant Scholarship, The University of Western Ontario, 2008-2009

Invited Address: Ontario Physiotherapy Association Conference, London, Ontario, March 23, 2009. Facilitating the Family Health Team Initiative: Application of the International Classification of Functioning, Disability and Health.

Invited Participant: Ontario Physiotherapy Association, Family Health Team Strategic Planning Committee, April 2009.

Invited Address: Ontario Physiotherapy Association Conference, Ottawa, Ontario, April 8, 2011. Understanding the Roles of Physiotherapists within Ontario Primary Health Care Teams.

Related Work Experience Teaching Assistant
The University of Western Ontario
1993-2011

Professional Associate
McMaster University
2007-Present

Lecturer
The University of Western Ontario
2009-2010

Publications:

Dufour SP, Lucy SD. (2010). Situating primary health care within the International Classification of Functioning, Disability and Health: Enabling the family health team initiative. *Journal of Interprofessional Care*, 24, 666-77.

Bechard DJ, Day AM, Dufour SP, Dzioba A, McCabe C, Rasmussen SM, & Doyle, PC (2010). How medical student conceptualize health and disability: Implications for interprofessional practice and education. *Journal of Research in Interprofessional Practice and Education*, Online, 1,2.

Dufour SP, Lucy SD, & Brown, JB. Family health teams: Provider Compliment and health programming. *Healthcare Policy* (submitted November 2011).

Dufour SP, Lucy SD, & Brown, JB. Integrating physiotherapists within Ontario primary health care teams: Perspectives of family physicians and nurse practitioners. *Journal of Interprofessional Care*. (submitted November 2011).

Presentations:

Dufour SP & Doyle PC. Rehabilitation Science: Our science, our methods, our practice. Presented at GTA Rehabilitation Network Best Practice Day, February 29, 2008.

Dufour SP & Lucy SD. Applying the International Classification of Functioning, Disability and Health to facilitate primary health care models. Presented at the 10th Annual Interprofessional Research Conference in Health Care, Trinity College, Dublin, Ireland, November 4, 2009.

Dufour SP & Lucy SD. Enacting physiotherapists' roles in Ontario primary health care teams. Presented at the annual Canadian Physiotherapy Association Congress, Whistler, BC, July 17, 2011.