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# Exploring Physicians' Perspectives of Exercise Specialists in Primary Care Networks

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UNIVERSITY OF CALGARY

Exploring Physicians' Perspectives of Exercise Specialists in Primary Care Networks

by

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A THESIS

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## **Abstract**

In Primary Care Networks (PCNs) family physicians refer to multidisciplinary teams that provide complimentary services for patients requiring assistance with complex issues or illness. Exercise specialists are a recent addition to these teams, and can support patients through physical activity counselling, education and the appropriate exercise prescription. By utilizing grounded theory methodology and interview techniques, the processes and context of physicians' considerations of exercise specialists have been explored and summarized within this study. Ten physicians were purposively sampled from Calgary PCNs, and the constant comparative method was applied to code the transcripts and construct analytic categories to saturation. The core category states that although physicians are receptive to a professional who promotes physical activity and wellness to their patients, exercise specialists are currently "hidden" from PCN family physicians in Calgary. This core category is supported by three subcategories: Exercise Specialist Factors, Access, and Relationships.

## **Acknowledgements**

I'd like to acknowledge all of the physicians who took time out of their endlessly busy days to answer my questions. I was lucky enough to observe your passion for patient health in our discussions, and I truly hope that the results of this project contribute to your efforts in trying to affect and maintain lifestyle change in all of your patients.

This project could not have been completed without the encouragement and direction given by my supervisory committee. Dr. Tish Doyle-Baker has been an avid supporter of my skills as a graduate student, and has provided me with opportunities for research-related travel as well as essential mentorship in scientific writing. I am equally grateful to Dr. Aaron Tubman, Dr. David Hogan and Dr. David Keegan, for their continued support in the development, recruitment and writing processes. I would also like to thank Dr. Lorraine Venturato for taking up the position of external examiner and contributing her expertise in grounded theory to the project. I respect and admire you all as professionals, be it clinician, researcher, or both. In my future endeavours, I hope to apply myself with the same energy and determination that I have seen in each of you.

I would like to thank Ms. Rosalie Kolstad for her concrete advice, warm disposition, and willingness to lend a helping hand. To my colleagues in the Human Performance Lab, especially my official and unofficial office-mates, your friendship is the reason this experience has been so enriching; I hope that we can continue the camaraderie for years to come. To my dear friends who helped in the development of the final written work, specifically Christine, Ben, and Katie, words cannot express how grateful I am to you all.

## **Dedication**

To my mother, father, and sister, who have always been compassionate, uplifting, and inspirational, I am so proud to call you my family. In your own extraordinary way, you all represent the person I strive to become. To Jeff, who is my friend, my partner, and my future: you have been instrumental to my success and happiness in all aspects. It's not a proper adventure if it's not with you, and I look forward to all of the adventures we will experience together. These people have taught me a great deal about what it means to live a rewarding life, and this thesis is dedicated wholeheartedly to them.

Creating a life that reflects your values and satisfies your soul is a rare achievement. In a culture that relentlessly promotes avarice and excess as the good life, a person happy doing his own work is usually considered an eccentric, if not a subversive. Ambition is only understood if it's to rise to the top of some imaginary ladder of success... You'll be told in a hundred ways, some subtle and some not, to keep climbing, and never be satisfied with where you are, who you are, and what you're doing. There are a million ways to sell yourself out, and I guarantee you'll hear about them. To invent your own life's meaning is not easy, but it's still allowed, and I think you'll be happier for the trouble.

– Bill Watterson

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## **List of Symbols, Abbreviations and Nomenclature**

Symbol	Definition
ACSM	American College of Sports Medicine
CEP	Certified Exercise Physiologist
CSEP	Canadian Society for Exercise Physiology
PCN	Primary Care Network

### **Epigraph**

Everything is simpler than you think, and at the same time, more complex than you can imagine.

– Johann Wolfgang von Goethe

## **Chapter One: INTRODUCTION**

### **1.1 Primary Care**

Primary care is an area of medicine where people receive care for most of their everyday health needs. This is the first point of contact within the health care system and generally includes initial assessments, treatment, and referrals to other health care areas, as well as follow-up for complex or multi-management cases as needed. Services received in primary care should also assist in the promotion of overall wellness and disease prevention (South Calgary Primary Care Network, n.d.).

### **1.2 Primary Care Initiative**

The Primary Care Initiative (PCI) was established in 2003 through a partnership between Alberta Health Services, Alberta Health, and the Alberta Medical Association. This collaboration between the three provincial health organizations led to a purposeful Master Agreement with the intention of improving patient access to family physicians and other important health care providers. The following are some of the objectives held and supported by the PCI partnership:

(1) Increased emphasis on health promotion, disease prevention and care for patients with complex and chronic diseases; (2) Better coordination and integration with other health services including secondary, tertiary and long-term care, and; (3) Increased use of multi-disciplinary teams to provide quality comprehensive care (Alberta Primary Care Networks, n.d.).

### **1.3 Primary Care Networks**

Primary Care Networks (PCNs) were developed as part of the PCI's Alberta-specific approach to coordinated care. In PCNs, a group of family physicians work in conjunction with Alberta Health Services and other allied health professionals to improve patient access to a multitude of primary health services and resources. A PCN is usually comprised of several physicians and multiple clinics within one geographic area. Each PCN is unique and therefore flexible in its services because of the local development and cooperation within the health regions and health professionals to enhance patient care. This allows individual PCNs to focus on their patient needs and still be supported by the larger health organizations and the PCI framework. Allied Health professionals employed by PCNs may include nurses, nurse practitioners, social workers, pharmacists, mental health workers, dietitians, or exercise specialists. Currently, over 40 PCNs operate within the province of Alberta, with more than 3000 family physicians working towards comprehensive and patient-centered health care goals and services for 2.5 million Albertans (Alberta Primary Care Networks, n.d.).

### **1.4 Collaboration in Health Care**

Patient care is best provided by a primary care–led team that is multidisciplinary in nature, especially when chronic illness or multiple health concerns are present (Katon et al., 2010). There is evidence that collaborative teams can provide value in primary care, since complex health issues may require different types of expertise (Adair et al., 2013). This multidisciplinary approach fosters comprehensive care and improves access to resources for patients (Solheim, McElmurry & Ja Kim, 2007). Elements of care otherwise overlooked may be

addressed using a collaborative model, and could contribute to improved wellness even for patients with chronic illness (Wagner, 2000). This collaborative model has the potential to be a low-cost option, but exactly how these teams should be structured is not yet clear, and there have been setbacks in the attempt to promote collaborative engagements (Adair et al., 2013).

Despite the objectives outlined by the PCI and PCNs, as well as evidence that collaborative efforts from health professionals improves patient chronic disease outcomes (Delon & Mackinnon, 2009), only 26% of Canadian chronic disease interventions are from a multi-management perspective (Coleman et al., 2009). Some reasons for this include: developmental issues such as added organizational complexity, or reduced effectiveness due to an excess of team members and decreased communication between all parties (Grumbach & Bodenheimer, 2004). Increasing the amount of collaborating members can also result in degradation of service through polar ideals or differing expectations, leading to team conflict and affecting continuity of care (Grumbach & Bodenheimer, 2004).

Despite inherent drawbacks, collaboration in health care has surged forward in the 21<sup>st</sup> century (Wagner, 2000). To fulfill the aims of the PCI as it was outlined in 2003, an integrated, system-wide and coordinated approach to patient health will be required, with the support and engagement of all health care providers involved

### **1.5 Physical Activity, Exercise & Chronic Illness**

Exercise and physical activity have been identified as being able to slow the progression of multiple diseases such as cardiovascular disease, diabetes, cancer, hypertension, obesity, osteoporosis and depression (Foster & Luchia, 2008). A review by Warburton, Nicol & Bredin,



(2006) determined that the evidence supporting the effectiveness of lifestyle physical activity in primary and secondary disease prevention and premature death is indisputable. However, clinical settings still suffer from a neglect of physical activity promotion and prescription by physicians, as compared to the prescription of pharmaceutical medication (Church & Blair, 2009). Within the past decade, less than 10% of total outpatient visits have included counselling or education related to exercise (Tulloch, Fortier & Hogg, 2006).

Some family physicians currently counsel their patients on the benefits of exercise and lifelong health, or prescribe a basic program of increased physical activity, such as walking (Swinburn et al., 1998). However, exercise prescription is not as simple as it may seem, and physicians likely need some foundational knowledge in exercise physiology to be successful in individualizing exercise (Kujala, 2006). For example, patients with chronic diseases often have multiple co-morbidities and barriers to exercise that need to be assessed before beginning a physical activity program (Graham, Dugdill & Cable, 2005). According to Graham, Dugdill & Cable (2005), many physicians do not feel confident in their knowledge of exercise training principles.

In terms of the patient experience, physical activity counselling from a physician or another health care team member has been met with satisfaction and positive outcomes (Fortier & Hogg, 2011). Many patients appreciate the tailored approaches and helpful strategies found in physical activity interventions (Fortier & Hogg, 2011). These interventions typically involve some degree of physician-based physical activity counselling (verbal activity advice alone), exercise prescription (writing down a “prescription” to get active with specific instructions or patient tailoring), or a referral to another source of guidance for the patient (community-based

leisure programs, group exercise classes, or another health care team member trained in kinesiology, exercise physiology, or the equivalent). The physician perspectives of physical activity and exercise counselling, prescription and referral practices are fully outlined in Chapter Two.

Physical inactivity is prominent in the Canadian population, with only 15% of adults meeting the current physical activity recommendations of 150 moderate-vigorous minutes per week (Colley et al., 2011). This prominent chronic disease risk factor is responsible for an approximately \$6.8 billion, or 3.7% of total health care costs each year (Janssen, 2012). It is therefore important to ensure that patient-centered care revolves around disease-specific partnerships that can provide quality education in physical activity and lifestyle management (Coleman et al., 2009). One such partnership involves exercise specialists working in conjunction with physicians and other health care team members to improve patient health through physical activity and exercise.

## **1.6 Exercise Specialists**

An exercise specialist is a professional who can work with healthy populations as well as those challenged by limitations such as cardiovascular, metabolic, neuromuscular, and pulmonary diseases (Alberta Health Services, 2015b). They work in a patient-centered multidisciplinary team, meaning that the approaches of separate disciplines can be integrated into a single consultation (Jessup, 2007). Exercise specialists are responsible for exercise program development, implementation and maintenance in patients, as defined by Alberta Health Services

(2015b). In the multidisciplinary health care environment, they educate patients about pursuing lifestyle change and developing self-management skills to enhance quality of life.

An exercise specialist's education includes a Bachelor's of Science in Kinesiology (or Exercise Science equivalent), and a Certified Exercise Physiologist (CEP) certification from the Canadian Society for Exercise Physiology (CSEP), or an equivalent certification from the American College of Sports Medicine (ACSM) qualifications. Some positions also require the completion of a master's degree. Ideal skill sets include an understanding of biomechanics, cardiovascular fitness, exercise prescription and progression, as well as an understanding of disease processes or experience with patient care (Provincial Fitness Unit, n.d.).

The exercise specialist is able to apply these skill sets to paediatric, adult and geriatric populations. Their responsibilities include: 1) assessment of the needs of patients who live with chronic disease as well as obesity; 2) developing and implementation of individualized exercise and fitness programs, including evaluation of these plans for effectiveness and safety, and; 3) providing information and education to patients on healthy fitness practices (Provincial Fitness Unit, n.d.).

An exercise specialist works within a PCN to help patients reach the Canadian physical activity guidelines for cardiorespiratory endurance, strength and flexibility. In addition, muscle strength can be improved without detrimental effects on disease progression, while pain symptoms and all-cause mortality may be reduced (Kujala, 2006). The exercise specialist can provide physical activity education to patients and their families regarding community services, and conduct lifestyle workshops with other collaborative team members. They are certified to

prescribe a tailored program of exercise and training after conducting exercise testing and counselling for the patient. After identifying current levels of fitness, the exercise specialist determines if the patient would be best suited for one-on-one training programs with a specialist or a group fitness class with less supervision but additional social support. The exercise specialist can provide tools and motivation to help patients overcome barriers to physical fitness, and provide the support and extensive follow-up that many patients require for their success in leading a more healthful life (Alberta Primary Care Networks, n.d.).

Exercise specialists have also been called exercise physiologists, kinesiologists, and exercise professionals interchangeably because of their background in kinesiology and exercise science as well as their CSEP-CEP recognition. An exercise professional is a term used to encompass a breadth of exercise instructors with differing qualifications (Register of Exercise Professionals, n.d.). Exercise physiologists or kinesiologists are known for studying factors influencing human movement, improving health outcomes through physical movement of the body, and increasing performance in sport and daily life (Government of Alberta, n.d.)

For the purposes of this study, the “exercise specialist” terminology will be applied for the majority of the thesis. It is referenced within the physician interviews and employed in the results and discussion. It should be noted that within the background literature, a variety of the alternative terms defined above are utilized.

## **1.7 Study Scope & Rationale**

The knowledge that physical activity and exercise can assist patients in reducing health risks and improving disease outcomes is widespread, and exercise specialists have the appropriate

training and skill sets to work with patients in a primary care setting (Boone, 2009). However, the perspectives of family physicians regarding these specialists in exercise are to the best of our knowledge, not well known. It is imperative to gain an understanding of the family physicians' perspectives, as they will be working alongside this relatively new addition to the allied health or collaborative team framework. Conducting this research in Calgary provides a unique opportunity since some PCN physicians have already interacted with exercise specialists, gained firsthand experience, and developed their own perceptions of exercise specialists' scope of practice with their patients. This allows researchers to explore those perspectives, and in contrast, to investigate the views of a different set of family physicians who currently have little to no experience with exercise specialists in the PCNs.

### **1.8 Research Question**

What are the processes and context of Calgary PCN family physicians' consideration of exercise specialists as part of a multidisciplinary team?

### **1.9 Summary of Thesis Format**

This thesis contains five chapters including an introduction, scoping review, methodology, results and conclusion. Chapter One includes the background, study scope, rationale, and the research question. Chapter Two contains a scoping review outlining the physician approaches to physical activity and exercise counselling, prescription and referral. Chapter Three summarizes the sampling technique and study participants, as well data collection and analytical methods. Chapter Four describes the outcomes of the physician interviews by outlining the core category and subcategories, as well as the theory element. Chapter Five

contains the conclusions, implications and suggestions for future research. Additional appendices such as informed consent, semi-structured interview script, member checking communication, analytic approach, and theoretical framework are provided to supplement the information within chapters one through five.

## **Chapter Two: A LITERATURE REVIEW OF PHYSICIANS' APPROACHES TO EXERCISE COUNSELLING, PRESCRIPTION, AND REFERRAL**

### **2.1 Introduction**

Regular physical activity and exercise improves health outcomes, helping to prevent and treat chronic diseases such as arthritis, asthma, heart disease, cancer and diabetes (Jaques & Loosemore, 2012; Matheson et al., 2011; Warburton, Nicol & Bredin, 2006). Exercise is one of the most important factors in the primary and secondary prevention of chronic illness (Aukerman & Aukerman, 2009), and can provide broader benefits than many surgical or pharmaceutical-based interventions (Krueger, 2010). Promoting symptom management and active supervision of chronic disease and sedentary lifestyles is known to be very effective when exercise is included (Franklin, 2008), and it is thought that health care professionals can play a significant role in improving the physical activity levels of their patients to improve health outcomes through counselling and referral (Aukerman & Aukerman, 2009). These health care professionals are identified as family physicians, general practitioners, and doctors interchangeably in the literature and within the Alberta-based systems (College of Physicians and Surgeons of Alberta, 2011). For the ease of the reader, we will refer to them as “family physicians”, or simply as “physicians” within the text.

Family physicians are seen as one of the most credible sources of health care advice (Graham, Dugdill & Cable, 2005), and as the “gatekeeper to health” they have the opportunity to play a pivotal role in influencing health behaviours of their patients (Tulloch, Fortier & Hogg, 2006). In Canada it is not known how many physicians actively counsel their patients with

respect to physical activity, however, about 40% of U.S. physicians regularly engage in physical activity counselling (VanWormer, Pronk & Kroeninger, 2009). If all family physicians were able to actively promote healthy lifestyles to their patients, they would have a positive impact in reducing the rates of morbidity, disability and mortality due to disease-related sedentary behaviour (Leijon et al., 2009).

As an integral part of a system that supports patients in moving beyond their disorders, ailments and illness to pursue a life of health and wellness (Tulloch, Fortier & Hogg, 2006), a primary care physician's responsibilities include addressing patient issues that span primary, secondary and tertiary care. This includes issues surrounding physical activity and exercise promotion, and involves counselling, prescription or referral. Some physicians may participate in any combination of these activities in their day-to-day practice, but it has been suggested that physicians should see physical activity promotion as an integral component of their practice and responsibilities (Donaldson, 2000).

Primary care counselling in family medicine has the advantage of a series of regular, brief and scheduled encounters that can have a tailored approach to patient preferences, as well as provide supplementary materials for further review after the consultation (Krueger, 2010). In multiple studies, patients have expressed an interest in receiving health education and physical activity advice from their family physician, and if a patient is in a receptive state of behaviour change, they are likely to initiate and adhere to a suggested physical activity program (Moron, Biddle & Beauchamp, 2008; Swinburn et al., 1998). Physical activity counselling by physicians may have a moderate impact on short-term physical activity, although in one study, much of the advice given to patients was still found to be oversimplified and generalized (Swinburn et al.,



1998). Physician advice alone may not be the most effective strategy, but it is relatively cost-effective when combined with a scheduled visit, making it an attractive candidate for health promotion across multiple population subgroups (Williams, 2009). Although physician counselling has been shown to have a small effect on physical activity levels, it could have a large population health impact if widely implemented (Matheson et al., 2011). For individual patient health, even small increases in physical activity are important, especially if maintained over time (Morgan, 2005).

Depending on the chosen modality, the cost of becoming physically active could be lower than that of prescription drugs, and would have fewer clinical side effects for patients (Hallal & Lee, 2013). Exercise prescription can certainly be a cost-effective primary care service, even when paired with nurse-delivered follow-up and telephone support (Elley et al., 2011). This option calls for physicians to discuss their advice regarding physical activity and exercise with patients, as well as solidify that advice by writing the message on their prescription pad. In a commentary by Franklin (2008), it was stated that the “prescription remains unfilled”. This lack of uptake in exercise prescription programs may be due in part to physician knowledge, attitudes and beliefs regarding these health promotion strategies. Determining any relevant physician experience or perceptions of successes and failures would be of utmost importance, since they are the initial contact for patients in many exercise prescription programs.

Exercise referral has traditionally been community-based partnerships between the primary care center and local fitness centers. A systematic review found there was limited evidence of the effectiveness of these “exercise referral schemes” in the medium to long term, when compared to advice or counselling alone (Orrow et al., 2012). Another possible means of

increasing patient physical activity levels is through physician referral to another health professional that is trained in lifestyle-change, sport science, and exercise prescription. This interaction of physicians and other health professionals in physical activity counselling has previously been suggested as an important element of patient success (Fletcher et al., 1996).

Exercise physiologists can work alongside healthcare providers to prevent and treat chronic disease in patients through physical activity and exercise. An exercise physiologist is concerned with increasing functional capacity and metabolic health of patients to reduce risk of both primary and secondary issues associated with sedentary lifestyles (Berry & Verrill, 2012). They maintain a broad focus of improving aerobic endurance and whole body strength. This approach enables those living with chronic impairment to achieve effective management of their condition (Berry & Verrill, 2012). Exercise physiologists utilize evidence-based knowledge and practical experience, providing safe and effective exercise for therapeutic and functional benefit (Berry & Verrill, 2012). Physicians can refer patients with multiple contraindications or disease-specific concerns related to the safety of exercise for more specific instruction, supervision, detailed follow-up and support (Aittasalo, 2008). By focusing on motivational interviewing, self-determination, self-efficacy, and any lifestyle change barriers, an exercise physiologist can help patients increase and maintain their levels of fitness through regular counselling and support (Morton, Biddle & Beauchamp, 2008).

Previous interventions or observational studies surrounding physical activity promotion in primary care practice have had difficulties in showing long-term results (Orrow et al., 2012). More recently, there has been a push to include more varied types of promotion beyond basic physical activity counselling and advice (Franklin, 2008). Therefore, greater attention to the

perceived feasibility of physical activity and exercise counselling, prescription and referral by family physicians is needed to maximize opportunities for patients to access appropriate resources in primary care. There are a multitude of editorials, commentaries and debates in the literature regarding physical activity promotion, although relatively few scholarly peer-reviewed research papers. While a systematic review of primary care provider's perceptions and attitudes towards physical activity counselling has been conducted by Hébert, Caughey and Shuval (2012), no synthesis of findings regarding physicians' approaches to exercise counselling, prescription and referral has been conducted. This review addresses three modalities of exercise and physical activity promotion with their origins in primary health care: counselling, prescription and referral. These are the physical activity-based health promotion options for physicians discussed most widely in the literature. This literature review was approached in accordance with the grounded theory-specific procedures outlined by Dunne (2011), and insight into this topic will provide an important foundation and understanding for this thesis dissertation.

## **2.2 Methods**

This review of the literature aims to synthesize any existing findings regarding physicians' perspectives of exercise counselling, prescription, and referral. To achieve this synthesis, a scoping review design was utilized. Scoping reviews allow researchers to describe available literature, regardless of study design, in order to rapidly map out what is currently known about a particular topic and provide specialists with relevant and quantified results concerning the knowledge available (Levac, Colquhoun & O'Brien, 2010). This review was designed around Arksey and O'Malley's framework for conducting scoping reviews (2005).

### ***2.2.1 Identifying the Research Question***

The utilization of physicians in the primary health care system to either counsel patients on the benefits of physical activity or refer them to an exercise professional could potentially reach a large proportion of sedentary individuals, and consequently have a broad impact on population health (Almeida et al., 2005). We therefore sought to describe the existing literature on physicians' perspectives regarding physical activity counselling, prescription and referral recommendations.

### ***2.2.2 Identifying Relevant Studies***

The following electronic databases were searched: Academic Search Complete, CINAHL, Embase, Google Scholar, PubMed, SportDiscus, and Web of Science. Searches were performed with no date restrictions, and were limited to full text and English language articles. Restrictions were made to human subjects in their adult years (19+), and peer-reviewed/scholarly journals, when applicable. The search strategy used combinations and synonyms of key words for the content areas of interest (physical activity, exercise, family physician, counselling, referral) and the methodology of interest (qualitative, interview, focus group). Appropriate wildcards were used to account for plurals and variations in spelling. Bibliographies of retrieved articles were, in turn, searched for additional relevant articles.

#### **2.2.2.1 Literature Review Search Strategy**

1. qualitative/
2. interview\*
3. focus group\*
4. 1 or 2 or 3
5. attitude\*
6. belief

7. experience
8. perception\*
9. 5 or 6 or 7 or 8
10. physical activity.mp
11. exercise.mp
12. 10 or 11
13. counselling
14. referral
15. 13 or 14
16. general practitioner
17. family physician
18. doctor
19. 16 or 17 or 18
20. 4 or 9
21. 12 and 15 and 19 and 20
22. limit to 21 English language
23. limit to 22 full text

### ***2.2.3 Study Selection***

The selected articles had to meet the following inclusion criteria to ensure review: must contain original data detailing the physicians' attitudes, experiences or perspectives in counselling, prescription, and referral for increasing physical activity and exercise. Both qualitative and quantitative methodologies were considered valid (e.g., interviews, focus groups, questionnaires, surveys). Exclusion criteria included review articles, as well as studies examining only the patient perspective, an evaluation of patient outcomes, or the exclusive viewpoint of medical students or specialists other than family physicians. Refer to Figure 2.1 for a summary of the study selection process. One reviewer (LC) independently reviewed the abstracts identified in the electronic search and obtained full text reports for all articles that the reviewer deemed relevant. Two reviewers (DB and LC) assessed the full-text articles to ensure each one met the inclusion criteria.

#### ***2.2.4 Charting the Data***

A single reviewer (LC) extracted data from the full-text of each of the included studies (n=18). Eleven quantitative studies, five qualitative studies, and two mixed method studies were included in this review. Major study information from each article was summarized and outlined in Table 2.1.

#### ***2.2.5 Collating, Summarizing and Reporting the Results***

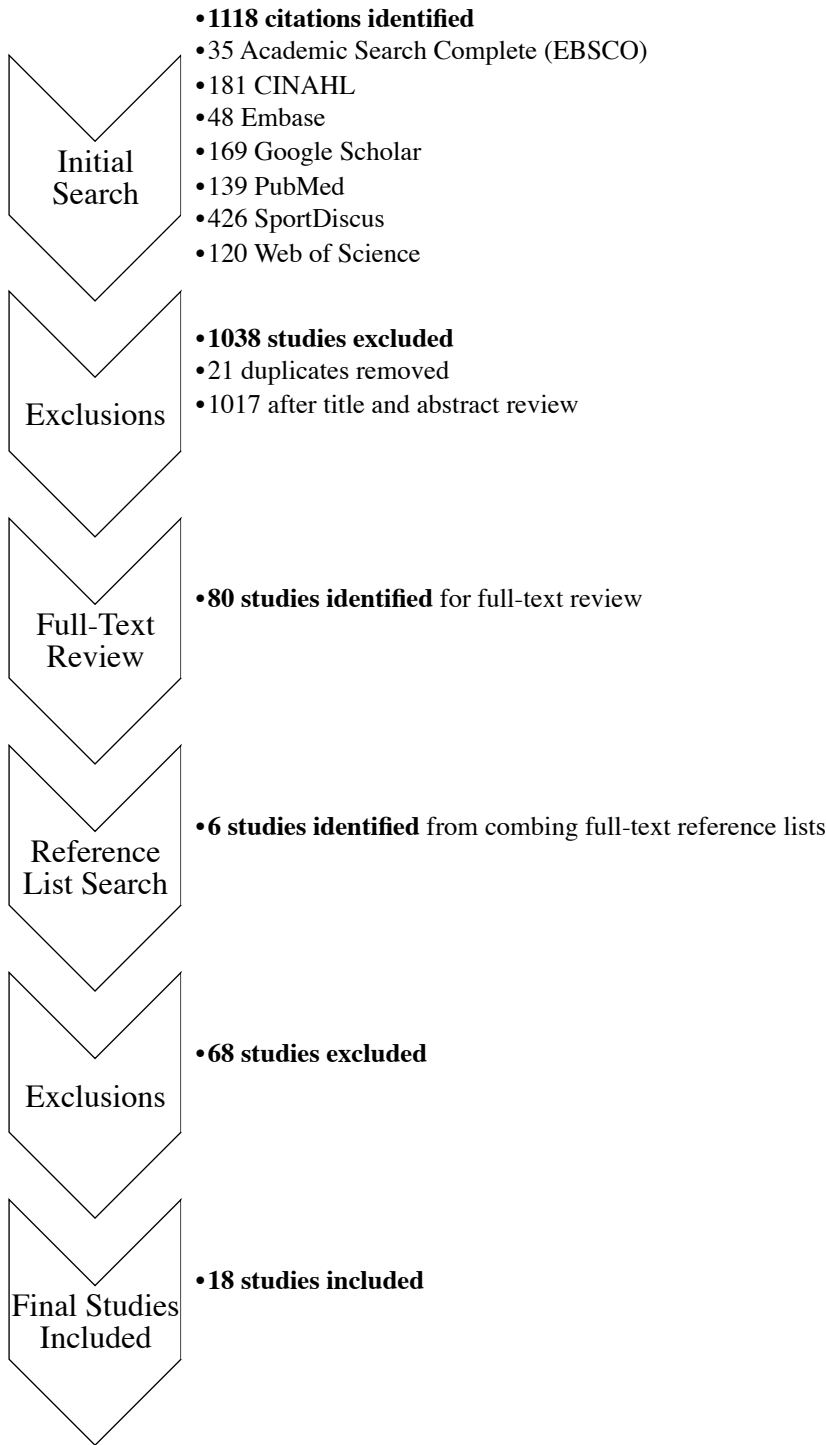
Modified thematic synthesis techniques were used to analyze each included study (Thomas & Harden, 2008). The initial step of thematic synthesis involved fracturing the data into granular sub-themes. After reviewing all sources, a coding template for large themes was created and each article was examined more thoroughly, with new themes emerging iteratively.

### **2.3 Results**

#### ***2.3.1 Included Studies***

The initial search identified 1118 articles. Review of the abstracts led to the retrieval of 80 potentially relevant full-text articles, and 18 articles were identified for inclusion in the review (Figure 2.1). A common reason for exclusion was that the singular focus was the perspective or outcomes of the patient.

**Figure 2.1 Study selection process**



**Table 2.1 Studies examining physical activity counselling, prescription & referral**

<b>Author (year)</b>	<b>Participants</b>	<b>Country</b>	<b>Study Design</b>	<b>Pertinent Results</b>
Abramson et al. (2000)	Random sample of 1200 primary care physicians; 304 survey returned, including 84 family practitioners	USA	Cross-sectional survey	Inadequate time and experience in exercise cited as common barriers to counselling; strength training less common than aerobic counselling
Buffart et al. (2009)	646,747 & 511 physicians responded in the year 2007, 2000, and 1997, respectively; sampled from a mix of urban and rural family practice divisions	Australia	Repeated cross-sectional population survey	Majority felt confident giving physical activity advice and viewed it as their role; over 10 years, physicians reported more knowledge and physical activity advice
Bull et al. (2000)	All family physicians in Perth surveyed; 789 returned questionnaires (71% response rate)	Australia	Cross-sectional survey	Most likely to recommend walking to sedentary patients; less confident with specific advice on exercise; few use written materials or referral systems
Douglas et al. (2006)	757 primary care staff from urban, rural and remote health board regions; including 376 physicians	Scotland	Cross-sectional survey	Primary care staff routinely discuss and advise physical activity regardless of the patient's health condition; less likely to offer routine advice than other primary care staff (e.g., nurses)
Gnanendran et al. (2011)	216 clinicians, medical students and sport scientists surveyed (51% response rate)	Australia	Cross-sectional survey	51% report discussing physical activity "often" with patients; those with active childhoods had more positive attitudes towards exercise counselling, and attitudes towards exercise promotion influenced counselling activity
Graham et al. (2005)	71 physicians responded to a postal survey (response rate 49%); 12 respondents volunteered for interviews (9 physicians & 2 nurses)	UK	Mixed methods; cross-sectional survey & semi-structured interviews	Barriers to referral include lack of time, lack of feedback from referrals, medico-legal responsibility and consultation priority; refer on unsystematic basis and have mixed opinions regarding role in physical activity promotion
Harris et al. (2004)	Random sample returned 749 responses (53.1%) from College of Family Physicians of Canada	Canada	Cross-sectional survey	Frequently asked patients about physical activity, but fewer provided written advice/prescription; perceived counselling with generic handouts preferable interventions; felt limited by patient's lack of interest and limited referral resources
Howes et al. (2013)	Six focus groups with 30 physicians, each lasting 45-65 minutes	Australia	Thematic analysis	Physicians felt they had broad knowledge, but felt cynical towards lifestyle counselling, due to lack of past results; other barriers included time and reduced access to allied health



Lawlor et al. (1999)	174 physicians (72% response rate) from 68 practices completed questionnaires	UK	Cross-sectional survey	Physicians have good level of knowledge about physical activity-related health benefits, but do not provide a population-wide impact on activity behaviour
Orleans et al. (1985)	National sample of 350 family physicians under 65 years of age (57.3% response rate)	USA	Cross-sectional survey	Almost 75% of the sample reported giving exercise advice fairly regularly; 15% reported offering systematic exercise programs in their practice; 18% regularly referring to outside physical activity programming
Patel et al. (2011)	20-30 minute interviews with 15 physicians, aged 36 to 64 years from urban primary care practices	New Zealand	Thematic analysis	Counselled and prescribed exercise for primary and secondary management; time constraints cited as major barrier to exercise prescription; Green Prescription viewed as beneficial due to non-medication approach & support benefits of physical activity
Patel et al. (2012)	Sub-study of interviews with 15 physicians, aged 36 to 64 years from urban primary care practices	New Zealand	Thematic analysis	Chronic illness, fear of injury, transportation issues, set routines and lack of confidence were reported as barriers encountered by older-aged patients trying to increase activity levels
Persson et al. (2013)	Three focus groups, each lasting 75-90 minutes, with 15 purposively sampled physicians, from urban and rural areas	Sweden	Thematic analysis	Physicians lack education in non-pharmaceutical methods, leading to uncertainty in exercise prescription; found exercise prescription redundant and think it should be administered by another health care professional
Puig Ribera et al. (2005)	245 physicians/nurses surveyed (58% response rate), with five focus groups of 18 physicians lasting 30-120 minutes	Spain	Mixed methods: cross-sectional survey and semi-structured interviews	88% promoted at least infrequently; barriers included lack of time, training and protocols; promotion was opportunistic and generalized, but encouraged by support from colleagues and community institutions
Steptoe et al. (1999)	107 physicians and 58 nurses from 19 group practices (100% response rate) completed the survey	UK	Cross-sectional survey	Nurses seen as most appropriate to carry out health promotion; physical activity habits were seen as difficult to change in patients; lack of confidence in lifestyle counselling skills
Swinburn et al. (1997)	25 physicians in focus groups lasting 90-120 minutes as part of a larger randomized control trial	New Zealand	Thematic analysis	Physicians felt comfortable prescribing exercise; preferred giving prescriptions over verbal advice alone; time constraints identified as barrier; cited training, resources & follow-up materials for success in prescription
van der Ploeg et al. (2007)	Survey of physicians in urban and rural divisions of general practices, in both 1997 and 2000	UK	Cross-sectional survey	Physicians significantly improved knowledge, perceived role and confidence in addressing promotion after 3 years; reported discussing with similar number of patients in both surveys
Walsh et al. (1999)	175 urban-based physicians (54% response rate) in either residency training or	USA	Cross-sectional survey	Many physicians were not counselling or prescribing exercise for patients; increased exercise knowledge led to increased counselling; barriers to

	currently practicing			counselling included lack of time & more practice in counselling techniques
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### ***2.3.2 Participation in Physical Activity Promotion***

#### **2.3.2.1 Counselling**

When the concept of physical activity counselling was in its infancy, over 75% of physicians were inquiring about exercise and physical activity habits with their patients, with specific counselling on exercise occurring half of the time (Orleans et al., 1985; Puig Ribera, McKenna & Riddoch, 2005; Walsh et al., 1999). More recent literature reports that the majority of staff within primary care will engage in the promotion of physical activity with most of their patients (Abramson et al., 2000; Douglas et al., 2006; Harris et al., 2004; Persson et al., 2013; Puig Ribera, McKenna & Riddoch, 2005). Only one study reported that up to 32% of the physicians rarely or never discussed physical activity with patients (Gnanendran et al., 2011). Physicians report feeling unsure or unlikely to recommend vigorous exercise or strength training (Abramson et al., 2000), and walking continues to be the activity most frequently recommended to both healthy and sedentary adults patients (Bull et al., 1997; Douglas et al., 2006).

#### **2.3.2.2 Prescription**

Prior to the new millennium, less than 20% of physicians provided written consultation with their discussions regarding physical activity (Bull et al., 1997), and 14% participated in exercise prescriptions for half of their patient population (Walsh et al., 1999). A small number of physicians (9-14%) reported using written materials for exercise information in terms of aerobic activity and strength training; however, these were not exercise prescriptions specifically, but

written material in an information pamphlet or similar format (Abramson et al., 2000). The physicians reported an interest in adopting the concept of exercise prescription, and within the last decade this has ranged from 34-67% (Harris et al., 2004). This low level of uptake could be because prescription is cited as a low priority treatment option, and is therefore not utilized often by physicians (Persson et al., 2013).

#### 2.3.2.3 Referral

One study reported that 18% of physicians referred inactive patients to leisure and exercise programming (Orleans et al., 1985). Bull et al. (1997) found that 10% of physicians referred their patients to fitness centers, while 15% referred to an exercise professional. The majority of physicians cited they would be willing to refer patients to an exercise professional, if such a person was perceived as qualified and available. In another study, physicians referred to physiotherapists, athletic trainers or exercise physiologists, in order of preference (Abramson et al., 2000). Finally, researchers discovered that these referrals were made on an unsystematic basis and there was no standardized protocol for exercise referrals (Graham, Dugdill & Cable, 2005).

### ***2.3.3 Knowledge and Beliefs in Physical Activity Promotion***

#### 2.3.3.1 Counselling

Physicians' knowledge of healthful physical activity recommendations has varied over the years, with few physicians feeling fully confident in promotion (Douglas et al., 2006; van der Ploeg et al., 2007). Physicians have always felt more confidence in providing general versus specific or detailed advice regarding physical activity (Bull et al., 1997; Howes et al., 2013), but their overall self-reported confidence has improved by 10% over time, according to a prospective

cohort study (Buffart et al., 2008). Less than 65% of physicians have felt comfortable discussing physical activity and exercise in the past (Walsh et al., 1999), and only a minority felt properly trained and influential in persuading lifestyle change (Steptoe et al., 1999). More recently, over 70% perceived physical activity counselling to be essential for patient health outcomes (Persson et al., 2013; Puig Ribera, McKenna & Riddoch, 2005). Continued education in this area has been shown to assist physicians in keeping up to date; those who attend continuing professional development activities surrounding exercise have been shown to be two times more likely to discuss physical activity and exercise with their patients (Buffart et al., 1997; van der Ploeg et al., 2007).

#### 2.3.3.2 Prescription

The majority of physician respondents have expressed that they have adequate knowledge to prescribe physical activity to the majority of patients (Gnanendran et al., 2011; Walsh et al., 1999). However, one project discovered several physicians who were unacquainted with tools to help them effectively implement exercise prescription (Harris et al., 2004). A full appreciation of the risks and benefits of exercise increased physicians' confidence in prescribing the appropriate amount of physical activity (Swinburn et al., 1997). In a recent paper, physicians cited that they still have difficulties with the credibility and efficacy of exercise prescription, and feel that all of their patients already know they need to be more active (Persson et al., 2013). Overall, practitioners believed that exercise prescription programs were important as a drug-free option in disease prevention and treatment within primary care (Patel et al., 2011).

### 2.3.3.3 Referral

Referral to an exercise professional for individualized support, as opposed to a group classes within a community-based fitness center, was identified as a desirable practice fifteen years prior to this review (Bull et al., 1997). In one report, several physicians expressed that they were unaware of referral programs available to facilitate physical activity interventions (Harris et al., 2004). Physicians have stated that their own lack of knowledge regarding the process of exercise referral is a reason for non-participation, along with feeling that patients would not take their advice to attend a program (Graham, Dugdill & Cable, 2005). Yet, when they do refer patients to another professional for exercise programs, some report that they do not receive feedback on patient progress (Graham, Dugdill & Cable, 2005). Physicians have explicitly stated that they want to be able to cooperate with other health care professionals and receive feedback on their patient's progress outside of the primary care organization (Perrson et al., 2013). It is clear that communication between health professionals, exercise professionals and organizational staff must be efficient and reliable for exercise referral to be successful.

### ***2.3.4 Perceived Role in Improving Patient Physical Activity & Exercise***

#### 2.3.4.1 Counselling

The majority of physicians view physical activity as very important for optimal health and generally maintain positive attitudes towards exercise counselling (Douglas et al., 2006; Gnanendran et al., 2011; Puig Ribera, McKenna & Riddoch, 2005). Physicians' beliefs in their role as a health educator has increased over time (Buffart et al., 2008; Steptoe et al., 1999), and now almost all surveyed practitioners acknowledge that they should help inform their patients

about the importance of physical activity participation (Harris et al., 2004; Persson et al., 2013; Swinburn et al., 1997; van der Ploeg et al., 2007).

#### 2.3.4.2 Prescription

There is no real “tradition” of prescribing physical activity in primary care, and some physicians have not engaged in this new programming (Persson et al., 2013). In these cases, physical activity and exercise for health were described as the obvious choice for both physicians and patients, due to the widespread knowledge of the health benefits and that exercise can be easily accessible; therefore physicians felt that physical activity was not a primary choice for medicine to be prescribed. For physicians who supported the initiative, they felt that writing the exercise prescription was a “natural conclusion” after having a discussion about physical activity levels (Swinburn et al., 1997).

#### 2.3.4.3 Referral

A physician’s perceived role in exercise referral has been met with some mixed reviews. The majority felt their role was important as a connecting factor between primary care and community-based resources (Graham, Dugdill & Cable, 2005). However, some felt options such as self-referral to programs and services would be a better option for patients (Graham, Dugdill & Cable, 2005). According to Persson et al. (2013), family physicians feel that several health care professions can share the responsibility of motivating the patient to engage in exercise. For many practitioners, the practice nurse was seen as the central figure for follow-up procedures that could enhance exercise prescription (Swinburn et al., 1997). One concern held by physicians was how medico-legal responsibility would be passed on in a referral to potentially unregulated

professionals; many physicians are not sure if they would be ultimately held responsible in the event of exercise-related injury or mortality for patients participating in the program (Graham, Dugdill & Cable, 2005). The guidelines concerning policies for the transfer of legal responsibility from the health professional to the exercise professional were viewed as insubstantial, which potentially inhibited the progression of such referral schemes (Graham, Dugdill & Cable, 2005).

### ***2.3.5 Self-Reported Barriers to Physical Activity Promotion***

#### **2.3.5.1 Counselling**

In almost all studies, a lack of time in day-to-day practice is the most frequently cited barrier to physical activity promotion (Abramson et al., 2000; Bull et al., 1997; Douglas et al., 2006; Graham, Dugdill & Cable, 2005; Lawlor et al., 1999; Persson et al., 2013; Puig Ribera, McKenna & Riddoch, 2005). Physicians have traditionally felt undereducated in the realm of exercise and physical activity for health benefits, and have discussed that they receive limited or over-simplified training in this area (Abramson et al., 2000; Orleans et al., 1999; Puig Ribera, McKenna & Riddoch, 2005; Walsh et al., 1999). There is generally no established protocol for exercise counselling with chronic disease patients, and the majority feel that work conditions within primary care are unfavourable for exercise and health promotion (Puig Ribera, McKenna & Riddoch, 2005). Other physicians expressed a sense of disengagement on behalf of their patients regarding their counselling, in conjunction with disinterest and/or non-compliance with exercise recommendations (Abramson et al., 2000; Harris et al., 2004; Howes et al., 2013; Lawlor et al., 1999; Orleans et al., 1999; Walsh et al., 1999). In terms of perceived barriers for patients regarding physical activity participation, physicians discussed a lack of motivation, lack

of time, family commitments, previous injury, and financial capacity as reasons for disengagement (Bull et al., 1997).

#### 2.3.5.2 Prescription

In order to sufficiently counsel and prescribe exercise and physical activity, physicians need to devote consultation time to these issues, and many cannot find this time within the context of a busy patient visit (Patel et al., 2011; Persson et al., 2013; Swinburn et al., 1997).

#### 2.3.5.3 Referral

Physicians expressed that there is not enough evidence of the benefits obtained from referring patients to outside exercise professionals, and this can prevent them from engaging (Graham, Dugdill & Cable, 2005). Time limitations, a perceived lack of patient motivation to pursue lifestyle change, and medico-legal responsibility were mentioned as reasons for prioritizing other services over exercise referral (Graham, Dugdill & Cable, 2005). Communication was commonly cited as an issue; physicians specifically discussed isolation from other physical activity agencies in the community as a barrier to referral (Puig Ribera, McKenna & Riddoch, 2005).

### 2.4 Discussion

There are multiple methods used to examine physicians' perspectives of physical activity counselling, prescription and referral, and their place in primary care. Many studies chose to either collect data via postal surveys or directly interview family physicians to glean more detailed responses on the topics at hand. Studies that have been conducted have generally found



information pertaining to self-described participation rates, knowledge and beliefs, perceived role, and barriers to engagement with initiatives involving the promotion of physical activity.

For physicians who are engaged in health promotion and exercise counselling, over-simplified and generalized physical activity messages are the norm, despite the knowledge that a tailored message would likely provide more benefits (Puig Ribera, McKenna & Riddoch, 2005). Promoting physical activity and decreasing sedentary behaviour is viewed as too complex to be fully addressed in the few minutes a physician can dedicate during regular visits; the average visit is reported to last 2-4.5 minutes (Matheson et al., 2011; Russel & Roter, 1993). In addition, physicians have expressed concerns of safety when increasing physical activity in patients with chronic disease, viewing them as poor candidates for exercise due to contraindications or disease-related symptoms (Adelman et al., 2011). However, these patients are typically the most deconditioned and therefore most at risk for further development of illness related to a sedentary lifestyle (Adelman et al., 2011).

A prominent obstacle in physician-based physical activity counselling may be insufficient education for physicians in terms of exercise recommendations for health (Aittasalo, 2008). Physicians are generally not as well trained in counselling and exercise prescription as they are in pathophysiology and pharmacology (Foster & Luchia, 2008). Some physicians have even reported that exercise has not been established as an important risk factor in chronic disease (Abramson et al., 2000; Eakin, Smith & Bauman, 2005). In addition, there are perceived difficulties in accessing quality training in exercise counselling and prescription, even for enthusiasts who are independently pursuing such an education in health promotion (Ross et al., 2009).

Medical school courses that specialize in the relationship between physical activity, exercise and health are now in demand (Gnanendran et al., 2011). Not all medical students currently receive sport and exercise training for health in their curriculum and even when they do, many do not feel adequately prepared to give specific exercise advice to their patients (Donaldson, 2000; Connaughton, Weiler & Connaughton, 2001; Garry, Diamond & Whitley, 2002). In one paper, 78% of physicians mentioned the need for improvements in physical activity counselling starting in medical schools (Gnanendran et al., 2011), but even if the proposed training were implemented in medical schools today, it would take several years for this to manifest in everyday practice (Franklin, 2008). For physicians who have already graduated, those who attend exercise-based continuing professional development are more likely to discuss physical activity and exercise with their patients. Therefore physician attitudes and beliefs towards exercise counselling should be further enhanced through exposure and training related to health and exercise promotion in the family practice (Gnanendran et al., 2011).

It seems that physician-based physical activity counselling has resulted in a dilemma that is influenced by how best to address the problem of physical inactivity in patients. Patient uptake and adherence to exercise recommendations is a concern, but engagement is more likely to occur when counselling by a physician is properly supported by another professional who can help the patient to sustain the prescribed exercise regime (Aittasalo, 2008). Ideally, the physician can help move the patient towards habitual exercise, but when the needs of the patient extend beyond the practice of the physician, they can refer to specialized physical activity providers, or exercise professionals (Aukerman & Aukerman, 2009). In order for such a referral to be successful, it is important to define the specific exercise professional in terms that are relevant and useful in the

context of primary care practice. Physicians must be aware of background and training of any discipline within health care, so as to increase comfort and ease of referring patients to the resource in question. In this regard, outlining the scope of practice and medico-legal responsibility would be a prerequisite to assist patients in achieving a more optimal state of health. In today's practice, there are current issues with regulation of exercise professionals in North America and this is a barrier. It is difficult for family physicians to correctly identify those who maintain minimal competencies and the appropriate scope of practice to assist in the treatment of patients with chronic illness (Berry & Verrill, 2012). Nationally or internationally recognized certification is designed to promote quality and proficiency standards within a profession (Blair et al., 2003), and this is a concern that needs to be addressed in the near future for any high-level professionals in exercise and fitness.

According to Matheson et al. (2011), our physicians detect little support for preventative methods in their field. In primary care, the environment itself has been cited as “hostile” towards exercise promotion, due to the opportunistic nature of counselling and a lack of a structured, universal approach to reach patients. While physicians can certainly play a role in influencing patient behaviour, motivating a patient towards improved physical activity habits and related lifestyle changes usually requires the combined efforts of many, rather than a single physician (Matheson et al., 2011). Tied up in social, cultural and economic environments, the choice to be active is shaped over time by attitudes, beliefs and education and can be constrained by finances or behavioural patterns that need to be overcome in order for participation to take place (Dugdill, Graham & McNair, 2005).

## **2.5 Recommendations for Future Enquiry**

Although proper training can increase participation in physical activity counselling and potentially affect attitudes towards promotion practices, there are other factors at play for this type of health promotion to be successful. If exercise professionals are to play a part in primary and secondary prevention alongside other health care professionals, their certification or credentials must be properly identified for physicians and follow-up procedures should be emphasized to improve inter-disciplinary communication. To affect physical activity change on a population scale, wider public health initiatives and lived environments affecting physical activity engagement must be taken into account. Health care policy-makers at all levels should identify if they: a) believe that exercise and physical activity are essential factors in preventative health and chronic disease management; b) support exercise counselling, prescription and referral; and c) can financially commit to primary, secondary and tertiary physical activity promotion, ensuring the physician's message is supported through broader preventative public health measures (Khan, Weiler & Blair, 2011).

## **2.6 Conclusion**

In summary, it is unrealistic to expect physicians to devote significant amounts of time to health promotion and physical activity counselling unless major changes are seen in primary health care policies. Any acute or chronic illness requires the attention of the physician and ultimately takes priority over preventative health practices in the primary care setting. This reality emphasizes the need to combine simple and brief physician counselling with innovative resources to help physicians identify patients at risk of insufficient physical activity. Pairing these with a

prescription as well as referral to an exercise professional can provide additional support, instruction and follow-up for patients.

## **Chapter Three: RESEARCH METHODS**

### **3.1 Study Design**

The goal of this study is to understand the perspectives of family physicians regarding the roles of exercise specialists in primary care. This is a multifaceted issue, which cannot be explored through quantitative means. It requires methodology that explores the perspectives and experiences of family physicians; rigorous qualitative methodologies provide this kind of exploration.

The overall goal of understanding the perspectives of family physicians regarding exercise specialists is a multifaceted issue that is best addressed by an approach that utilizes observational and interview methods. Qualitative research will provide the framework to delve into the perceptions of PCN physicians, providing some elucidation beyond the quantified building blocks of many other research projects (Luborsky & Rubinstein, 1995). Statistical data cannot meaningfully analyze personal experience or held perception (Berg, 2009), and for this project, our goal is to gain insight into lived experience. The data collected reflects the unique subjective perceptions of each physician's experience. It is our hope that the interview process allowed physicians to express any complexities associated with the current state of exercise and physical activity in their PCNs, concomitantly with their own reasons for their engagement or disengagement with exercise specialists.

To begin to understand a complex system the following basic philosophical assumption must act as a guide for the project; people construct their own realities, and each of these realities must be considered truthful, as they are the experience of each participant (Suter, 2012). The data

therefore consists entirely of subjective experiences or the internal state of the participants (Suter, 2012).

Interviews were conducted in a semi-structured manner. This established qualitative research technique provides structure for questions and categories during interviews and also allows the interviewer to explore concepts raised in depth beyond the pre-set questions (Britten, 1995). And yet, as a complex iterative process, these questions were designed to be dynamic and explored to a greater or lesser extent throughout the course of study. Theoretical concepts were identified and linked as data was collected (Trochim, 2006).

Data was collected in a natural setting that fit with the participants (e.g., their primary care clinic), and inductive analysis established the patterns between interactions. The final report of these interviews includes the voices of participants, as well as some reflexivity of behalf of the researcher. This thesis contains a complex description and interpretation of the issue at hand. Perhaps most importantly, the research serves to extend the current literature and signals a call for action within this era of managed care.

### ***3.1.1 Grounded Theory Methodology***

Our approach moves beyond basic descriptions of the data collected, instead creating a theory that emerges from the ground up, or has its roots directly grounded in the data collected (Trochim, 2006). We have employed an integrated approach to the grounded theory, through the constant comparative method (Bradley, Curry & Devers, 2007). In this method, each code was compared against the others to detect for similarities and differences, constantly refining and challenging the researcher's thoughts against the incoming data (Corbin & Strauss, 1990). Through this constant comparison of thinking, the researcher approached a precise, unified

thematic structure, or framework. The views of all participants help to shape this framework, allowing the researcher to generate an explanation or hypothesis surrounding the interactions of Calgary family physicians and exercise specialists working in PCNs. Thus, the researcher generates an explanation of the processes, actions and interactions shaped by the views of physicians in Calgary, and this explanation is completely grounded in the data collected (Creswell, 2007).

### ***3.1.2 Approaching the Literature***

The literature review in Chapter Two was conducted in accordance with the “literature interaction” suggested by Dunne (2011). A literature search was initially performed at the outset of this project, but was reviewed minimally during the course of the research. Management and exploration of raw data was therefore undertaken with a sufficiently open mind, allowing data to emerge naturally and with reduced interference from the researcher. Engaging fully with the literature once more near the end of the project provided the researcher with an increased understanding of recent developments within the topic, as well as sufficient depth to write up the results and relate them to current discourse (Dunne, 2011).

## **3.2 Data Collection**

Attention was given to the lived experiences, events and situations described by the physicians. An analytic framework emerged from the data, allowing us to understand how each concept and underlying process was linked together. These experiences of events and situations were used to explore the research question under the qualitative paradigm (Suter, 2012).



### ***3.2.1 Sampling Strategy***

In the proposal for this project, the target population consisted of practicing family medicine physicians working in PCNs in the city of Calgary and immediate surrounding rural areas. The number of physicians available in Calgary-area PCNs totalled 1029 members at the time of recruitment (Primary Care Initiative, n.d.). There were six PCNs in operation in the Calgary area (Highland, Calgary Foothills, Calgary West Central, Mosaic, South Calgary & Calgary Rural) (Primary Care Initiative, n.d.), and these included both urban and rural practices.

Sources from the University of Calgary were initially utilized as resources to obtain contact information for potentially interested physicians, yielding multiple avenues for recruitment in the Foothills and South Calgary PCNs. Liaisons and administrative personnel in each of the six PCNs were contacted via email or telephone, and asked if they would be willing to aide in recruitment by placing an invitation to participate (Appendix A) in any high visibility PCN newsletter, website or other media. The endorsement and advertisement gained from these employees was instrumental in attracting attention to the study. It was our initial aim for at least one recruited physician from each of the six PCNs in Calgary to be included, but the nature of qualitative research calls only for the lived experiences of the participants, not necessarily for generalizability within the sample population (Myers, 2000; Silverman & Marvasti, 2008).

Due to the traditionally hard-to-reach nature of the population, our purposive sampling involved a snowball research strategy (Oliver, 2006). At the conclusion of each interview or through successive email communications, the researcher asked the physician to identify another potential respondent who might be interested in the project. As the nature of this research was

explorative, this technique provided a number of advantageous referrals to other potential participants (Atkinson & Flint, 2001). This process of sampling continued until the researcher found that the addition of new data to the framework no longer brought significant understanding to the project; in other words, a level of saturation was reached at the conclusion of the eleventh interview (Oliver, 2006). This component of the research was discovery-oriented (Luborsky & Rubinstein, 1995), and data collection ceased as of February 2015. The resultant participants belong to one of the following memberships: Calgary South PCN, Calgary Foothills PCN, Calgary Rural PCN, and past members of a PCN (membership had been held within the previous year).

### ***3.2.2 Pilot Interviews***

In July 2014, two pilot interviews were conducted. The first interview was with a physician who identifies as a family physician with a sports medicine background, although he no longer participates in family practice and has focused in recent years on sports medicine. To complete the interview, this physician opted to use his previous experiences to create a scenario involving his perception of a “standard” primary care physician. Given that the purpose was to explore the current and authentic experiences of physicians, the transcript from this interview was not utilized within data analysis. The second physician currently maintains a practice within the Foothills PCN; therefore any experiences he shared within the interview were included as data within the study. Each of these pilot interviews served to elucidate issues with the interview script, and additions or changes were made based on their knowledge and suggestions. Key examples include the rewording of questions to ensure openness and transparency, allowing the participants to develop their own feelings and reflect on their experiences, rather than being

influenced by any “guiding” questions on behalf of the researcher. After the pilot, the interview guide was modified to re-order the questions for improved interview flow, and adjusted to fit within a shorter time frame, in order to appeal to potential interviewees.

### ***3.2.3 Semi-Structured Physician Interviews***

Semi-structured interviews (Appendix B) were conducted among PCN-based family physicians in the city of Calgary, Alberta, Canada. In October 2014, the first interview was conducted and interviews continued until February 2015. In its entirety, recruitment and data collection lasted a total of five months. Although the interview questionnaire was structured so that the questions could be completed within 30 minutes, the interviews lasted 15-45 minutes, depending on the availability of participants. Characteristics of age, gender, universities attended, years since medical school graduation, and number of years working within a PCN were collected from each physician at the beginning of every interview (Appendix C).

A total of ten interviews were conducted and digitally recorded, with most taking place in a clinical setting, primarily within the physician’s respective family practice or office space (n=7). For those who were unable to meet in person due to busy schedules, alternative arrangements were made for a telephone interview from the physician’s home (n=2), or for a survey link to be emailed to the physician to complete at their leisure (n=1). The resulting transcripts averaged 15 pages each in length.

A basic form of member checking was conducted through email contact with participants. As per their requests during the interview, participants agreed to receive a copy of their transcript and correct for any required changes. After a two-week waiting period following the email, it was

assumed by the researcher that the transcript of the interview was complete and accurate in the eyes of the participants.

### **3.3 Data Analysis**

Data analysis was an ongoing, iterative process that begins in the early stages of data collection (Figure 3.1). The core category represents the recurrent and unifying concepts that characterize the specific experiences and perspectives of individual physicians (Holton, 2007). These categories were integrated into a theory element, which yielded more general insights from the whole of the data (Bradley, Curry & Devers, 2007). The researcher acted as the instrument for data collection and analysis through careful observation, composing theoretical memos, and the meticulous coding of interviews (Suter, 2012). As data collection progressed, the researcher “immersed” herself in the data by transcribing, re-reading and reflecting on the interviews while formally coding and organizing resultant categories (Bradley, Curry & Devers, 2007).

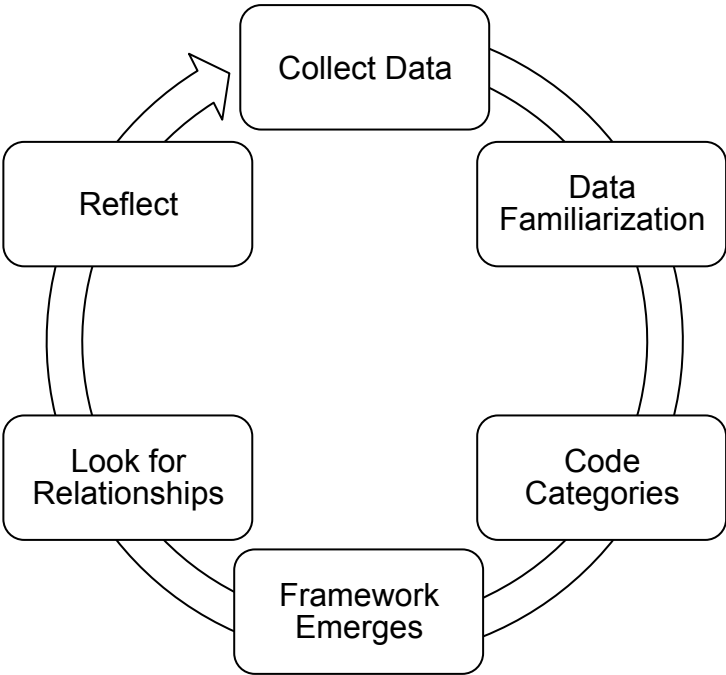
All code structure development was based on a grounded theory approach; data was reviewed line by line using the constant comparative method, allowing the concepts to be constantly redefined as new codes emerged from the incoming data (Bradley, Curry & Devers, 2007). This allowed for a structure that evolved both inductively and deductively, moving between the emerging theory and incoming data, and reflects “the ground” or the experiences of the participants (Bradley, Curry & Devers, 2007). The transcripts were analyzed using open, axial and selective coding (Strauss, 1987). Open coding served to ‘fracture’ the data, and coding line-by-line allowed the emergence of codes (Glaser, 1978). Axial coding guided the grouping of codes into concepts and categories and selective coding aided in the development of a theoretical

framework. At the point of theoretical saturation, sampling was terminated and the code structure was finalized.

### ***3.3.1 Data Management***

All interview data was transcribed by the researcher LC and imported to *QSR NVivo10* software, which supports any data management and analysis. As an organizational qualitative program, *NVivo 10* was helpful in the development of codes and the subsequent construction of categories. At later stages of analysis, codes were printed out and sorted using the “cut and paste” method (Creswell, 2007). Utilizing both traditional and modern methods lent to an increased sense of confidence in the analysis on the part of the researcher.

**Figure 3.1 Analytic approach as a circular hierarchy of phases**



Adapted from NVivo qualitative data analysis software, 2012.

### ***3.3.2 Rigour***

Validity in a quantitative sense is not an issue; grounded theory is judged based on fit, relevance, workability, and modifiability (Glaser & Strauss, 1967; Glaser, 1998). Fit was determined in that the developed concepts and categories relate to the understanding of the overall question, and the theory expresses any patterns found in the data. The study was relevant, since the researcher received feedback stating that the research question was of concern and the results were considered important to the participating physicians. It is hoped that the analysis will allow for the physicians' desired progress to be made in PCNs. This project was workable, because the resultant theory was used to explain what occurred in the data as well as explain for variation within the discussion. Finally, the work was modifiable, allowing for the comparison of emergent concepts as new data was collected (Migliaccio & Melzer, 2011; Giske & Artinian, 2007).

### ***3.3.3 Reliability***

For the entirety of analysis, one researcher processed the data to minimize the number of biases and approaches entering the coding system (Bradley, Curry & Devers, 2007). As the framework evolved and data collection was finalized, inter-coder reliability was determined by two researchers independently utilizing the final code structure to analyze new transcripts and comparing agreement on the coding used (Bradley, Curry & Devers, 2007). Reasonable reliability can be achieved if there is at least 80% agreement on the percentage of all segments coded (Bradley, Curry & Devers, 2007), and over 80% agreement was attained through this exercise. While this practice was an encouraging and positive method in solidifying the resultant

framework as reliable between two researchers, it should be remembered that strict rules and process should not replace analytical thought in qualitative methods and in the handling the data (Bradley, Curry & Devers, 2007).

#### ***3.3.4 Objectivity & Sensitivity***

It is said that the researcher's views define the environment under investigation (Ratner, 2002). Qualitative methodology recognizes that this subjectivity of the researcher influences all stages of the study, from its inception to data analysis and the writing up of results. Subjectivity and objectivity are often weighed against one another, as researchers define objectivity as negating the agency of the researcher while sensitivity negates this passivity towards external information (Ratner, 2002). The researcher has a background in the field of kinesiology, and personally believes in the potential for exercise specialists to influence patient physical activity levels in a family practice setting. In this investigation, the researcher attempted to maintain an awareness of these biases at all times, so as to minimize their influence on the project. The initial interview questions were modified to remove any leading questions through the pilot interviews. The questions were created with the intent of appearing simple and neutral in all aspects.

#### **3.4 Triangulation through Discussions with Exercise Specialists**

After data analysis was complete, another semi-structured interview script (Appendix D) was constructed to reflect the relevant categories extracted from the physician transcripts. Two exercise specialists gave their informed consent (Appendix E), and agreed to answer these questions regarding their own experiences working within PCNs. This provides a limited amount of triangulation in the study; the exercise specialists examine some of the same issues, but from a



different perspective. In qualitative work, triangulation guards against the findings emerging as an artifact of a single method, source or researcher bias (Guion, Diehl, & McDonald, 2011). The resulting information is not a focal point of the project, rather a source of supplementary information that lends an increased level of authority to the framework outlined in Chapter Four.

### **3.5 Ethical Considerations**

Ethics were obtained under the Conjoint Research Ethics Board at the University of Calgary (EID: REB14-0640) on July 21, 2014. The questionnaire and interview posed no obvious physical or psychological risk to the study participants. Participants were fully informed of the study purpose and protocols and were aware of their right to decline participation or withdraw from the study at any time. Participants reviewed and signed the informed consent form (Appendix F) as a prerequisite to the inclusion of any resultant data in the results. For confidentiality purposes, all participating physicians were assigned a study ID (P1, P2, P3, etc.) and were identified only through that ID in data analysis. These study ID numbers were randomized for further security, so that physicians could not be identified in accordance with their chronological interview date. Any digital recordings of the interviews were destroyed after the interaction had been fully transcribed and undergone the member checking process. Only the researchers, DB and LC have had access to the responses, and any paper name match documents will be kept confidential and locked in Dr. Doyle-Baker's office, and after a five-year period all transcripts and printed records will be destroyed.

## **Chapter Four: RESULTS**

Many concepts come into play when exploring multi-faceted issues such as the promotion of physical activity and exercise within a primary care setting. As qualitative researchers, we attempted to consider all supplementary aspects of these physicians' viewpoints. We have therefore not only explored physicians' perspectives regarding exercise specialists, but also sought to briefly describe the current state of affairs within Calgary PCNs regarding physical activity promotion. This extraneous analysis occurred as a result of the grounded theory principle that "everything is data" (Giske & Artinian, 2007), and we hope that this information will support an increased understanding of the resultant theory, or an answer to the research question.

### **4.1 Participant Characteristics and Physical Activity in Practice**

The physicians involved in the study included four members of the Foothills PCN, three from the South Calgary PCN with one belonging to Calgary Rural and the remaining two were either not currently practicing as a family physician or were not involved with a specific PCN in the city at the time of the interviews. The physicians' ages ranged from 33 to 64 years, and there were six male and four female interviewees (Table 4.1). Their undergraduate training was predominately in science-based fields and the majority completed their medical training in the province of Alberta. The number of years spent working in a PCN ranged from 2 to over 10 years, or since the inception of the PCNs.

**Table 4.1 Family physician characteristics**

<b>Physician</b>	<b>Gender</b>	<b>Undergraduate Major</b>	<b>Years since med. school graduation</b>	<b>Years working in a PCN</b>
1	Male	Life Sciences	10	6
2	Male	Biochemistry	17	10
3	Female	Biochemistry / Molecular Biology	11	7
4	Male	Music/Science	4	3
5	Female	Psychology	29	>10
6	Male	Biochemistry*	20	7
7	Male	N/A*	35	>10
8	Female	Neurobiology	19	7
9	Female	Zoology	9	2
10	Male	Zoology	38	>10

Physician 1 [P1] is a family physician who is a member of the Calgary Rural PCN. His primary practice is in Siksika Nation, and he is also able to access Foothills PCN services for patients. He describes the physical activity levels in his dual practice as “...highly variable. I would say that, for the most part, patients who are active don't tend to be the patients that I see a whole lot of... just knowing what exercise does for people as a benefit. I would say it's extremely variable. There are certainly different reasons behind why.”

Physician 2 [P2] has a practice in the South Calgary PCN. He says he usually has experiences with patients who are “pre-contemplative” or not willing to exercise. When asked, P2 reported, “There's a minority that are actually contemplative, and there's a small minority that are actually action ... you don't actually have to spur them on too much.”

When asked to describe her patient physical activity levels, physician 3 [P3] mentioned, “As you might expect, it's a wide range. I have lots of women. I have predominantly women. Right now, the predominant ages are between 30 and 60. It's a very, very community-based practice... but I do have all the individuals who have obesity, and OA (osteoarthritis), and have difficulty getting going. I have lots of cardiac patients, too, who need to get going ...lots of patients with obesity issues and mobility issues. Related to that, that want to get going and don't quite know how. They need someone to help get them going, to make sure they're on a good program, to figure out how to do it.”

Due to time constraints, physician 4 [P4] was not able to do the interview in person; instead completed an online survey modeled off of the semi-structured interview questions. As a member of South Calgary PCN, he noted that there are a “surprising number of patients who are

quite active. Working with a large number of professional patients, I find that many are limited in their abilities to exercise regularly due to time constraints. I regularly encouraged patients during their annual exams to exercise more and make it a more important part of their lives.”

Physician 5 [P5] is currently working in a primary care clinic belonging to Calgary South PCN. When asked to describe physical activity levels in her practice, she recollected some outcomes of increased physical activity in patients: “I’ve had many examples where people became physically active and their blood pressure improved, cardiovascular risk got better, diabetes improved, less arthritic pain. Numerous examples, everyday. The patients that have bought it have improved their lives substantially in many areas, emotionally and physically.”

As a pilot interviewee, Physician 6 [P6] answered the questions based on his current practice out of the Foothills PCN. When asked about his experiences with physical activity in patients, P6 said, “I find in general with physical activity, there’s different groups. There’s the lead group who are doing ultra marathon races and whatever. You also have to worry about them certainly from an exercise point of view typically. Maybe just make sure they’re not going to get any secondary injuries. There’s a large group that are in the middle who are highly motivated but have had various challenges over the years. All they see in the media and stuff are these vague things about [exercising] three times, fifteen to twenty minutes per week. Then they try that and things don’t work out. Then they get frustrated... There’s always going to be a small class of people who aren’t really interested. But from my experience it is a very small clump. I would say it’s like less than 5% of my patients.”

For physician 7 [P7], his patients have slightly different complications with physical activity. “Usually my problem in my practice is the opposite of trying to get people mobile. It's that I've got very active people that need to shut down for a while. 85% of my practice is under the age of 55. I have a really young practice... Normally I've got someone who's very active that's had an injury that I now need to counsel them on activity, and yet maintain their level of fitness. If it is something where I'm having to mobilize people, it's usually someone with chronic pain that doesn't want to get moving.”

Physician 8 (P8) had a full-time practice in the Foothills PCN that she left prior to the time of the interview. She asked patients about physical activity at the yearly exam, or if it was relevant to their condition. P8 mentioned that she viewed physical activity as relevant for most conditions, saying, “Especially people with anxiety or depression, I would ask about it. Not specifically every person, or every visit.”

After completing her locum work and current family planning clinics Physician 9 (P9) will be starting a full-time practice in the Foothills PCN. As far as what she has seen in the last five years at different clinics, “...for the most part the people that I've seen are middle aged to younger. Certainly some people are dealing with more complicated or several health issues at the same time. Sometimes exercise is on the back burner both for them... there seems to be so many other things on the forefront that you need to manage in the period of time that you have.”

Physician 10 (P10) practices in Cochrane, which still allows his patients access to the services of the Foothills PCN. He also acknowledges that within his practice there is a similar

range of physical activity levels as those mentioned by the other physicians: “Just a huge variety there, you know. From very active to nothing. Literally nothing.”

It is interesting to note that almost all the physicians mentioned the breadth of physical activity habits in their practice. When asked about the current physical activity levels of their patients, ten physicians described a variety of issues related to joint stress or pain, injury-prone patients who could be classified as “overly active”, as well as those patients who have never exercised for various reasons. This suggests that patients in any PCN practice are highly variable and prone to a multitude of issues associated with physical activity. It is encouraging that some physicians cited only a small number of patients who are truly disinterested in physical activity participation; many patients just need education on how and where to start. A few of these physicians mentioned that they feel comfortable or knowledgeable enough to motivate patients and follow up with physical activity promotion. However, some patients can clearly be more challenging to initiate, as cited by the physicians above. While a single conversation with such a patient regarding exercise importance is a great start, it’s clear that patients living with advanced or chronic illness could create a more arduous atmosphere for physical activity promotion.

## **4.2 Barriers to Physical Activity and Exercise**

### ***4.2.1 Reported Patient Barriers***

Physicians report a multitude of barriers to physical activity and exercise in their patients. One physician mentioned that her patients face difficulties comprised of “everything under the sun” [P3]. As seen in Table 4.2, specific barriers are outlined in order of frequency in the

interview discussions. Sub-concerns are the smaller patterns that either contribute to, or are influenced by, the overarching barrier.

Patient access to physical activity is the most prevalent barrier according to the Calgary family physicians in our study. Constraints to access include high cost of service, poor community design, weather challenges when exercising outdoors, and transportation to and from the location where the physical activity takes place.

Physicians also noticed that the attitude of patients towards physical activity and exercise hugely influences their rates of uptake and adherence. Some patients may have a true aversion to exercising, or cultural factors could have an effect on their attitudes towards becoming more physically active. Physicians also mentioned low self-esteem, lack of motivation, and trouble prioritizing physical activity over other commitments, as barriers.

Inadequate knowledge of physical activity was cited as a difficulty facing patients trying to become more active. Some patients are less familiar with concepts surrounding exercise, thereby requiring a more intensive counselling session from the physician. The patient's comprehension level after the physical activity discussion with their physician will also influence exercise initiation.

Finally, physicians report that their patients have trouble making time for physical activity. This can be a perceived availability of time, or legitimate time constraints such as family or career commitments that actively prevent patients from finding time to pursue a physical activity program.



Some physicians commented instead on the barriers that they face as healthcare professionals in trying to promote physical activity and exercise [P1, P2, P6]. These include 1) no time to fully engage with the patient; 2) few opportunities for proper follow-up with the patient; 3) feeling hesitant to provide too much information without the proper supervision afterwards; 4) feeling overwhelmed; and 5) feeling less comfortable advising on exercise among niche or special populations (chronic disease patients, pregnant patients or athletic patients who the attain upper echelons of exercise).

**Table 4.2 Barriers to increased physical activity in patients**

Barriers	Examples
<b>Access to Physical Activity</b>	
Cost	‘We have an unbelievable trainer that I’d love to send everybody to, but \$60 one on one, and a lot of people don’t have the money.’ [P5]
Community Design	“There's not a whole lot of walkability to it. Each community does not have its own little commercial area or industrial area or anything like that. It's basically residential and then you travel to go to do anything else.” [P1]
Weather Challenges	“I know that in Calgary we certainly do suffer from some weather challenges from time to time so that will interrupt that building of habit. It's really only the diehards who will run to the store, bike to the store, those sorts of things.” [P1]
Transportation	“You know one of the problems here is there isn't a public transport system...They have to drive down there and be able to drive, or have somebody take them.” [P10]
<b>Attitude Towards Physical Activity</b>	
Aversion	“I had one woman. She actually is diabetic, heart and chronic back pain with a cane, overweight. I told her about exercise, and the word exercise prompted her to put a fist on the table, and said, I'm allergic to exercise.” [P2]
Prioritizing	“I think the barriers would be they're either just not making it a priority ... It can be difficult to incorporate into your life, but I talk to people about doing something. Doing ten minutes of anything is better than not doing it at all.” [P9]
Culture	“Spanish, we've got a few Spanish-speaking and I've got quite a few Chinese-speaking

patients. It's more than just language of course, because you have to convince these people that it's worthwhile to go.” [P2]

Low Self-Esteem

“For my patients who are obese, who, you might say, 'it would be great for you to get in a pool,' because of their joint issues. They absolutely will not get in a pool, understandably so, because they have such self-esteem concerns.” [P3]

Lack of Motivation

“Lazy.” [P5]

### **Knowledge of Physical Activity**

Familiarity

“These patients grow up in families who have never taught them the concept of exercise, so it's foreign when you bring up exercise. Some of them, they just don't understand.” [P2]

Comprehension

“Not knowing where to start. Not knowing what to do.” [P3]

### **Physical Concerns**

Pain

“If it is something where's I'm having to mobilize people, it's usually someone with chronic pain that doesn't want to get moving... If I do this, I'll have more pain. If I don't do this, I have pain, but at least I won't aggravate it.” [P7]

Safety

“In an older population, if the person doesn't feel stable. I'm just thinking of walking around on a day like today. My car just slid down the alley half way.” [P9]

Fatigue

“Many of my patients note they're too tired at the end of work days to consider exercising/activity.” [P4]

### **Time for Physical Activity**

Perceived Availability

“I think people feel like they're too busy or too tired.” [P8]

Family Pressures

“Ridiculous schedules. Raising kids, single mom...” [P5]

## Career Pressures

“Work with a large number of professional patients and find that many are limited in their abilities to exercise regularly due to time constraints.” [P4]

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Note: Barriers listed from most frequently discussed to least frequently discussed among physicians. Sub-themes within barriers are listed in the same fashion.

#### ***4.2.2 Reported Barriers for Patients Living with Chronic Illness***

In conjunction with the barriers mentioned above, there are further compounded issues when patients have been diagnosed with a chronic illness. In addition to dealing with additional “physical limitations (i.e., shortness of breath in patients with chronic respiratory illness)” [P3], patients with chronic disease are generally dealing with further obligations in regards to self-management of their condition. This could include an increased number of physician visits, struggles with medication compliance and daily self-care, as well as increased emotional and social stressors (Nolte, Knai & McKee, 2008). This reality adversely affects the physicians’ outlook for patients in terms of improving their physical activity habits: “If people are having struggles with respect to their day-to-day functioning in life, they may not see the value of taking twenty minutes, taking half an hour, to go for a walk or to do the other things” [P1]. This can differ between patients to an extreme degree; depending on the condition that patient is managing:

In the context it can be very different for different individuals. In the context of somebody who has respiratory disease, for example, their limitation might be very different from somebody who has got congestive heart failure or some other sort of hypertension or like that. [P1]

A noticeable lack of time was mentioned in terms of presenting physical activity options to patients living with severe conditions, since “much of [their] time and energy [is] focused on chronic disease management rather than lifestyle” [P3]. Physicians also cited a lack of time within the patient appointment when previously diagnosed conditions are involved. This is

reportedly due to juggling other symptoms and medications that must be worked around, and can make beginning or continuing an exercise program even more difficult: “I don't have any expertise in the chronic pain and getting people moving, because I think that's one of those appointments and relationships you have to build up over hours and hours” [P7].

Despite the inherent barriers, physicians emphasized the importance of striving for better physical activity habits in these populations, stating “gradually increasing physical activity would optimize health and potentially decrease further health risks that can negatively affect these patients in the future” [P3]. To emphasize this point, physicians were asked to list any patient conditions where they thought exercise could help (Table 4.3). Physicians listed at least three to five illnesses or disorders; some conditions were brought up multiple times by different physicians. Diabetes, obesity and hypertension were the most frequently referenced ailments where increasing physical activity or exercise would help to alleviate symptoms.

**Table 4.3 Conditions where increased physical activity would benefit patients**

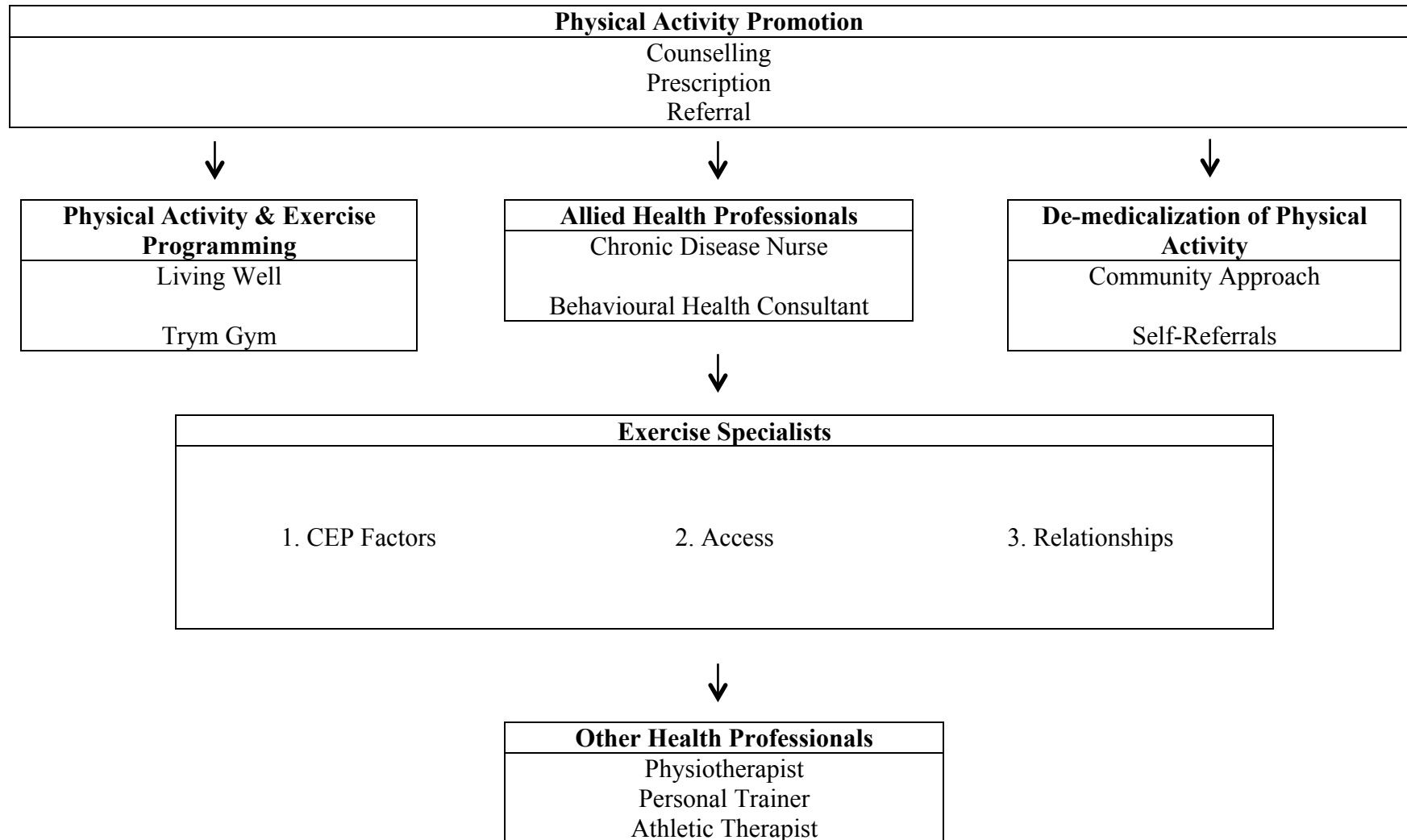
<b>Clinical Condition</b>	<b>Number of Times Cited</b>
Metabolic disorders	1
Diabetes	8
Obesity	7
Cardiovascular disease	3
Coronary artery disease	2
Hyperlipidemia	2
Cholesterol	1
Hypertension	4
Respiratory illness	3
COPD	3
Asthma	2
Chronic pain	3
Sleep apnea	1
Mental health	1
Depression	1
Anxiety	1
Mood disorder	1
Arthritis	1
Osteoarthritis	2
Rheumatoid arthritis	1
Parkinson's disease	1
Muscular and skeletal issues	2
Aging & deconditioned	2

### **4.3 The Current Environment for Increasing Patient Physical Activity**

To fully understand physicians' perspectives of exercise specialists, we sought to appreciate the practice and community environment in which they are promoting physical activity to patients (Figure 4.1). Although physical activity promotion is a cornerstone of our background work in this research, we assumed that our literature review regarding physical activity counselling, prescription and referral could be generalized to family physicians practicing in Calgary. Therefore, no specific questions in the semi-structured interview pertained to these aspects of inquiry. We focused primarily on exercise specialists in our discussion, with some dialogue regarding alternative and complimentary routes to increased patient physical activity such as programs within the PCN, multidisciplinary health care team members (Allied Health), and other health care professionals. These supplementary topics were discussed to determine a) if the physicians' requirements for patient physical activity promotion were already met, and b) where the exercise specialist might fit within this environment, according to physicians. Over the course of the interviews, it was noted that some physicians repeatedly brought up the topic of physical activity medicalization as a potentially negative outcome of programs like physician-based exercise prescription or referral to physical activity resources. These physicians argued that defining physical activity in medical terms served to distance patients from resources, and so the de-medicalization of physical activity was consequently deemed to be a relevant theme in the overall conversation.



**Figure 4.1 Locating exercise specialists in the environment for increasing patient physical activity in the PCN**



#### **4.4 Physical Activity & Exercise Programming**

When asked about chronic disease resources relating to exercise that were available to their patients relating to exercise in the PCN, physicians had no reservations in listing these options for their patients. Physicians seemed content with the variety of resources available to their PCN, “which is everything under there, and I know they are doing happiness things and getting moving things, and all that kind of stuff. Then we have the Living Well Programs, and everything in between” [P3].

Physicians felt that the onus was on them to do the research and find options for physical activity or lifestyle change programming for patients: “As a physician you have to be aware of different programs that are out there. There’s Living Well with a Chronic Condition Program. There’s Row Your Own Boat. There’s so many different programs out there. You just have to be aware of them” [P5].

Living Well with a Chronic Condition and Trym Gym were the resources that were most often discussed in the interviews. Overall, many physicians found that “the programs work well... People like them because they have someone supporting them. So the Trym Gym and Living Well were well received” [P8].

##### ***4.4.1 Living Well***

Living Well with a Chronic Condition (name recently altered to the Alberta Healthy Living Program) includes exercise classes, education in concepts like proper nutrition, sleep, stress, and pain management, as well as workshops on living with long-term illness (Alberta Health Services, 2015a). Living Well is offered in many locations, which helps patients to better

access the program, even in rural areas. Physicians stated that they “certainly appreciate Living Well” [P1], and that the resource can be a supportive one for patients with chronic illness.

Physicians reported sending many of their patients to the program in the past: “I really like the idea of having a group that patients can go to because I think it allows for, I think, for sanity on the part of the professional who is trying to communicate these big messages with having one-on-one meetings” [P1].

The general feedback seemed ambivalent regarding Living Well. Physicians have the impression that the program is a broad-level education on all chronic diseases, but some patients get left behind: “It's somewhat effective. I don't think we're doing as well as we should be with Living Well... it becomes one of the things that has to be assessed rather than simply the doctor has to remember to talk about exercise and refer to the right program. Know what I mean?” [P2]. Other physicians corroborate that Living Well can be successful, and that it will “depend on the patient and the level of engagement they want. Are they comfortable with the group class? Do they feel comfortable having that snapshot with the group for the hour and then continuing on?” [P3].

Some patients require “a more intensive one-to-one instruction” [P3] than what Living Well can provide. Some physicians reported that they receive insufficient feedback from the program, and that they don't have the time to track down individual patient progress, thus affecting their ongoing interaction with Living Well:

I haven't really found it as health wise as I might have thought it should be...I'm not sure.  
Part of it is that it's actually just offsite; it's this program out there somewhere. I just felt

that I'm sending them off, send them for a program and I'm not really part of the ongoing conversation. It didn't feel very ... I think the failure is in me, is as a busy family doc. Maybe I hadn't fully understood the program as well and it's possible I haven't made the strides [P6].

Multiple physicians mentioned that the Living Well program either was not long enough to instigate change, or that there was not enough support at the end of the program. "People were really disappointed that it ended... [It lasted for] Six weeks. They're encouraged to try other things, but they're all in other places. So they sort of lost interest" [P8]. It was also noted that the success of Living Well was dependent on patient expectations, and that sometimes there has been miscommunication between physicians and patients regarding the goals of Living Well as a resource.

I don't think I've met anybody who's come back and said that was the worst thing I've ever done. It terms of benefit, it depends on what the person's goals are going in. If they want to be more educated about how to manage their health and the condition that they're living with. I think it's always beneficial if the person is open to learning about it. [P9]

#### ***4.4.2 Trym Gym***

Trym Gym was described as the program option "for people that just wanted to start getting active and maybe lose weight" [P8]. This opportunity is also eight weeks in length, with exercise and education sessions led by personal trainers with certification through CSEP (University of Calgary, 2015). Some physicians mentioned that they had more success with referring to one program or another. This physician mentioned that he "send[s] more people to

Trym Gym than Living Well...I think Trym Gym is, there's not many restrictions. It's like, "Send people we'll be happy to take them." It's funny, it almost seems like it's easy to engage whereas Living Well it doesn't feel as easy to connect somebody to" [P6].

Trym Gym was viewed as another positive cost-based option for patients because "...they would get a bursary or they would get 200 dollars of the fee covered if they were my patient...that's the way it was set up so it made it affordable for people so that they would get started" [P8]

#### **4.5 Allied Health Professionals**

Allied health professionals work in concert with physicians to provide a variety of health services to patients in primary care. A physician from the South Calgary PCN discussed the purpose of their Health Management Team, which is comprised of many distinct allied health professionals who assist with patients who are referred to the specialized clinic.

It's anyone, diabetes, hypertension, just plain old obesity, and they get four areas they get help with for free. They have a nurse, they have a behavioural health consultant, they have a kinesiologist. What's the fourth one again? A dietician. They get quite a few sessions covered and they meet independently with all the different specialists. [P5]

The multidisciplinary team approach was cited as a positive resource for physicians and their patients. The concept of a "health home" was emphasized: "We love to use our Allied Health... I mean, in this clinic we have asthma educators. We have diabetes educators. We have social workers. We have pharmacists, so they can experience the whole team. I think that's where

we're moving with the primary care, a movement for primary care patients that are going to go home" [P3].

One point brought up by a physician in the Foothills PCN was that there is a slight disparity between the professionals available for disease-specific discussion versus exercise-specific education with patients. "Because everybody else we have will tell people to exercise. We will kind of give people general advice ... but we are not able to engage with them on a one-on-one aspect. So if you think about the diabetes educator nurse, or the asthma nurse, they will sit with a patient for an hour and focus only on their diabetes... [P3]. Many of the physicians in the Foothills PCN echoed this incongruence, and mentioned that it would be beneficial to have a professional incorporated into the health care team who could focus solely on physical activity and exercise.

#### ***4.5.1 Chronic Disease Nurse***

Physicians briefly brought up the chronic disease nurse on staff who could assist with counselling patients in terms of increasing physical activity. One physician voiced, "I don't think that there's a chronic disease nurse out there who couldn't make a really big difference in some of these people's live. It's just getting people connected" [P1]. Another physician discussed the idea of the nurse as a point of contact and follow-up after their own physical activity consultation with the patient: "If there was a contact person. Or if there was a chronic disease nurse and pharmacist. So they could have referral from them or get recommendations from them" [P8]. Potentially the nurse could also act as an intermediary for connecting patients to programming:

At the same time, I wonder if maybe we need to be doing more of that so that our nurses, our LPNs in particular can do more work with our patients to say, “Hey, there’s this great program there too.” Connecting them as well. For the patients then who are maybe, they’re not on my radar as my goodness I should connect the Living Well Program but actually for whom it would be a good benefit. [P8]

#### ***4.5.2 Behavioural Health Consultant***

Behavioural health consultants were also discussed as options for physical activity promotion in patients. Physicians noted that their skill sets have created a successful atmosphere for behaviour change and that this can apply to physical activity initiation: “Thankfully I’ve got some behaviour health consultants that I can engage those patients with as part of the health care team” [P6]. Generally these professionals are viewed as beneficial for issues such as diet where psychology and motivation has a role in the outcome of lifestyle change, although physicians have noticed the potential for their function in exercise as well: “I send people to behavioural health consultants for many, many things including motivational intervene kind of stuff...If someone said, “Oh I just don’t know how to get started with exercise,” I might send them there” [P9].

#### **4.6 Other Health Professionals**

There have been mentions of other health professionals in the literature who could potentially be a source of advice or continued guidance for physical activity and lifestyle change, although they may or may not be utilized within the allied health care team scenario. We wanted to explore these to see if the participating Calgary physician perspective was aligned with this

literature, much of it surrounding physiotherapists acting to combat inactivity and promote physical activity with their clients (Huijig et al., 2015; Verhagen & Engbers, 2009). Patients with varying levels of chronic disease or disability may seek out personal trainers in established gyms for guidance, and this professional was also included in our questioning. We therefore asked Calgary physicians to describe any experiences they may have had in referring patients to physiotherapy or personal trainers for increasing physical activity levels specifically.

#### ***4.6.1 Physiotherapists***

This sample of physicians understood that physiotherapists could assist with patients if “somebody's needing to rehab from an injury... if somebody has a chronic injury or chronic neurologic deficit... then I know that physiotherapists can help with that” [P1]. The physicians also found the practice of physiotherapy helpful for “muscular skeletal issues” [P10]. Many expressed that they regularly refer to physiotherapists, “but rarely with the purpose of increasing physical activity” [P4]. In the eyes of the physicians interviewed, physiotherapists certainly have a role, although it falls within the “traditional” role and not within the idea of engaging patients in physical activity: “I find that it doesn’t really translate to that ever” [P5]. One physician specifically noted the various acute issues where she would access a physiotherapist, although she would not consider them for chronic ailments:

Generally, if the question is really just how to get on an exercise program, and it's not really related to an injury or the main issues around improving symptoms, decreasing pain, rehabilitation and injury prevention, particularly around a more acute injury, I am probably less likely to do that... If they have acute symptoms that were managed, even



chronic symptoms when pain is involved and swelling, then they can certainly engage with their physio around that. [P3]

When discussing physiotherapists, the physicians mentioned that they found their modalities more passive than active, and so they may not be the best candidates for supporting patients through the difficulties that accompany lifestyle and habit changes.

We use a physio upstairs, with variable success. I'm not sure how standardized or how scientific their approaches are. I had a few patients complain about the passiveness of some of the modalities she's used, but when I've confronted her, as early as three weeks ago, she said, "No, I'm very active in how I approach this". [P2]

A different physician echoed this understanding by stating, "It's not really in their thought process. They're little passive instead of active" [P5]. This passivity has translated over for the physicians who have tried to utilize physiotherapy as a method to stimulate exercise initiation and adherence in patients:

I've always thought that this was the case... I'm not bashing on the discipline. I've been just disappointed over the years. There are times that I would send patients to physiotherapists for this kind of activity engagement. I was always left disappointed. [P6]

Physicians expressed that physiotherapy tends to have a rehabilitation focus, as opposed to preventative aspects or to increasing overall physical activity levels as part of lifestyle management. A different physician expressed similar feelings when questioned about the potential for this new role within physiotherapy: "Not for increasing physical activity. It's usually because there's a rehab component going on" [P7].

It was also reported that physiotherapists tend to hold focus on individual issues related to injury or specific body parts, as opposed to seeking whole-body solutions: “I’m generalizing, but often it can be doing some ultrasound here, some stretching there, but it’s a very different philosophy of the importance of exercise for your entire health. They’re more focused on the shoulder or the knee” [P5]. Another physician echoed this thought:

I see the physio more as dealing with some physical issue whether it's, you know, a knee issue or shoulder or back or whatever. Not so much as an advisor on general exercise, although they might be. It's a thought. [P10]

One physician acknowledged the interest in physiotherapy as an exercise promoter in health care, although there is clearly a stark difference between some of the literature suggesting this change, and the real-life progress made here in Calgary PCNs:

I think I’ve really come to understand that it seems that the most, the main focus for most physiotherapists is really injury care and rehabilitation. There comes a point where it seems that they will tend to say my work with a patient is done. The times that I’ve tried to review further back, actually I prefer you just still work out this or that or whatever. It hasn’t just worked out as well. Sometimes yes, when I was in Ontario, in London, there was a particular physiotherapist who did this work and was awesome. They’re out there. It doesn’t seem to be universally held belief of their role of scope. [P6]

It is worth noting that two physicians had drastically different thoughts on the difference in scope between physiotherapy and kinesiology. One mentioned, “I don't think I see myself not referring a patient to physio in favour of referring them to some other form like sports and

exercise medicine. I don't know if those two things necessarily overlap in my mind. [P1], while another doc spoke of physiotherapists helping in the domain of “the de-conditioned, elderly patient who just isn't strong enough anymore” [P2]. This physician went on to say, “that's where physio would have a strong role as opposed to kinesiology. Although there's a big overlap” [P2]. One physician felt the fields of physiotherapy and sports medicine wouldn't overlap, while the other acknowledges that between the two professionals he finds them to be quite similar in scope or intervention.

#### ***4.6.2 Personal Trainers***

In terms of experience with personal trainers, physicians do not directly refer and therefore tend to be removed from the process. Some feedback includes this quote by a physician in South Calgary: “Patients often seek out personal trainers if they feel they would be beneficial. [I] find that trainers are often able to motivate patients to increase activity levels” [P4]. Certification and scope of practice was also mentioned as a concern. As with other professionals of this nature, “it's a very individual thing and I don't know who's trained, with a difference in their levels of training, like you asked before. I wouldn't know” [P5]. One physician mentioned the success she has seen in patients that have pursued physical activity with a personal trainer, although citing that patients need the appropriate funds to access this professional: “I had actually some patients that have taken it up and done the training... and they've done really well. Yeah. I think that's it. Lot of it is, you know the cost is an issue” [P5].

Concern regarding the potential cost of service was brought up again with this quote: “I've never referred someone specifically to a personal trainer... That's sort of more ... I mean I could

recommend that someone go do it, but they still have to come up with the money to do it, right?” [P9].

#### ***4.6.3 Athletic Therapists***

The athletic therapist (AT) was not initially investigated within the study as a potential professional for increasing physical activity. We included the AT because one physician “did refer a lot of (her) patients to an athletic therapist... And people were really good at doing what (she) told them to do” [P8]. The AT was reported to be proficient at “dealing with injuries or pain and then helping people exercise without pain. She’s awesome” [P8]. When asked if she had any concerns about the AT working with her patients, the physician replied, “No not an issue. She really focuses on function and connection with you know... you have a pain in your foot she’ll work on your hip... or your back... or you have a pain in your back and she’ll work on your feet” [P8]. It seems that, at least for one physician, the AT is a viable option for helping people exercise without pain.

#### **4.7 De-medicalization of Physical Activity**

Some physicians expressed that access to physical activity may be improved through avenues other than an approach by which physical inactivity is treated as a medical problem with heavy physician involvement. This could be through community-based methods and instigating self-referrals for patients to activities and resources within the PCN, thus reducing the physician-centric approach to physical activity.

#### ***4.7.1 Community Approach***

Based on his experiences with patients, one physician is a proponent of increasing PCN visibility and outreach within the communities to address patient inactivity. “I think, I mean my philosophy is one of ... if you medicalize this, it's the wrong approach” [P2]. This physician noticed increased physical activity engagement with patients regarding a poster hanging in his office advertising a YMCA activity program, as opposed to his usual discussion around exercise initiation. “I wasn’t talking about exercising. It's surprising that it's less doctor-centric. There's more access that way.” [P2]

Without prompting, another physician suggested that the PCN interact with patients and have the physical activity discussion at more of a community-level, instead of at the individual physician level: “To be honest, I don't know how much the physicians really matter in this... I think we all recognize that there's these medical advantages to it, but there's actually other broader advantages. Societal advantages to doing this” [P1]

These physicians were also drawn to the concept of addressing physical activity habits on a broader range, in conjunction with the efforts put forth by primary health care. “You can get into some really interesting things like advocating for healthy community design” [P1].

#### ***4.7.2 Self-Referral***

A few physicians suggested that self-referral by patients to different programs could be an easier, more attractive option for increasing exercise initiation and adherence. “It might be something like the dietician program of the PCN, although it’s not maybe as robust as it could be.

It's this idea where patients contact the dieticians. They get triage with the dietician and get connected to something that works for them" [P6].

One of the interview questions referenced the physician's needs in trying to get all populations in their practice more active. One physician responded the solution most helpful to her would be "if they could self-refer" [P8]. The same physician thought it would be nice if "it didn't involve us (physicians) too much... And it doesn't have to be this big formal thing" [P8].

#### **4.8 The Identified Categories**

The codes that reflected exercise specialists were extracted from the raw interview transcripts and inductively analyzed, and then built up into subcategories, which specifically address the processes and context of the physicians interviewed. Figure 4.2 outlines the coding framework, or the core category, subcategories and concepts extracted from the interview data that refers directly to exercise specialists in the PCNs.

Participants were initially categorized post-interview based on conditions that divide them into two groups: those who have previously worked with an exercise specialist within their practice or network, and those who have no professional experience with exercise specialists in the PCN. This differentiation allowed for a more thorough exploration of the meanings occurring within each study condition – experience versus no experience (Luborsky & Rubinstein, 1995). After an in-depth exploration of categories, the researcher concluded that regardless of the amount of lived experience with exercise specialists, all physicians were trending towards the same discussion points regarding the integration of these professionals in their PCN. Therefore,

the framework was restructured to include said categories, regardless of the experience categories that were initially laid out to define the project.

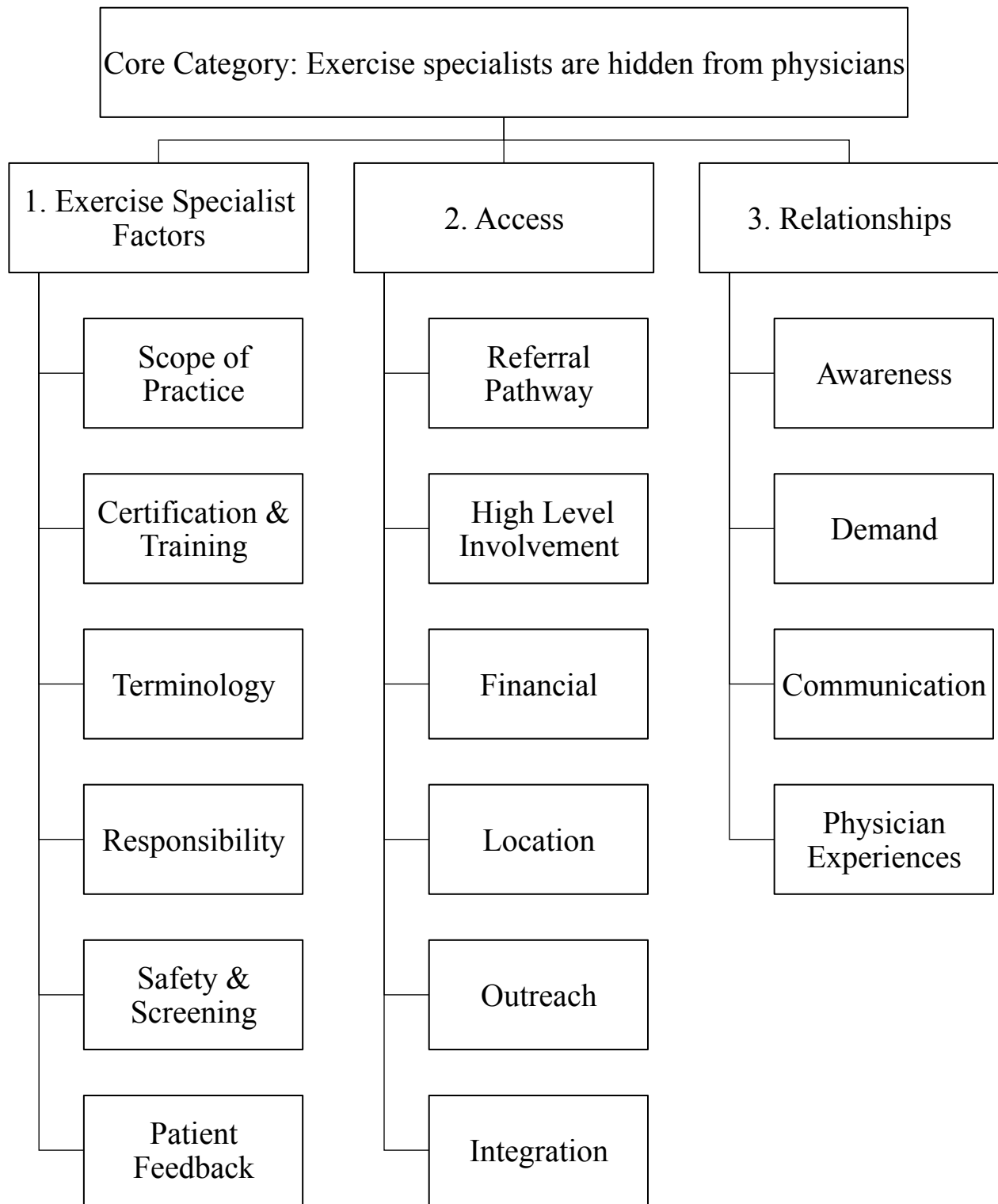
#### ***4.8.1 The Core Category***

Although physicians seem amenable to the addition of exercise specialists to multidisciplinary teams, issues surrounding: 1) Exercise Specialist Factors, 2) Access, and 3) Relationships have made it challenging for physicians to refer their patients to these professionals. These physicians have described exercise specialists as a mystery, difficult to access, and awkward to define. Exercise specialists are therefore currently “hidden” from PCN physicians in Calgary.

#### ***4.8.2 The Subcategories and Concepts***

The three subcategories in the framework are constructed from the comments of multiple physicians influencing each subcategory. The detailed concepts described under each subcategory help to elucidate the theoretical significance of each one in relation to the core category. Quantifying the degree to which each concept was discussed identifies the most relevant physician processes and context surrounding exercise specialists; Table 4.4 contains the number of sources and total number of references for each concept within a subcategory.

**Figure 4.2 The relationship between the core category, subcategories and concepts**





**Table 4.4 Counts of occurrences for subcategories and concepts**

<b>Subcategories</b>	<b>Concepts</b>	<b>Number of sources</b>	<b>Number of references</b>
Exercise Specialist Factors	Scope of Practice	9	29
	Certification & Training	6	11
	Terminology	6	13
	Responsibility	4	8
	Safety & Screening	5	9
	Patient Feedback	6	11
	Referral Pathway	5	33
Access	High Level Involvement	6	7
	Financial	6	16
	Location	8	24
	Outreach	4	12
	Integration	6	9
Relationships	Awareness	10	21
	Demand	4	4
	Communication	6	11
	Physician Experiences	5	28

## **4.9 Subcategory One: Exercise Specialist Factors**

### ***4.9.1 Scope of Practice***

The scope of practice is the set boundary within which a professional can undertake action or procedure, as defined by their education and authorization under a governing body or employer (Sherwood, Brown & Fay, 1996). Physicians were asked to describe the scope of practice for an exercise specialist, as they perceived it. It was noted that there is a general “lack of awareness of their exact roles and abilities.” [P4] that exists among physicians.

After some experience working with exercise specialists, one physician defined a health professional who “focuses on assessing, modifying, and seeking to improve the physical activity component of health management for patients” [P4]. This physician associated exercise specialists with physical activity as well as medical issues, so that the exercise could be modified for “disease optimization”.

I see them mainly working with patients who have chronic disease that would benefit from lifestyle modification (i.e., diabetics, overweight), as well as patients who are having difficulty optimizing their health, often despite their own personal efforts. [P4]

Another physician described the exercise specialist in a similar fashion, saying that they would “troubleshoot maybe some of those other mobility issues or accessibility issues or the limitations that somebody has in order to try to get an understanding about what they can do in order to try to maintain their health” [P1].

Exercise specialists were also described as professionals operating within the realm of personal training practices: “When I think exercise specialist because of my personal viewpoint, I

would be thinking of someone that's going to help me gain weight, or change my build, or do something like that, that's what I tend to think of it as” [P7].

#### ***4.9.2 Certification & Training***

The certification of exercise specialists was discussed in relation to the comfort level of physicians in their referral of patients to work with these professionals. One physician emphasized the importance of exercise specialists becoming a registered profession, akin to the standards applied to many other allied health professionals.

I very much support kinesiology becoming a registered profession so that they get clinical programs and it becomes more like the Australian model, where people are practitioners, and I would refer to a kinesiologist, or I would refer to an occupational therapist, or I would refer to a speech language pathologist. [P7]

Others focused more on the education and training involved. A physician stated that he had “No concerns, as long as basic knowledge of the various diseases is known in order to determine best courses of management as well as avoiding activities that may worsen current diseases” [P4]. Psychological as well as physiological consequences of disease and how to work properly with struggling patients was also noted: “They need to have a good understanding of what they’re dealing with...The person working with 60-year-old arthritic overweight women needs to understand what’s coming to the table” [P5].

#### ***4.9.3 Terminology***

When the interviewer first initiated conversation about exercise specialists, many physicians expressed confusion about the term:

Yeah. I don't know if I would ... I hadn't actually heard that specific term. That makes sense, what it is. In terms of, is it like a personal trainer? Or is it someone who's ... obviously there would be some understanding of mechanics and how to work with people who have certain physical limitations. I suppose that would be integrated in there as well. I'm not sure, so maybe you can tell me. [P10]

A different physician had to clarify, “I think in general, you're talking about an area separate from physiotherapy?” [P5]. Yet another described the profession as “a bit of a mystery” [P7]. It's understandably confusing for physicians, since within the capacity kinesiology alone, a multitude of distinct professions can emerge: “Certainly we hear lots about exercise physiology in the context of kinesiology, those sort of specifics, recognizing that may not be the only thing. There's people who do athletic training and there's tons of different breadth in that group of specialties” [P1]. Until recently, the field of kinesiology used to be widely recognized under the names like “physical education”, or “recreation and leisure studies”, and still is recognized as such within certain institutions or university programs (University of Alberta, n.d.). “It used to be Phys-Ed for a long time and then kinesiology. I know my colleagues don't know really the difference between kinesiology, CEP, personal trainer level three, an athletic therapist, a physiotherapist... There's a lot of confusion over what those things are. [P6]

When asked to describe his interpretation of what an exercise specialist can do, one physician said, “I would be thinking of someone that's going to help me gain weight, or change my build, or do something like that, that's what I tend to think of it as” [P7]. The same physician also conferred some of his perceptions surrounding the field of exercise physiology, citing, “To me that means it's all research-based and it has absolutely no practical experience or applicability

to me. Or, it applies to elite athletes, but it has nothing to do with a regular Joe guy” [P7]. The niche occupied by exercise specialists may not be communicated effectively to physicians, as outlined by this quote:

Yeah, there's a disconnect, so there might be people out there working with the elderly, or doing Parkinson's and being very practical... I know that physios have a certain niche, I know O.T.'s have a certain niche, and maybe it'd be better to call them mobility specialists or something, I don't know. [P7]

Physicians were also perplexed when the interviewer discussed the differences between an exercise specialist and other health professionals in the fields of physical activity or rehabilitation: “Athletic therapists. Is that similar to physio or...?” [P9].

#### ***4.9.4 Responsibility***

In terms of professional responsibility, physicians discussed the idea of the process of transferring the patient from one professional to another, or whether some of the responsibility is shared between the two throughout the patient’s progress. It’s important to consider “the question about who makes the decision about exactly what they can do, and how much the physician decides, and how much the kinesiologist decides” [P3]. The parameters of decision-making, especially in the event of an emergency or with regards to acutely ill patients must be determined:

“Okay, if I'm here on Wednesday and there's a bunch of physicians and we know that the kinesiologist is here, what is the process in place if that patient develops acute angina?” [P3].

Another complexity is the physician-patient relationship that is inevitable between the family physician and the long-time patient. Physicians were proud to report that they have a good

understanding of their patient's needs, and "that element is sometimes something that gets lost in handing that responsibility off" [P1].

It's not that I don't believe that the professionals we're talking about aren't capable of making good use of communications skills and exploring and doing all these right things, but I think it's certainly a challenge when you know the patient. [P1]

#### ***4.9.5 Safety and Screening***

The concept of screening for an exercise program is related to the safety issue outlined in the previous sub-section. As one physician said, "We've never had an incident, right? We have to tick off the box that says that they are able to work. So, there are those patients we can't allow to go into these programs" [P2]. Examples of those candidates who might not be cleared to move into the program might include "some cancer patients who are overweight, and some diabetics who are debilitated already", since much of the programming requires "some ambulatory function on the part of the patient" [P2].

#### ***4.9.6 Patient Feedback***

Some physicians reported receiving negative patient feedback concerning their experience with exercise specialists. This was usually related to patient expectations surrounding weight loss and related outcomes: "Often there are somewhat not ready, and expectations are quite high amongst the patients. They want weight loss and that sort of thing as opposed to exercise" [P2]. Part of the problem was noted to be maintaining a realistic approach and keeping expectations in check.

The weight loss thing is a bit more disappointing, the science behind that... That's what gets a bit disappointing because you're trying to achieve weight loss in order to reduce risks, cardiovascular risks, right? And if you're attaining better lifestyle changes, but you're not achieving that, it's still somewhat of a disappointment. [P2]

Physicians also recounted any positive experiences conveyed by their patients “I haven’t really ever had any negative comments. They got them up and moving, basically” [P5]. Many physicians said their patients were “quite happy with the advice given” [P4] although patients usually framed this within the concept of weight loss as well.

#### **4.10 Subcategory Two: Access**

##### ***4.10.1 Referral Pathway***

The physicians in the Foothills PCN cited a need for a structured referral system on multiple occasions, while the South Calgary PCN physicians did not discuss this category as frequently. One physician mentioned that while he is a strong proponent of physical activity for health outcomes, he would not be able to discern which patients should be sent to an exercise specialist. “Yes, it's massively important. I don't know that I'm necessarily the right person to make the discrimination because I'll probably say; you see this list of 1,200 patients? Every single one of them probably needs your service, right?” [P1]. It is necessary for the physician to understand the process in order to make the appropriate referral for the patient:

Maybe we just need to help the physicians really identify those people who are at the tip-top of the priority list... I'd like to know a bit more about what the best pathways are, who the patients are that do best in those kind of contexts. [P1]

The current set up for physicians in the Foothills PCN seems to be hindering their ability to refer to an exercise specialist: “Right now I have to really think hard about where I would, how I would access them. Where I would access them” [P3]. Accessing an exercise specialist was cited to be a trial for these physicians: “Accessing them even though when you find them is a challenge” [P6]. When discussing future solutions, physicians had a generally positive tone when discussing the possibilities of referral to exercise specialists: “I think we can communicate well enough that we can kind of understand, and learn, about what we should be doing in all those referral pieces. We can build that it in; we can build in processes” [P3]. A key to success could be “really understanding what we are referring, and why” [P3].

Physicians noted that restrictions on referral should be in place in order to ensure fairness in how and when patients access exercise specialists: “You can’t have everybody see one-on-one a publically funded CEP, and you should really save that person for the people who need that custom guidance” [P6]. There should be restriction in place that will save the exercise specialist’s time for the patients who really need their expertise. For example, “a jointly established list of criteria for referrals would be a good thing” [P6].

Then having to get very good at realizing, you know what? For the general healthy 25-year-old male who maybe needs some work with position or posture, maybe you can refer that person out to a personal trainer. They don’t need to see a CEP. Is that really the best use of their time? [P6]

#### ***4.10.2 High Level Involvement***

It was acknowledged by physicians that addressing the barriers preventing proper use of an exercise specialist could not be influenced by individual physicians alone: “I’m not part of any



of those decision-making processes. I'm not on any boards or anything so I don't know the ins and outs of all that. I know that those have limitations" [P9]. One physician said it is "just a matter of getting the higher-ups on board, I guess. Whoever is making those decisions. They're kind of open to that because that's sort of their mandate, right? So they're trying to broaden the support group" [P10]. It was also mentioned that it would be advantageous for the PCN to somehow endorse certain providers so that individual physicians don't need to go through a trial and error process to find someone who is qualified and trained as an exercise specialist.

It could be nice if the PCN could say, "For this problem, here are some private providers that if patients don't meet our criteria for the fully funded public paid one-on-one service, that you can refer them to the following list of providers." That there's some sort of criteria that people meet. You're not accrediting them. You're saying that they've met this basic criteria meaning we've done a two hour visit to their site... That would be really handy. [P6]

It would make it easier for physicians to access exercise specialists if such a program was in place, and it would help physicians to remember and coordinate the involvement of exercise specialists with all of the other programming that is PCN-promoted:

It would have to be coordinated with the PCN because they have a whole directory of services...Because for me to remember it is a bit much, but if I can say so look at that table out there, and there's a table with all the services or a binder or this website... [P8]

Additionally, some physician cited the role of the municipal, provincial and federal government in channelling funding into physical activity initiatives such as the inclusion of

exercise specialists in primary care: “If it could be incorporated with the government at a higher level... The government must understand and must see how in the end it would save so much cost. To prevent one heart attack by providing some education towards exercise, it would save so much money” [P5].

#### **4.10.3 Financial**

A question that was repeatedly asked by physicians during the interviews was “will it be covered for my patients?” Physicians were extremely conscious of the potential financial troubles that an expensive service could impose on their patients: “Is it open for everybody? I don't actually know. Are there certain insurance policies that will cover it? Is it covered under insured health services through non-insured health benefits?” [P1]. If the service were not covered for the patient or funded by a governing agency, the physicians would likely be more hesitant to refer to an exercise specialist:

Many people, once they realize it probably is not covered under their health spending account or their core benefits for insurance. They're looking at ... I understand and I get it. If you've got somebody who has been core ignorant all their life, it can take 24 sessions over a half year to get somebody's core flexibility all aligned just great. To a lot of people, that's a bit of a barrier in its own. [P6]

The physician who works in the Calgary Rural PCN specifically mentioned that access for his patients is a concern that is made more difficult by long travel times requiring a vehicle or paid transport. This physician voiced that transportation is “covered for certain elements of things... I doubt that transportation is going to be covered with respect to exercise” [P1].

One physician considered the initial costs that would be required to incorporate an exercise specialist into a physical space or clinic: “You also need equipment. You need the Monark bike, you need calipers, you need therabands... there are some various bits and pieces. It’s not ridiculously expensive. It’s the same cost of setting up a new physician, about \$10,000 in miscellaneous equipment” [P6].

#### ***4.10.4 Location***

Physicians mentioned that it would be ideal to have exercise specialists incorporated directly in the practice: “Co-location is always great. Then if they're there you see them and you know” [P1]. Those from the Foothills PCN were particularly interested in this set-up, saying “I think physical proximity, being here, knowing that the patients can come here knowing they get a note back, knowing that I can make a call and say, 'hey, can you see this patient?' This was a good thing” [P3]. It was reported that this advantage worked both ways, enabling the exercise specialist to have an improved interpretation and understanding of the patient’s needs:

They would be there during the medical visit. That way they’re even more enabled in the room. Then they reflected back that yes, this was more enabling. Their ability to do their job was vastly improved rather than getting a referral on paper or even a quick phone conversation or whatever. [P6]

Physicians recognized that unless a brand new practice was to be built to include a space for exercise specialists, that physical closeness would not be feasible: “Again, most offices have space constraints, so that probably wouldn’t work” [P5].

Since an immediate working location within the clinic was generally deemed improbable, physicians discussed options for a physical space for the exercise specialists to practice out of:

You could potentially have a central training space. Then maybe have CEPs parachute into your clinic from time to time. Then do initial visits in your clinic and then follow up with the patients at the central facility where they have a lot of materials and so on. That's possible. [P7]

The concept of the medical home was cited as important for physicians as well as their patients, who “really do like the idea of coming back to a place that they're familiar with, not to have to go up to a new place or something way crazy out of the way... there's a familiarity, so that's a nice thing” [P3].

The patient's medical home makes a lot of sense. There's a lot of literature about that in the world that having people's resources and health care team in one place makes a lot of sense. We saw maybe the best possible model for it. So, embedded CEPs in our clinic” [P6].

#### **4.10.5 Outreach**

Physicians not only recognized the work that could be done by the PCN, but cited an option that could be conducted by exercise specialists themselves:

One of the things that might work really well, particularly I think when the PCN has these types of things going on is often times they'll do a little bit of a ... They sort of come around and let people know who they are and what they do. They have a one-page or a two-page thing... A bit of a communiqué. [P1]

This form of outreach to physicians was cited as one method for increasing uptake and referral to exercise specialists. Physicians discussed the increased comfort and trust present when they are more knowledgeable about the program as well as the health professionals themselves:

I know the faces, and I know these professionals. I know who they are, and I know their skill set. I refer to them with warmth. I can be a testimonial to the patients, not just say, "Well, we'll refer you to this anonymous program." [P2]

If exercise specialists do some "internal public relations" [P1] and represent themselves at a meeting, they could inform groups of physicians about their background, scope of practice and guidelines for referral:

How about just a little bit of a meet and greet. "Hey this is who we are. This is what we do. These are the kinds of patients. These are the kinds of differences that we make. Here's the evidence. These are the kinds of patients for whom we know we actually don't make a big difference or we can't prove that we make any difference at this point in time." [P1]

It was argued that any form of outreach would be helpful, ensuring that the physician knows they would not be "wasting my patient's time as well, or potentially money" [P1].

Say, "Hey, we take care of this. It frees up more time for you to do that. You don't have to spend as much time doing your motivational stuff or we can take that over. Actually, we really want to make sure that they're motivational stuff is well taken care of before they come and see us. These are the kinds of chronic diseases that work really well. These are

some of the acute injury things that we actually do really well. Make sure that things are going well." [P1]

A good understanding of the referral process and how it could benefit patients would be ideal for physicians. They identified that this understanding would be truly advantageous if the “process is streamlined, we get information back, and we understand the cost system around it” [P3].

#### ***4.10.6 Integration***

For physicians, the team fit or collaborative abilities of their multi-disciplinary team was considered to be of utmost importance for improved patient outcomes. For physicians with past or current experience working with exercise specialists, there was an overwhelming sense of satisfaction with their “fit” in the team environment: “When we had a kinesiologist here, it was just so easy because you start to think of them as part of the team” [P3]. “From day one, it was very clear how this person fit in and what they did. You could immediately see the outcomes on our patients. That’s very different from all the other types of health providers who get proposed as members of the primary health care team” [P6]. “Nice to have additional disciplines working towards health improvement of the patients” [P4].

For those physicians who had not previously interacted with exercise specialists in the PCN environment, many felt similarly to those discussed above: “If not much else. I’m sure that having an exercise physiologist will integrate really well with other team members” [P9].

## **4.11 Subcategory Three: Relationships**

### ***4.11.1 Awareness***

Physicians fell into three categories depending on their previous experiences with exercise specialists: 1) Not Aware, 2) No Referrals or Rare, and 3) Refer Often. Four physicians (P7, P8, P9, P10) were not aware of exercise specialists as a part of PCN programming and therefore did not refer, while three physicians (P1, P3, P6) had referred in the past but did not refer often at the time of the interviews, for various reasons. Finally, three physicians (P2, P4, P5) had experiences working directly with exercise specialists and cited that they often referred patients to these professionals.

One physician who was not aware of exercise specialists reported that he did not view this as a physical activity option that would be available anywhere in the province: “We don't have anyone... I don't have that option in Canada, or in Alberta anyways” [P7]. Another physician said, “I don't think they have individual exercise [specialists] in the PCNs... Do you know of any?” [P8]. Some physicians were taken aback when they learned that an exercise specialist was an option for increasing patient physical activity: “I was very surprised to learn about this and I thought, “Oh great! Are they going to bring them (exercise specialists) in?”... Then I realized, “Oh I guess we must have some” [P9].

Three physicians knew of exercise specialists as an option for referral, but either did not utilize or rarely utilized this option. Reasons for this varied, but seemed to be focused around issues with referral and an understanding of where to send patients so that they could access these professionals: “I think that those are probably the biggest barriers is knowing exactly who, for what, and then how” [P1]. These physicians had previously utilized exercise professionals in

their practice: “For the time that we had a exercise kinesiologist here, it was a trial basis for awhile. It was great. “It was fantastic. We used him very much...” [P3]. After the this brief interaction, they mentioned that they no longer knew how to access the same exercise specialists: “I think on my end it's just I'm not aware of to whom I could refer. I was aware of what the process was when there was somebody here” [P1]. These physicians have had experiences with exercise specialists and would like to refer, but feel as though there are no lines of communication between their practice and the professionals outside of it: “There’s two guys or two people in all of Calgary I know that do this kind of work... I just don’t know who the people are out there who want to do the work” [P6].

For some physicians, they referred to exercise specialists “regularly” [P4], “at least one to five times a day” [P2]. Another physician mentioned that the Calgary South PCN is structured so that she refers patients to the broader-based PCN clinic housing the exercise specialists, instead of referring directly: “We have that Health Management Clinic that we send some people to and there’s a kinesiologist within it as well” [P5].

#### ***4.11.2 Demand***

For physicians who have worked with exercise specialists, they mentioned that as an allied health team member, they can “fill up a bit quickly” with bookings [P6], so there is evidence of demand for the services they provide.

Physicians who do not currently refer to exercise specialists speculate that there could be a requirement for such a resource in future practice. They envisioned the types of patients they would refer to an exercise specialist, recognizing that they would not know how to approach physical activity promotion with these populations: “I know a lot of people who have really poor



mobility secondary to things like rheumatologic disease. For example, they'll have both their knees replaced and everything else... That would be a great example of a patient where I'd be at sea trying to help them" [P1]. Another physician conceded that the availability of exercise specialists to patient would likely be highly utilized, stating:

There may be a need that we aren't even aware of. Because it isn't a service that we've had in the past, so there might be a need that we're not even aware of. Getting a clinical scenario thing... might be, "Oh my goodness, we've got this huge gap in care. [P7]

#### ***4.11.3 Communication***

Once physicians are aware and utilizing exercise specialists, both professional groups will ideally learn from each other. Physicians want this information channel to be open to ensure both parties are well equipped to handle patients: "I think some extra knowledge about what can be done for people with different limitations might be helpful" [P1].

Follow up by the exercise specialist is key for ensuring that the physician is cognizant of their patient's progress. "We get a chance to engage with them, we get good follow-up, that sort of thing. If you give good follow-up, we think about you more" [P3]. If the physicians receive quality reports on their patients, they will be more likely to continue to refer others to the exercise specialist.

#### ***4.11.4 Physician Experiences***

I think it's so great because exercise is part of the prescription list for so many things, for almost everything. All the cardiac stuff, vascular stuff, renal disease, diabetes, liver

disease, stroke, MSK stuff, mood... I mean, there's really no downside to it, other than the barriers. [P3]

Exercise specialists were perceived to be a “great resource to offer patients different alternatives to managing their diseases/illnesses” [P4]. Physicians appreciated the aide they provided to patients with respect to exercise and illness education. Most of the physicians interviewed cited their negative experiences with exercise specialists as minimal to none. Only one physician considered a negative experience of patient injury from working with an exercise specialist:

As anything in the world, it is really dependent on the person. I’ve had patients ridiculously injured by therapists who just don’t get it and they have no conception of where this person is starting from. I’ve had others that have been improved immensely.  
[P5]

Overall, working with exercise specialists was viewed as a positive outcome for physicians, based on their patient’s resulting attitudes towards activity as well as any exercise adherence. As stated by one physician, “in many cases, at least they become somewhat more active. Then the expectations are brought to more health maintenance rather than these media-driven sort of, simplistic views of health” [P2]. When discussing his personal experiences, one physician explained how the exercise specialist would influence his patient’s progress:

What’s beautiful is then the patient doesn’t have to keep coming back to see me. They might see me two months later, a few months later for a checking or a follow up on some issue or other. I’m not doing the exact over four or five visits making sure that they’ve got

their core engagement properly. Somebody else is doing that is who is probably better at it by a mile than I am. It was fantastic. [P6]

A different physician observed that her short-term interaction with exercise specialists did not leave her with closure or future direction for accessing exercise specialists: “I think in a way, maybe it was a lost resource for how to learn about what's out in the community... it wasn't like, 'okay, well I'm not here anymore. This is how you can continue to do X for your patients.' Just little things like that. [P3]

#### **4.12 The Theory Element**

The processes and context of Calgary PCN family physicians' consideration of exercise specialists are rooted in a general obscurity of the exercise specialist profession, with factors specific to the exercise specialists, physician access, and physician-exercise specialist relationships contributing to this apparent anonymity.

#### **4.13 Discussions with Exercise Specialists**

To ensure legitimacy of the categories outlined in Figure 4.2, the resultant data was analyzed from a different perspective using the process of triangulation. Two exercise specialists were interviewed after data analysis of physician transcripts had been completed (Appendix G), and a brief examination of their discussions helps to illuminate where and how they agreed or disagreed with the statements made by the participating physicians.

According to both physicians and exercise specialists, Living Well is a program that is in need of improvement, mainly due to issues with continued exercise maintenance for patients. The

self-described scope of practice and day-to-day abilities of exercise specialists were generally dissimilar to many of the physicians' descriptions. The exercise specialists explained that their role usually involves very light exercise prescription within the physical limits of the patient (also known as pacing), health myth busting, counselling and conducting community activities such as walking groups through the PCN. They do not diagnose, and do not do "hands-on" work for acute injuries, as a physiotherapist or athletic therapist would.

Current referral processes do not involve referral to an exercise specialist individually, but to the external clinic that houses an exercise specialist, in order for the patient to access complimentary health services when living with a more complex issue or illness. The exercise specialists noted that physicians and patients who are initially introduced to their profession are not sure exactly what an exercise specialist can do; inevitable, after some education and experiences, both physicians and patients seem to have an increased awareness of the role of an exercise specialist. All patient services to access these health care teams are covered through the PCN or through Alberta Health and Wellness, according to the exercise specialists. This is a distinct variance in the level of understanding according to the concerns expressed by physicians, in that their patients may not be able to afford the service from an exercise specialist.

Physicians alone did not experience the terminology disconnect concerning exercise specialists; the term was also an issue for exercise specialists themselves. Through payment systems within multiple job environments, they are usually referred to as "kinesiologists", and this is perhaps more reflective of their backgrounds and training than "exercise specialist". However, both acknowledged that the term "kinesiologist" is usually used for physiotherapy aides as well, which is a position that does not require their high level of education and expertise.

Without provocation, the exercise specialists discussed specific ideas relating to categories from the physician-based framework, such as communication, demand, integration, and higher-level involvement. Improving physicians' access to exercise specialists was cited as important for patient access to the health care services they provide. Face to face interaction within "lunch and learns" as well as the distribution of the newly piloted Prescription to Get Active program were cited as successful ways to interact with physicians and build the professional relationship.

Overall, the suggestions for increasing physician access to exercise specialists were similar from both groups, with a focus on physician-based education regarding all aspects of the referral process, as well as increasing the amount of direct interaction between exercise specialists and family physicians.

## **Chapter Five: CONCLUSIONS**

This project is the first of its kind to explore the processes and context of family physicians' considerations of exercise specialists. This chapter will highlight important findings, summarizing sections from Chapter Four and integrating them with discoveries from the literature to underscore any opportunities or barriers within the PCN regarding exercise specialists. The limitations and strengths of this project will be presented, alongside the study implications and future recommendations from the researcher.

### **5.1 Summary of Findings**

#### ***5.1.1 Patient Habits and Barriers in Pursuing Physical Activity***

The physicians in this study held membership with Foothills, South Calgary and Calgary Rural PCNs. These participants held similar views regarding the physical activity levels of their patients; across an entire practice, it is highly variable. For patients who were not engaged with physical activity as part of a healthy lifestyle, physicians cited that the majority of the reason was not disinterest, but barriers preventing their patients from engagement. These barriers were perceived by physicians to fall into four themes: access, attitudes, knowledge and time. Certain physicians noted that only access, attitudes and knowledge had the potential to be influenced by external factors such as the family physician. Patients' busy schedules and available time for exercise was acknowledged to be an internal barrier over which physicians have no control. Understanding that they cannot give their patients more time, many of the physicians reported that they try to counsel their patients so that they can more easily integrate exercise into their schedule (e.g., breaking it up into 10 minute segments throughout the day). These physicians

noted that, in accordance with the literature, their efforts to promote physical activity have gleaned minimal long-term results in their patients, especially in those most in need physical activity or exercise (Orrow et al, 2012).

Access was the most cited barrier discussed, and contained subthemes of cost, community design, weather challenges and transportation. These were repeatedly cited in the literature as patient barriers. The only concept not as widely discussed was the challenges with weather which can prevent access to exercise outdoors; living in a northern city such as Calgary likely proves more challenging for weather than warmer climates.

All of the Calgary physicians who were interviewed acknowledged how important physical activity is to health and wellness, in contrast to some previous reports where physicians did not consider the neglect of lifelong physical activity to be a risk factor in the development of chronic disease (Abramson et al., 2000; Eakin, Smith & Bauman, 2005). They cited their efforts in its promotion to their patients in accordance with more recent articles from the literature, which report the vast majority of primary care physicians make an effort to discuss physical activity with most of their patients (Abramson et al., 2000; Douglas et al., 2006; Harris et al., 2004; Persson et al., 2013; Puig Ribera, McKenna & Riddoch, 2005). Three physicians chose to comment on the barriers that they face in trying to promote physical activity and exercise. These include: no time to fully engage, few opportunities for follow-up, hesitant to provide advice without supervision, feeling overwhelmed, and feeling less comfortable with special populations. These are also in accordance with the literature outlined in Chapter Two; physicians commonly cited a lack of time and knowledge influencing feelings of hesitancy when discussing exercise, especially with complicated scenarios for patients such as pregnancy, illness and athletic

populations (Abramson et al., 2000; Howes et al., 2013; Puig Ribera et al., 2005; Walsh et al., 1999).

All of the physicians interviewed commented on the importance of physical activity in health and wellness. This is in line with the more recent literature, as there have been trends showing that physicians are more likely to be in agreement with this perception over time (Buffart et al., 2009). A positive attitude towards physical activity and exercise is the first step for physicians in engagement with physical activity promotion in their patients (Patel et al., 2012).

### ***5.1.2. Locating Exercise Specialists in the Current PCN Environment***

During the discussions with physicians, it was evident that exercise specialists are one piece of the puzzle in terms of promoting physical activity within the PCN. In order to properly assist patients in their efforts to get active, physicians outlined the aspects of physical activity counselling, prescription and referral, in addition to a support structure of programs and resources available to their patients. Physicians specifically mentioned supervised group exercise programs (Living Well and Trym Gym), and two allied health professionals (chronic disease nurse or behavioural health therapist), as well as the thought of reducing the medicalization surrounding physical activity to increase access for patients. Perspectives on alternative health professionals as a means to increase physical activity were also sought, and those discussions surrounded physiotherapists, personal trainers and athletic therapists. These building blocks towards promoting patient physical activity were cited to be insufficient in safely promoting physical activity for all patient populations, creating a potential gap in care. From the perspectives of



physicians, it is clear that exercise specialists do have a niche within the structure of primary care and PCNs.

### ***5.1.3 Physical Activity & Exercise Programming***

Although Living Well with a Chronic Condition and Trym Gym are not PCN-specific initiatives, many physicians chose to participate and refer their patients to these group-oriented classes. The availability and ease of referral contributed to physicians' decision to engage, but similar to the effects of their discussions surrounding physical activity, they also noted that patient improvements in lifestyle did not seem to last beyond the programming. Physicians discussed how both Living Well and Trym Gym could be improved to better support patients, primarily defining patient expectations of the programs early on, as well as initiating exercise maintenance following completion. A proposed solution from the physicians was to include longer-term programming and make both initiatives more easily continuous after the patients have completed the official classes. Overall, these group classes were cited as adequate for certain patients, but insufficient for patients who require more intensive one-on-one support.

### ***5.1.4 Alternative Health Professionals***

In past studies, nurses have been seen as an appropriate professional for carrying out such health promotion activities (Steptoe et al., 1999). In today's PCNs, chronic disease nurses and behavioural health consultants are generally part of the allied health care team, and both were cited as professionals who could assist with physical activity counselling. Physicians view these supportive team members as being equipped to assist with patient support and follow-up, instigating the motivational interviewing process, as well as acting as the "referring agent" as

opposed to the physician. Nevertheless, physicians noted that these professionals were not well equipped in terms of supervising exercise sessions or planning individual exercise prescription for patients.

Part of the interview process included questions about other health professionals who have been proposed previously to assist with increasing physical activity in primary care (Verhagen & Engbers, 2009); there was inquiry surrounding physiotherapists as well as personal trainers (Abramson et al., 2000). Unanimously, physicians did not view physiotherapists as an option to assist in increasing patient physical activity levels or improving lifestyle habits. The physiotherapist was viewed as being effective in dealing with acute injury, but not in actively promoting exercise and health. In a similar fashion, physicians noted that personal trainers were a good resource for healthy patients looking to get active, but their certification was not deemed relevant in working with patients belonging to unique or chronically ill populations.

#### ***5.1.5 Alternatives to the Medicalization of Physical Activity***

Various physicians mentioned the issues associated with “medicalizing” physical activity, which was a discussion point in one article within the background literature. Persson et al. (2013) found that physicians wanted to shift the focus away from primary care and towards the facilitation of healthy communities, citing that exercise prescription alone was too simple for such a complex lifestyle problem. For three physicians, treating physical inactivity as a medical condition was viewed as alienating for some of patients who do not regularly access primary care services. These physicians also noted that lifestyle change and influencing behaviour required more than just the influence of a physician, but instead a supportive community and

physical environment, echoing the thoughts of Matheson et al. (2011) in the literature. An increased community presence was one proposed solution to make PCN programming more user-friendly, meaning that the influence of physicians would not be as imperative for patients to achieve their health goals. Self-referral by patients was also cited as a more accessible way to become involved in programs, which is similar to past findings from surveyed physicians (Graham, Dugdill & Cable, 2005). For group classes such as Trym Gym programming, this is already an option for patients. Based on these discussions, it is possible that the accessibility of such initiatives should be better advertised to family physicians within the PCN.

#### ***5.1.6 Categories and Concepts Identified for Exercise Specialists***

Multiple exercise specialists are employed within the Calgary South PCN, yet there is only one exercise specialist working out of the Foothills PCN. Physicians who did not have access to exercise specialists specifically cited a need for these professionals, so that the exercise specialists could focus solely on exercise, physical activity and health with their patients. In previous studies, physicians cite a lack of knowledge regarding the exercise referral process, and therefore did not participate fully in these schemes (Graham, Dugdill & Cable, 2005). This is still an issue, as specific information on how to contact and access exercise services was cited as pertinent for physicians in the Foothills PCN; physicians suggested that the PCNs should provide this information, as well as citing any relevant accreditations held by the exercise specialist. The scope of practice and role of exercise specialists within the health care team must be also be clearly defined in dissemination to physicians, so as to ensure that referrals are made appropriately.

This referral pathway needs to be established between physicians and exercise specialists, so that physicians are aware of the options that could be accessed by the appropriate patients in need of physical activity and exercise services. The physicians in this study mentioned the requirement for easy-to-use tools, so that physicians could quickly discuss the available resources and options with patients. Historically this would be an information pamphlet, although it may be more appropriate to have this information available within PCN computerized information and websites, or even as an app-based tool. Improvements in accessing these members of the multidisciplinary team could affect an increase in referrals to the complimentary clinics (Howes et al., 2013), so it may also be necessary to outline any patient populations who would not be eligible for referral to an exercise specialist. This could help ensure that these patients are not referred unnecessarily, utilizing the services that could have been allocated to someone who truly needs the expertise of the health care team. Physicians also need to know how to identify which patients are at the top of the priority list, so that the patients who are most in need of the services provided by exercise specialists do not get overlooked.

Once physicians and exercise specialists are connected, communication is key. In previous studies, physicians have affirmed an explicit desire to be continuously involved or updated with their patients' progress, but many report never receiving this crucial feedback (Graham, Dugdill & Cable, 2005; Perrson et al., 2013; Puig Ribera, McKenna & Riddoch, 2005). Physicians emphasized that they need to remain a part of the conversation once they refer their patients to another professional, and so exercise specialists must ensure that the physicians receive regular reports on the patient's progress as they continue through any exercise or health education program.

Physical space and the working location of exercise specialists was a concern, as this was noted to directly affect initial access and continued communication; it is easier to keep up to date if the other professional works full-time or “parachutes in” to the same office location. In the literature, isolation from other physical activity agencies was cited as a barrier to communication (Puig Ribera, McKenna & Riddoch, 2005). For participating physicians with previous experience working with exercise specialists, it was noted that having these professionals directly embedded in the clinic was the best option for fostering interactions, leading to an improved teamwork approach and more ideal patient outcomes. Within the Calgary South PCN, all exercise specialists are currently located in one building that is centrally located within the geographic area of the PCN. This seems to be a supportive system for referrals in Calgary South and could be used as a template for other PCNs where exercise specialists are not as integrated, such as the Foothills PCN. It was also suggested that if exercise specialists are not able to be located within the physician clinic, it would be beneficial to spend some working hours there for increased engagement and two-way learning (e.g., more than a half day per week). In this way, there can be more education directed towards patients about health maintenance as well as improved inter-professional communication between exercise specialists and the physicians in the clinic.

Despite the success of the program in Calgary South, it was still noted by physicians that there could be more money contributed to health promotion services. Similar to the physicians interviewed previously in the literature, Calgary physicians reported a desire to see more funding invested into preventative health and physical activity promotion from varying levels of government as well as an increased effort from the top levels of the PCNs. If exercise priorities were fully incorporated at higher levels, this could ensure that these physical activity services

would be paid or covered for patients, and thereby more accessible through primary care. Some suggestions from physicians included increasing the number of working locations for allied health professionals in each PCN as well as the drafting of official referral forms for these services, allowing easier access for patients and physicians alike.

The PCNs were created for the purposes of disease prevention and management, coordination of integrative health care services and the promotion of patient wellness (Alberta Primary Care Networks, n.d.). The promotion of exercise and physical activity are vital to ensuring that these objectives are met. According to the family physicians interviewed, exercise specialists seem to fill a physical activity, exercise, and health promotion niche within primary care. Many physicians recognized that exercise specialists are multidisciplinary providers with the time and education necessary to reinforce their messages. If exercise specialists can educate patients and their families, impart their enthusiasm about physical activity and healthy lifestyles, and encourage patients to access exercise, physicians would be very receptive to the addition of this exercise professional within multidisciplinary teams.

## **5.2 Recommendations on Terminology**

It is clear that there is significant disconnect with physicians and the terminology associated with any health professionals involved in exercise and rehabilitation fields. If exercise specialists are to be incorporated into primary care, there is a clear need for education among health professionals regarding the jargon used to reference different occupations. Many physicians understood overall differences between physiotherapy and exercise specialists, personal trainers and athletic therapists. Unfortunately there is still initial puzzlement over the

term “exercise specialist” versus some of the more universally recognized terminology for the same profession (e.g., exercise physiologist or kinesiologist). This confusion speaks to the necessity for increased education among physicians regarding the scope and ability of differing fields within other realms of physical health, and for PCN-specific training to encourage the use of terms recognized under Alberta Health Services.

### **5.3 Limitations**

This project was limited primarily due to the time constraints of family physicians who have very little time outside of their practice. Two of these physicians were on leave from full-time practice or conducting locum work within PCNs, and therefore had more time to contribute. Overall, limited availability of time was a barrier that simply could not be amended or avoided with the sample we were trying to access. On multiple occasions we, the researchers, were told that recruiting family physicians would be extremely difficult, or near impossible. One of the physicians we did make contact with even made this astute statement during her interview: “[As a family physician...] you just don’t have a spare minute” [P8]. Due to such constraints on time, the interviews had to be limited to less than thirty minutes in duration. Meanwhile, in qualitative research it is known that to obtain rich, meaningful data the interview script should be constructed to last well over an hour with each participant (C. Din, personal communication, July 15, 2014). In the end, time was compromised to get a smaller amount of individual data from a slightly larger group of physicians. As the first pilot interviewee said, “Do you interview three people with a big, huge, long questionnaire or do you get more people that will maybe give you some solid information about a few areas?” As a testament to this, during certain interviews the interviewees initial available time for questioning was unavoidably cut even shorter because of

their immediate schedule. Some of the questions had to be either glossed over or not thoroughly explored in the interests of time, as decided by the researcher on a case-by-case basis.

Another limitation of many studies concerns the validity of the measurements from the instruments utilized (Xu & Storr, 2012). The researcher is the instrument when conducting semi-structured interviews; therefore characteristics unique to the researcher have the potential to influence the collection of empirical data. The interviewer in this case gained experience on how to effectively develop as not only a researcher, but as a research instrument, and attempted to minimize any personal biases present through pilot-testing the interview script, resulting in the development of open-ended questions and a neutral approach to the data analysis.

In the proposal for this project, we aimed to recruit participants from all Calgary and area PCNs (Appendix H). This did not occur for a number of reasons. The initial contacts for recruitment unearthed physicians only within the South Calgary and Foothills PCNs. Many avenues were utilized in an attempt to gain access to other PCNs, but we only had success with two out of six. With the purposive snowball sampling method, the subsequent group of keen physicians interviewed resulted in access into a third PCN, Calgary Rural. It was noted that many of the close contacts of physicians, or at least the ones they suggested for further interviewing, came from within their own practice. Without initial entry into the remaining PCNs, the word-of-mouth process we depended on for sampling did not allow for branching out into Mosaic, Calgary West Central, or Highland PCNs.

Academics trained in a quantitative nature might pose the issue of generalizability, because the sample size is small and data was collected from a specific population within a small



geographic area. It is our hope that these two qualities of the study will work to our advantage in a qualitative sense; being able to direct the study results towards the enhancement of this particular primary health care system may allow for more targeted solutions within Calgary PCNs. That being said, the PCI that includes all PCNs is province-wide. These results could potentially influence change in other Albertan cities like Edmonton and Red Deer since their mechanisms and structure of health care teams may be comparable. It should also be noted that other health care systems are attempting to integrate similar positions to exercise specialists into their teams (Copeman Healthcare Centre, 2015; Inliv, n.d.; Preventous Collaborative Health, 2015), and they too may benefit from some of the thoughts presented in this research.

#### **5.4 Strengths**

This study is unique in its effort to explore Calgary family physicians' considerations of exercise specialists in the PCN environment, as well as the processes and context behind these considerations. By utilizing the robust aspects of grounded theory such as the constant comparative method and triangulation, the core category and subcategories impart authenticity as being "grounded" in the data.

Conducting pilot interviews prior to data collection helped to fully inform the semi-structured interviews. The two physicians who were involved assisted with the wording and order of the questions, helped to negate any biases present in the interview guide, and assisted in the creation of more focused questioning that could illuminate the results achieved in this study.

This project outlines PCN-specific recommendations for the continued inclusion of exercise specialists in health care teams. The discussions with two exercise specialists currently

working in PCNs helped to clarify some of the ideas put forth by participating physicians, acting as a source of triangulation (Guion, Diehl, & McDonald, 2011) to strengthen the arguments made within the Chapters Four and Five.

## **5.5 Knowledge Translation**

Based on the results presented in this project, exercise specialists are likely an underutilized resource in the PCNs, due to the obscure nature of exercise specialists in the eyes of family physicians. The results of this study will be presented primarily to Calgary PCNs, as well as published in high visibility journals, in the hope that it helps to inform future policy in PCNs regarding the continued integration exercise specialists in primary care. Specific objectives were suggested by physicians within their interviews regarding the access of exercise professionals within multidisciplinary teams. They requested items such as a communiqué from the PCNs or the PCN liaisons outlining the function of these exercise specialists as well the patient groups who are eligible to be referred. A take-away document for patients outlining the exercise specialists' role would be even more advantageous in ensuring the patients are receiving the correct information outlining the purpose of the professionals in the health care team. It is easier to refer into a program when it isn't anonymous, therefore any in-services whereby exercise specialists introduce themselves as a professional and inform the physicians of proper referral procedures would be ideal. This simple action could give physicians an idea of the value that exercise specialists bring to the care team, and ensure that referral is in the forefront of the physician's minds. The creation of a professional relationship and ensuring the presence of good dialogue between both parties will increase physicians' likelihood of referral.

## **5.6 Public Health Implications**

Within the current structure of Calgary PCNs, physicians refer appropriate patients in need of assistance to a team of allied health professionals, who follow-up with a brief assessment of the patient's management needs and an individualized care plan. Physicians may or may not be aware of the presence of an exercise specialist within these teams. If the results of this research were disseminated to influence knowledge and behaviour change in the physician's referral process, their patients may also be better informed about what to expect from different health care professionals, including any assessments and education from an exercise specialist.

## **5.7 Recommendations for Future Research**

Future investigations of physician perspectives should employ quantitative methods to test and assess the grounded theory proposed in this study. The results offered here could be used to inform a larger provincial or national cross-sectional survey, so that the resultant data can be tested for statistical significance. Any questionnaire that is developed should be pilot tested with Canadian physicians in order to glean information specific to our health care systems.

Ideally, the theory laid out in this thesis will be implemented in program planning research for PCNs, supporting the continued incorporation of exercise specialists in a way that is helpful and engaging for the family physicians who will be working collaboratively alongside health management teams.

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## APPENDIX A: INVITATION TO PARTICIPATE



### **An Invitation to Participate: Exploring Physicians' Perspectives of Exercise Specialists in PCNs**

#### **One-on-One Interviews Regarding Your Perspective**

##### **Who Are We Looking For?**

We are recruiting physicians *currently practicing within a Primary Care Network in Calgary and the surrounding rural areas to provide input into a position paper*. Your opinion is important in clinical decision-making, particularly when it involves improving the physical activity levels of patients living with chronic disease.

##### **What Is The Study About?**

We want to know your thoughts, perspectives and attitudes towards working with exercise specialists as one avenue of care for patients with chronic disease in your practice. Whether you have had positive or negative experiences, or have had little to no experience with exercise specialists, we would like to speak to you! Our broad research objective is to determine the knowledge, attitudes and practices of family physicians regarding physical activity referral and exercise specialists in chronic disease care. Exercise specialists can also be referred to as kinesiologists, exercise physiologists or exercise professionals, depending on the setting.

##### **Where Will The Interviews Take Place? How Much Time Is Needed?**

The interview will take about *30 minutes* of your time. The interviewer is very flexible and can meet you at your practice to conduct the interview before you start your day or during any scheduled administrative time. Alternatively, a telephone interview can easily be set up, or you can complete an online survey if that is preferable to you.

##### **If You Choose to Participate...**

The results of this project will facilitate future support for PCN physicians in the improvement of their patient's health through physical activity. The overarching goal of this project is to enable more positive outcomes for both physicians and their patients.

**Please contact Lisa Campkin for more information or to set up an  
interview**

## APPENDIX B: PHYSICIAN SEMI-STRUCTURED INTERVIEW GUIDE

*Thank you again for meeting. I would like to talk about your perspectives of exercise specialists working with your patients. I want to hear about your experiences.*

*The interview should take approximately 30 minutes.*

*With your consent, I will record this session because I prefer to be attentive and I do not want to miss any of your comments. Please be sure to speak up so that I can review your comments afterwards. I may take a few notes throughout the interview for the purpose of clarification when I later review the recording.*

*All of your responses will be kept confidential. This means that I will strip all identifying features from the transcripts and even my research team will not know who said what. Any information included in our report will not identify you as the respondent. You do not have to discuss anything you do not want to and you may end the interview at any time.*

*Do you have any questions for me before we begin?*

1. I'm curious about the physical activity levels of your patients. Could you describe any experiences in regards to patient physical activity? *(Is there a highlight that stands out for you?)*
2. What kind of barriers or issues do you face in trying to get patients more active? *(Do you experience any other issues when the patient has a diagnosed chronic disease?)*
3. What do you think of exercise specialists? *(Can you tell me about it?)*
4. Do you currently utilize an exercise professional of any kind in your clinic, in any capacity? *(Please elaborate on why you have chosen one way or the other in your practice)*
5. Can you describe your experiences with an exercise specialist in your practice? *(Was it an overall positive or negative experience?)*
6. What do you think about the incorporation of exercise specialists into your practice at this point in time? *(Could you elaborate on why you feel this way?)*
7. Do you have any concerns around exercise specialists working with your chronic disease patients? *(If you have no concerns, can you please elaborate on why you feel this way?)*
8. What are your thoughts regarding physiotherapists or other professionals as a route to increased physical activity among your patients? *(What about personal trainers? Do you find formally or informally referring your patients to these professionals useful and effective?)*

9. Please describe your clinic's current services for persons living with chronic disease (*If you do not currently hold any clinic-specific services, please explain why you choose not to incorporate these services.*)
10. Tell me about 3-4 clinical conditions you see in your practice where exercise could help your patients (*What are your needs in these cases?*)
11. What are 3 concrete things you would like to see fixed?
12. What are the barriers to incorporating exercise specialists within the PCN?
13. What enables you to include exercise specialists in your practice? (*Are there any advantages you have seen in doing so?*)
14. What advice would you give to a physician who is not using an exercise specialist in the care of patients?
15. Tell me about your ideas on what would be best practice to improve your chronic disease patient's physical activity levels. (*Could you give me an example?*)
16. As a practicing family physician in Alberta, what do you feel would help you to facilitate increased physical activity in your patients? (*Blue sky scenario*)

*Do you have anything you would like to add? Do you have any questions for me?*

*I'll be analyzing the information you and others gave me, and submitting a draft to my supervisor in a few months. I would be happy to send you a copy of a summary of the findings to review at that time, if you are interested.*

*Could I contact you again with your completed transcript for verification purposes?*

*Thank you again for your time.*

## **APPENDIX C: DEMOGRAPHIC INFORMATION QUESTIONNAIRE**

What is your current age?

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What is your gender?

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Total number of years you have been working in a Primary Care Network?

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What was your chosen undergraduate degree/major?

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From which university did you receive this undergraduate degree?

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From which university did you graduate from medical school?

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What year did you graduate from medical school?

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## **APPENDIX D: EXERCISE SPECIALIST SEMI-STRUCTURED INTERVIEW GUIDE**

1. For how long have you been an exercise specialist? How long have you worked in the PCN? What is your educational background and training?
2. What is your role in the PCN? How does your role “fit” within the context of the health care teams in the PCN? Do you feel well equipped to influence change in physical activity in the community?
3. How would you describe your scope of practice? Which patients are you eligible to work with?
4. Are you trained in things other than physical activity/physiology (e.g. motivational interviewing or behaviour change, etc.)?
5. Do you experience any issues with clients/patients expecting weight loss as opposed to health benefits from physical activity?
6. Are you aware of the term “exercise specialist” for a CEP as defined under Alberta Health Services? Do you feel this adequately reflects your knowledge and abilities in your work? Is this a better term than CSEP-CEP? What terminology would you prefer?
7. There has been some confusion in the medical community regarding kinesiology-related fields. What makes you different from a physiotherapist or personal trainer or athletic therapist? How do you distinguish yourself professionally?
8. What is the referral process from family physicians that allows you to work one-on-one with their patients? Is there a cost or financial burden involved for the patient to access these services?
9. How would you rate or describe your communication with family physicians? Do you currently do any in-service or learning work with physicians in the PCN? Would you be willing to?
10. Do you think physicians in your PCN are aware of what an exercise specialist can do for their patients, and their scope of practice? If you perceive awareness to be low: what could be done to raise levels of awareness, in your opinion?
11. How does Living Well with a Chronic Condition work, in your opinion? Do you have any other experience with other options for physical activity programming?
12. Do you have any questions for me or any other comments? Thank you.

## APPENDIX E: EXERCISE SPECIALIST INFORMED CONSENT FORM



TITLE OF STUDY: Exploring Physicians' Perspectives of Exercise Specialists in Primary Care Networks

INVESTIGATORS: Principal Investigator Dr. P.K. Doyle-Baker, Dr. PH  
Co-Investigator Lisa Campkin, B.Sc.

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

We would like to ask your permission for a study that is being carried out by the Faculty of Kinesiology at the University of Calgary.

### BACKGROUND

Successful chronic disease management calls for multi-disciplinary action to counter any number of co-morbidities that patients may be experiencing. One aspect of disease management is physical activity as a treatment or an aide in decreasing symptomology. Patients often have multiple barriers to physical activity that need to be assessed before beginning any program, as well as issues in maintaining an active lifestyle. If a patient has a physician who belongs to a primary care network (PCN), they may have the opportunity to be seen by an exercise specialist as part of their disease management.

### WHAT IS THE PURPOSE OF THE STUDY?

The main objective of this survey is to understand the current perspectives and any lived experiences held by family physicians working in Calgary PCNs, regarding exercise specialists.

The secondary objective is to gain some perspective from exercise specialists currently working in Calgary PCNs, leading to an increased understanding of their role in the PCN and their function within a multi-disciplinary health care team.

*WHAT WOULD I HAVE TO DO?*

Your voluntary participation in this study will involve the completion of an interview lasting approximately 30-60 minutes, and to have the interview audio-recorded.

#### *WHAT ARE THE RISKS?*

The interview poses no obvious physical or psychological risk to any study participants. You are free to refuse to answer any question at any time without jeopardizing participation in the study.

#### WILL I BENEFIT IF I TAKE PART?

If you agree to participate in this study there may be no direct benefit to you. The information we gather from this study may help in directing future research that results in increased support for family physicians in the improvement of patient physical activity levels.

#### *DO I HAVE TO PARTICIPATE?*

Participation is voluntary. You have the right to decline participation or to withdraw your personal information and responses from the study at any time. If new information becomes available that may affect your willingness to participate in the study, you will be informed as soon as possible.

#### WHAT ELSE DOES MY PARTICIPATION INVOLVE?

There are no other components involved with your participation in the study. If you express an interest, you may be contacted with the results of the study.

#### WILL I BE PAID FOR PARTICIPATING, OR DO I HAVE TO PAY FOR ANYTHING?

You will not be paid for participating in this research. Any costs related to your participation in the study would not be reimbursed.

#### WILL MY RECORDS BE KEPT PRIVATE?

For confidentiality purposes, all participants will be assigned a study ID and will be identified only through that ID in data analysis. Only the investigators will have access to participant responses and personal information. These records will be kept in a locked cabinet at the University of Calgary for a period of seven years, after which they will be destroyed.

#### *SIGNATURES*

Your signature on this form indicates that you have understood to your satisfaction the information regarding your participation in the research project and agree to participate as a participant. In no way does this waive your legal rights nor release the investigators or involved institutions from their legal and professional responsibilities. You are free to withdraw from the

study at any time. If you have further questions concerning matters related to this research, please contact:

Lisa Campkin

Or

Dr. Patricia Doyle-Baker

If you have any questions concerning your rights as a possible participant in this research, please contact the Chair of the Conjoint Health Research Ethics Board, at the University of Calgary.

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Participant's Name

---

Signature and Date

---

Investigator/Delegate's Name

---

Signature and Date

---

Witness' Name

---

Signature and Date

The University of Calgary Conjoint Health Research Ethics Board has approved this research study.

A signed copy of this consent form has been given to you to keep for your records and reference.

## APPENDIX F: PHYSICIAN INFORMED CONSENT FORM



TITLE OF STUDY: Exploring Physicians' Perspectives of Exercise Specialists in Primary Care Networks

INVESTIGATORS: Principal Investigator Dr. P.K. Doyle-Baker, Dr. PH  
Co-Investigator Lisa Campkin, B.Sc.

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

We would like to ask your permission for a study that is being carried out by the Faculty of Kinesiology at the University of Calgary.

### BACKGROUND

Successful chronic disease management calls for multi-disciplinary action to counter any number of co-morbidities that patients may be experiencing. One aspect of disease management is physical activity as a treatment or an aide in decreasing symptomology. Patients often have multiple barriers to physical activity that need to be assessed before beginning any program, as well as issues in maintaining an active lifestyle. If a patient has a physicians who belongs to a primary care network (PCN) may have an opportunity to been seen by an exercise specialist as part of their disease management.

### WHAT IS THE PURPOSE OF THE STUDY?

The main objective of this survey is to understand the current perspectives and any lived experiences held by family physicians working in Calgary PCNs, regarding exercise specialists.

### *WHAT WOULD I HAVE TO DO?*

Your voluntary participation in this study will involve the completion of an interview lasting approximately 30 minutes, and to have the interview audio-recorded.

### *WHAT ARE THE RISKS?*

The interview poses no obvious physical or psychological risk to any study participants. You are free to refuse to answer any question at any time without jeopardizing participation in the study.

#### WILL I BENEFIT IF I TAKE PART?

If you agree to participate in this study there may be no direct benefit to you. The information we gather from this study may help in directing future research that results in increased support for family physicians in the improvement of patient physical activity levels.

#### *DO I HAVE TO PARTICIPATE?*

Participation is voluntary. You have the right to decline participation or to withdraw your personal information and responses from the study at any time. If new information becomes available that may affect your willingness to participate in the study, you will be informed as soon as possible.

#### WHAT ELSE DOES MY PARTICIPATION INVOLVE?

There are no other components involved with your participation in the study. If you express an interest, you may be contacted with the results of the study.

#### WILL I BE PAID FOR PARTICIPATING, OR DO I HAVE TO PAY FOR ANYTHING?

You will not be paid for participating in this research. Any costs related to your participation in the study would not be reimbursed.

#### WILL MY RECORDS BE KEPT PRIVATE?

For confidentiality purposes, all participants will be assigned a study ID and will be identified only through that ID in data analysis. Only the investigators will have access to participant responses and personal information. These records will be kept in a locked cabinet at the University of Calgary for a period of seven years, after which they will be destroyed.

#### *SIGNATURES*

Your signature on this form indicates that you have understood to your satisfaction the information regarding your participation in the research project and agree to participate as a participant. In no way does this waive your legal rights nor release the investigators or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time. If you have further questions concerning matters related to this research, please contact:

Lisa Campkin

Or

Dr. Patricia Doyle-Baker

If you have any questions concerning your rights as a possible participant in this research, please contact the Chair of the Conjoint Health Research Ethics Board, at the University of Calgary.

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Participant's Name

---

Signature and Date

---

Investigator/Delegate's Name

---

Signature and Date

---

Witness' Name

---

Signature and Date

The University of Calgary Conjoint Health Research Ethics Board has approved this research study.

A signed copy of this consent form has been given to you to keep for your records and reference.

## **APPENDIX G: DISCUSSION WITH EXERCISE SPECIALISTS**

### ***Background & Education***

CEP 1: I did my undergrad in kinesiology from U of C and I just did the general kin degree. Then I did my Master's from University of Calgary, specializing in clinical rehab. I worked with people who have MS (multiple sclerosis) on a balance intervention. After that, I did my ACSM and CSEP certifications.

CEP 2: I got my CEP in 2011...I did a bachelors of kinesiology at University of Calgary and then I completed my masters in, one year ago, so in 2014.

### ***Role within the PCN***

CEP 1: Within the extended team, the idea is to manage whatever they've got going on and in a multidisciplinary approach. A really typical pain patient will come in, let's say they don't have a specific diagnosis, they've had ongoing pain for however long. We try and kind of get into what chronic pain is, so lasting longer than 3 months, a balance in the nervous system, probably sympathetic overdrive, influence of hormones, that kind of thing. They learn a little bit at our first class, then they get booked for a meet and greet where we delve a little bit deeper when investigations have been done. What's their pain experience? When did it start? What's it limiting them in? What are their social factors or activities to do with exercise that might be contributing? Then from there we make a plan so that they would see different people but there's no defined path for them. For some people, they need to see a physician because they need a diagnosis. First, they'll see the physician. Then, maybe they'll see mental health because they're sort of dealing with a new me, a new life, maybe they're off work, whatever it might be. Once they're accepting of their diagnosis, they're ready to make change, they've started instituting some relaxation



practice into their normal routine, they're maybe doing some journaling, they've done some self settling stuff, then they're more ready to do some light exercise.

CEP 2: I am a kinesiologist. I am responsible for one-on-one patient care discussing active living and I also run some community programming like a walking group and exercise initiator classes... Basically getting people to initiate activity in their home life. It is just a class that we try to everyone in our clinic to run through just because our capacity is continuing to expand and our referrals are continuing to expand, so it is a way to kind of get eight to ten people seen in two hours... It basically talks about how to look at physically active in your daily life, but also exercise and what the differences are and what to fit to their life. Hopefully dispel any myths. That's the biggest thing.

### ***Influence on patient's physical activity habits***

CEP 1: I also work with people a lot on pacing, especially for chronic pain. It might not necessarily be developing them an exercise program, but it would be what can you do within the limits of what you have? We're working with their tolerance and sort of tapering that. I don't necessarily need to see them all that much because I can send them home with homework on what does pacing look like? What are your tolerances? When we look at your tolerances, 20 minutes for standing, we always say 50% of that. We start at 10 minutes and we increase it maybe 10% a week. If I see them in 2 months, maybe they'll be able to stand for 15 minutes without a noticeable increase in pain, and that would be a success.

CEP 2: There are times when you are really counselling behaviour change, as opposed to giving program prescriptions. There is certainly is some overlap. However that being said, a lot of people that come into my room don't know where to start with activity. They have no

idea. Don't know what a kinesiologist is, don't know what we do and really don't know how we fit. I would say most [patients] by the end know what to do and how to get there. I find everyone walks into my room knows that they should exercise. When we get down to brass tacks, they don't know where to start, they don't know what to do or how to initiate it. And/or they think a boot camp for five hours is a good activity. It is a lot of education and once we get into it they realize, I think, and I have been told as well, that we do play a good role.

### ***Self-reported scope of practice***

CEP 1: I can work with people that have complex medical issues or chronic disease. There are some specific “no-no’s” with each certification, and that's why I tell people I don't do diagnosis and I don't do hands on therapy. That's not within my scope. I can do assessments in a limited manner. I can do exercise prescription and planning. But it's kind of tough to say. I suppose if I had somebody that I was wondering if it fit within what I wanted to do, I would probably reflect back to the CEP website and make sure I was within my insurance. But I can work with unhealthy populations... At this point in time, I'm really mainly seeing pain, MSK, and some navigation clients.

CEP 2: I guess I see individuals who have had doctor clearance. On our referral form we do have “free to exercise, yes or no” and details. Everyone who enters the [health management] clinic must have a signed referral form from the doctor. I still do make sure we have that clearance and talk to the doctor before I speak to the person. The only thing is if I see somebody who maybe has an acute injury or something like that I refer on right away.

### ***Working with different clinical conditions***

CEP 1: I've worked with a pretty good range of populations. I did MS, kidney disease, Living Well, which is any chronic condition, breast cancer... Here I'm doing chronic pain. I did cardiac for 3 years. I am pretty comfortable with most [patients conditions] ... I'd say respiratory, I don't have as much experience with, that's for sure. We would see people with COPD (chronic obstructive pulmonary disease) coming through Living Well and then I'll see them now and then, especially related to cardiac disease. But that wouldn't be my specialty, that's for sure.

CEP 2: I work with individuals who primarily have type 2 diabetes, obesity, hypertension, dyslipidemia.

***Experiences with patient expectations surrounding weight loss***

CEP 1: It's really challenging. I've seen a couple presentations from, I think it was a Calgary weight loss clinic. I'm not sure if that's their official title...and they're really fantastic. One of the things I reference quite often that they say is, "Weight loss happens in the kitchen; health gain happens in the gym." I talk to people a lot about that and we do try and reflect back on their goals. Someone coming in with chronic pain, lots of time the goal is "get rid of my pain". And we have to address ... That's not realistic because chronic pain means "ongoing". And if someone comes in and their goal is weight loss, I say, "We're working on pacing. We're working on other things that can help you manage what you've got going on", you're weight or whatever. If you're interested in weight loss, we try really hard not to duplicate service. Whenever possible we do refer out, because those are the specialists in their area and we don't have the capacity to hold all those people forever.

CEP 2: To be honest, a lot of it stems from the doctors. The doctors will, and I'm going to generalize, but most doctors that we've come across say, or I have at least heard second

hand from a patient is, "You need to lose 50 pounds. Here's a referral to the health management clinic." Or, "I want to see you lose 20 pounds by the next time I see you." It's very weight-based. The patient comes in and says, "I need to lose weight." As opposed to, "Well, why else should we be doing this? What else are we looking at?" What does your blood work look like? What is your mental health look like? A lot of times we are taking a step back and saying, "Okay, what really needs to be addressed here." We do a lot of health coaching in the way of it's not all about weight loss. The scale doesn't dictate your mood. It doesn't dictate how you should feel. That, to be honest, does start at the doctor's office in most cases... Obesity is an issue and a health concern, but focusing on weight loss means rapid, and nobody keeps rapid weight off, unfortunately.

### ***Experiences with Living Well programming***

CEP 1: For the patients, I think that there's a lot of things that could and should be tweaked about the program... I think the messaging is very confusing and I can see why there's a lot of dissatisfaction, because I think when people refer to it they might not have a full understanding of what the service is. If someone doesn't like group work or if they can't work well in a group, it's a very poor choice. Because there is certain aspects of it that are very groupy... I don't know about their transition to community either. Because in my experience, they would do the final assessment and be like, "Do you want to be part of the maintenance? Yes or no?" If they said yes, like, "Perfect. It's here, it costs this much." If they're like, "No, I don't want to do maintenance." "Well, best of luck with what you've learned. You can't be re-referred unless you get sick." Which is too bad. I think their volume of patients is too high for the people there and I don't think they have enough set up in terms of educating them on how to manage later.

CEP 2: [The] program is good. I do refer to it... it needs some work here and there. I think the overall premise is good. It is limited to those with a chronic condition, like chronic pain. For example, the other day I referred someone there simply because they required supervised exercise. I felt that they required supervised exercise and an assessment and that's just really not in the scope of our practice at the PCN. We don't provide supervised sessions. I would refer to Alberta Healthy Living mostly because it's cost effective. I know the kinesiologist there. I know that they do an assessment and supervise the exercise. Drawbacks: It's only 8 weeks. Some of them do have other programming after it. Maintenance programming. Some of them don't.

### ***Differentiating between exercise specialist and other health professions***

CEP 1: I think it's a lack of exposure maybe. People don't necessarily know what the profession entails because, like you said, it doesn't have a governing body; it's not a billable service at this point. Lots of times, kinesiology is billed under a physiotherapy aid. When I have patients, I specifically tell them at the beginning, exactly what you said, "What do you know about a kinesiologist? Have you seen one before? Do you know how it's different from physio?" I don't do diagnosis, I don't do hands on therapy; it's different in that way. If that's not the service that you were looking for, then we need to refer on... I often work with people to tailor their exercise program that they already have to maybe diagnosis they might've received, or any limitations that they have, or to build a program that's appropriate and safe for them. Talk to them about progression of exercise in an appropriate manner. I work with people on pacing, daily planning, weekly planning, and general knowledge of how exercise can impact what you have for them.

CEP 2: I am less familiar with athletic therapy, but having worked in physio: Physiotherapists are responsible for acute injury and sometimes chronic injury of course, but for the most part that [acute injury] is their role. They do have a bit of gray. Ideally the physiotherapist would see ... we can share patient load, really. We can see someone who is on their way to rehab and feeling a little bit better at which point a kinesiologist can take over. And do exercise prescription. I believe that we do have different roles. My role is a little bit different still because I am more of, I would say the community and publicly health side. Because I am more the promotion of exercise and looking at active living as opposed to personal training prescriptions. I think that is certainly room for both of us in the industry but I think we do have very different descriptions. We manage maybe the same person, but at different time points.

***Thoughts on the term exercise specialist”***

CEP 1: Here, when I work for the PCN, they call me a kinesiologist. At all my other jobs it's always been different. When I worked for Alberta Health Services with Living Well I was coded as a kinesiologist. When I worked with Alberta Health in population health research, I was a research assistant. I was working with a program called ProVital in Marda Loop, it's private healthcare... They were calling it a registered kinesiologist, which I quickly told them they couldn't call me that. They can either call me an exercise specialist or a kinesiologist. I was like, "No, there's no governing body, so that's going to need to change". I don't think [exercise specialist] is especially inclusive. I usually tell people, jokingly, that I prefer to call myself a kinesiologist because I paid for the degree. Exercise specialist is fine and it's splitting hairs, in my opinion, what people choose to call me.

CEP 2: Through the PCN we've actually kind of coded everyone in Calgary as a kinesiologist, with the understanding that is the education that we have acquired and specialization that we required. Is exercise specialist reflective? Good question. Our Mosaic team was exercise specialist then they switched to kinesiologist. But I know there is a push from some of the PCNs like in the Bow Valley that want to stick with the exercise specialist. I think kinesiologist sometimes doesn't also really truly represent our role since we also has been used as a kinesiologist in a physio clinic, which is really a physiotherapy aide. I think it does need to be known what we do and what our idea is, but maybe it is an exercise physiologist. I don't know... I think it needs work all around.

### ***Current referral system***

CEP 1: Some of the other "health homes", as they call them, don't have the services right embedded in the clinic but they can still refer to that service and have access to it. We're the extended team, so we get referrals from the family physician that are typically more complex than the health home can manage. And/or it would be patients who would typically be referred to an Alberta Health Services program where the wait list is really, really long... You can't just refer to me [the exercise specialist]. They could be referred to the extended team for MSK concerns with a special request to see kinesiology kind of thing, but it would have to be a warranted request because our volume is so high. It can't be like, "Lisa wants an exercise program. Refer to extended team MSK for kinesiology." Sorry, not going to happen. Then we would refer to Alberta Healthy Living Program, we refer to Trym Gym... So that's what would go back to the family doctor. We get really inundated with referrals because it's such a big PCN. Then they have to figure out if the referral's appropriate, where it should go and who should be case manager.

CEP 2: They get a referral to the health management clinic and then we are a multidisciplinary team that takes over.

***Current learning or in-service work with physicians***

CEP 1: I haven't specifically, but we do have lunch and learns. The physicians are able to contact the head of the PCN. Or they have liaisons that are associated with their clinic. The liaison is exactly as the name would suggest, sort of like a go-between for the physician and the services that we offer. If they have specific questions then they could set up a lunch and learn and it would be a specialist that would come talk to them. At every lunch and learn they try and send someone from the extended team. It's usually management.

CEP 2: We do have, I think they're called a dispatch team ... I can't remember what they're called, but we do have a learning team that does go and inform all the doctors in our PCN of what's going on in our PCN. Do they talk about specifically a kinesiologist? I'm sure it's involved, but it's mostly just the programming that they promote. It's starting to get a little bit better. I actually just went around to all of our doctors in the PCN doing the Prescription to Get Active. We handed out all of those for our PCN in the span of three days, which was amazing. We got a chance to talk to a lot of doctors and introduce ourselves as kinesiologists so that they have a face to a name, because I think that part of that is just not knowing or not knowing we exist or knowing what a kinesiologist looks like, to be honest. Handing out the Prescription to Get Active, we had the opportunity to speak with several doctors and really inform them like, "We're here. You can refer to us. Please know where we are. You have access to us." I think that that's made a change because we have seen kind of some more referrals and more referrals to just to a



kinesiologist, which has been cool. They're piloting actually in Mosaic PCN where the doctors will refer them directly to a kinesiologist with their prescription.

### ***Coverage for patients***

CEP 1: None of it's paid [by the patient]. I believe the physicians sort of subscribe to being part of the PCN and believe that there's a fee associated with that. And then, the services would be inclusive. The extended team is no different. So, there's no fee for service within the extended team and there's no limit on who they would see or how many times, just like there's no direction that every patient takes.

CEP 2: We're funded by Alberta Health and Wellness. With our referrals is where, I believe, we get our income I guess. Our revenue. We're referral based because that is how Alberta Health and Wellness sees that we are being productive. One year, unlimited, with the stipulation that we are very busy. We typically say every three to four weeks. We encourage them to come in and visit with one of us, at least. But typically with each discipline you're looking at about six weeks on average.

### ***Physician awareness of exercise specialists***

CEP 1: Probably not [aware], because they're not in the "medical home". So, probably not.

CEP 2: The physicians within our clinic are very well informed. They know us. We are on their tail for a lot of reasons. Outside of the PCN, no. I don't think we're well known. They know about the health management clinic... We've gotten to the point where we've gotten referrals, like they're referring to a kinesiologist which is great, but they're referring somebody to the kinesiologist because they had a broken arm and need rehab. There is a disconnect. I think there is certainly room to provide further education and it has to come, I think, not only from the bottom up but also from the top down, too. I think we need to

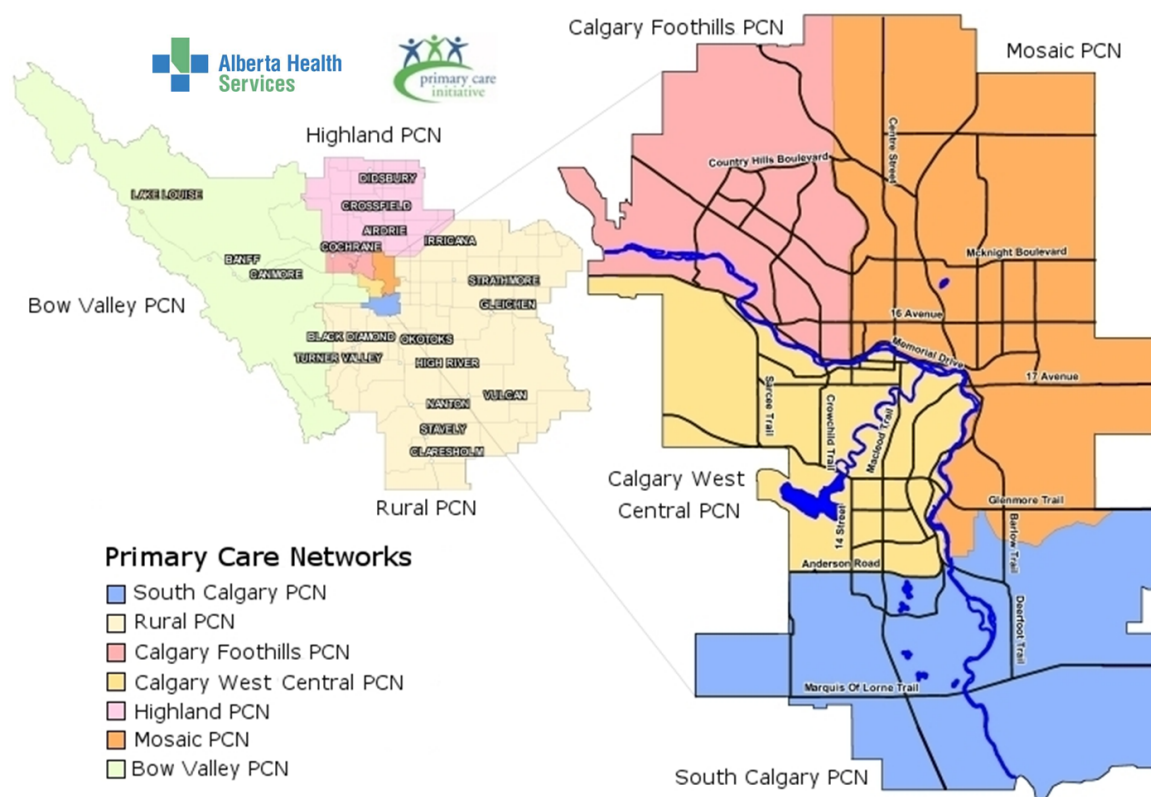
better inform the doctors, but there also has to be like demand too for it. With the new family care clinics that are opening in Alberta, there's no kinesiologist. Which is startling because there are pharmacists but not kinesiologists.

***Informing physicians about exercise specialists***

CEP 1: They might become more aware as they refer people to the extended team. If they see me ... Like I said, we send letters back every single time. If I see someone, they would see my full assessment and my plan moving forward and what the follow-up might be.

CEP 2: We are starting locally. Like we went to a symposium and mostly with the prescription to get active, having kinesiologists there. That's for family doctors. Did it get the word out? I don't know. We also do have business meetings where we get as many family doctors out as we can. We've started to get the kinesiologists there, too. Mostly to promote the Prescription to Get Active, but it's still I think awareness of "Oh, this is a kinesiologist. Oh, okay. All right. That makes sense." ... It is certainly time we start to educate doctors a bit more about this and get our name out a little bit. We do play a very big role in health and we know that physical activity is a huge impact on health. Independently. We need to start to make it a priority and it's starts ... I mean a lot of people listen exactly to what their family doctor says and with that status we need the focus to be on health prevention.

## APPENDIX H: MAP OF CALGARY AND AREA PCNS



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