DIETITIANS AS MEMBERS OF PRIMARY HEALTH CARE TEAMS IN SASKATCHEWAN

A Thesis Submitted to the College of

Graduate Studies and Research

in Partial Fulfillment of the Requirements

for the Degree of Master of Science

in the Nutrition Graduate Program

University of Saskatchewan

Saskatoon, Saskatchewan

Canada

By

Leandy Riley

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ABSTRACT

Nutrition is a major lifestyle factor in health promotion, prevention and treatment of several population health issues. For this reason, dietitians are integral to primary health care. Several commentators have noted the need to explicitly define roles and responsibility of health care providers as one strategy to improve collaborative health care practice. The purpose of this study was to explore dietitians' perceptions of their roles as members of primary health care (PHC) teams in Saskatchewan. Multiple techniques were used to recruit dietitians who were members of the Saskatchewan Dietitians Association (SDA) and members of PHC team(s). These include advertisements in the SDA's newsletter, solicitations from directors of PHC and snowballing. Fifteen dietitians, differing in geographical location, years of experience, level of expertise and types of PHC settings participated in in-depth interviews via telephone or face-to-face. Qualitative analysis of the interview revealed that the participants belonged to two types of teams: program teams as the name suggests, offered specialized programs to specific target populations and generalized teams sought to address the needs of the general community. All participants mentioned that they were core members of their team(s). However, a few of these participants also described themselves as peripheral members of program teams. The themes which emerged from the participants' perception of their roles were labelled nutrition support and beyond support- describing the range of activities that the participants engaged in as members of their teams. The depth and breadth of the participants' roles were related to their years of experience, level of expertise, location of practice –rural and urban, or type of teams. To effectively function as team members', participants indicated that they need opportunities for networking and continuing education. Most participants shared the view that dietitians are valuable to PHC teams but they were underrepresented. Marketing the roles of dietitians was

suggested as a means to enhance their roles on PHC teams by most participants. The study suggests that dietitians are responding to the complex health care environment by expanding their roles to meet the community's needs. Hence, they play a key role in the new paradigm of health care.

ACKNOWLEDGEMENTS

It would be as impossible as counting stars, if I were to acknowledge all those who contributed to the preparation of this thesis. Yet, among them are some whose contribution deserves special acknowledgment.

Foremost, I express my sincere gratitude to my research supervisor, Dr. Carol Henry for her mentorship towards the successful completion of this thesis. Dr. Henry's gentle tugs and pushes lead me to my next plateau each time the challenges of thesis writing seemed overwhelming. It was a blessing to have a supervisor whose generosity, inspiration and multifaceted support helped me grow professionally.

In addition, I extend my sincere thanks to my supervisory committee members Dr. Shawna Berenbaum, Dr. Roy Dobson and Dr. Susan Whiting for their guidance and insightful comments which were essential in steering the direction of this thesis. Dr. Berenbaum's assistance in providing data and references was crucial. Thanks also to Dr. Zello who provided helpful suggestions as the chair of the supervisory committee and Dr. Linda Ferguson, the external examiner of the thesis.

Special thanks to following persons and organizations/associations: the Organization of American States and Isabelle Irwin Awards, College of Pharmacy and Nutrition, University of Saskatchewan for funding my studies, Dr. Judy White who was the external auditor of the thesis, Mrs. Barbara Raney for the meticulously editing the manuscript, members of Saskatchewan Dietitians Association for participating in the study and Staff of the College of Pharmacy and Nutrition for their technical assistance.

My parents, sisters, nieces and nephew were my source of strength and no words can describe how grateful I am for their love, patience and inspiration during the course of my studies.

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CHAPTER 1: INTRODUCTION

Nutrition is a major lifestyle factor in health promotion, prevention and treatment of several population health issues (Romanow, 2002; Commission on Social Determinants of Health, 2008). For this reason, dietitians are integral to primary health care (PHC). In its simplest terms, PHC places emphasis on universal access to community services, public participation, health promotion and intersectoral collaboration. Emphasizing these factors has the potential to help individuals and communities live healthier lives and put less strain on the health care system (Health Council of Canada, 2008). Thus, PHC is regarded as the foundation of the Canadian health system (Watson, Broemeling & Wong, 2009). The importance of nutrition in primary health care is further strengthened by the literature, which indicates that a significant portion of visits to a family physician office has a nutritional component (Flesher, Kinloch, Grenon & Coleman, 2011; Witt, Brauer, Dietrich, & Davidson, 2006). The Chief Executive Officer of the Health Council of Canada also highlighted the importance of dietitians in PHC. Abbott (2010) stated that, there is clearly a role for dietitians in the new paradigm of health.

In 2000, the First Ministers agreed to promote the establishment of primary health care teams that would focus on health promotion, disease prevention and management of chronic diseases (Health Council of Canada, 2009). To meet the requirements of the primary health care system, health care providers were asked to collaborate to deliver comprehensive health care (Sharp, 2006). Historically, physicians operating in their own practices provided the first contact to clients, but as the health care environment changes, and more emphasis is placed on addressing population health, the needs of the population cannot be met by health care providers from a sole discipline (Health Council of Canada, 2005a).

Many Canadians are rethinking the way primary health care is organized and delivered in this country. A policy synthesis commissioned by the Canadian Health Services Research Foundation, entitled *Choices for Change: The Path for Restructuring Primary Healthcare Services in Canada*, states that there are four models of primary health care delivery in Canada (Lamarche et al., 2003). These are the integrated community model, non-integrated community model, professional contact model and professional-coordination model. Both the integrated and non-integrated community models are described as primary health care models that are designed to improve the health of populations and to promote the development of the communities they serve. In Saskatchewan, the PHC team model is an example of the integrated community model. In this approach, teams of health care providers from various disciplines work together in the community to address the health care needs of the population they serve (Lamarche et al.,2003). PHC teams have been structured to play a role in medical care and health promotion but they also serve as catalysts for change, working to improve the broader community health and lifestyle factors that put the community at risk (Health council of Canada, 2009).

Several commentators have noted the need to explicitly define roles and responsibility of health care providers as one strategy to improve collaborative health care practice (Romanow, 2002; Nolte & Tremblay, 2005). There is a paucity of literature which describes the roles of dietitians in primary health care teams (Brauer, Dietrich & Davidson, 2006; Dietitians of Canada, 2009). Furthermore, little is known about how the dietitians in primary health care teams perceive their roles. Hence it is important to gain an understanding of how dietitians perceive their roles as members of PHC teams.

1.1 Purpose of the Study

The purpose of this study was to explore and describe the roles of dietitians as members of primary health care teams in Saskatchewan.

1.2 Research Questions

The guiding research questions were:

1. What are the perceived roles of dietitians as members of primary health care teams in Saskatchewan?
2. What recommendations can be made to further strengthen the roles of dietitians in primary health care teams?

1.3 Significance of Study

The role of dietitians as members of primary health care teams is an area worthy of research for several reasons.

As the number of dietitians integrated into primary health care grows and as primary health care providers are faced with increasingly complex health care issues, there is a need to understand the roles of the dietitian as they are perceived by them. Confronted by growing changes and challenges in the health care system, even dietitians have questioned whether it is possible to play the roles they envision and for which they entered the profession (Devine, Jastran & Bisogni, 2004). Thus, the need to explore their perceptions and document current roles is valid. As indicated previously, several researchers (Romanow, 2002; Bright-See, 2006, Nolte & Tremblay, 2005; Brauer, Dietrich, & Davidson, 2006) have identified a need for further research into the roles of dietitians as members of primary health care teams. They rationalize

this strategy as important if dietitians want to have an impact on and be involved in this emerging approach to health care.

Policy makers are concerned about the right mix of health care professionals to include as members of primary health care teams in different communities in order to improve health care (Romanow, 2002; Buchan & Dal Poz, 2002; Grumbach & Bodenheimer, 2004; Dubois & Singh, 2009; Health Council of Canada, 2009). Given this interest, the present study is an important step in understanding dietitians' roles to achieve the optimal utilization of the dietetic work force on teams.

Understandings gained from this research will provide insights into the experiences of dietitians working in diverse community settings. Therefore, this research has the potential to prepare dietitians for roles in primary health care teams. This level of preparation is important since the tendency for role blurring to occur in team environments is well-documented (D'Amour, Ferrada-Videla, Rodriguez & Beaulieu, 2005).

The body of research in Canada describing the roles of dietitians in primary health care teams is limited. It is expected that findings from this study will contribute to our understanding of the perceived roles of dietitians as members of primary health care teams.

1.4 Definition of Terms

Primary Health Care

Primary Health Care (PHC) is defined as essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system,

of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process (World Health Organization, 1978).

Role

A role is a socially prescribed pattern of behavior usually determined by an individual's status in a particular society (Role, 2012 in Merriam-Webster.com).

Perception or Social Perception

Perception- A mental image (Perception, 2012 in Merriam-Webster.com)

Rural

Several definition of the term "rural" exists and each definition generates a different number of "rural" people (Du Plessis, Beshiri, Bollman, & Clemenson, 2001; Wallin, 2003). Therefore, it is difficult to define what rural represents. There is no standardized definition of rural. The ways in which Canada has utilized the term "rural" for national documents and research was examined by Statistics Canada and the Rural Secretariat (Du Plessis et al., 2001). The analysis produced six definitions of the term "rural". However, Du Plessis et al., (2001) suggested that the "rural and small town" definition be used in research. The rural and small town definition described rural as:

> *Individuals in towns or municipalities outside the commuting zone of "larger" urban centres (with 10,000 or more population*).

Therefore, throughout this study the term "rural" will refer to population living in towns and municipalities outside the commuting zone of larger urban centres (i.e. outside the commuting zone of centres with population of 10,000 or more).

Urban

For research purposes Statistics Canada (2003) defines ""urban" as any center over 10,000 people. This definition will be utilized throughout this study. Therefore, all territory outside rural areas is classified as urban in this study.

Rural Northern Regions

Rural northern regions are predominantly rural census divisions that are found either entirely or mostly above the following lines of parallel in each province: Newfoundland and Labrador, 50th; Quebec and Ontario, 54th; Manitoba, 53rd; Saskatchewan, Alberta and British Columbia, 54th. As well, rural northern regions encompass all of the Yukon, Northwest Territories and Nunavut (Bollman & Clemenson, 2008).

Scope of Practice

Although the term "scope of practice" is often used in policy and professional documents, it is difficult to find a consistent definition of the term (Baranek, 2005). The meaning vary among health care professionals. For some, it refers to standards of practice or professional competencies; for others, it encompasses the legal base of the practice; still other equate it with the components of the clinical parameters of practice (Schuiling & Slager, 2000). More broadly, scope of practice statement found in each health profession act as provides a generic frame of reference for the practice of each regulated health profession. Each profession specific act also indicates any controlled acts the profession is authorized to perform. In Saskatchewan, there is no express statement pertaining to 'scope of practice' in the Saskatchewan Dietitians Association

(SDA) legislation (Health Professions Regulatory Advisory Council, 2008; Saskatchewan Dietitians Association,2011). Therefore, for the purpose of this study, any reference made to the term by the researcher will utilize this definition:

> *The full range of roles, responsibilities and activities dietitians are educated and competent to perform.*

Entry-level Dietitian

Dietitians of Canada, (1996) defined entry-level dietitian refers to a level of proficiency most often associated with, but not necessarily describing individuals entering practice. The Entry-level dietitian is competent in the application of knowledge and skills considered essential to entry-level dietetic practice. A more recent definition has not been developed and there is not a standard cut-off point when defining the term "entry-level". Wildish and Evers (2010) proposed that a minimum of five years differentiated entry-level practice from advance practice as an outcome of his Delphi process which included Dietitians of Canada Advisory Committee for Professional Affairs.

Therefore, reference made to the term in this study will encompass those

- *entering practice following a successful completion of the Dietitians of Canada requirements for becoming a dietitian.*
- *with less than five years practice as a registered dietitian.*

1.5 Organization of the Thesis

Chapter 2 of the thesis is a review of the literature on dietitians and primary health care (teams). Chapter 3 describes the research design and methods used to conduct the study as well as a discussion about achieving trustworthiness. Chapter 4 presents findings from the study including a description of the characteristics of participants and pertinent themes identified.

Chapter 5 highlights and discusses the key findings, strengths and limitations of the study and implications of the study.

CHAPTER 2: LITERATURE REVIEW

Chapter 2 begins with a description of who dietitians are and the benefits associated with the nutritional care provided by dietitians. This description is followed by a description of primary health care- its history and guiding principles. The development of primary health care teams in Saskatchewan is presented, as are reports describing the roles of dietitians in primary health care. The chapter ends by highlighting a few gaps identified in the literature.

2.1 Who are Dietitians?

The International Confederation of Dietetic Associations (ICDA) describes a dietitian as a person with qualifications in nutrition and dietetics, recognised by national authority(s), who applies the science of nutrition to the feeding and education of individuals or groups in health and disease (International Confederation of Dietetic Associations, 2004). A more recent description by Dietitians of Canada (2009) broadens that definition indicating that while dietitians are well educated in the science of food and human nutrition, they are also able to combine that with knowledge from other areas such as health and social sciences, education, communication and management in the application of nutritional care. Dietitians are also commonly described as food and nutrition experts (Community Dietitians in Health Centres Network, 2004; Sahyoun, 2011).

Dietitians work in a variety of practice settings, including health care facilities (acute care, long term care, community health centres, and home care), public health, food service, private practice, food and pharmaceutical industry, government, education and research (Dietitians of Canada, 2009; Winterfeldt, Bogle & Ebro, 2011). Depending on the practice setting, dietitians may be responsible for a wide range of services (e.g. community health centres, public health), or they may have a specific focus of responsibility (e.g. home care, clinical

practice) (Dietitians of Canada, 2009). Correspondingly, the job title and roles of a dietitian may also differ depending on their area of specialization or practice (Human Resources and Skills Development Canada, n.d.). Some common titles that are used to describe the roles of dietitians based on their practice settings are clinical dietitian, foodservice dietitian, research dietitian, public health nutritionist and community/public health dietitian.

The dietetic profession is an occupation requiring competent performance that includes formal training in a higher educational institution. In Canada, registered dietitian must have a bachelor's degree from a nutrition/dietetics program accredited by Dietitians of Canada (DC). In addition, dietitians must also have the supervised practical experience that a dietetic internship/practicum program provides. This requirement may include a post-degree internship, an integrated undergraduate program or a combined master's and practicum program. Successful completion of an exam is also required following the completion of an internship practicum (S. Berenbaum, personal communication, January 27, 2012).

Dietitians must be registered with a provincial dietetic regulatory body to use protected titles. The Saskatchewan Dietitians Association (SDA) is one example of a provincial regulatory body. In Saskatchewan, the titles "Dietitian", "Registered Dietitian" (RD) and "Professional Dietitian" (P.Dt) are the consumer's assurance that they are dealing with nutrition professionals who have met the strict standards for registration with the SDA (Saskatchewan Dietitians Association, n.d.).

The title "Nutritionist" is also widely used when making reference to individuals in the dietetic profession. Some registered dietitians may call themselves nutritionists but not all nutritionists are registered dietitians. Depending on where the individual is registered, he or she may use the protected title "Nutritionist". For example, in order to be licensed to use the title

"Nutritionist" in Nova Scotia, registration with Nova Scotia Dietetic Association (NSDA) is mandatory (Nova Scotia Dietetic Association, 2008). In other Canadian provinces, such as New Brunswick and Alberta, the titles "Registered Dietitian-Nutritionist" and "Registered Nutritionist" are protected titles respectively (Canadian Information Centre for International Credentials, n.d.). According to the SDA Annual report 2010-2011, protection for the titles "Nutritionist" and "Registered Nutritionist" is currently being sought as part of the strategic plan for 2010-2013 (Saskatchewan Dietitians Association, 2011). In this study, the term dietitian will be used in reference to one who is registered and practices dietetics in primary health care settings.

2.2 Nutrition and Health

Increasingly, dietitians are being recognized for their role in improving health outcomes when they provide nutrition interventions for clients such as obese or underweight pregnant adults (Austin, 2011) and low birth weight neonates (Sneve, Kattelmann, Ren & Stevens, 2008), and clients with particular chronic disease such as hypertension (Robare et al., 2009), cardiovascular disease (Keuhneman, Saulsbury, Splett & Chapman, 2002; Arcand et al., 2005) and non-insulin-dependent diabetes mellitus (Wolf, Conaway, Crowther & Hazen, 2004). For example, Robare et al. (2009) designed a ten-week nutrition intervention focused on lifestyle modification to decrease dietary sodium intake in hypertensive clients, with the supervision of a dietitian. Findings suggest significant reductions in mean urinary sodium levels after twenty-four hour urine specimens were collected at baseline and at follow-up visits.

The benefits associated with a dietitian's care are also supported by systematic reviews showing that dietary intervention provided by dietitians improves health outcomes. For example,

Ciliska et al. (2006), in their report *The Effectiveness of Nutrition Interventions for Prevention and Treatment of Chronic Disease in Primary Care Settings: A Systematic Literature Review*, indicated that there is strong empirical evidence for prioritizing dietetic services to maximize health outcomes for clients. The authors conducted systematic reviews of dietary interventions that were known to be feasible or to be potentially feasible in Canadian primary health care settings. The review described many nutrition-related issues that arise in primary health care settings and provided empirical evidence of improved health outcomes for clients when dietary interventions were utilized. A recent systematic review by Bandayrel and Wong (2011) also showed the effectiveness of nutrition interventions in community-dwelling older adults.

Nutrition related conditions such as obesity are responsible for the majority of total direct cost in primary health care and contribute a significant economic burden in many societies (Amuna & Zotor, 2008; DeVol & Bedroussian, 2007; Dietitians of Canada, 2009). There are several studies that show dietary interventions provided by dietitians also have the potential to decrease health care expenditures. Modest reductions in health care costs have resulted from programs where the skills and expertise of dietitians were emphasized in health care delivery (Pavlovich, Waters, Weller & Bass, 2004; Urbanski, Wolf & Herman, 2008; Wolf et al., 2007). Martorell, Melgar, Maluccio, Stein and Rivera (2010) also associated dietitians with improved adult human capital and economic productivity.

2.3 Primary Health Care: From the World Health Organization to Saskatchewan

In 1978, the World Health Organization (WHO) adopted the primary health care (PHC) approach as a conceptual framework for effective delivery of health care (Lawn et al, 2008). The 1978 framework was defined in the Declaration of Alma-Ata at the International Conference on

Primary Health Care, Alma-Ata, USSR, where delegates to the conference expressed the need for urgent action by all governments, all health and development workers, and the world community to protect and promote the health of all the people of the world (International Conference in Primary Health Care, 1978 in Heshka et al., 2011). Primary health care refers to an approach that includes being attentive to and addressing many factors in the social, economic and physical environment that affects health. These include income, housing, education, relationships, physical environment, workplaces, culture and environmental quality.

In 1986, the Minister of Health, Jake Epp, unveiled a new framework for health promotion at the First International Conference on Health Promotion in Ottawa (World Health Organization, 1986). This conference was primarily a response to growing expectations for a new public health movement around the world. Discussions focused on the needs in industrialized countries, but took into account similar concerns in all other regions. It built on the progress made through the Declaration on Primary Health Care at Alma-Ata, the World Health Organization's targets for the *Health for All* document, and the debate at the World Health Assembly on intersectoral action for health.

Although the vision of primary health care is yet to become a reality in many countries, vast improvements in primary health care systems have been noticed (World Health Organization, 2008). According to Hutchison (2008), transformative changes in primary health care are proceeding in several Canadian provinces following decades of stagnation. These changes are primarily collaborative and interprofessional models of care delivery and quality improvement programs. They have been driven by significant investments from both provincial and federal governments and growing political and public concern about healthcare access and quality.

Although primary health care had been a government focus since the 1980s it was not fully developed or embraced. However, since the 2000, primary health care remerged in Saskatchewan as across Canada. A series of reports on Medicare appointed by the Government of Saskatchewan were released. Of significance to this study, the second report, *Caring for Medicare: Sustaining a Quality System,* was a precedent to the establishment of primary health care teams in Saskatchewan. In the report, Commissioner Fyke made a series of recommendations which together constituted an action plan for the delivery of health services in the province (Fyke, 2001). Then in June 2002, the Government of Saskatchewan released the *Saskatchewan Action Plan for Primary Health Care* (Primary Health Care Services Branch, Saskatchewan Health, 2002). The action plan, together with the *Guidelines for the Development of Regional Health Authority Plans for Primary Health Care Services*, highlighted the establishment of a network of primary health care teams within regional health authorities. The aim was to integrate a range of health care providers to deliver everyday health services where people live and work.

Although a number of PHC teams were established, further efforts were made to develop teams which were truly interprofessional. In 2008, the Western Canadian Interprofessional Health Collaborative (British Columbia, Alberta, Saskatchewan, and Manitoba) was formed to advance research on interprofessional education and collaborative practice in order to demonstrate the impact of patient quality care as well as provider systems outcomes (Heshka et al., 2011). This initiative was an important milestone and emerged from the Canadian Interprofessional Health Collaborative (CIHC). CIHC was established by a grant from Health Canada and supports education and research on interprofessional collaboration (Canadian Interprofessional Health Collaborative, 2010).

In 2010, the Syntegrity Group produced the *Future of Primary Health Care in Saskatchewan* for the Ministry of Health (Syntegrity Group, 2010). The report suggested that primary health care could be transformed if adequate focus was given to these key areas: community participation, interprofessional collaboration, leadership and accountability, sustainable and stable delivery, the patient experience and underserved populations. Barriers in each area were highlighted, as well as the top three goals for addressing each of the barriers.

2.4 The Principles of PHC

Primary health care is described as essential care, which includes five key principles (accessibility, intersectoral collaboration, health promotion, appropriate technology, and community participation). These principles were identified initially by the World Health Organization (1978), but continue to receive support in more recent literature (World Health Organization, 2008; Lawn et al., 2008; Rasanathan, Montesinos, Matheson, Etienne & Evans, 2011; Sanders, Baum, Benos & Legge, 2011). These researchers suggested that reducing health inequities through a revitalised PHC will not be successful if the principles of primary health care are ignored.

Primary health care in Saskatchewan is based on a set of defined characteristics, inclusive of the five key principles initially identified by the WHO. The key elements underpinning primary health care in Saskatchewan include:

• Accessibility: access to responsive coordinated primary health care teams and networks province-wide, offering a full range of everyday health services.

• Public participation: the development of partnerships between consumers and providers will facilitate community participation in the planning, delivery and evaluation of the primary health care delivery system.

• Effective health promotion and disease prevention: focus on health promotion, proactive approach of promoting healthy lifestyles, working towards preventing disease and injury.

• Proactive and collaborative approach to management of chronic diseases: interdisciplinary teams will be engaged in all the elements of the prevention and management of chronic diseases.

• Appropriate technology: the use of technology to support the delivery of quality health services.

• Intersectoral cooperation: collaboration with other community services to address the determinants of health that impact a person's health and dependence on the health care system.

• Patient/client-centred care: patients/clients participate in decisions regarding their care and their care providers.

• Community development: this approach involves consumers and providers working together to enhance the community's overall capacity to address issues and needs affecting the health of the community.

• Human resources continuum: uses the most effective and economically efficient health service providers; ensures training/education of health service providers consistent with the principles of primary health care; incorporates the appropriate use of and support for self-care, and informal and formal service providers.

• Integration and coordination of services: a comprehensive range of coordinated health promotion, prevention, primary curative care, rehabilitative, supportive and palliative services will be provided by integrated, interprofessional collaboration, and multi-service networks of providers (Heshka et al., 2011).

The integration and coordination of services through interprofessional collaboration is one which has received significant attention. Several initiatives were established to enhance interprofessional collaboration in practice. The Canadian Collaborative Mental Health Initiative (CCMHI) and Enhancing Interdisciplinary Collaboration in Primary Health Initiative (EICP) are examples of initiatives or collaborative activities which involve broad pan-Canadian stakeholder consultation among key stakeholders such as health professionals, policy makers, regulators, educators, insurers and unions (Canadian Interprofessional Health Collaborative, 2006). National professional associations such as Dietitians of Canada have committed to interprofessional collaboration through participation in these collaborative activities (Bright-See, 2006). Both initiatives validated important hallmarks of primary health care delivery, which includes an integrated, population need-based approach to the delivery of health care (Canadian Interprofessional Health Collaborative, 2006). Key to primary health care delivery is interprofessional collaboration.

Increasingly, collaboration has become a very important feature of the health care system, given the increasing specialization of services and the increasing professionalization of various occupational groups. Interprofessional collaboration is described as the most complex form of collaboration, since it involves both interprofessional as well as inter-organizational collaboration between various sectors of society (Axelsson, & Axelsson, 2009). This means that to be effective, organizations and professionals need to arrange their services in an integrated

fashion to fulfill delivery of care through coordination, cooperation as well as through collaboration.

2.5 Primary Health Care Teams

In 1985 the World Health Organization defined the primary health care team as "a group of persons who share a common health goal and common objectives determined by community needs, to which the achievement of each member of the team contributes, in a coordinated manner, in accordance with his/her competence and skills and respecting the functions of others" (World Health Organization, 2008, p.166). Today, this definition still holds and corresponds with the efforts being made by many developed and developing nations to improve interprofessional collaboration.

It has been argued that the emergence of primary health care teams provides a number of benefits to health care systems, health care providers and clients. The benefits include better coordination of care, improved patient outcomes, and reduced shortages of health human resources, cost effectiveness, and improved work satisfaction (Nolte & Tremblay, 2005). Some researchers (San Martin-Rodriguez, Beaulieu, D'Amour & Ferrada-Videla, 2005; Schofield & Amodeo, 1999; Mickan, 2005) have criticized that there is little empirical evidence to support the benefits and effectiveness of team-based care. Regardless of such criticism, primary health care teams continue to be a major policy agenda item in Canadian health care delivery.

The composition of teams in primary health care is not static (Nolte & Tremblay, 2005). The makeup primarily reflects the needs of the communities they serve. Similarly, the roles of primary health care teams are not definite. Community-based teams have been structured to play a role in medical care and health promotion but they also serve as catalysts for change, working

to improve the broader community health and lifestyle factors that put the community at risk (Health Council of Canada, 2009).

Primary health care teams manifest the concept of interprofessional collaboration. The Canadian Interprofessional Health Collaborative describes interprofessional collaboration as a partnership between a team of health providers and a client in a participatory collaborative and coordinated approach to shared decision making around health and social issues (Canadian Interprofessional Health Collaborative, 2010). It is this partnership that creates an interprofessional team designed to work on common goals to improve patient outcomes. An interprofessional health care team is a group of health care providers from different professions characterized by a common goal, shared decision-making, mutual trust and respect, effective communication and interdependent collaboration (Oandasan et al., 2004). Jessup (2007) stated that clients are intimately involved in plans about their care in an interprofessional team. These teams are based on an integration of the knowledge and skills of each provider so that the solutions to complex problems can be proposed in a flexible open-minded way (D'Amour, Ferrada-Videla, Rodriguez & Beaulieu, 2005). To be effective, interprofessional teams require open communication, the existence of autonomy, mutual trust and respect, coordination and cooperation, shared decision-making and members to view their role as important to the team, (Oandasan et al., 2004).

Interprofessional teams are an essential aspect of modern primary health care delivery and are being viewed as a key strategy to providing the best quality and most cost-effective care for people who require health services (Minore & Boone, 2002; Nolte & Tremblay, 2005). Bourgeault and Mulvale (2006) stated that interprofessional primary health care teams that

include “other” health care providers, such as nurses, psychologists and dietitians have been shown to be more cost effective than teams comprised of only physicians.

2.6 Primary Health Care Teams in Saskatchewan

The establishment of a network of primary health care teams within each regional health authority was one of the major developments proposed in the 2002 action plan. Regional health authorities provide most of the health services in Saskatchewan (Med-Emerg International Inc. & Centre for Strategic Management, 2004). There are twelve (12) health regions in Saskatchewan - Cypress, Five Hills, Heartland, Keewatin Yatthé, Kelsey Trail, Mamawetan Churchill River, Prairie North, Prince Albert Parkland, Regina Qu'Appelle, Saskatoon, Sun Country, and Sunrise. Health care services are also provided by the Athabasca Health Region which despite its name is not a regional health authority pursuant to the Regional Health Services Act (Med-Emerg International Inc. & Centre for Strategic Management, 2004). The action plan also highlighted that dietitians would belong to more than one primary health care team within each regional network (Primary Health Care Services Branch, Saskatchewan Health, 2002).

The executive director of primary health care services branch, Ministry of Health, Saskatchewan, Donna Magnusson (personal communication, May 20, 2010) stated that “there are currently seventy-one (71) primary health care teams within the province, seventy established and one being developed, that is, staff are being recruited. Of the established teams, forty-five (45) teams are in rural Saskatchewan; seventeen (17) are in metropolitan areas; and eight (8) are in Northern Saskatchewan.” Ms. Magnusson also indicated that the composition of teams varies across the province depending on who they serve and how they are configured. Population needs-based funding structure also influences the extent of dietitians’ participation on PHC teams (personal communication, May 25, 2010).

The director of primary health care in the Saskatoon Health Region, Sheila Achilles, shared that special provincial funding currently supports the integration of community pharmacists only into primary health care teams as a specialized service, but expressed a need to incorporate other specialized services such as those of dietitians within this funding (personal communication, September 24, 2010).

2.7 Dietitians in Primary Health Care

It has been established that dietitians play a key role as members of primary health care teams (Dietitians of Canada, 2009).

Building on an earlier role paper, Dietitians of Canada (2009) provided examples of how dietitians utilize health promotion, disease prevention and treatment strategies that support communities and individuals to make healthy eating and active living choices. These strategies are well recognized as important in reducing the incidence of chronic illness and reducing health care costs. For example, the role paper illustrated that with regards to health promotion, dietitians could: 1) work with government ministries to strengthen the nutrition component of the health curriculum in schools and create policies to support healthy school environments; 2) consult with workplace and educational institution food service to suggest healthy options on the menu; 3) assist communities to establish community kitchens (including helping with the physical design of the community kitchen), buying clubs, community gardens, shopping and cooking skill programs to promote lower cost healthy eating, food safety and peer support for low income populations; 4) train other providers (e.g. physicians, nurses, peer workers) and professionals in other sectors (e.g. social services, teachers, recreation and fitness leaders, dental assistants) on basic nutrition and health promotion to complement – not replace – dietitians' expertise, e.g. educate PHC team members about nutrition therapy used for individuals to reinforce behavioural

and self-management strategies in a consistent manner; and 5) develop social marketing campaigns to target health promoting behaviours (e.g. increased fruit and vegetable consumption and support for breastfeeding).

Previous studies explored primary health care nutrition services being offered across Canada (Davidson, Dietrich & Brauer, 2006) and how patients' access to nutrition services in primary health care settings can be improved (Brauer et al., 2006; Flesher et al., 2011). These studies also provided some insights into the roles of dietitians in these collaborative environments.

Brauer et al. (2006) undertook a major demonstration project with the goal of developing an interdisciplinary model for nutrition services in Ontario Family Health Networks (FHN) and similar primary care organizations. The project, *Interdisciplinary Nutrition Services in Family Health Networks/Primary Care Model Sites*, funded through the Primary Health Care Transition Fund, allowed dietitians to be integrated in each of three Family Health Networks in Ontario which had not previously had the services of a dietitian. A Delphi process was used to explore and identify the dietitian's role as well as the role of the other health care providers within the network. A resulting service model placed the registered dietitian as the team member responsible for overall management of nutrition services from needs assessment to program delivery, as well as in providing support to all other providers' activities around nutrition issues. There was consensus that the dietitian would set achievable nutrition goals for the FHN, utilize evidence-based practice whenever possible, assess population needs in the FHN for nutrition services, especially gaps in services, conduct an evaluation of his/her nutrition services, participate in continuing education activities, promote/participate in associations, be the custodian of nutrition resource material, see a variety of patients to avoid burnout and meet with

other RDs in the community to coordinate nutrition services and partner on other initiatives. It was also agreed in the Delphi process that the "dietitian should have the ability to perform certain specific controlled acts that are integral to delivery of nutrition services, but are currently outside of their scope of practice, using medical delegation processes in the FHN. With the appropriate delegation of controlled acts, all competent dietitians would be able to adjust insulin and medication dosages, and perform capillary blood glucose testing by finger pricking" (Brauer et al, 2006, p.21).

Davidson, Dietrich and Brauer (2006) provided some interesting insights into nutrition services being offered in the programs they surveyed. This survey was fundamental in providing evidence for a larger study which sought to develop an interdisciplinary model for nutrition services in Ontario FHN. Dietitians provided the nutrition services in most programs. Dietitians provided one-on-one or group counselling for all clinical conditions and they were also involved in a variety of health promotion activities. Due to other job demands such as treating patients with disease conditions, most dietitians in the study stated that health promotion was not a large part of their job.

Flesher et al., (2011) used focus groups and surveys to explore the means by which primary health care organizations can support the provision of nutrition services if patients' access to these services is to be improved. The study findings indicated that changes in practice could impact the access patients have to nutrition services in primary health care. Such changes may include group visits which could reduce the waiting list and delayed access to nutrition care. Participants emphasized the effectiveness of co-location or sharing of space with other health care professionals in providing collaborative care and sharing patient information. Opportunities to learn to communicate and learn each other roles were stated as factors which could improve

collaboration among team members. The study highlighted health promotion as one of the essential roles of a dietitian as they possess the specialized knowledge required to address conditions such as obesity, cardiovascular disease and diabetes in a primary health care setting over a long term. Such a service from dietitians has the potential to reduce the burden on the health care system.

2.8 Gaps in Literature

Over the past decade, Dietitians of Canada has taken a proactive role to identify, study, and support the roles of dietitians in primary health care. Brauer et al. (2006) developed and recommended a model which was expected to serve as a template for dietitians working in primary health care teams. The model proposed was the result of integrating dietitians into Family Health Networks. In thinking broadly of the different types of primary health care settings which exist within the system and how the roles of dietitians differ across those settings (Dietitians of Canada, 2009; Winterfeldt et al., 2011), one could pose the question, would the proposed model reflect the roles of dietitians in other types of primary health care? Furthermore, it raises a level of uncertainty with regards to the effect of integrating dietitians on teams to provide nutrition services versus studying the roles of dietitians in their natural settings.

As previously discussed, a number of published studies have explored the benefits associated with nutrition interventions provided by dietitians in health care settings (Ciliska et al., 2006). These studies validated the value of dietitians but there is still a need for studies which go beyond the intervention approach to explore the roles of dietitians who work in primary health care teams.

This study is unique as it will explore the perspectives of dietitians who work in a variety of primary health care settings in both rural and urban communities.

CHAPTER THREE: METHODOLOGY

This chapter begins with the researcher's story, followed by a discussion of the methods that were used to explore the roles of dietitians as members of PHC teams. This includes the research design, study population, participant recruitment, sample size, data collection, transcription and analysis procedures and approaches to protect human subjects and achieve trustworthiness in the study.

3.1 Researcher's Story

Qualitative research which explores the constructed realities of other individuals requires the researcher to make explicit their views and pre-understanding of the phenomenon of interest. The researcher is also required to share his/her position in the research relationship and to describe how his/her cultural background and life experiences influence his/her viewpoint, perspectives, research interests and career goals. By so doing, the chance of the researcher's viewpoint influencing the results of the study is minimized.

I was born and raised in a Caribbean Island, Dominica. The island's health care system is organised as a network of fifty-two health centres distributed across the country, two district hospitals in the northern and southern regions and one public hospital located in the capital city, all responsible to provide primary health care services to the entire population of approximately 67,750 people. Primary health services include medical care, home visiting, family planning, maternity services, and child health including immunization, nutrition, health education, school health, mental health and dental care. Additionally, there are several health departments which coordinate health services. These departments include central policy formulation and health administration, environmental health, health promotion, drug abuse prevention and solid waste management department. The public hospital, the Princess Margaret Hospital, is staffed with a

wide range of health care providers representing general and specialized services. Specialized health care providers from the Princess Margaret Hospital conduct visiting services in every health district. For instance, once a month, the ophthalmologist provides visiting services to the health centres, which are staffed with a few senior nurses.

From an early age, I have had a keen desire to become a dietitian, partly because I wanted to be engaged in a health care-related career. Most importantly, my decision to become a dietitian was significantly influenced by the fact that there was only one dietitian on the island. I decided to pursue this career goal by entering the dietetic program at the University of the West Indies, St Augustine, Trinidad and Tobago. The institution also offered a non-compulsory practicum program. Successful completion of both the didactic and practical components of the program would have led to the receipt of the professional qualification of a "dietitian" in the Caribbean region. However, due to financial constraints I was not able to pursue the practicum program.

Following the completion of the dietetic program (B.Sc. Degree), I immediately obtained a job at the public hospital as a food service supervisor. My responsibilities included, but were not limited to, participating in department heads' planning meetings, developing menus based on patient's needs, coordinating and supervising food procurement, production and distribution, and maintaining safety and sanitation standards. One of the most interesting occurrences at the institution was that the nurses referred to me as the dietitian. I gladly accepted their misconception of my job title because I believed the title of dietitian contributed to my respect at the institution. I was restricted to daily work at the hospital and more specifically at the dietary unit. The experience gained in this food supervisor role also helped to shape my determination to grow in the area of dietetics.

During that period, it appeared that nutrition was high on the priority list of the Organization of the American States (OAS), because I received a scholarship from the organization two years later which helped to foster my goal of pursuing a graduate degree in Nutrition. In my application, I argued that the lack of dietitians on the island and the potential for me to use my new expertise to help manage the prevalence of chronic disease provided the impetus for wanting to pursue a career in the area of nutrition. Later, I enrolled at the University of Saskatchewan in the M.Sc. Nutrition program with intentions of pursuing a postgraduate internship route to become a registered dietitian.

I am eager and willing to truly understand what it means to be a dietitian in Canada and to internalize their current practices. I also recognized that this understanding could not be achieved without an understanding of the dietitians' roles in the current health care system. Subsequent discussions with my research supervisor led to a decision to pursue this area of interest as my M.Sc. thesis. There was also the realization that the need to explore roles of dietitians as members of primary health care teams has been proposed as an area of study by several commentators (Romanow, 2002; Bright-See, 2006, Nolte & Tremblay, 2005; Brauer et al., 2006).

Primary health care is being promoted as an approach to health care which has the potential to revitalize the health care system. Among other principles, this approach advocates a team approach to health care. While there are established primary health teams in Saskatchewan, the concept is budding in Dominica especially in the areas of chronic disease management and mental health. Thus, my interest in studying the roles of dietitians as members of primary health care teams in Saskatchewan is built on the premise that primary health care teams epitomize the organization of health care professionals in the current care system and offer a suitable mode to

study the roles of dietitian. Hence, it was important that I remained mindful of the contrast between the health care systems of my country of domicile and Saskatchewan.

With my thesis title established, I set out to glean more information on the topic. During that process, I realized that there was a paucity of research on the topic or the population of interest, dietitians in primary health care teams. Consequently, I engaged in informal discussions with persons of interest, including, professors, dietitians and health care administrators. I also attended a few interprofessional conferences to improve my understanding of dietitians as members of primary health care teams. The ultimate lessons learned from those discussions included the educational preparation, esteem and areas of practice of dietitians in Canada. One of the most salient points that I took away was that "*Dietitians play a vital role in primary health care.*"

As a researcher, my role included designing an appropriate research methodology to examine the phenomenon of interest. This included recruiting study participants, conducting in-depth interviews with study participants, transcribing and analysing the interview scripts, and reporting the results of the analysis. I firmly believe that there is room for improving my expertise in qualitative research but at this point in my academic path, I am satisfactorily prepared to conduct qualitative research. My theoretical knowledge of the principles of research started in my B.Sc. program and continues in my M.Sc. Program. At the University of the West Indies, I completed two courses which introduced me to the basic concepts of qualitative research. However, I got the opportunity to build on that knowledge by completing two courses which further delved into the concepts of qualitative research here at the University of Saskatchewan.

Throughout the data collection procedure, I made my background known to the participants. Revelations of my B.Sc. in nutrition prior to the interviews established a common ground between me and the participants. On mentioning my nationality, the participants would ask in an amusing tone, "So why did you leave your warm Caribbean to come to cold Saskatchewan?" Although most of the interviews were conducted by telephone, this exchange established a comfortable, respectable atmosphere for the interview. During the interview process, I remained mindful of my position as the researcher and refrained from imposing my perspectives to the participants. My desire to study the roles of dietitians as members of primary health care teams was quite significant because the findings had the potential to prepare me for a role as a dietitian.

My engagement in the research process has led to some pertinent discoveries. The qualitative experience has enriched my understanding of the roles of dietitians on PHC teams. Most importantly, the study findings have annulled my pre-conception that as members of primary health care teams, dietitians contributed their expertise only in the area of nutrition support. I have gained an understanding of the roles that dietitians take on beyond the area of food and nutrition. I have learned that the delivery of valuable health care services stems from knowing the community and how to respond to its needs. Dietitians in this study have shown that flexibility or adapting to their environment was pertinent to their roles. As members of PHC teams, the roles of dietitians only get better with time and the scope is greatly influenced by the dietitians' years of experience and the geographical settings. The study has made me aware that with time, there is an increase in professional value, level of expertise and level of comfort of dietitians as a contributing team member. In conclusion, I truly appreciated the willingness of the participants to share their perspectives.

3.2 Research Design

This is an exploratory study that sought to describe the roles of dietitians as members of primary health care teams. A qualitative descriptive research design was used. Qualitative research, broadly defined, means any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification (Hoff & Witt, 2000). Lincoln and Denzin (2005) claim that qualitative research takes an interpretive, naturalistic approach to its subject matter and qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings that people bring to them. Qualitative research begins by accepting that there is a range of different ways of making sense of the world. It is also concerned with discovering the meanings seen by those who are being researched and understanding their view of the world rather than that of the researchers.

A qualitative research design was deemed suitable for this study because there is little information about the perceptions of dietitians regarding their roles as members of primary health care teams. Corbin and Strauss (2008) argued that qualitative methods can be used to better understand any phenomenon about which little is yet known. Creswell (2009) also noted that it is best to use a qualitative design if the concept or phenomenon needs to be understood because little research has been done on it. Research problems in qualitative designs tend to be framed as open-ended questions that will support discovery of new information. In this study, data collection was executed through open-ended interview questions and research participants were free to express themselves in their own words. Through detailed in-depth analysis of the resulting data, this design explored the roles of dietitians in complex health care environments.

3.3 Study Population

The study population were dietitians who were members of primary health care teams across Saskatchewan, working within a variety of primary health care settings and who were members of the Saskatchewan Dietitians Association. This target group was selected for several reasons. First, Saskatchewan has been recognized nationally for teams that exemplify interprofessional teams, providing innovative and excellent services within a publicly funded medicare system" (Donna Magnusson, personal communication, May 20, 2010). Therefore, it was felt that much could be gained from the Saskatchewan context for this particular study. Additionally, the selection of this population was based on the geographical convenience these dietitians offered to the researcher who is also a student at the University of Saskatchewan. With limited resources to conduct this study it was felt that sufficient information on dietitians' roles as members of primary health care teams could be obtained from the Saskatchewan population.

3.4 Participant Recruitment

Potential dietitians from the study population (mentioned above) were identified in multiple ways, including invitations through the professional association, Saskatchewan Dietitians Association (SDA) and solicitations from individual directors of PHC within the province.

Professional Association's Newsletter and Registrar's Personal Contact: The Saskatchewan Dietitians Association is the regulatory body dedicated to 1) protecting the public by registering competent registered dietitians, 2) setting standard of practice, codes of conduct and a framework for continuing competence, and 3) investigating and acting on complaints in a fair, just and defined manner. Individuals who use title dietitian must be registered with SDA. In the initial attempt to recruit participants via SDA, a letter was sent out to the registrar requesting

the names of their members who were also members of primary health care teams. Since this detail about dietitians was not documented, permission was requested from the registrar to recruit participants by placing an advertisement in the association's newsletter. The newsletter is emailed to all dietitians registered with the SDA.

With permission, an advertisement (Appendix A) was mailed to the registrar for posting in the September, 2010 issue. During the same period, the registrar emailed the advertisement directly to dietitians she knew personally to be members of PHC teams (Lana, Moore, personal communication, August 5, 2010). In the advertisement, dietitians were asked to self-identify and contact the researcher directly to express their interest in participating in the study.

Personal Contact with President of the Saskatchewan Dietitians Association (SDA): The researcher also met with the president of SDA, who suggested the names and contact information of dietitians who were "key persons" representing Community and Regional Dietitians (CARD), Dietitian Working with First Nations (DWFN) and the Public Health Nutritionists of Saskatchewan Working Group (PHNSWG). The president also suggested a contact person for dietitians who work in Swift Current, Regina, and Kelsey Trail Health Region, although these groups of dietitians were not an organized group as the aforementioned groups. The president added that these key persons might assist in reaching potential participants. A letter of information was mailed to all the key persons describing the purpose of the study, ways to contact the researcher and requesting their participation in the study and recommending potential participants (Appendix B).

Directors of Primary Care: In the third approach, an invitation letter was sent out to the directors of primary health care from each Regional Health Authority (Appendix B). The directors are responsible for overseeing the matters of primary health care services within each

RHA. As a result of their position, they were knowledgeable of dietitians who were members of primary health care teams. Therefore, they were invited to recommend dietitians who were members of PHC teams.

All dietitians who self-identified or indicated an interest in participating in the study were emailed additional information explaining the study and its protocol and a consent form (Appendix C and Appendix D). An interview guide was also emailed to the participants in advance (Appendix G). This allowed them to formulate their initial thoughts and to prepare for the interview. Interested dietitians were asked to fax the signed consent form to the researcher.

Snowballing: Each dietitian recruited through the previous methods, i.e., those who self-identified as a member of a primary health care team and contacted the researcher, were asked to recommend other dietitians who might be potential study participants. A letter of invitation to participate in the study was sent to those dietitians recommended by those already interviewed (Appendix E).

There was a six-week interval between the execution of recruitment strategies one (advertisement in newsletter) and two (key person contact through SDA's president). This interval allowed for tracking the success rate of the various recruitment strategies. During this interval, seven participants confirmed their interest in participating in the study. The success rate of the other recruitment strategies could be judged based on the content of the emails received from potential participants. Those participants indicated the name of the person who recommended them. For example, the emails received from potential participants who were recruited through strategies two and three read:

> *"Name of director of PHC] forwarded on your request for dietitians working on primary health teams to be involved in an interview. I am a dietitian in [name of health region] and I am involved in various teams in the region. I am interested in being involved in your work."*

> *"I received an e-mail from [name of key person] indicating that you are looking for study participants re: Primary Health Care. I work on a number of Primary Health Care teams and would be happy to participate."*

Eight participants were recruited through the emails sent out to key contacts for dietitians in Regina and the groups CARD and DWFN. There were no indications that potential participants were from the group, PHNSWG. Two new participants were suggested by the primary health care directors. However, the directors also highlighted the names of three participants who had already indicated their interest following the advertisement in the newsletter.

The goal of using multiple methods of recruitment was to secure a maximum-variation (Patton, 2002) sample with regard to location (urban, rural), and type of PHC setting (family health groups, community health centres and other community primary health care settings). Those methods also ensured that there was access to all potential participants. The use of additional methods after the advertisement was necessary since we had learned through peer conversations that the newsletter is not always read when published. Even then, we decided to recruit through the primary health care directors as there were RHA which were still unrepresented. Any chances of pressure from the multiple strategies were reduced by informing the potential participants (through their key contacts) of previous recruitment methods used and advising them to ignore the invitation if they had already been informed.

The formal definition of rural or urban was not conveyed to the participants because the study project sought their unbiased perspective of the categorization of their geographical setting. Participants were asked "how would you describe your geographical setting of practice?"

3.5 Sampling Design

The sample size for the study was not set a priori. Recruitment of participants continued up to the point of saturation. As Gall, Gall and Borg (2007) suggested, the ideal sampling procedure is to keep selecting cases until one reaches the point of redundancy, that is, until no new information is forthcoming from new cases. Similarly, Lincoln and Guba (1985) note that the criterion invoked to determine when to stop sampling is information redundancy. Lincoln and Guba (1985) further stated that twelve interviews, if properly selected, will provide valuable information and suggested as many as twenty may reach well beyond the point of redundancy. The realization of data saturation or redundancy was achieved by reviewing the findings of each successive interview with the research supervisor. By the fifteenth interview we found that recent interviews were not adding to the findings but repeating what was already found in the previous interviews. We realized that there was no need to continue interviewing dietitians past the fifteenth interview. Ultimately, fifteen dietitians were interviewed in the study.

3.6 Data Collection

In-depth interviews were used to explore the roles of dietitians as members of primary health care teams. The use of individual in-depth interviews as a method of data collection was based on the assumption that the perspectives of the people who have personal experiences with the issue under investigation are a vital source of information (Thyer, 2010). Therefore, by interviewing all participants, a variety of perspectives helped the researcher understand how the dietitians describe their roles on PHC teams.

Following the receipt of the consent form from each participant, each was contacted via email to schedule an interview. The participants who practiced out of Saskatoon were informed that the interviews would be conducted via telephone and they were given the opportunity to

indicate a feasible date and time to conduct the interviews. However, those who practiced within Saskatoon were given the opportunity to indicate their choice of contact (telephone or face-to-face) and a feasible date, time and/or place to conduct the interviews. Geographic location, convenience and cost were the main reasons for using different media to facilitate the interviews.

Semi-structured individual interviews were conducted with the fifteen dietitians. They varied in community work setting (community health centres, community clinics, hospitals, diabetes education centres, long-term care homes and other unclassified health organizations), professional experience, education and community of practice (rural and urban). The interviews were conducted between January and March 2011. Four interviews were conducted face-to-face and eleven via telephone. The researcher (myself) conducted the interviews. Although the research supervisor was present during a few interviews, she was not an active participant; she simply observed the process. All interviews were recorded using an audio recorder with prior consent from the participants and typically lasted between 30 and 50 minutes. Following each interview, the transcripts were reviewed to identify emergent themes and to facilitate possible changes to the remaining interviews.

3.6.1 Interview Guide.

A semi-structured interview guide was used to during the interviews. The review of studies which investigated the roles or experiences of individual health care professionals was the driving force of the development of the interview guide. Keywords searched included health care team, interprofessional collaboration, roles, experience, dietitians, physicians, social workers, nurses AND/OR pharmacists AND interview. Additional steps for developing the interview guide included analysing the interview questions used in the studies found and modifying pertinent questions to suit the purpose of this study. The first draft developed was pre-

tested among four dietitians. Feedback from those persons led to small adjustments to the interview guide prior to data collection. The pre-test was important in revealing ambiguities and inconsistencies and in suggesting more precise wording in the draft interview guide.

The final interview guide included open-ended items on (1) work setting, (2) understanding of primary health care team, (3) the characteristics of teams they are involved in, (4) their roles as members of the team, (5) membership on team (length of time, changes, if any), (6) preparedness for their roles, (7) views of dietitians as members of PHC teams, and (8) strategies for building/strengthening roles (Appendix G).

The guide functioned as a basic checklist during the interview to make sure that all relevant topics were covered (Patton, 2002). An interview guide also ensured that the same basic lines of inquiry were pursued with each participant. Sending the interview guide to the participants ahead of the interview had the advantage of ensuring the participants were prepared for the interview, thus making the best use of limited time and increasing the comprehensiveness of the data (Patton, 2002). Throughout the interviews, probes arose based upon the participants' responses. This afforded the opportunity to delve into and further clarify the emerging concepts that were pertinent to the area of interest. New questions were also explored as concepts emerged from previous interview participants. Therefore, insights were gained as the participants shared their perception on the concepts expressed by previous participants. The following are examples of questions which emerged over the course of the interview process:

1. Could you describe your work relationship with other team members?
2. A few participants indicated that they would prefer if their roles were more into one area of food and nutrition, what are your thoughts on this?

3.7 Data Transcription

The audio recorded interviews were transcribed *verbatim* and each participant was given a unique pseudonym (Participant 1-15; with 1-15 representing the first fifteen numbers) immediately after the interview by the researcher. Each time the interviewer or a participant spoke, the recording was transcribed as a discrete unit of text and assigned a speaker label. The transcripts were proof-read against the audiotapes three times before they were subsequently edited to exclude nonverbal sounds (e.g. sighs) and redundant utterances such as "Um" and "Hmmm". To ensure that all transcripts were generated systematically, mechanical errors were also edited. For ease of readability, transcripts were formatted identically using a personal computer. The transcripts were emailed to the participants for amendments and to ensure validity of the study findings, along with a transcript release consent form (Appendix G).

3.8 Data Analysis

The process of data analysis began during the data collection by transcribing the audio recordings and examining them for concepts to explore in successive interviews.

Following data collection, three stages of analysis were used to examine the transcripts returned from the participants. In the first round of the analysis each transcript was reviewed to determine the key themes emerging from each question. During this iterative process, the transcripts were read three times and memos in the form of short phrases, ideas or concepts on the general themes arising from the printed transcripts were written.

The second stage of the analysis involved sifting the data, highlighting and sorting out quotes and making comparisons both within and between cases. The quotes were lifted from the original transcript and re-arranged under the newly-developed appropriate thematic content. The interview questions served as the basis of thematic categorization. Identifying information was

intentionally omitted from the quotes and replaced with *[generic names]* without significantly altering the meaning of what had been said. The quotes within each theme were re-examined to ensure that they were corresponding to that particular concept or theme. One of the most important aspects of this round of analysis was data reduction. This was achieved by comparing and contrasting quotes and synthesizing data to describe the findings.

The transcripts were analysed manually by two independent authors. The authors then met to compare and contrast their independent coding. A discussion reconciled the differences and concluded in a consensus regarding the themes. In the final stage of analysis each theme was examined to discover (1) the meanings assigned to them or how they were seen overall and (2) systematic similarities and differences between groups of interviewees.

3.9 Ethical Protection

An application for ethics approval was submitted to the Behavioural Research Ethics Board of the University of Saskatchewan. The study was conducted upon approval from the board. The following additional safeguards were employed to protect the participants' rights: 1) the purpose of the research was articulated verbally and in writing so that it was clearly understood by each participant (including a description of how the data will be used, 2) written consent to be interviewed was obtained from each participant prior to the interview, 3) participants were told that they had the option of withdrawing from the study at any time, 4) the informant was informed of all data collection devices and activities, 5) transcripts and written interpretation reports were made available to the informant for verification and a signed transcript release form was received from each participant, 6) direct quotations used in the results were carefully chosen and edited so as to protect the participants' identity, 7) each participant

was assigned a pseudonym, 8) participants were not be coerced to provide information, and 9) data was stored in a locked cabinet in the researcher's office.

3.10 Methods for Achieving Trustworthiness

In qualitative research the concepts of credibility, dependability, confirmability and transferability have been used to describe various aspects of trustworthiness (Lincoln & Guba, 1985). The concept of credibility replaces the idea of internal validity, by which researchers seek to establish confidence in the 'truth' of their findings. The aim of transferability is to give readers enough information for them to judge the applicability of the findings to other settings. Dependability encourages researchers to provide an audit trail (the documentation of data, methods and decisions about the research) which can be laid open to external scrutiny; thus, showing that the findings are consistent and could be repeated. Confirmability is the degree of neutrality or the extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest.

In more recent literature, Lincoln and Guba expanded their thinking on qualitative research with the concept of authenticity. There are five categories of authenticity: fairness, ontological, educative, catalytic and tactical authenticity. Specifically, fairness refers the extent to which the participants' different constructions and underlying values are solicited and represented in a balanced, even-handed way by the researcher. Ontological authenticity concerns the way in which participants' own constructions are enhanced or made more informed through their participation in the research. Educative authenticity refers to how participants develop understanding and appreciation of others. Catalytic authenticity refers to how the research process stimulates and facilitates the participants' behaviour. Finally, tactical authenticity refers to the extent to which participants are empowered to act (Lincoln & Guba, 2005).

In this study the mechanisms used to promote the trustworthiness of the study procedures and outcomes included: audit trail, peer debriefing, analyst triangulation, member checking, thick description and an external audit.

The key method for optimizing the trustworthiness of study procedures and outcomes is the audit trail. An audit trail consists of documents tracking search outcomes and the reflexive accounting, in material form, of the procedural and interpretive moves made during the course of the study (Sandelowski & Barroso, 2007). In this study, an audit trail was accomplished by creating a folder to document field notes, condensed notes, correspondence, and procedures used in each phase of the research, and the rationale behind the selection, use, development or abandonment of those procedures. Such documentation would allow another researcher to have a clear description of the research path and verify the findings. Sandelowski and Barroso (2007) stated that this documentation is itself treated as data and serves to enhance the credibility of study outcomes by making transparent the series and sequence of judgements made during the life of the study.

Peer debriefing supports the credibility of the data in qualitative research and provides a means toward the establishment of the overall trustworthiness of the findings (Lincoln & Guba, 1985). In debriefing, a researcher and an impartial peer pre-plan and conduct extensive discussions about the findings and progress of an investigation. The peer asks questions to help the researcher understand how his or her personal perspectives and values affect the findings. Such a questioning approach serves to minimize bias within the inquiry (Guba & Lincoln, 1989). In this study, peer debriefing included discussions and meetings with the researcher's supervisory committee. The NUTR 990 seminars and committee meetings also presented

opportunities to test and defend emergent themes and see if they seemed reasonable and plausible to the committee members.

Triangulation was another method used to achieve credibility. Mathison (1988) elaborated that triangulation is important to control bias and to establish valid propositions. The concept of triangulation is based on the assumption that any bias inherent in particular data sources, investigators and method would be neutralized when used in conjunction with other data sources, investigators and methods (Creswell, 2009). Analyst triangulation was used in this study to ensure that the data account is rich, robust, comprehensive and well-developed as there are multiple ways to seeing the data (Patton, 1999). Analyst triangulation included using multiple analysts to review findings. It included the use of two independent authors who read and analysed the transcript before coming together for team analysis. Triangulation of the data was conducted to achieve a more complete analysis of the workforce data. The process of triangulation also involved the examination of data from several sources to build justification for the themes. Hence, the data was triangulated throughout the discussion section by comparing findings from the interviews with findings from the available literature related to the matter.

Member checks are used whereby data, analytic categories, interpretations, and conclusions are tested with members of those stakeholding groups from whom the data were originally collected (Lincoln & Guba, 1985). To accomplish this, the researcher made a PowerPoint presentation of the preliminary categories and themes at a CARD meeting held in April, 2011. Through informal conversation, I had learned that most members of the group were members of primary health care teams so the group was in the best position to check the data. Eight members were present at the meeting. Five of those present had participated in the study. Following the presentation, the dietitians were given an opportunity to assess the adequacy of the

data and provide feedback. The members were all in agreement with the findings and the researcher's analysis of their perceptions. A fervent discussion ensued with regards to "requesting lab values for assessment", although this was not one of the items presented. Their views were taken into consideration as it highlighted a possibility of amending the data.

An external auditor, a faculty researcher with experience in qualitative research analysis, reviewed several of the interview scripts and compared them to the major themes that arose from the data. The outcome of this review was very useful as several recommendations were made which helped to ensure a more critical analysis of the themes arising from the data. These are highlighted throughout the results and discussion.

A thick description was the vehicle for communicating the roles of dietitians as members of primary health care teams. The final report was an interpretation of the dietitians' experiences and the meanings they attached to them. This allowed readers to vicariously understand dietitians' roles and provided a lens through which readers can view dietitians' roles. Additionally a thick description ensured that anyone interested in transferability would have a solid framework for comparison (Creswell, 2009).

CHAPTER FOUR: RESULTS

The findings are presented as eight categories developed from the major interview questions as presented in the Figure 4.1. Throughout this section, the key themes arising from each category are presented along with exemplary quotes where appropriate. The format for the presentation of the findings was selected to capture the themes arising from each question, thereby allowing for an appreciation of the responses to each question as a whole. Together, the categories, themes and exemplary quotes delineate the participants' perceptions of their roles on primary health care teams. The participants' expressions were italicized throughout the report to facilitate identification.

Figure 4.1 illustrates a flow diagram developed from the study findings on advice from the external auditor. It illustrates the key categories, themes, potential relationships between the themes and influencing factors. Each rectangle represents a category of data developed from key interview questions. The top rectangles branch out to oval shapes which represent the emergent themes. For example, the figure illustrates the roles of participants as the third category of data. The themes within this category are nutrition support and beyond nutrition support. Arrows are used to show relationships between themes and between influencing factors which are positioned at the base of the diagram. The relationship between themes and demographic factors of geographical setting and years of experience are identified throughout the results and discussion section. Therefore, reference can be made to Figure 4.1 to get an illustrative view of these relationships.

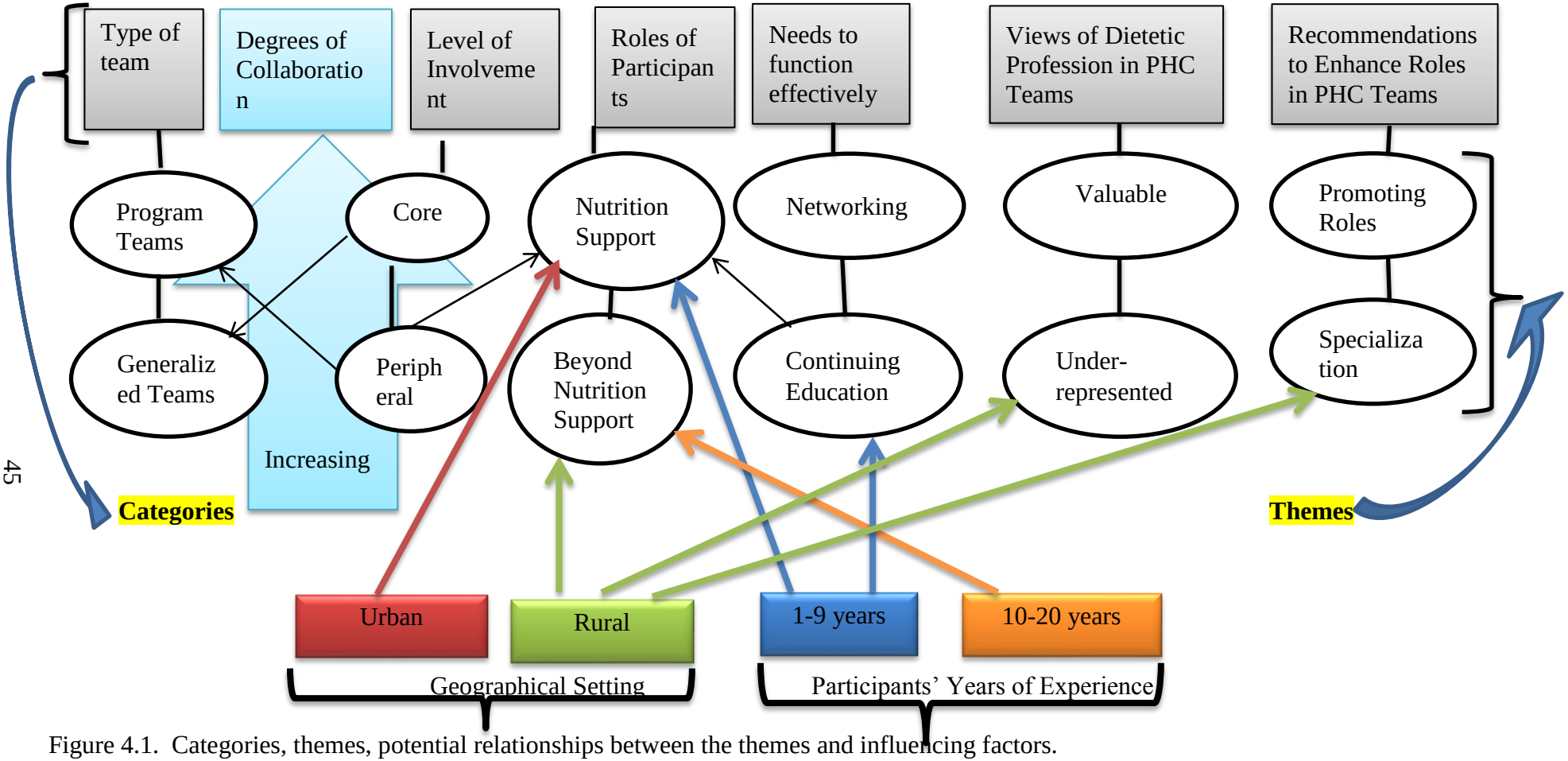

Figure 4.1. Categories, themes, potential relationships between the themes and influencing factors.

4.1 Characteristics of Participants

Fifteen participants were interviewed. All the participants interviewed were females and represented a variety of primary health care settings (Table 4.1). Of the fifteen participants interviewed, five practiced in an urban community setting whilst the other ten practiced a rural community setting. Ten of the participants stated that they sat on only one primary health care team; two stated that were members of two different teams and the remaining three were members multiple teams across their RHA as presented in Table 4.1.

Table 4.1. Characteristics of Participants

Characteristic	# of dietitians
Community setting	
Rural	10
Urban	5
Number of teams that dietitians was member of	
1	10
2	2
4	1
5	1
7	1
Primary health care setting	
Community Health Centre	7
Home care	2
Diabetes clinics	2
Community clinic	3
Community hospital	3
Non-profit organization	1
Number of years working on team	
≤1	5
≥ 2≤ 4	4
≥ 5≤ 8	5
≥9 ≤ 14	2
≥15	1

For example a dietitian maybe a member of one primary health care team but practice in two different PHC settings such as a home care setting and a diabetes clinic within the community. The number of years that the participants practiced as members of the primary health care team ranged from one year to twenty years. Most dietitians who indicated that they were members of more than one team explained that the number of years on the team was equivalent for all their teams. There were two exceptions where dietitians were members of multiple teams for different lengths of time.

4.2 Understanding of the Role of PHC Teams

4.2.1 Principles of Primary Health Care.

In response to the question, "*what is your understanding of the roles of primary health care team?*" each participant mentioned a variety of concepts to describe their understanding. For example:

> *"I see it as an interdisciplinary approach to health promotion, prevention and treatment of disease, it involves the community at all aspects and all levels. They need to be an integral part of setting a plan and goals based on the community needs and then ensuring the services are accessible, affordable and appropriate. And I guess working in a rural area we see the need that you have to have the services that meet the needs of the people where they are at." (Participant 5)*

Most participants had relatively similar responses. This means that their responses showed some overlapping ideas. The most common ideas described were that primary health care teams: provide a range of services from health promotion and disease prevention to clinical services; provide services that are based on the community needs; involve client/community in making decisions about their health; involve integration of services from numerous health care

professionals and; increase access to health care services. The less common idea mentioned was that primary health care teams recognize the importance of the determinants of health.

4.2.2 Teams' Role in Primary Health Care.

In describing their understanding of the roles of primary health care teams, many participants indicated that the activities of their team reflected those identified as primary roles of the PHC teams. Participant 3 expressed her perspective by stating, "*I guess I kind of see my major role within primary health care team, as our particular teams addressing chronic diseases*". Other examples of team roles articulated by the participants included, "*provision of a wide range of services that meet the community's needs*", "*prevention of diabetes*", "*building partnerships to provide more client focused care*", and "*promotion of self-care and prevention and trying to offer health services beyond the traditional health care system such as extended hours*".

4.3 Types of Teams

When asked to describe the primary health care teams that they were members of, most participants spoke about them in terms of the target population or reach of the team, goals of the team and composition of the team. Based on the responses, the types of teams were coded as generalized teams and program teams. The codes seemed appropriate because they described variations in the scope of the teams.

4.3.1 Generalized Teams.

Most participants indicated that they were members of generalized teams that sought to address the needs of the wider community. As such, the team provided a wide range of services to the clients with diverse needs, as a unit of intervention. These teams were characterized by

the wide variety of professionals who provided services reflecting their particular expertise. For example as participant 15 stated:

> *"At the community clinic we have a broad range of professionals including nutrition. We also have occupational therapy, physiotherapy, counselling, seniors counselling and also many opportunities for members to be volunteers and sit on advocacy committees. Our clinic is actually run by a board of directors who are elected to sit on that board and can include community members, members of the clinic, anyone who get elected basically. So it isn't mandated by staff, the direction that the clinic takes is actually mandated by the board of directors which is very different from many health organizations. We have nurse practitioners, we have lab, x-ray, foot care, in addition to our counsellors we have a psychologist on staff. I believe we have 16 family physicians. Everybody at the clinic is considered, they call us the circle of care so each client within the community can access anyone within the community clinic team as they so choose."*

A few of these teams also included support personnel whose role was to assist in team building and to provide support at the various stages of development. As indicated by participant 11, "*at this point it has been a lot of leadership, in my eyes coming from the facilitator because the rest of us are unfamiliar with the process of getting these teams going. So at this time point she has been the one providing most of that".* Community members also formed part of the several teams. Participant 2 indicated that it was beneficial to have community members on the teams because her team is "*community focused"* and the community members would *"see needs"* that the team fails to identify. The composition of the teams was slightly different in a few rural areas as many of the health care professionals, such as physicians and nurses were unrepresented on the primary health care teams.

4.3.2 Program teams.

Several participants, including some who were members of generalized teams, indicated that they belonged to teams which they distinctly referred to as a "program". For example, participant 7 indicated "*I am the Nutritionist/Registered Dietitian (RD) for the [name of program] program, which is funded via the Public Health Agency of Canada. I also work with*

the [name of program] program as part of the Saskatoon Health Region." The programs identified from the interviews included diabetes management, heart disease management, perinatal nutrition, chronic disease management, swallowing assessment and food security. The peculiarity of these program teams is that they sought to address the needs of a specific group of clients rather than diverse clients within the general community (as described above).

The participants' responses showed that program teams consisted of a limited number of health care professionals who worked together to meet their clients' needs. For instance, Participant 12 mentioned:

> *"The diabetes team would be myself and a diabetes nurse as well as a pharmacist and then we send recommendations to the physician. Our health care team, part of that is the diabetes team so the pharmacist, the diabetes nurse and myself meet together and actually the physician would be available at any time we need him"*

The clients of such program were positioned as the core of those program teams and they were often supported by a manager.

It should be noted that these program teams operated out of the same primary health care settings as those generalized teams in some cases. This is one reason why some participants were members of more than one primary health care team. Another explanation is that some participants, especially in rural areas, served on teams from multiple communities. The term "*travel*" frequently surfaced in their interviews.

4.4 Working Relationships on Teams

4.4.1 Collaboration.

Many participants described their team environment as "*collaborative*." However, one participant described her team as "*a very disjointed primary health care team*." She gave the following reason for her remark:

> *"I work with home care nurses in the area of diabetes education. I collaborate with a community pharmacist. Also again in diabetes clinics, I collaborate with individual physicians on an as needed basis based on where the client's doctor or who they doctor with. I contact other healthcare professionals as needed and if more specific issues rise up that I don't have access, you know to those health care professionals already*."

Although many participants described collaborative relationships on their teams, only a few of them elaborated on the factors which enhanced these relationships. The factors were the length of time working together and proximity of team members. For example participant 3 said, "*I think most of the people on the team have been working together for a number of years so we work very collaboratively."* Also, teams with its members sharing the same facility were reported to have more collaborative relationships.

4.4.2 Elements of Collaboration.

Other elements of collaborative working relationships surfaced but were less frequently mentioned. These elements included trust and respect, communication, and distribution of decision making powers.

The issues of trust and respect were mentioned by a few participants. They indicated that the other team members trusted or respected them as the food and nutrition expert on the team. In all accounts of trust and respect, the years of experience and level of expertise of the participants was greater relative to other participants. As Participant 5 puts it:

> *"There is something that does come with building some of those relationships and rapport over the years. I mean that not that the new RD's are any less than competent but I do think that does end up having an effect on for example my relationship with the physician. I mean I have a great relationship with all the physicians, respectful, they look to me for direction, call me if I recommend stuff they are doing and I think that does come with developing some of those long term relationship*."

With regards to communication, a few participants identified good communication as one of the strengths of their team. For example participant 9 said, "*the team functions well in that we*

plan new programs, we work well together, we keep communication open and honest." But she went on to identify how staff shortage could affect good communication. She added*, "when there is a physician crunch the whole focus of the team goes towards complaining about we don't have enough doctors and we are so stressed out."* One participant highlighted how her ability to "*walk into the office of the colleagues next door*" facilitated good communication.

With regards to decision making, a variety of decision making styles were described: Several participants described teams that were characterized by equal opportunities for all with regards to decision making. This is illustrated in the following quotes

> *"We vote. If it's unanimous then everybody feels that we should go forth with then majority tends to rule. So everybody's voice counts I guess that what I am trying to say."*
>
> *"When all of us have gathered together with our team leader it's very collaborative and very much us setting the direction. So it's not dictatorial at all."*

A few participants described teams in which most of the team members enjoyed equal opportunities but the physician had the final say. As participant 4 explained:

> *I guess in my mind I still sort of see him as the leader because we can't do things without his go ahead but I do think a that a lot of times people in primary health care team maybe aren't given enough credit for what they do and so, Do you know what I mean? Like he is the leader but we are all equal, it's the white coat syndrome sort of thing he is just always going to have the last say and that's why I see him as the lead. But all the rest of us I would say are equal in what we do.*

There was also evidence of teams where decisions were funnelled from management and the team members had little opportunities to contribute to decisions. For example, participant 13 said, "*everything comes down from executive and then through leadership and then our manager*." Participant 15 also said:

> *"I am fairly independent in what I can do on a day to day basis like manage my own workload, that kind of thing. I do report directly to our administrator but our administrator reports directly to our board of directors so all of the big decisions on what I do, where my focus should be is actually made by the board of directors so it kind*

of funnels down through the organization. It's up to me, how I am going to meet the expectations of the board of directors but it's really coming from them."

4.5 Level of Involvement on PHC Teams

4.5.1 Core.

The common terms participants used to describe their level of involvement included "*active*", "*quite involved*", or "*intensive*". Examples of this are illustrated in the following quotes:

"So that role is probably the most intensive role and the largest commitment of time and I would say if I was to look at what is primary health care and that's to me a perfect example of primary health care."(participant 12)

"Right now the main one that come to mind and it's one I work quite intensely with." (Participant 2)

When probed further all participants considered themselves as a core member of one team at least. As a core member of primary health care teams, the participants mentioned that they would attend meetings regularly and contribute to planning. They felt that they were important members of the team since many initiatives and diseases "*centres around nutrition*" and requires involvement of a dietitian. Some of the participants who were members of multiple teams reasoned that their skewed level of involvement between teams resulted from lack of time. As participant 3 puts it:

"The teams that I work with, I guess I am on a couple teams, I am on the team that is based out of [name of community-A] and then one that based out of [name of community -B] and on those teams I take a pretty active role. I guess I am still a member of couple other teams but I don't attend meetings I just basically get the minutes and help out wherever I can. But I don't take a pretty active role on the other two teams that I am involved with and that's just more time constraint than anything."

4.5.2 Peripheral.

A few participants bluntly described themselves as a peripheral member of teams. For example, Participant 5 said, "b*ecause I am more peripheral on the home care team, I would be involved as the team decides they need in the area of diabetes specifically. That's how I would get involved*." My understanding from the interviews was that the involvement on teams as a peripheral member meant that the participants were limited in their ability to contribute to the team processes such as decision making and planning. Also, unlike core team members, peripheral team members refrained from participating in team meetings. The participants' descriptions suggested that as a peripheral member, they had less collaborative relationships or less interaction with team members but only provided their expertise to team members and clients when solicited. Consequently, peripheral team members did not assume functional roles within the team.

4.6 Perception of Roles on PHC Teams

The information which emerged from the question "*what are your roles as a member of primary health care team (s)?*" was coded as nutrition support and beyond nutrition support. The codes seemed appropriate because the participants' responses reflected the breadth of their roles, expertise and how they used their expertise to contribute to the goals of the team. Although most participants mentioned nutrition support in their descriptions, the degree to which their roles were beyond the nutrition profession was also emphasized; thus, operationalizing differences in years of practice, geographical settings, training, and type of team.

4.6.1 Nutrition Support.

When asked to describe their roles as members of primary health care teams, most participants perceived that their primary role was to provide nutrition support to clients and team members. The nutrition support to clients were repeatedly constructed around services such as nutrition education, nutrition assessment, nutrition screening, nutrition counselling, and health promotion activities such as grocery store tours and cooking classes that build self-reliance, and running programs which supported the aforementioned services. However, many participants emphasized the service (s) that occupied the greatest fraction of their practice. For example participant 10 said:

> *"My main responsibilities are outpatient counselling and that could range from anything that the physician thinks is nutrition related. Also a major component is programming. So running groups that would support the issues that I see come up within my counselling practice. And then acting as a nutrition consultant to the other professionals when they have questions or concerns."*

Nutrition counselling was also a major proportion of the role of a few other participants.

Another common trend was to identity their tendency to focus on disease treatment rather than prevention. For instance participant 3 said, "*I haven't had as much time to do, even though yes that's a part of primary health care, I haven't had time to do more of the prevention based and what I see more of team care*." She justified that she did more outpatient counselling because "*the demand for that lately has been increasing."* The following quote exemplifies the perception of another participant who described disease treatment as a large proportion of her roles:

> *"When I have somebody who is newly diagnosed with type-two diabetes and say they also have high lipids and they come to see me, I need to work with them to manage their diabetes. To me that is working with somebody with the disease we are not preventing the disease, we are not promoting, we are dealing with the disease and helping them manage their health condition, that is the main part of my job."*

The tendency to focus on disease treatment was well-justified from participants of program teams which focused on disease management. However, this trend was observed in the remarks of some participants who belonged to generalized teams. Therefore, the type of teams had no apparent influence on the balance between disease prevention and disease treatment services.

Although some teams had a specific area of focus (program teams), several participants of these types of teams indicated that the nutrition services they provided were not restricted to the team's area of focus. For example Participant 1 said, "*anything nutrition related does come back to me and again that can be like diabetes is my primary focus but I have seen people for gall bladder issues, pancreatitis.*" However, one participant mentioned that she "*job-shared*" with another dietitian, so this allowed her to focus her attention to her team's area of focus (diabetes) while the other dietitian saw "*all of the other clients from heart disease to gastrointestinal disorders to renal diseases and weight loss*."

Nutrition education was another popular nutrition support service mentioned. With regard to nutrition education, a few participants said that they covered topics that met their clients' greatest need on an individual basis and in group sessions. They were often invited by community groups to make presentations on topics identified by these groups. However, a few clients indicated that their management bodies had an influence over the topics they addressed. The type of team that the participants were on influenced the extent to which they received mandates. Program teams were obliged to address topic that matched their goals. For example participant 7 said:

> *"We are mandated to incorporate certain topics into our sessions, but we also consider what our participants are interested in learning about and often get their feedback for topics. We really try to provide education based on the participant needs and interests."*

Most participants indicated that their roles included sharing nutrition knowledge with team members. They were often required to share expertise with team members because nutrition was a determinant of health and their colleagues always had question or concerns.

Many participants indicated that their roles included "*programming*". This meant that they had some responsibility in planning and delivering health promotion programs which incorporated nutrition education and other activities geared at improving self-reliance. For example, participant 15 said, "*right now I am starting a food resource program for at risk individuals specifically targeting HIV and Hepatitis C*." She added, " *we cook together, provide some education*." Several participants explained that the opportunities they had for leadership on the team existed in the development and execution of such health programs. For example:

> *"I think depending on what initiatives are going on yes, I can think of some examples in [name of community] where I have taken more of a leadership role. We did cardiovascular health fair during the summer and that was one activity where I took a lead role in planning and in anything that focused on nutrition. I have done a series of presentations with the nurse practitioners and I took a lead role in organizing those because they were actually same topic – cardiovascular disease. We are also planning on doing more food security initiatives coming up and I foresee that would be another leadership opportunity for me."*

Although most participants described themselves as the team's dietitian, several participants indicated that their roles on the team were limited to nutrition support. Furthermore, they aligned their roles to their perceived professional boundaries or the expertise which they acquired at school. The participants explained that their roles included "*assessing the clients as a whole*" and identifying the appropriate team member to refer clients to when their needs fell outside their professional boundaries. The reason why those participants felt limited by their professional boundaries was not clearly stated but participant 7 stated, "*I am very careful because I am so new in primary health."* Further analysis of the interview scripts revealed

participants where were careful of remaining within their nutrition realm had less than two years of experience in practice. Therefore, participant years of experience may have had an influence on their roles.

4.6.1 Beyond Nutrition Support.

This theme describes the breadth of activities which the participants engaged in beyond nutrition support and the factors which influenced this scope. It creates an understanding of the participants' engagements outside of their professional roles but within the team.

There were several participants who indicated that in addition to nutrition support, their roles encompassed tasks which were beyond their professional boundaries. For example participant 12 described it as follows:

> *"I am the one responsible for organizing when the team meets and what communities so the referrals come to me. I think it will be different….So it might not have to be me setting up all the appointments but I right now I do that so I organize that so that's a big part of my role. Other than that it's doing the nutritional aspects. The nutrition assessment, the plan, evaluating how things are going and because on that team I am the certified diabetes educator, I have done probably a little bit more under the supervision of the physician in regards to insulin adjustments, of course not on my own because he has to ok everything."*

A few other participants also indicated that their roles went "*beyond the area of nutrition into the area of diabetes management*." They described that they were able to provide education around blood pressure checks, blood glucose checks, medication modification, insulin adjustments and diabetic foot care. Those participants also indicated that they looked to a physician for guidance and authority to perform those tasks which they perceived to be outside the professional boundaries of a dietitian. The importance of continuing education and self-confidence was highlighted by participants, who were also Certified Diabetes Educators (CDE). For example, one participant remarked:

> *"Because I wrote the exam to be a certified diabetes educator I feel like it kind of broaden my scope of practice a little bit but just not my scope but just, there has always been sort of a grey area in my mind for a what a dietitian can do and in terms of can they take blood pressure can they do this and no one has ever really said cut and dry oh yes you can do that so I have always been a little bit leery. Now I have bit more confidence with that because I know a lot of dietitians actually help determine med doses and that kind of thing*."

The confidence to perform tasks which fell within the professional boundaries of other team members was also influenced by years of experience. The following quotes illustrate this concept:

> *"What I have found in the counselling is that things that come up within counselling sessions often take on more of a counselling rather than a nutrition role, supporting people in their eating behaviours, and trying to be a change agent with those behaviours, there is a lot of psychological issues there that goes beyond my expected role. It's counselling and support. After 11 years, yes, not at first. And just having full counselling within the team and being able to consult with them has given me a lot of confidence that ok, you did the right, and try this, so after years of their advice I feel more comfortable doing that."(Participant 10)*

> *"I am a certified diabetes educator and I have worked in the area of diabetes for at least 20 years and therefore working alongside an RN has become very cross trained and with my scope, I do a lot in the area of diabetes, outside of the nutrition part." (Participant 5)*

Other significant similarities among participants who described tasks beyond their professional roles were their geographical settings. Those participants were all dietitians who practiced in rural teams. One reasoning for the broader skill set in rural areas is that it is more desirable in rural PHC settings, where key health care professionals are unrepresented on the PHC teams, so dietitians are being called upon to provide services that go beyond their professional boundaries. For example, participant 12 remarked that although she was interested in broadening her skill set, she was also compelled to because:

> *"I am the one professional in this community on our diabetes team the clients for the community are often phoning me for instance and their blood sugar is high so they tell me they want to adjust their insulin, so I might guide them. Legally I can't change their*

> *insulin but if they are going to change it anyways, they are telling me this is what I am going, so you have to help them, teach them how to self-manage right so it's teaching them the guidelines around insulin adjustments, I tell them I can't change it and I will phone the physician and so really that a little bit out of my scope of practice."*

Another participant also described a similar reason why dietitians in rural communities felt compelled to expand their roles:

> *"In the rural areas we need generalists because, you can't have clients, I guess they are not going to understand that they need to see different people for different things they just want to be able to call somebody and get an answer and whether that dietitian has to phone someone else to get the answer that is fine but from the client perspectives they should only be phoning one person*."

One participant who had experienced both rural and urban settings said, "*you wear a lot more hats out there [rural community] than if you were in urban setting*." She explained that in a rural setting where she worked with First Nations she was, "*helping with H1N1 vaccinations and doing all that*" so they saw her as "*a health team member rather than a dietitian.*"

4.7 Needs to Work Effectively

Two major themes surfaced from the participants' description of their need to work effectively as a member of a primary health care team: networking opportunities and continuing education.

4.7.1 Networking Opportunities.

Networking opportunities was the code used to describe all instances where the participant described a need to connect with others. Several dietitians indicated that they felt it would be interesting to network with team members and other dietitians. This is illustrated in the following quotes.

> *"I would love to talk about what other dietitians are doing. I would like to learn about how other person has worked successful as members of primary health care teams."*

> *"I think one of the main things is continuing to connect and work collaboratively with all the team members, like all our local team members and members of the health region as well as northern medical services, which is our physicians, but it's also important that I connect with dietitians across the province. Because I am the only dietitian here, a lot of times I need to call the Pediatric dietitian at RUH or a different community rural dietitian. So really it's very important to have that opportunity to network.*"

And in the case where the lack of health care professionals on the team served as a challenge for this participant, she had this to say:

> *"I need to have the actual people to be on the team with. Working on a reserve is completely different than working for a community as community dietitian for the regional health authority for many many reasons but that is my biggest struggle is that I don't have a diabetes nurse, I don't have a prenatal dietitians I don't have a physician in the same clinic. I have some nursing access but I don't have enough and we don't have a coordinated care plan and we don't have team meetings where we discuss clients and their management and how could we better help them and I know that if we had some of that, we could really do really good things out where I am."*

The need to network with other teams in order to share and learn from their success also surfaced from the interviews. For example participant 3 said, "*I think that one of the things that I would be interested in learning more about is what is or is not working well for other teams in Saskatchewan and nationally."* A few participants including participant 15 who practiced in a large urban team communicated that their need to network was resulted from a feeling of isolation. She said:

> *One thing is I am the only dietitian within the organization so peer support is something that can be a little challenging for me. It gets a little lonely sometimes, just to have another dietitian to talk to, so being able to attend networking meetings with other dietitians and the health region and things like that so I try to do that as much as I can. "*

It seemed that the participants' need for networking was influenced by their geographical setting. However, one participant who described this need practiced in a urban setting.

4.7.2 Continuing Education.

Several participants expressed that continuing education opportunities were essential to them. Continuing education was described as workshops, courses or programs where one can learn new skills and improve knowledge or education. For example, participant 11 reasoned, "*And of course my own learning needs; I need to have the opportunity to continue with my continuing education for me to remain up-to-date as well."* Participant 13 mentioned, "*For us is it really important to have the ability to travel. If travel was taken away from us it would be really difficult because a lot of times you have to go down south and other areas to work and continue education."* On the other hand participant 15 viewed the Practice-Based Evidence in Nutrition (PEN) website as a learning resource which she had access to in the comfort of her office. She stated*, "One wonderful resource that I have is the PEN nutrition site; I would be lost without it because new stuff is on there all the time."* Examples of education opportunities articulated included "*communication skills courses*" and "*insulin adjustment courses, things like that or just to give I. V*." Most of the participants who expressed a need for continuing education were recent graduates who had one year of experience on their teams and also described that their roles reflect what they were trained to do at school. Therefore, this might explain their need for additional skills and knowledge. A few participants also expressed that the knowledge and skills gleaned in school were essential. For example participant 4 said:

> *"Like in school we learnt clinical dietetics and foodservice management and community nutrition and all these things it's just to work in a primary health care team I feel like you need to have kind of a good grasp on all of those things to be able to pull it off."*

Other items such as good communication among team members, confidence, co-location or proximity, support from management and colleagues and trust, were also mentioned as needs. Most of these items seem to be related to one's personal characteristics. Such characteristics also

facilitate collaboration on teams. One participant mentioned that she had such extensive experience in teamwork that it became intrinsic to her. So with regards to her need to work effectively as a team member she said, "I *don't think I have any*."

4.8 Views of Dietitians as Member of PHC Teams

Participants were asked to share their views about dietitians as members of PHC teams. The themes identified were that dietitians are valuable to primary health care teams, but there is an underrepresentation of dietitians on the teams.

4.8.1 Dietitians are Valuable to PHC Teams.

Most participants expressed the view that dietitians are valuable members to primary health care teams. They said that dietitians are an asset to primary health care teams because they have a unique skill set, their training involves teamwork, and nutrition is a determinant of health. For example:

> *"Well I think we are an important part of the team too. Lots of times there are issues from the community that either involves nutrition or prevention or health living so we are valuable in terms of being called on to do a presentation or just throw in a healthy recipe. So I think we are an important part of the team just like the other members are." (Participant 6)*

> *"Oh! I think they are essential. Because, pretty much, every aspect of health is reflected by what you fuelling your body with so I think we have to play a large role." (Participant 10)*

4.8.2 Dietitians are Underrepresented on PHC Teams.

While some participants believed that dietitians are core members of primary health care teams, others suggested that "*there is room for improvement*" and that dietitians "*should be*" seen as core members of PHC teams. Similarly, a few participants indicated that there are "*not enough dietitians*" working on primary health care teams and a "*huge opportunity to expand dietitians'*

positions" exists. In support of her view that, "*a lot of teams don't get the amount of dietitian support that would be ideal*" one participant (Participant 11) described this example:

> *"I know for example one of my colleagues is theoretically a member of seven primary health care teams and because she has that on top of other roles she is not able to be as involved with those teams as would be ideal." (Participant 11)*

It appeared that the underrepresentation of dietitians on primary health care teams is affected by funding decisions. The following quotes illustrate this observation:

> *"We were told by other management that dietitians are valued in word only. They are not willing to provide any resources to increase the amount of dietitian services available. So I think the primary reason why dietitians are underrepresented is that there are just not enough of us to go around." (Participant 11)*

> *"I do feel that dietitians should have more voice at higher levels of decision making because nutrition is a very important part of a person overall health status, if they don't eat well even as young as birth and all the way through, they are going to end up with some outcome from that negative behaviour. So I really feel that this isn't reflected in even funding decisions that are made. My position is a perfect example. One change that has happened however over the past years is that from 2006 my position was 0.75 permanent but they always find extra money to keep me working in a full time capacity and I went on maternity leave last year and during the time I was on maternity leave there was a lot of financial issues with the clinic and they had to do a lot of cut backs and one of those cut backs was my position so I'm now in a 0.5 FTE which definitely has changed what I can do because I have less time and the needs are still the same."*

One consequence of the underrepresentation of dietitians on PHC teams is the high workload identified by a few dietitians given that in most instances they service an entire health region. They suggested that there should be several dietitians within a health region to bridge the gaps in services. As these participants put it:

> *"In [name of place] we are lacking in a lot of areas, we don't have a dietitian in home care or long term care. We have one dietitian in acute care. We have one dietitian doing seven primary health care sites plus everything else, we have my position being spread over five different areas so lots of gaps there." (Participant 11)*

> *"I think dietitians play a really large role on primary health care teams. The majority of the time actually one dietitian isn't enough. As regional dietitian, it's hard to cover all of the different responsibilities like I had mentioned. I think there would be great benefit to having a dietitian in community and then another dietitian specific to chronic disease management with a third dietitian covering clinical food service and long term and home care - that sort of thing."(Participant 13)*

In rural areas there seemed to be lower numbers of dietitians per health region. Therefore, it appears that the constraint of inadequacy may be more prevalent in rural regions.

4.9 Recommendations for Enhancing the Roles of Dietitians as Members of PHC Teams

Each participant was asked to make recommendations to enhance the roles of dietitians as members of PHC teams. The major theme identified was marketing dietitians' roles. Giving themselves more credit and having more specialized roles on the team were also suggested as ways to enhance dietitians' roles. One of the participants perceived that dietitians were well positioned and was uncertain as to what recommendations should be made.

4.9.1 Marketing of Roles.

Many participants suggested that marketing the roles of dietitians could enhance their roles as members of primary health care teams. For example participant 3 said:

> *"I think perhaps raising the profile of dietitians. Just letting people know what dietitians do and what we are capable of doing that's maybe one thing that would help. We find that sometimes it's just a lack of awareness of how we can help in terms of primary health care. And maybe just developing some standards in our province for the number of dietitians that are required for teams might be another thing that could help."*

Participant 9 suggested that awareness of the roles of dietitians in early childhood should be raised. In support of her suggestion she stated, *"we need to get out of the stereotype that we are*

just for sick people. And I guess the other stereotype that's heavy is that we put people on diets. Which is the clinical end of being a dietitian vs. the having fun with kids learning about food."

Suggestions were made to market the roles of dietitians to the public, employers, upper management team managers and political structures. Participant 10 suggested that the roles of dietitians could be enhanced if the roles of dietitians are marketed to upper management who may not have a "health" background. On the other hand participant 12 emphasized that she had the privilege of working in a department where the director is a dietitian and other top management positions are filled by dietitians. She explained that as a result, her role and the importance of a dietitian on the team are well understood. She further explained that otherwise it would be her responsibility as a dietitian to advocate what she can provide. Several other participants alluded that the responsibility of the promotion of the roles of dietitians rest upon the dietitians themselves. However, participant 15 indicated that the responsibility *"comes from many places, from our professional organizations in Saskatchewan, SDA, Dietitians of Canada at the Canadian level and the university*."

Several participants suggested that roles of dietitians could be enhanced if dietitians were more proactive in advocating their roles and increasing their visibility. A few participants shared their experiences to describe how dietitians could become more proactive.

> *"In [name of community] I used to just go to golf tournaments with them and go to their suppers. You know it might not be related to my job but that is part of it. Being visible to the community is huge. So I think that is the biggest… for us to start promoting ourselves because I don't think we do a very good job at that….And even here with the physicians, myself and the exercise therapist, we go to the physicians and say we want to meet with you and tell you what we can do instead of waiting for them to send the referral because they don't know and they are getting there. The more you can say we can do this, they start to reciprocate and you get into this big team and that's not necessarily primary but it can be primary health too."*

> *"Well one thing that I decide to take advantage of was when I found out that [name of community] was formalizing their team and making more regular meetings, I made a*

point to push my way in there slightly and attend those meetings because ideally I think it is great to have those dietitians involvement from the get-go if possible so the dietitians perspective is included in things like the terms of reference when those are being created so that it is kind of the norm to have a dietitian there rather than being someone that you never see so I guess being present is one way to enhance the awareness of the dietitian services. I guess I would encourage the primary health care dietitians to take as active a role as they are able and to speak with their supervisors about the importance of having the time set aside to be involved."

"I thought about writing proposals and letters to advocate for our profession, but who has the time when they are working fulltime."

4.9.2 Other Areas.

Two dietitians felt it would strengthen their roles if they were more specialized in one area of nutrition. Here are their views:

"I would prefer to specialize. Another area that is big on reserve it's the Canada prenatal program and I would love to have someone else just do prenatal nutrition program but I don't. Definitely it would be better. And again, another place I work, another tribal council they had a dietitian that only did prenatal nutrition. And another one that only did diabetes education and then they had another one who kind of did a couple of little different roles but ideally the best way would be for me to specialize and have a scope of practice that is reasonable for the time that I am here and also know that the prenatal would be covered by someone else, individual counselling, if it is diabetes would be covered by someone else that there are other people who has that role covered. That would be ideal." (Participant 1)

"I think because we are pulled into a lot of different areas not only doing one on one counselling we do a lot of group work and a lot of team work. We are also pulled into anything involved with food. A lot of the community events which evolve around food require dietitians. I just think that it would enhance the roles of dietitians if you gave them the opportunity to specialize in one or two areas." (Participant 13)

These participants practiced in rural areas and had relatively larger breadth of roles. Participant 4 felt that the roles of dietitians could be enhanced if they "give *themselves more credit than they do sometimes, they are a worthwhile part of the team*." Once again, participant 5 believed that dietitians are already well positioned on primary health care teams. Therefore, she stated, "*The*

teams I know dietitians are involved in within this region have great roles and they are very much a part of the decision making so I am not sure what to suggest enhancing the roles. I guess to make sure that they are there, they are part of it."

4.10 Summary of Qualitative Findings

The interviews conducted provided insights into the roles of dietitians as members of PHC teams. The qualitative findings conveyed that overall dietitians (1) understands the roles of primary health care teams and their roles therein;(2) belong to primary health care teams which differ in their degree to which they demonstrate the characteristics of true interprofessional teams and the type of clients targeted; (3) dietitians are core members of the primary health care teams but they also provide services as peripheral members; (4) dietitians contribute to clients' health by utilizing health promotion, disease prevention and treatment strategies that falls within their nutrition expertise but some dietitians acquired new skills and knowledge that allowed them to perform roles that traditionally fell within the domain of other health care providers; (5) require opportunities for networking and continuing education to improve practice; (6) perceive that they are valuable to primary health care team but many teams do not receive the support of a dietitian that would be ideal; and perceive that marketing, role specialization and management support has the potential to improve the role of dietitians on primary health care teams.

CHAPTER FIVE: DISCUSSION & IMPLICATIONS

In this Chapter, key findings from the study are discussed and comparisons are made with the relevant literature and other resources. The study's limitations and strengths will be discussed, followed by the implications of the study. Finally, conclusions and recommendations for future research are presented.

5. 1 Do Dietitians Understand the Roles of Primary Health Care Teams?

The participants demonstrated very good understanding of the roles of PHC teams. More specifically, their responses demonstrated an understanding of the relationship between primary health care teams and the principles of primary health care highlighted in the province's health reform plan.

The development of PHC teams was highlighted in the *Saskatchewan Action Plan for Primary Health Care* (Primary Health Care Services Branch, Saskatchewan Health, 2002). The plan suggested that PHC teams should function on the principles of primary health care in order to deliver care and services. Hence, primary health care teams should play an essential role in health promotion, disease prevention and improving access, and enable a more proactive and collaborative approach to management of chronic disease, community participation, intersectoral cooperation, patient/client centred care, community development, and an integration and coordination of services (Primary Health Service Branch, Saskatchewan Health, 2002; Heshka et al., 2011). Each participant was able to relate their understanding of the roles of PHC teams to two or more of these principles.

Several participants indicated that the principles underpinning the roles of primary health care teams are more theoretical than practical. They highlighted the impact of the complex health care environment and lack of resources on the ability of the primary health team to function as

intended in the Action Plan. Even so, they indicated that while they understood the "theory" they are also able to speak of the roles of their primary health care teams in practice. For example, these participants indicated that they were cognizant of their teams' roles in addressing the health needs of the community, diabetes management, chronic disease management, health promotion and disease prevention and providing client-centered care and services as a part of the province's action plan for primary health care. The variety observed in the examples of their teams' roles reflected the dynamism of primary health care teams reported in an earlier article (Nolte & Tremblay, 2005). The authors suggest that the roles of primary health care teams are not static and they should reflect the health needs of the community they serve.

For health care providers, an understanding of the roles of primary health care teams is essential to the delivery of quality services and care and to help shift the health care system away from a predominant focus on illness and cure, towards increased attention to health promotion and disease prevention (Besner, 2004). Therefore, assessing participants' understanding of the roles of PHC is an important component of studies such as these which explore the roles of health care providers in the current health care system. Unlike dietitians in this study, an Alberta study found that physicians demonstrated a significant knowledge deficit regarding the use of teams, the physician's role therein, and the benefits to the community (Calvert-Simms, 2008).

The level of understanding of the relationship between PHC teams and the PHC principles demonstrated by dietitians in this study suggested that they possessed significant understanding of the roles of PHC teams in primary health care reform. This finding was inconsistent with earlier reports that dietitians have been unclear about primary health care reform which is essential to renewal and sustainability of the Canadian health care system, and its impact on their practices or their role in it (Bright-See, 2006). If the latter holds true then

methodological enhancements and areas for future research are needed identified. One limitation associated with providing interview guides to participants in advance is that they had the opportunity to rehearse responses to knowledge questions. This approach could have potentially influenced the outcome of the question, "what is your understanding of the roles of primary health care teams?" However, the fact that the participants were able to dissect the concept into theory, practice and personal experiences offers some credibility to the findings.

5.2 Do the Teams Really Work as Primary Health Care Teams?

The participants were asked to describe the primary health care teams that they were members of in an effort to get a clear picture of the organizational structure and team goals, and to identify the elements of interprofessional collaboration on the team. In health care settings, individuals from different disciplines often come together to care and provide services for clients. Although these groups of health care personnel are generally called teams, they need to earn true team status by demonstrating teamwork. Developing health care teams requires attention to two central questions: who is on the team and how do team members work together (Grumbach & Bodenheimer, 2004)?

5.2.1 Types of Teams.

With regard to the organizational structure and goals, two types of teams were identified from the participants' responses; program teams and generalized teams.

The types of teams identified in the analysis were not explored in the interviews, but the description of the program team seem to compare favourably to that which is described in the document, *Guidelines for the Development of a Regional Health Authority Plan for Primary Health Care* (Primary Health Care Services Branch, Saskatchewan Health, 2003). Program

teams form part of the network of teams in Saskatchewan and are connected to all other teams (central team, satellite and visiting team) in the network. Some examples of these teams may be mental health, specialized programs, special care homes, public health, emergency response teams, and chronic disease management teams (e.g. diabetic management teams).

The other type of teams identified from the participants' responses was labelled as generalized teams because they addressed the needs of the general population of clients, often with diverse health needs. These teams were characterized by a wide variety of professionals from various disciplines who provided services reflecting their particular expertise, but the size of the team was affected by staff shortages in certain rural areas. Several participants gave examples of generalized teams who received support from facilitators of team development from the onset of team formation (Heshka et al, 2011; Med-Emerg International Inc. & Centre for Strategic Management, 2004). The presence of community members on several of those general teams was reported to be appropriate as it matched the team community-centered approaches and facilitated the process of identifying the community's health needs. Effective communication strategies on teams involve listening to the community rather than telling the community what should be done.

Collaboration on program teams was greater than other teams, as was suggested from members from both types of teams. Xyrichis and Lowton (2008) reported that team structure (team location, size, and composition) and team processes (organizational support, team meetings, and clear goals/objectives) were the primary factors impacting PHC teamwork. There is a growing body of evidence that illustrates that team- based care improves people's health. According to Health Council of Canada (2009), research strongly supports the use of collaborative teams for people with chronic disease, for mental health issues and for specific

populations, but there isn't enough evidence to date that shows whether teams would make a difference to the general population.

5.2.2 Factors Influencing Collaborative Work Relationships.

Research on primary health care teams focused on the factors that influence collaborative experiences among team members or the barriers and facilitators of interprofessional collaboration in primary health care teams (Barret, Curran, Glynn & Godwin, 2007; D'Amour et al., 2005; Deber & Baumann, 2005; Hall, 2005; Hutchison, 2008; McPherson & McGibbon, 2010; Nolte & Tremblay, 2005; Oandasan et al., 2009; Sicotte, D'Amour & Moreault, 2002). In this study, participants identified several factors influencing interprofessional collaboration on their teams. The factors mentioned were consistent with factors identified in the literature. While not significant in terms of the number of participants who identified each factor, in this instance, significance was given to the merit of the insights of the participants and the advice of a supervisory committee member. The factors included decision-making process, staff shortage, time, geographic proximity and trust.

Despite the promotion for interprofessional collaboration, teams with autocratic decision making strategies were still evident in some primary health care teams. When a participant indicated that everything comes down from management, she was in fact describing the decision-making strategy on her teams. Riley, Harding, Meads, Underwood and Carter (2003) contend that hierarchical power structure is an inhibiting factor to teamworking. Some teams also functioned as physician-dominated teams with the physician at the forefront of decision-making. In contrast, the responses of some participants demonstrated decision making strategies that reflect equal opportunities for all with regards to decision-making. The latter is consistent with suggestions that involvement of the whole team, consensus-building, collective decisions and

joint planning were strategies that enabled an interprofessional collaborative service delivery model on teams (Martin-Misener &Valaitis, 2008; Sicotte, D'Amour & Moreault, 2002;).

Staff shortages were identified as a barrier to interprofessional collaboration by a few participants. Staff shortages were related to feelings of frustration and stress. These sentiments were expressed specifically by participants practicing in rural areas. A qualitative study exploring hospice social workers' perceptions of interprofessional collaboration and the impact of organizational characteristics also indicated that lack of staffing was a significant issue affecting the success of interprofessional collaboration (Parker-Oliver & Peck, 2006).

Several participants expressed how limited availability of time affected their participation in primary health care teams. Recent health services research explored time as a factor impacting interprofessional teams. For example, time was highlighted as a barrier to health care professionals' engagement in effective collaborative practice (Oandasan et al, 2009; Thompson et al., 2008,). Limited time was the result of multiple team membership and having to travel to different communities served by the team. This was common among rural participants, especially those who used metaphors such as "Jane-of-all-trade" and "generalist" to describe the breadth of their roles. The issue of lack of time also resulted from staff shortages and work overload (Parker-Oliver & Peck, 2006).

Several participants felt that geographic proximity, including co-location, facilitated collaboration. Oandasan et al. (2009) reported that the quantity and quality of interprofessional communication and collaboration in Canadian PHC teams was significantly impacted by space and time issues. The researchers highlighted that the co-location of team members and availability of space for interpersonal interactions were important factors for relationship-building and establishing team cohesion. The influence of geographical proximity of team

members, including co-location, was identified in several other others studies (Gabhainn, Murphy & Kelleher, 2001; Jesson &Wilson, 2003; Kharicha, Iliffe, Davey, & Fleming, 2005; Martin-Misener & Valaitis, 2008). For dietitians in the study, co-location was a crucial facilitator of effective communication necessary for successful interprofessional collaboration. To them, effective communication included the ability to make brief, unscheduled visits into colleagues' office. Informal types of communications such as these are thought to overcome the frequently cited barriers of time commitment and scheduling (Larson et al, 2006). In cases where participants felt restricted by geographic boundaries, they identified the value of regular monthly staff meetings for promoting collaboration and enhancing communication. The use of information sharing systems such as electronic medical records was also reported as a facilitator of interprofessional collaboration on the team.

Most participants described their working relationships with team members as collaborative but emphasis was placed on the relationship with the team's physician(s) in many cases. Findings indicated that working relationships with physicians were based on the level of trust and length of time working on the team. Building strong relationships takes time so it was reasonable for participants with more than six years on the team to emphasize the value of trust from physicians. Trust was frequently related to the willingness of the physician to delegate tasks. Chan et al. (2010) found that general practitioners had limited understanding of the roles and capabilities of dietitians and this influenced the extent of their collaboration, referral behaviours and trust.

Several participants perceived that they belonged to teams which truly epitomized the concept of primary health care teams. Based on the participants' perspectives, these teams are clearly differentiated by shared goals, team-building and evaluation activities, and leadership

support from reform initiatives such as the Western Canadian Interprofessional Health Collaborative.

Interprofessional collaboration on PHC teams is dependent on the foundation of a well-functioning PHC system at federal and provincial levels (Barrett, Curran, Glynn & Godwin, 2007; Health Council of Canada, 2005a; 2005b; Rygh & Hjorttdahl, 2007). In Saskatchewan, several initiatives addressed the issue of primary health care team development throughout the province: the action plan for Saskatchewan health care funded by the primary health care transition fund (Primary Health Care Services Branch, Saskatchewan Health, 2002), the pilot project in PHC team development (Med-Emerg International Inc. & Centre for Strategic Management, 2004). The more recently established Western Canadian Interprofessional Health Collaborative initiative continues to provide the province with leadership and support in collaborative practice (Suter & Deutschlander, 2010). This important milestone is likely to strengthen PHC initiatives across the province (Med-Emerg International Inc. & Centre for Strategic Management, 2004; Health Council of Canada, 2009; Heshka et al., 2011).

Shaw, De Lusignan and Rowlands (2005) also found that teamworking was limited by the absence of a common goal, recruitment difficulties, inadequate communication and hierarchical structures in their study, which explored whether the professionals in primary health care teams work as a team. Problems with recruitment heightened the difficulties with communication and led to feelings of low morale and loss of motivation. In hierarchical practices, general practitioners were usually dominant and often limited the level of staff participation in planning and decision-making, therefore reducing feelings of shared ownership in the future development of the team.

5.3 What are the Roles of Dietitians as Members of Primary Health Care Teams in Saskatchewan?

The interviews with fifteen dietitians who were members of primary health care teams in Saskatchewan provided personal insights into their perceptions of their roles on their team(s). The perceptions shared by the participants yielded two categories that described their roles as team members. The themes were grouped into two categories: "Nutrition Support" and "Beyond Nutrition Support."

5.3.1 Nutrition Support.

Participating dietitians perceived themselves as team leaders in nutrition, providing nutrition support to clients and other team members. That role included the delivery of interventions such as nutrition assessment, nutrition counselling, nutrition education, and health promotion. This finding endorses recommendations that dietitians in primary health care teams be the member responsible for overall management of nutrition services from needs assessment to program delivery, and providing support to all other providers' activities around nutrition issues (Brauer et al., 2006). These recommendations resulted from a Delphi process that was used to determine the preferred options for organizing interprofessional nutrition services in Ontario Family Health Networks and similar primary health care organizations. Similarly, dietitians in acute care interprofessional teams believed that their primary responsibilities were to educate staff and patients on various aspects of nutrition care as well as to provide expertise on nutrition-related issues (Dahlke, Wolf, Wilson & Brodnik, 2000).

Although most participants provided leadership in nutrition support, there were three issues which arose from the description of their roles that were worthy of further discussion.

Firstly, several participants described "*being careful not to work beyond professional boundaries", "entry level roles", "what I learnt in school", "what I was trained to do", "what is laid out for me", "my comfort zone or the typical role of a dietitian*." Several participants made reference to term scope of practice or described their boundaries of practice when describing their roles. The ideological differences in perceived role boundaries among participants suggested that while legislation, standards and other regulatory controls determine the overall scope of practice and the boundaries of practice for dietitians as a professional group, other boundaries may influence their roles on an individual level: boundaries set by employers, individual level of competence, geographic location, needs of clients and practice setting (Association of Registered Nurses of Newfoundland and Labrador, 2006). There are significant differences between provincial jurisdictions, with Alberta and British Columbia having the most comprehensive legislation. Others like Saskatchewan, have limited or no legislation addressing what dietitians can and cannot do (Health Professions Regulatory Advisory Council, 2008), suggesting that there may be a need for provincial bodies to clearly define the dietitian's scope of practice.

Several participants described that their roles on the team were limited to nutrition support. These participants acknowledged that they were new to practice and that their roles were restricted to those activities that their level of expertise would allow. This suggests that those dietitians that were entering practice were more likely to practice within prescribed boundaries. The more seasoned dietitians were comfortable assuming additional roles.

The second important issue that came out in the participants' description of their roles was what the participants described as, "*looking at the clients as a whole*". In this study, participants described their ability and inclination to assess clients as a whole in order to determine the client's needs and direct them to the right provider or service to better meet their needs. There seems to be an important relationship between the issue of perceived role

boundaries and the tendency to look at the clients as a whole. A few participants explained this as an ability that comes with years of practice, however entry-level participants also expressed that they also assess clients as a whole.

According to Dietitians of Canada (2009) dietitians are fundamental to the implementation of the primary health care approach as members of primary health care teams because they recognize the broader determinants of health. The determinants of health describe the key factors that "determine" health status or level of health (Raphael, 2004). The twelve key determinants are income and social status, social networks support, education and literacy, employment, social environments, physical environments, personal health practices and coping skills, healthy child development, biology and genetics endowment, health services, gender and culture. Participants were assessing the clients as whole in an effort to identify the key factors which influenced their health. Planning and directing programs which addressed the determinants of health were one of the most common roles mentioned. Those programs often included health promotion interventions such as nutrition education, grocery shopping tours and cooking. However, they also incorporated components that addressed other determinants of health such as poverty and education. Given that community dietitians recognize the factors that impact on health, they also use a range of strategies to address them. A key strategy is to link with other sectors such as schools, childcare facilities, housing, social services, public health, environmental groups, faith-based groups, and other non-governmental and volunteer organizations to provide a more comprehensive approach (Community Dietitians in Health Centres Network, 2004).

The third issue was what the participants referred to as "*sharing their nutrition expertise with team members*." Most participants explained that this was an important component of their

role and that their expertise was constantly being sought after. As a team member, this role is perceived as quite important by participants. Often dietitians as members of PHC teams are seen as highly credible and respected sources of nutrition information for the public. However, other team members may also demonstrate varying levels of expertise and/or interest in nutrition (Brauer et al., 2006). For example, the 2006 Canadian Clinical Practice Guidelines on the Management and Prevention of Obesity underscore the importance of nutritional assessment and dietary intervention as part of an integrated approach within the PHC setting (Lau et al. 2007). In other words, the guidelines require that family physicians and other primary care providers are competent in the provision of nutrition advice. However, barriers such as lack of time, compensation, lack of nutrition knowledge and inadequate training may hinder non-nutrition health care providers from fulfilling this role (Cadman & Findlay, 1998; Green, McCoubrie & Cullingham, 2000; Wynn, Trudeau, Taunton, Gowans & Scott, 2010; Kennelly, Kennedy, Rughoobur, Slattery & Sugrue, 2010). It is important therefore, that dietitians share their expertise with other team members and maintain collaboration and communication with health service providers who may be the major provider of the care in certain locations or context.

Dietitians may share their expertise by training other health care providers who lack nutrition knowledge. Cadman and Findley (1998) demonstrate that nutrition training from a dietitian in PHC teams improved the nutrition knowledge of practice nurses in South West England. Studies show that dietitians improved the knowledge of health care providers by sharing the expertise through formal education programs (DeChicco, Neal & Guardino, 2010), sessional lectures (Lyon, Colquhoun, Hillman & Alho, 2006), nutrition courses (Scolapio, DiBaise, Schwenk, Macke & Burdette, 2008) and booklets (Kennelly et al., 2010). Dietitians, in particular, are uniquely qualified to teach nutrition to health care providers. Participants indicated

that their roles involved training of elementary school teachers, outreach workers, and community members who serve as peer leaders or facilitators of community nutrition programs.

5.3.2 Beyond Nutrition Support.

The category, "Beyond Nutrition Support" is used to describe the additional activities which dietitians engaged in beyond the nutrition support role. Several participants indicated that they performed roles outside the scope of nutrition, in addition to their responsibility for managing all aspects of nutrition services.

Some of those additional roles include: (1) coordinating and directing care between clients and team members depending on their availability in the primary health care setting; (2) contributing to decision-making and planning depending on team structure and their level of involvement on the team; (3) advocating for clients in underserved and remote communities and (4) participating in reform activities such as advertising teams' services; and providing an "extra pair of hands" in services such as administering vaccinations. Each of these exemplifies the roles that dietitians may perform as a core member of PHC in addition to their primary role. A few participants used metaphors such as "generalist" and "Jane-of-all-trades" to describe the diversity in roles. Participants explained that performing roles outside the scope of nutrition support is part of meeting the needs of the community and the teams' goals.

5.3.2.1 Certified Diabetes Educators

The role of the dietitian as a Certified Diabetes Educator and their value as an advanced practitioner within the primary health care team is discussed here. Several dietitians were Certified Diabetes Educators and performed roles outside the scope of nutrition and into diabetes

management. Their primary role as the teams' nutrition expert persisted; however, their expertise was expanded to enable them to work within the context of client's overall management plan. On primary health care teams, this reduces fragmentation and promotes a more holistic approach towards diabetes management with the patient at the centre of the program of care (Worth & Vyas, 2002). This role is significant and worthy of further discussion on the basis that it demonstrated how the roles of dietitians has evolved and blurs in primary health care teams. Within primary health care teams, where individuals with distinct expertise collaborate to provide health services, the role boundaries start to blur and overlap (D'Amour et al., 2005).

The dietetic profession originated from home economics (Brownridge & Upton, 1993) and that history led to a traditional association of dietitians being food-service managers of hospital kitchens rather than highly educated members of primary health care teams (Erickson-Weerts, 1999; Calabro, Bright & Bahl, 2001). According to Hewat (2009), hospitals, and the role for the hospital dietitian, will always be there but there is a clear move towards enhancing primary health care in the community and an increased awareness of dietitians' role in the prevention and management of chronic diseases. During the last decade, experienced dietitians have specialized in diabetes and are performing duties outside 'conventional' dietetic practice (Worth & Vyas, 2002).

As certified diabetes educators, participants in this study performed a variety of tasks which fell beyond nutrition but within diabetes management (keeping in mind that they still advised clients on optimal nutrition). Examples of the tasks mentioned were reading blood pressure, facilitating blood glucose monitor reading workshops, and educating clients on medication modification, insulin adjustments and diabetic foot care. Furthermore, the level of training of these certified diabetes educators evolved to include advanced practice roles that were

previously the domain of physicians. Most of them indicated that with prescriptive authority, given at the discretion of the individual physician, they were able to adjust insulin doses and modify medication for individual clients.

These advanced practice roles are both diagnostic and prescriptive in nature and include also, ordering and interpretation of laboratory tests, dietary assessments, and prescription and medication adjustments (Cypress, Wylie-Rosett, Engel & Stager, 1992). In the process of member checking, the level of difficulty that dietitians as a profession have in ordering laboratory tests generated a discussion on the issue. A few participants present indicated that they would always be asked, "what are you doing with it?" in their attempt to obtain lab values for their clients. The benefit of electronic medical records was highlighted, as one participant indicated that she had access to the patients' records through the EMR. Two others indicated that they did not face any type of difficulty in ordering laboratory tests. Nonetheless, the participants' involvement in these advanced roles clearly demonstrated that experienced dietitians are performing tasks outside previously accepted practice.

In the Delphi process conducted by Brauer et al. (2006) there was "consensus that the dietitian should have the ability to perform certain specific controlled acts that are integral to delivery of nutrition services but were outside of their scope of practice, using medical delegation processes (p. 21). The study proposed that with the appropriate delegation of controlled acts, all competent dietitians would be able to adjust insulin and medication dosages, and perform capillary blood glucose testing by finger pricking. Previous research among dietitians as members of interprofessional acute care teams suggested that the dietitians would like more responsibility but were comfortable in their clinical/professional roles (Dahlke et al. 2000). The researchers used focus groups to explore the roles of dietitians in interprofessional

acute care teams and found that dietitians believed that they should have roles such as taking blood pressure, drawing blood, or inserting feeding tubes but they were resistant to change within the health care environment.

Community dietitians bring a broad array of skills to the team; however, they are being called upon to expand their roles if they want to have an impact in the new model of health care. These findings suggest that dietitians are responding to the current health care environment by expanding their roles and acquiring new skills, mainly in the form of certificate programs such as Certified Diabetes Educator Program. One participant indicated that she was a certified LiveWell Chronic Disease Management facilitator. The choice to pursue these specialized certificate programs, especially certification in diabetes education, indicates the participants are deepening their knowledge in a particular area and becoming more specialized. In fact, a few of the Certified Diabetes Educators indicated an interest in having more specialized roles but there was the realization that there are not enough dietitians in practice to staff specialized roles. In rural areas in particular, specialization was not feasible considering the diverse health needs of the community. The ability to specialize was seen an opportunity to focus on undifferentiated groups of clients and reduce work load but it was also seen as a threat. The threat could be manifested as a demise of the desired generalist role, the potential to aggravate the shortage of dietitians and the potential to challenge efforts being made at an integrated approach to health care.

When asked, most of the participants identified themselves as community dietitians. However, a few of these participants indicated that they modified their title to suit their area of focus. Diabetes dietitian was a common example of a modified title. One participant indicated *"I put diabetes in front of my title because diabetes is an epidemic and I know that the majority of people I would come across are going to be touched by diabetes in some way."* Diabetes is the

prevailing health problem in many Canadian communities (Dietitians of Canada, 2009) and diabetes management is the primary focus of some primary health care teams. For this reason, the tendency for dietitians to expand their roles into the area of diabetes management is well-justified. The tendency is interpreted as the dietitians' response to the prevailing health problem within the community.

5.3.3 Factors Influencing Dietitians' Roles in PHC Teams.

There is a lack of research focused on dietitians' roles as members of primary health care teams. Furthermore, researchers who have addressed the roles of dietitians as members of primary health care teams have not explored the factors that influenced their roles. This study identified several factors that participants saw as influencing their roles as members of primary health care teams. These factors included the interrelated characteristics of level of expertise and years of experience, management support, and geographical location. Of these, years of experience and geographical settings were identified as most important.

Researchers who addressed the practice of dietitians in community settings identified statistically significant differences between dietitians' years of experience and level of education with regards to areas of advanced practice in Canada (Wildish & Evers, 2010). Brown, Williams and Capra (2010) also demonstrated that the characteristics of rural practice (professional isolation, high workload) and level of management support has implications for recruitment and retention for dietitians. Knowledge of these factors may contribute to an understanding of the factors that influence the roles of dietitians on primary health care teams. It is also important as it demonstrates that efforts directed towards professional development must also consider the factors that impact the roles. Failure to address these can inhibit professional development

(Wildish & Evers, 2010; Devine, Jastran & Bisogni, 2004) and by extension dietitians' involvement on PHC teams.

Participants' years of experience had influence over their roles on PHC teams as participants who described themselves as being "new" to practice or had less than five years of experience in practice were more likely to practice within the perceived professional boundaries of a dietitian. Based on these findings, one could suggest that entry-level dietitians who are involved in primary health care teams may benefit from training opportunities to expand their roles. As Skipper and Lewis (2005) pointed out, opportunities for professional growth beyond entry-level practice are required to enhance practice in the community. Greater involvement on teams was demonstrated by more experienced participants who also had expertise in specialized areas.

Research suggests that dietitians who are new to team-based practice may need to "take risks" because the health care environment does not support dietitians without new skills (Dahlke et al., 2000; Wildish & Evers, 2010). Risk takers are considered as those who challenge the status quo and enter unknown territory (Bradley, Young, Ebbs & Martin, 1993; Furlong & Smith, 2005). Wildish and Evers (2010) found that risk-takers differed by years of experience. Therefore, findings in the current study were consistent with that reported by Wildish and Evers (2010) since the more experienced participants described roles beyond nutrition support such as medical management of diabetes. Worth and Vyas, (2002) suggested that extended roles such as these can only develop with many years of experience within a well-supported team. Wildish and Evers (2010) also reported that a minimum of five years is needed to develop advanced practice. This was demonstrated in the current study as the participants with CDE credentials had years of experience ranging from six to twenty.

Findings from this study suggest that if dietitians new to practice are going to "challenge the status quo" as it relates to their team roles or "enter unknown territory" they will require support from management. A few participants who were new to practice explained that it was rewarding to have flexible managers. The reward was related to their ability to "take an idea and run with it" and "provide an extra pair of hands" in team tasks that fell beyond their responsibility of managing the nutrition services. Given that the flexibility of the employers influenced the roles of participants, management systems which support entry-level dietitians is also essential. Wildish and Evers (2010) indicated that inflexible organizational structures and lack of senior management support were among the top factors that impede the development of advanced practice. Management support was identified as one of the factors that needed improvement in strategies to improve recruitment and retention in rural areas.

Geographical location also had an impact on the breadth of roles of the participating dietitians. The participants highlighted perceived differences between rural and urban practice. Rural practice was seen as being broader in scope, less restrictive and more diverse. These concepts were personified with the use of metaphors such as generalist and Jane-of-all-trade.

Whilst many of these participants viewed the breadth of their roles in a positive light, a few others viewed it in a negative light. Some participants were confident that the diversity of their roles portrayed "what dietitians can do" and offered the benefit of "not getting bored from doing the same thing all the time". Similarly, dietitians in rural Australia described the diversity of the workload and a sense of autonomy in the workplace as appealing (Brown, Williams & Capra, 2010). On the negative side, a few participants in this study viewed the diversity of their roles as a burden and expressed their desire to have more specialized roles.

The health status of rural communities may justify why the dietitians who practiced therein had broader scopes of practice. In general, rural individuals are characterized as being less healthy overall in comparison to their urban counterparts. In their study, "How Healthy are Rural Canadians?", DesMeules and Pong (2006) reported that rural dwellers reported higher rates of smoking, higher exposures to second-hand smoke, higher overweight/obesity rates and lower rates of fruits and vegetable consumption.

Another argument for the in favour of the greater breadth or diversity of roles among rural dietitians may be that it is most desirable in rural PHC settings. As described earlier (section 4.2.2) the composition of the teams was slightly different in a few rural areas as many of the health care professionals were unrepresented on the primary health care teams. The nature of rural communities means that there are fewer hands which lead to more responsibilities (Chan & Barer, 2000; Thommasen, Lavanchy, Connelly, Berkowitz & Grzybowski, 2001; Brown, Williams, Capra, 2010). Therefore, there is a tendency to see greater overlaps in practice in rural areas.

5.4 Factors Identified as Important to Function Effectively on PHC Teams

Participants were also asked to indicate their needs to function effectively as members of the PHC team. Networking opportunities and continuing education opportunities were the two main ones identified.

Participants suggested that networking with other teams in the province and the country would provide an opportunity for them to learn or mirror their innovations and successes related to teamwork and delivery of health care. This need is well justified since there are perceived differences in the progress of the teams within the province, and the organization and delivery of

primary health care varies across the country. According to Davidson, Dietrich and Brauer (2006) there are some interesting innovations that are occurring in programs that should be shared and perhaps adapted to other primary health care settings across the country.

The need to network with other dietitians emerged due to feelings of isolation and lack of resources. The feeling of isolation was expressed by urban as well as rural participants. However, one rural participant expressed a need to network with urban dietitians in order to improve her capacity to provide care. She felt that she lacked resources compared to urban dietitians. Interestingly, one urban dietitian indicated that her needs (which she already had access to) were access to knowledge resources such as practice-based evidence in nutrition and a computer. She further explained that she was grateful for these resources and that without them she would be "lost". Therefore, there may be some geographical differences in the networking needs of the participants. Other studies identified the issue of isolation from peers and lack of opportunities for networking with professional peers as a challenge for rural community dietitians (Brown, Williams & Capra, 2010; Devine, Jastran & Bisogni, 2004).

One rural participant expressed the need to network with other health care professionals since staffing was a challenge for her team. As indicated by this participant, addressing the lack of key team members is a significant need since it leads to work overload and longer hours of work. According to Gingras, De Jonge and Purdy (2010), professional burn out among dietitians may impinge on the dynamics within PHC care team. The researchers found statistically significant relationships between hours worked per week and emotional exhaustion and depersonalization in a study to establish the prevalence of and demographic variables associated with burnout among dietitians in Ontario, Canada.

A need for continuing education was also identified as important to function on PHC teams. The researcher did not probe; however, two interest areas were identified- "*communication skills*" and "*hands on skills*". Examples of hands-on skills were insulin adjustment, blood pressure measurement, and I.V. administration. These areas were discussed as skills that could be included in the educational preparation of dietitians. According to Skipper and Lewis (2005), the educational model in dietetics was developed almost a century ago and designed to prepare entry-level practitioners. The researchers identified a need to develop educational programs that amplify the existing models for educating dietitians. However, there is reason to believe that since then, educational institutions has been making adjustments to their curriculum to adequately prepare dietitians.

The certified diabetes education program can be considered as one of those programs that have the potential to expand the skills and knowledge of dietitians. Based on the roles described by participants who were certified diabetes educators, it appeared that they possess those skills desired by other participants, especially those at entry level.

Dietitians identified the lack of access to continuing education and resources as one of the negative characteristics of rural practice in Australia (Brown, Williams & Capra, 2010). However, there were no geographical differences related to the issue of continuing education in the current study. Wildish and Evers (2010) suggested that the inability to access relevant continuing education opportunities was a barrier to advanced practice.

According to Bright-See (2006), dietitians have always been client-focused and have a long history of collaboration. This is consistent with findings from this study as one of the more experienced dietitians indicated that she had no needs because teamwork was intrinsic to her. A few of the entry-level participants indicated that the interprofessional practice facilitated during

their educational preparation contributed to their level of preparation for teamwork. The study shows that student dietitians believe that interprofessional education has considerable potential for improving interprofessional relationships (Whelan et al., 2005).

Support from management was one of the less popular needs expressed. However, this need has significance because a few participants indicated that flexible management was one of the factors influencing their roles and enabling professional autonomy. Management support has been identified as one of the top factors that can impede the development of advanced practice (Wildish & Evers, 2010). Brown, Williams and Capra (2010) found that improved management support was one of the key strategies for improving the recruitment and retention of dietitians in rural areas in Australia.

5.5 Views- Dietitians Perception of Their Importance on PHC Teams

In general, participants shared the views that dietitians are important members of PHC teams. In 2001, Dietitians of Canada (2001) recommended the establishment of effective systems to integrate nutrition services into primary health care as a means of promoting health and reducing the burden of illness. In 2006, two documents, described earlier in the literature search, which recommended increased access to nutrition services through the involvement of dietitians as members of interprofessional primary health care teams were released: *Building a vision of dietitian services in primary health care* (Cantwell, Clarke & Bellman, 2006) and *Nutrition in Primary Care: Using a Delphi Process to design new interdisciplinary services* (Brauer et al., 2006). Consistent with these recommendations, all participants perceived that dietitians are currently important members of primary health care teams. Also consistent with the literature, participants felt that dietitians are constantly engaged in delivering primary health care services and care because nutrition is an important determinant of health (Romanow, 2002; Brauer et al.,

2006; Ciliska et al, 2006; Commission on Social Determinants of Health, 2008; Dietitians of Canada, 2009; Wynn et al, 2010).

However, even those participants who indicated that their role was important on PHC teams suggested that there was room for improvement. Consistent with other studies, the participants believed that challenges faced by dietitians as members of PHC teams suggest that they have a lower professional status relative to other health care professionals (Devine, Jastran & Bisogni, 2004). According to Calabro, Bright, and Bahl (2001), the lower professional status and monetary compensation of dietitians relative to other health care professionals with similar levels of education and training, is a direct result of traditional stereotypes, lack of resources, cultural obstacles and lack of advanced academic program. The researchers supported their claim to the lack of academic programs by showing that only 49% of countries (n=61) surveyed had graduate academic programs in dietetics.

The need to highlight the important role of dietitians on PHC teams is reflected in the following statement that, "all Canadians have access to nutrition expertise through an RD as part of an interprofessional primary health care team" (Cantwell, Clarke & Bellman, 2006). A 2009 Dietitians of Canada document highlighted the potential contribution dietitians make in PHC settings, and suggested that adequate numbers of dietitians in PHC settings are required to ensure the health of Canadians. Participants in this study also had the view that dietitians are underrepresented on PHC teams because of inadequate numbers. The cost of adding needed professionals on a PHC team may also be an issue (S. Achilles, personal communication, September 24, 2010). The results of a literature search suggested that the estimated direct cost of adding one fulltime dietitian to Family Health Network in Ontario was US$ 78,169-$ 80,169 when the dietitian was an independent contractor (Witt et al, 2006).

5.6 Participants' Recommendations for Enhancing their Roles

The current study identified strategies that can be adopted by dietitians to enhance their roles as members of primary health care teams. The strategies included: marketing the roles and value of dietitians and gleaning additional expertise. Participants suggested that greater support from team members and management could enhance their roles as members of primary health care teams. A few participants suggested that dietitians simply need to ensure that they are "there", on those teams.

Participants discussed the lack of awareness of dietitians' role and suggested that the full extent of the dietitian's role was not well understood. The lack of awareness was perceived to be contributing to a lack of appreciation for the role of dietitians. Participants suggested that this problem could be resolved if the roles of dietitians is marketed to the community, employers and government personnel. Studies have repeatedly suggested that dietitians need to enhance their core dietetic skills with marketing, business, political, counselling and advocacy skills to advance the visibility and image of the profession, to improve its prospectus for funding and reimbursement, to win a place on work teams, and to add value to the teams if they want to be successful (Balch, 1996; Dahlke et al., 2000; Hewat, 2009). Consistent with the literature (Cantwell, Clarke & Bellman, 2006) participants suggested a need for advocating the roles of dietitians through publications. Several participants commended the current study and indicated that studies such as these are important in raising the awareness of roles of dietitians as members of primary care teams.

One marketing strategy worthy of discussion is what the participants referred to as "being present on primary health teams" or "ensuring that they are represented". Being present for these participants meant volunteering dietitian membership at the onset of team development,

participating in team processes (decision-making, communication) and contributing expertise to the delivery of care and services. Authors suggested that dietitians were uncertain about how reform would affect their practices (Cantwell, Clarke & Bellman, 2006; Bright-See, 2006). However, the Saskatchewan Action Plan for Primary Health Care indicated that dietitians would be integrated as members of PHC teams. Although participants acknowledged that dietitians are currently active members of PHC teams, there were suggestions that "there is room for improvement." As indicated earlier, participants felt that many primary health care teams do not receive ideal representation from a dietitian. The presence of dietitians as members of PHC teams offers the benefit of increased access to nutrition services (Brauer et al, 2006).

Opportunities for continuing education and greater management support were highlighted as needs to function effectively but these themes were also suggested as strategies for improving the roles of dietitians as members of primary health care teams.

5.7 Strengths and Limitations of the Study

This study highlights the roles of dietitians on PHC teams, noting particularly that roles do differ based on geographical setting and years of experience.

The results provide some interesting insights into the team experiences, roles and needs of dietitians who are members of PHC teams in Saskatchewan, a province known to be leading the country in interprofessional primary health care team development. Consequently, the participants had first-hand and current experience to draw on.

From an interpretive perspective, this research study was not about the transferability of findings. It was about providing the reader with "sufficient information about the research context, processes and participants" (Morrow, 2005, p. 252), such that readers could determine the meaningfulness of the findings relative to their own lived experiences. However, the findings

of this study may be transferable to the population of dietitians who are members of primary health care teams in Saskatchewan. The study explored the experiences of dietitians from different demographical data (PHC setting, geographical settings, and years of experience). Furthermore, although the study was conducted in Saskatchewan, it may have implications for other dietitians since the findings of the study could be successfully situated in the broader literature (see Table 5.1).

Finally, several approaches were taken to help ensure the trustworthiness of the data (See section 3.10.). Together, the use of these approaches during the research process established credibility, transferability and conformability of the findings.

The recruitment of participants was limited by the absence of an established list of dietitians who are members of PHC teams in Saskatchewan. Therefore, the lack of this classified information and the difficulties inherent with the use of one main strategy caused the researcher to use multiple strategies to recruit potential participants for the study.

Gathering data from multiple sources is one method used in qualitative research to achieve trustworthiness. However, in-depth interviews with study participants were the primary method of data collection. This may limit the credibility of the data. Additionally, the researcher found that as the analysis progressed the data became repetitive in nature. A second method of data collection, particularly focus group discussion, may have strengthened the study. This suggestion is based on the assumption that the participants' interaction would have produced new data. Given the limitation, considerable effort was made to triangulate the findings with that of other sources from the literature as depicted in Table 5:1 below

Table 5.1. Situating the key findings within the literature.

Key Findings	**Literature**

Participants provided leadership in the area of nutrition support to clients and team members.	Dietitians in primary health care teams be the member responsible for overall management of nutrition services from needs assessment to program delivery, and providing support to all other providers' activities around nutrition issues (Brauer et al., 2006).
The roles of participants included performing tasks which fell beyond nutrition.	Dietitian should have the ability to perform certain specific controlled acts that are integral to delivery of nutrition services but were outside of their scope of practice, using medical delegation processes (Brauer et al. 2006).
More experienced dietitians had more advanced roles.	Statistically significant differences between dietitians' years of experience and level of education with regards to areas of advanced practice in Canada (Wildish & Evers, 2010).
Participants perceived that increased marketing will be helpful in enhancing their roles.	There is need for advocating dietitians' services in PHC (Cantwell, Clarke & Bellman, 2006).

Relative to rural dietitians, the number of urban dietitians who participated in the study was limited. It is possible that a larger number of urban participants would strengthen the urban-rural perspectives. This assumption is made on the basis that the differences were more direct accounts than observational accounts.

Finally, the in-depth interview with the study participants was the researcher's first experience with this qualitative method. Although the role of the researcher as interviewer was clearly understood, opportunities may have been missed to encourage participants to elaborate on the perspectives they were sharing. Furthermore, the limited skill of the researcher may have affected what appeared to be a very lively and animated discussion during the process of member checking.

5.8 Implications for Primary Health Care Leaders and Policy Makers

Health leaders and policy makers need to consider how the organizational environment impacts the dietitian's role and how to promote such an environment (flexibility, respect,

collaboration, variety). These characteristics can influence the experience, recruitment and retention of dietitians in PHC teams.

The importance of management support was highlighted in several themes throughout this study. A priority for health leaders and policy makers is to provide support that is adequate for dietitians, especially entry-level dietitians. Failure to provide adequate support has the potential to impede the effectiveness of dietitians in PHC teams and reform efforts by far. Fundamental to health care reform is the need for dietitians to improve access to nutrition services as members of PHC teams.

Health leaders must recognize the nature and potential of the dietitian's role. Dietitians' role is often associated with nutrition education exclusively; however, this study suggests that dietitians contribute to health care in other ways.

Health care leaders may also need to provide opportunities for teams to network with each other within the province. From the interviews, it was evident that the participants required networking opportunities to improve their effectiveness. Such opportunities could take the form of a provincial conference where teams share their initiatives, success stories, challenges, etc.

5.9 Implications for Regulatory Bodies

Throughout this study, considerably difficulty was experienced in referring the concept of scope of practice, primarily because most provincial bodies, including Saskatchewan has no scope of practice to guide what dietitians can or cannot do. Hence, there remains a wide interpretation of the dietitians' role. It is therefore prudent for regulatory bodies such as SDA to develop such scope of practice to ensure the activities of dietitians within the professional body. The development of such a scope of practice may also have implication for academic institutions responsible for preparing dietitians for entry to practice.

5.10 Implications for Professional Practice

Dietitians' roles will continue to expand if they take advantage of opportunities to increase their skills and knowledge in specialized areas. The dietitians' role as a certified diabetes educator is one example of an advanced role. Roles such as these which fall beyond the nutrition realm and overlap into other professional boundaries have the potential to strengthen the value of dietitians on primary health care teams. From the interviews, it was evident that continuing education opportunities improved the effectiveness (usefulness and value) of participants who pursued them. Entry-level dietitians on PHC teams may benefit from exploring similar opportunities to expand their roles and improve their effectiveness on PHC teams.

Participants perceived dietitians as valuable members of primary health care teams. However, there is a shortage of dietitians to provide support on teams that would be considered ideal. It is an opportune time for new dietitians to take initiative and get involved in primary health care teams as they are being developed.

Dietitians as a professional group also need to increase the public (community, health care leaders, government) awareness of their roles as suggested by participants in this study.

5.11 Implications for Further Research

Several commentators have noted the need to explicitly define roles and responsibility of health care providers as one strategy to improve collaborative health care practice (Romanow, 2002; Nolte & Tremblay, 2005). There is a paucity of literature which describes the roles of dietitians in primary health care. Furthermore, little is known about how the dietitians in primary health care teams perceive their roles. The purpose of the study was to explore and describe the roles of dietitians as members of primary health care teams in Saskatchewan. The qualitative design used in-depth interviews to explore the dietitians' perceptions of their roles on primary

health care teams. The key findings revealed that the roles of dietitians include nutrition support to patients and team members, and other important roles beyond nutrition support such as certified diabetes educator. The participants' roles were also a juxtaposition of their years of experience and geographical setting of practice.

This exploratory story was the first one of its kind as far as I know and the findings are expected to lead to the development of a larger tool to survey dietitians across the country about their roles on PHC teams. In Canada, there are provincial differences in the way that health care is delivered and differences in the scope of practices, consequently, there may be differences in practice that may relate to dietitians' roles on PHC teams.

Another area for research would be to explore how other team members view the roles of dietitians on teams. The reason for this is that the professional relationships and frequency of collaboration within a primary health care team put other team members in a suitable position to describe the roles of dietitians, as they perceive them. Furthermore, other team members may have contrasting and ambivalent perceptions of the role of dietitians on primary health care teams. In this study, participants often commented on the willingness of other team members to work with them. The willingness to work with dietitians was based on an understanding of the roles of dietitians. Participants were also asked to suggest other persons who would be able to describe their roles and many participants indicated that other team members, especially those who have had exposure to their roles, would be suitable candidates. Therefore, it would be interesting to determine the perception of those other team members regarding the roles of dietitians.

5.12 Concluding Remarks

Primary health care teams, one the corner stones of health care reform, has been described as ideal for improving health and ensuring that clients have access to right provider at the right time. Several commentators believed that dietitians were unsure about how reform would affect their roles. Since the emergence of primary health care teams in Canada, a few publications focused on increasing access to nutrition services within those teams and proposing the roles of dietitians therein.

The purpose of this study was to explore and describe the roles of dietitians as members of primary health care teams in Saskatchewan. The study conveyed that many dietitians are important members of primary health care teams. The qualitative findings also conveyed that overall dietitians (1) understands the roles of primary health care teams and their roles therein;(2) belong to primary health care teams which differ in their degree to which they demonstrate the characteristics of true interprofessional teams and the type of clients targeted; (3) dietitians are core members of the primary health care teams but they also provide services as peripheral members; (4) dietitians contribute to clients' health by utilizing health promotion, disease prevention and treatment strategies that falls within their nutrition expertise but some dietitians acquired new skills and knowledge that allowed them to perform roles that traditionally fell within the domain of other health care providers; (5) require opportunities for networking and continuing education to improve practice; (6) perceive that they are valuable to primary health care team but many teams do not receive the support of a dietitian that would be ideal; and perceive that marketing, role specialization and management support has the potential to improve the role of dietitians on primary health care teams.

Findings in this study have implications for dietitians, health care leaders, and regulatory bodies particularly in the area of supporting role enhancement. The findings also make a contribution to an understanding of the manner in which dietitians perceived their roles as members of primary health care teams.

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APPENDICES

Appendix A: Advertisement: Invitation to Participate in Study

Are you a member of a Primary Health Care Team in Saskatchewan?

If you are, and are interested in being part of a study, that seeks to understand the Roles of Dietitians as Members of Primary Health Care team, please contact us.

Primary health care teams are seen as one promising approach to help strengthen primary health care in Canada and there is strong empirical evidence to suggest the importance of prioritizing dietetic services within primary health care teams in Canada.

Participation in the study involves participating in an interview process and subsequent online focus group discussion.

Your participation in this research study is extremely valuable.

Contact:

Carol Henry, MEd, PhD, Research supervisor
College of Pharmacy and Nutrition
University of Saskatchewan
110 Science Place
Saskatoon, SK S7N 5C9
Phone: 306-966-5833
Email: cj.henry@usask.ca

OR

Leandy Riley, Researcher
College of Pharmacy and Nutrition
University of Saskatchewan
110 Science Place
Saskatoon, SK S7N 5C9
Phone: 306-881-9964
Email: ler149@mail.usask.ca

Appendix B: Letters of Invitation

CARD, DWFN, Dietitians in Regina

University of Saskatchewan

Date

Dear Potential participant:

My name is Leandy Riley and I am a MSc student at The University of Saskatchewan. For my MSc. thesis I am investigating the roles of dietitians as members of primary health care team in Saskatchewan. Nutrition is a major lifestyle factor in health promotion, prevention and treatment of several population health issues. There is strong empirical evidence to suggest a need for prioritizing dietitians' roles within primary health care settings in Canada. Very little research has been conducted on exploring the roles of dietitians on primary health care team.

I am currently recruiting participants for the study and I learnt that you may be able to assist me in reaching potential participants who may be members of primary health care teams. I would like to invite you participate in the study and also to recommend dietitians who you believe could contribute to the study. Additionally, I would welcome an opportunity to attend one of your meetings where I could provide the dietitians with an overview of my study and solicit their interest in participating.

Potential participants for my study are dietitians who are registered members of Saskatchewan Dietitians Association (SDA) and work within the province as a member of a primary health care team. As a participant, the dietitians will be asked to participate in an in-depth interview. Participating dietitians will also be invited to make contributions in a follow-up online focus group discussion will take place following the analysis of the interview transcripts. The follow-up online focus group discussion will allow participants to explore patterns from the themes arising from the interview process and will provide a better understanding of the roles of dietitians in primary health care settings. The online focus group discussion will be conducted over a three (3) week period.

The significance of the study lies in the contribution it may make to the dietetic profession. Participating in this study will provide information for literature, theory and practice regarding the nature and characteristics of the roles of dietitians as members of primary health care teams. A deeper understanding of authentic data will enable practitioners, educators and policymakers to make more informed decisions about dietitians' involvement in primary health care teams, the support needed for effective practices, and a greater understanding of the experiences dietitians undergo in this process.

If you have any questions that would assist you in reaching your decision, please contact me at: email ler149@mail.usask.ca or my supervisor Dr. Carol Henry by phone (966-5833), or email cj.henry@usask.ca. I very much look forward to speaking with you and thank you in advance for your assistance in this study.

Yours Sincerely,

Leandy Riley, MSc Student

Carol Henry, PhD, Supervisor

Directors of Primary Health Care

University of Saskatchewan

Date

Dear Potential participant

My name is Leandy Riley and I am a MSc student at The University of Saskatchewan. For my MSc. thesis I am investigating the roles of dietitians as members of primary health care team in Saskatchewan. Nutrition is a major lifestyle factor in health promotion, prevention and treatment of several population health issues. There is strong empirical evidence to suggest a need for prioritizing dietitians' roles within primary health care settings in Canada. Very little research has been conducted on exploring the roles of dietitians on primary health care team. The methodology is qualitative case study approach. The primary research questions are: (1) What are the perceived roles of dietitians as members of primary health care teams in Saskatchewan?

Participating in this activity will provide information for literature, theory and practice regarding the nature and characteristics of the roles of dietitians as members of primary health care teams. A deeper understanding of authentic data will enable practitioners, educators and policymakers to make more informed decisions about dietitians' involvement in primary health care teams, the support needed for effective practices, and a greater understanding of the experiences dietitians undergo in this process.

I am writing to invite you to participate in the study by nominating one or more dietitians, who are members of primary health care teams within your region to participate in the study. .

As a participant the dietitians will be asked to participate in an in-depth interview. It is anticipated that the interview will last 45-60 minutes. Participating dietitians will also be invited to make contributions in a follow-up online focus group discussion will take place following the analysis of the interview transcripts. The follow-up online focus group discussion will allow participants to explore patterns from the themes arising from the interview process and will provide a fuller understanding of the roles of dietitians in primary health care settings. The online focus group discussion will be conducted over a three (3) week period.

In this study, <u>all</u> participants will be identified by pseudonyms only ; **the dietitian's name and location will not be included**, since there is a greater likelihood of disclosure of personal and sensitive information. In summarizing the findings, direct quotations from the interview or the online focus group discussion may be used as support to the themes; however, dietitian's name and location will **not** be used in the quotes.

The data collected will be used in partial fulfilment of the requirements for a M.Sc. at the University of Saskatchewan. The information gathered through the interview and online focus group process may also be used for presentation at conferences, professional venues, and academic publications.

Your cooperation in this study would be greatly appreciated. Participants may choose to withdraw their responses after their interview and/or online focus group discussion, and prior to the publication of findings. Your withdrawal will not affect the relationship with the researcher, her supervisor or the University of Saskatchewan. There are no penalties. If you are interested in participating, please read and sign the attached consent form. If you have any questions or concerns about the study (interview process or on-line focus group), please contact me at: email ler149@mail.usask.ca or my supervisor Dr. Carol Henry by phone (966-5833), or email cj.henry@usask.ca. **If you have any concerns about your rights as a participant in this project, you may contact the Research Ethics Office at the University of Saskatchewan at (306) 966-2084. You may call collect**.

I very much look forward to speaking with you and thank you in advance for your assistance in this project.

Yours Sincerely,

Leandy Riley, MSc Student

Carol J. Henry PhD (Supervisor)

Appendix C: Letter of Information for Participants

Dear Potential Participants

My name is Leandy Riley and I am a MSc student at The University of Saskatchewan. For my MSc. thesis I am investigating the roles of dietitians as members of primary health care team in Saskatchewan. Nutrition is a major lifestyle factor in health promotion, prevention and treatment of several population health issues. There is strong empirical evidence to suggest a need for prioritizing dietitians' roles within primary health care settings in Canada. Very little research has been conducted on exploring the roles of dietitians on primary health care team. The methodology is qualitative case study approach. The primary research questions are: (1) What are the perceived roles of dietitians as members of primary health care teams in Saskatchewan?

Participating in this activity will provide information for literature, theory and practice regarding the nature and characteristics of the roles of dietitians as members of primary health care teams. A deeper understanding of authentic data will enable practitioners, educators and policymakers to make more informed decisions about dietitians' involvement in primary health care teams, the support needed for effective practices, and a greater understanding of the experiences dietitians undergo in this process.

I am writing to thank you for expressing an interest in the study. As a participant you will be asked to participate in an in-depth interview. It is anticipated that the interview will last 45-60 minutes, and will be conducted by myself with my supervisor Dr Carol Henry assisting or a research assistant, Samantha Mitchel. Participating dietitians will also be invited to make contributions in a follow-up online focus group discussion will take place following the analysis of the interview transcripts. The follow-up online focus group discussion will allow participants to explore patterns from the themes arising from the interview process and will provide a fuller understanding of the roles of dietitians in primary health care settings. The online focus group discussion will be conducted over a three (3) week period.

In this study, <u>all</u> participants will be identified by pseudonyms only; the dietitian's name and location will not be included, since there is a greater likelihood of disclosure of personal and sensitive information. In summarizing the findings, direct quotations from the interview or the online focus group discussion may be used as support to the themes; however, dietitian's name and location will not be used in the quotes.

The data collected will be used in partial fulfilment of the requirements for a M.Sc. at the University of Saskatchewan. The information gathered through the interview and online focus group process may also be used for presentation at conferences, professional venues, and academic publications. The taped interviews will be transcribed verbatim. You will have an opportunity to review transcripts and add, edit or delete any information you would like. After this process, you will be asked to sign a transcript release form. In addition, summaries of the discussions will be placed on Blackboard Learning Systems for a final review by participating dietitians following the discussion.

Your cooperation in this study would be greatly appreciated. Participants may choose to withdraw their responses after their interview and/or online focus group discussion, and prior to the publication of findings. Your withdrawal will not affect the relationship with the researcher, her supervisor or the University of Saskatchewan. There are no penalties. If you are interested in participating, please read and sign the attached consent form. If you have any questions or concerns about the study (interview process or on-line focus group), please contact me at: email ler149@mail.usask.ca or my supervisor Dr. Carol Henry by phone (966-5833), or email cj.henry@usask.ca. If you have any concerns about your rights as a participant in this project, you may contact the Research Ethics Office at the University of Saskatchewan at (306) 966-2084. You may call collect.

I very much look forward to speaking with you and thank you in advance for your assistance in this project.

Yours Sincerely,

Leandy Riley, MSc Student

Carol J. Henry PhD (Supervisor)

Appendix D: Informed Consent for Participation in In-depth Interviews

You are invited to participate in a study entitled: The roles of dietitians as members of primary health care teams. Please read this form carefully, and feel free to ask any questions you might have.

Researcher

Leandy Riley, MSc Candidate, University of Saskatchewan

Research supervisor

Carol J. Henry, PhD University of Saskatchewan

Purpose: The research is aimed at gaining a deeper understanding of the roles of dietitians as members of primary health care teams. The main research question is: What are the perceived roles of dietitians as members of primary health care teams in Saskatchewan? **The data collected will be used in partial fulfillment of the requirements for a M.Sc. at the University of Saskatchewan.**

Potential Risks: All participants will be assigned pseudonyms, however their names and locations will not be included. There is a possibility that participants may share information which may put the participant or a third party at risk, if their identity is compromised. Participants will be able to withdraw from the study at any time. Through the interview process participants will have the right to answer only those questions that they are comfortable answering, and they may ask to turn of the tape recorder at any time. Participants will be asked to review the final transcripts, and will be able to add, alter or delete information that relates to them, and sign a transcript release form wherein they acknowledge that the transcript accurately reflects what they have said or intended to say. Participants in the online focus group will also be asked to review the summaries of the discussion at the end of the discussion. Through the online discussion period participants will be able to add, delete or change any responses they have given to the themes and resulting questions posed on Blackboard Learning system.

Potential Benefits: Participants in this study will provide information for literature, theory and practice regarding the roles of dietitians as members of primary health care teams. Participating in this activity will provide information for literature, theory and practice regarding the nature and characteristics of the roles of dietitians as members of primary health care teams. A deeper understanding of authentic data will enable practitioners, educators and policymakers to make more informed decisions about dietitians' involvement in primary health care teams, the support needed for effective practices, and a greater understanding of the experiences dietitians undergo in this process.

Storage of data: Upon completion of the study, all data (digital tapes, electronic, and paper) will be securely stored and retained by Dr. Carol Henry (supervisor) in accordance with the guidelines defined by the University of Saskatchewan. **The identifying information (i.e. consent forms and master list) will be stored separately form the data collected. The master list will be destroyed when data collection is complete and it is no longer required.** The data will be stored for five years after completion of the study. After that time the data will be destroyed.

Confidentiality: All names and locations will be given pseudonyms in this study. **The dietitians' names and location will not be included**. **When conducting focus group research, there are limits to which the researcher can guarantee the discussion will be kept confidential. The researcher will undertake to safeguard the confidentiality of the discussion, but cannot guarantee that other members of the group will do so. Please respect the confidentially of the other members of the group by not disclosing the contents of this discussion outside the group, and be aware that others may not respect your confidentiality**. Participants will be asked to review the final transcripts and will have the opportunity to add, alter or delete information that relates to them. Each dietitian will be asked to sign a transcript release form wherein they acknowledge that the transcript accurately reflects what they have said or intended to say. Data resulting from the interview will be examined for themes. These themes will form the discussion for the online focus group discussion. Online focus group participants will be asked to review the discussion summaries posted on Blackboard at the close of the discussion period. Direct quotations from the interview or online focus group discussion may be used as supports to the themes identified or the summaries from the online focus group discussion; however, dietitians' names and location will **not** be used in the quotes as well. The interviews will be transcribed by the researcher.

Right to Withdraw: Your participation is voluntary, and you may withdraw from the study for any reason, at any time, without penalty of sorts. If you withdraw from the study at any time, any data that you have contributed will be destroyed upon request. Throughout the interviews, and the online focus group discussion, you have a right as a participant to answer only those questions or comment on those themes that you are comfortable answering. You may also request to turn of the tape recorder at any time during the interview.

Questions: If you have any questions concerning the study, please feel free to ask at any point, you are also free to contact the researcher or her supervisor at the numbers provided above if you have questions at a later time. This study has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on (insert date). **If you have any concerns about your rights as a participant in this project, you may contact the Research Ethics Office at the University of the Saskatchewan at (306) 966-2084. You may call collect**. A brief executive summary of the project will be provided to participant upon request.

Consent to Participate: I have read and understood the description provided above. I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I consent to participate in the study described above understanding that I may withdraw this consent at any time. A copy of this consent form has been given to me for my records.

I consent to participating in the interview. **YES** **NO**

I consent to participating in the online focus group. **YES** **NO**

_____	_____
Name of Participant	Date
_____	_____
Signature of Participant	Date
_____	_____
Signature of Researcher	Date
_____	_____
Signature of Research Supervisor	Date

Please provide the phone number you wish to be contacted: _____

Appendix E: Letter of Invitation to participate in the study

University of Saskatchewan

Date

Dear Potential participant:

My name is Leandy Riley and I am a MSc student at The University of Saskatchewan. For my MSc. thesis I am investigating the roles of dietitians as members of primary health care team in Saskatchewan. Nutrition is a major lifestyle factor in health promotion, prevention and treatment of several population health issues. There is strong empirical evidence to suggest a need for prioritizing dietitians' roles within primary health care settings in Canada. Very little research has been conducted on exploring the roles of dietitians on primary health care team. The methodology is qualitative case study approach. The primary research question is: What are the perceived roles of dietitians as members of primary health care teams in Saskatchewan?

Participating in this activity will provide information for literature, theory and practice regarding the nature and characteristics of the roles of dietitians as members of primary health care teams. A deeper understanding of authentic data will enable practitioners, educators and policymakers to make more informed decisions about dietitians' involvement in primary health care teams, the support needed for effective practices, and a greater understanding of the experiences dietitians undergo in this process. [Name of Person] has given me permission to contact you.

As a participant you are being asked to participate in an in-depth interview and a subsequent follow-up online focus group discussion. It is anticipated that the interview will last 45-60 Minutes and will be conducted at a time and place [or via telephone] convenient to you. The follow-up online focus group discussion will allow participants to explore patterns from the themes arising from the interview process and will provide a fuller understanding of the roles of dietitians in primary health care settings. The online focus group discussion will be conducted over a three (3) week period. Participants may select to contribute through the Blackboard Learning System, which will be conducted as a follow-up to the interview. Details of the process will be provided to those who have indicated a desire to participate.
In this study, <u>all</u> participants will be identified by pseudonyms; **the dietitians' names and location will not be included**, only since there is a greater likelihood of disclosure of personal and sensitive information. In summarizing the findings, direct quotations from the interview or the online focus group discussion may be used as support to the themes; however, dietitian's name and location will **not** be used in the quotes.
The data collected will be used in partial fulfilment of the requirements for a M.Sc. at the University of Saskatchewan. The information gathered through the interview and online focus group process may also be used for presentation at conferences, professional venues, and academic publications. The taped interviews will be transcribed verbatim. You will have an opportunity to review transcripts and add, edit or delete any information you would like. After this process, you will be asked to sign a transcript release form. In addition, summaries of the discussions will be placed on Blackboard Learning Systems for a final review by participating dietitians following the discussion.

Your cooperation in this study would be greatly appreciated. Participants may choose to withdraw their responses after their interview and/or online focus group discussion, and prior to the publication of findings. Your withdrawal will not affect the relationship with the researcher, her supervisor or the University of Saskatchewan. There are no penalties. If you are interested in participating, please read and sign the attached consent form. If you have any questions or concerns about the study (interview process or on-line focus group), please contact me at: email ler149@mail.usask.ca or my supervisor Dr. Carol Henry by phone (966-5833) or email cj.henry@usask.ca**. If you have any concerns about your rights as a participant in this project, you may contact the Research Ethics Office (306) 966-2084. You may call collect.**

I very much look forward to speaking with you and thank you in advance for your assistance in this project.

Yours Sincerely,

Leandy Riley, MSc Student

Carol J. Henry, PhD

Appendix F: Consent Form for Data Transcription Release

Study Title: *A pilot study of the Roles of Dietitians as members of primary health care teams in Saskatchewan*

I am returning the transcripts of your audio-recorded interviews. Please review and sign the consent for data transcription release.

I, _____, have reviewed the complete transcripts of my personal interviews in this study, and have provided the opportunity to add, alter, and delete information from them as appropriate. I acknowledge that the transcript accurately reflects what I said in my personal interviews with Leandy Riley. I hereby authorize the release of the transcripts to Leandy Riley to be used in the manner described in the consent form. I have received a copy of this Data Transcript Release From for my own records.

_____ _____

Participant Signature Date

_____ _____

Researcher Signature Date

Appendix G: Interview Guide

1. Introduction

My name is Leandy Riley. I am calling you today to conduct a phone interview that we scheduled.
A little bit about myself I am a M.Sc. Nutrition candidate at the University of Saskatchewan supervised by Dr. Carol Henry (she is here with me).
I hold a BSc in nutrition and dietetics from the University of the West Indies. That's located in Trinidad. However I am from another Caribbean country named, Dominica.
You will be asked the same questions on the interview guide although they may not be in the same order listed.
As indicated in the letter of information, the interview will be audio-taped in order to assure the accuracy of data analysis later on. However you identity will be protected.
Through the interview process you have the right to answer only those questions that they are comfortable answering, and you may ask to turn off the audio recorder at any time.
You should receive the transcript of this interview for review and comment within a month or so.

Do you have any questions or concerns at this point?

1. What is your understanding of the roles of primary health care teams?
2. Could you describe the primary health care team (s) that you are member of ?
3. How long have you been involved as a member of the primary health care team (s) ?
4. What is your perception of your level of involvement on the team ?
5. How would you describe your geographic setting of practice ?
6. What type of dietitian do you describe yourself as ?
7. What are your roles as a member of primary health care team(s)?
8. What opportunities do you have for leading the team?
9. What opportunities do you have to contribute to decision making on the team?
10. Do you think your roles are strictly within your area of expertise?
11. What are your needs to work effectively as a member of a PHC team?
12. What are your views about the involvement of dietitians as members of PHC teams?
13. What recommandations can you make to enhance the roles of dietitians as members of PHC team ? If any ?

Before we end, is there any provincial level organization or policy advisor that I should seek to interview about these matters?

14. Is there anything related to the matters that we have discussed that you think I should know?

Additions

15. Could you describe your work relationship with other team members?

16. A few participants indicated that they would prefer if their roles were more into one area of food and nutrition, what are thoughts on this?