

**Learning to Lead: A Multi-Faceted Study of
Leadership Skills Development and Use by Dietitians**

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Abstract

Leadership in the health sector continues to be recognized as a key factor in improving healthcare and is considered part of professional competence in health professions. In dietetics, the Integrated Competencies of Dietetic Education and Practice, a document which informs dietetic education and professional development in Canada, was recently revised to include leadership as part of a new competency domain. But with limited research on dietetic leadership, it is challenging to develop and assess leadership skills in dietetic trainees and dietitians. My thesis addresses this gap by exploring how leadership is currently developed and used in practice through a three-phase qualitative design.

The theoretical framework and conceptual model was pulled from complexity theory, leadership theory as well as feminist theory. The LEADS in a Caring Environment framework was used as the specific leadership framework. It is recognized as a comprehensive model for leadership in healthcare designed to embody the key skills, behaviours, abilities, and knowledge required to lead in all sectors and types of organizations. A multi-phase qualitative study was conducted, which included documentary analysis, one-on-one interviews with dietitians, and focus group interviews with dietetic educators. The methodology aligned with complexity science where interactions within and between the individual, micro-, meso-, and macro- levels were considered throughout the study. Furthermore, issues related to gender and other forms of diversity as crosscutting influences were considered. To inform this research, an expert committee comprised of dietitians from different practice areas was involved.

Phase I included a documentary analysis of program documents and one focus group with dietetic educators to elaborate on their programs. In Phase II, using a multi-case study methodology, dietitians' leadership skills development and use in practice were identified.

Finally, Phase III focused on determining actions and implications of my research findings from Phases I and II through three focus groups with dietetic educators.

The findings showed that dietitians tend to describe leadership in relation to having a formal management role. My study found that leadership skills have not been explicitly taught through dietetic education, but some are developed through transferrable skills that can be useful in leadership. The findings also demonstrated that dietitians use leadership skills in a variety of ways and contexts throughout their careers. All four cohorts provided personal examples of their leadership skills in practice that aligned with each of the LEADS domains and most of the capabilities. This might suggest that although dietitians were not formally taught leadership skills through their dietetic education, there is evidence that they possess and use leadership in their different practice areas throughout the career trajectory. This research furthers the scholarship on leadership development in dietetics and considers the complexities of leadership in a highly gendered system.

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List of Abbreviations

Abbreviation	Meaning	1 st section used
CBE	Competency-based education	Chapter 1
CLT	Complexity leadership theory	Chapter 3
CSET	Case study extraction tool	Chapter 4
DET	Document extraction tool	Chapter 4
GBA+	Gender-based analysis plus	Chapter 3
ICDEP	Integrated Competencies for Dietetic Education and Practice	Chapter 1
HPE	Health professions education	Chapter 2
PDEP	Partnership for Dietetic Education and Practice	Chapter 1

Chapter One: Introduction

This thesis explores dietitians' leadership development as well as how dietitians use their leadership in practice through a multi-phase qualitative study. This research emerged at a time when the notion of leadership competence was new to the dietetics profession and reflects the reality of my participants' experiences at that point in time. Today, as the profession of dietetics attempts to establish their authority as nutrition experts and leaders in nutrition within the health care hierarchy and in other areas of practice, dietitians face barriers on many fronts. This study not only identified the ways in which dietitians develop and use their leadership in practice, but also unpacked some of the challenges dietitians face in these areas.

Statement of the Problem

Currently, there is limited research on dietitian leadership and leadership development in dietetics. In 2020, the Integrated Competencies for Dietetic Education and Practice version 3.0 introduced a new domain: *Management and Leadership*. This domain includes performance indicators that suggest dietitians must be competent in leadership. Limited research poses a problem because it remains unclear how dietitians use their leadership in practice and how they are taught or develop leadership, yet dietitians are expected to be competent in *leadership*.

Competency standards are needed in health professions to ensure practitioners have the abilities required to meet the needs of the people they serve (Royal College of Physicians and Surgeons of Canada [Royal College], n.d.). For example, CanMEDS is a framework that groups physician abilities under seven roles, whereby a competent physician integrates the competencies of all seven roles into their practice (Royal College, n.d.). In dietetics, the Integrated Competencies for Dietetic Education and Practice (ICDEP) has *Practice Competencies* embedded throughout seven interrelated *Domains of Competence*. The ICDEP is useful for

education programs to guide curriculum and assessment of candidate learning outcomes, creating specifications for the Canadian Dietetic Registration Exam, and evaluating compliance with dietetic education programs' accreditation standard. Perhaps more importantly, however, is that the ICDEP provides a common understanding of entry-level dietetic practice.

Despite the need for competency standards, professional education has not kept pace with healthcare challenges, largely because of fragmented, outdated, and static curricula that produce ill-equipped graduates (Frenk et al., 2010). One area that some suggest needs greater development is leadership skills (Brewer et al., 2016; Frank, Snell, et al., 2015). Leadership in the health sector continues to be recognized as a key factor in improving healthcare (Marchildon & Fletcher, 2016) and leadership skills can help health professionals work effectively in a dynamic environment, promote collaborative practice, and minimize siloed work.

While leadership research in allied health professions remains understudied, growing research in medicine and nursing continues to suggest that leadership skills can be taught to trainees and developed in practice (Brewer et al., 2016; Regan et al., 2017; Schmidt-Huber et al., 2017); however, there is no consensus on which skills to prioritize or how to implement curriculum changes (Grady et al., 2019). Much less is known about how dietitians develop and use leadership in practice, and even less is known about how leadership is taught through dietetic education. The lack of research poses a significant challenge for potentially implementing the new dietetic leadership competencies. There is limited evidence to guide how leadership skills can be integrated into dietetics curricula and assessed as dietitians enter into practice (Jamieson et al., 2018; Laramée, 2014).

Furthermore, there are several leadership frameworks and theories applied to the context of healthcare (Grady et al., 2019); however, none of the leadership frameworks have been

explored in relation to dietetics. Defining best practices in leadership is difficult due to lack of a standard definition of leadership, supporting frameworks, and robust assessments (Rosenman et al., 2014); the difficulty when defining best practices is exacerbated when considered in the context of dietetics because the dominant discourse is in medicine and nursing. Nonetheless, researchers have attempted to standardize domains of leadership (Van Hala et al., 2018) and assessment tools (Moye et al., 2017) across the health professions. In Canada, the domains from LEADS in a Caring Environment framework is recognized as a comprehensive model for leadership in healthcare (Canadian College of Health Leaders, 2016; Dickson & Tholl, 2014; Dickson & Tholl, 2020) (Appendix A), and may be a viable framework to understand dietitian leadership. This framework will be discussed in more detail in Chapter Four.

Purpose of the Study

The purpose of the study was to better understand leadership in the context of dietetics and generate recommendations for how opportunities for leadership development might be integrated into dietetic curriculum and professional learning. To add to the relative dearth of research on leadership skills development in dietitians, this study's overall objective was to understand the ways in which leadership skills are developed and used by dietitians.

Research Objectives

The specific objectives of my research were to:

- 1) Understand how leadership is currently taught in dietetic education.
- 2) Understand how leadership is used in dietetic practice.
 - a. Understand how dietitians view leadership.
 - b. Understand how dietitians develop and use leadership skills in practice.

- c. Use LEADS as an analytical framework to understand its alignment with leadership in the dietetics profession.
- 3) Understand how leadership skills may best be developed in dietetic trainees and fostered in career setting.

In particular, my study explored current dietetic education curricula, and discovered the ways in which dietitians understand leadership and use leadership in practice. Using the LEADS framework provides an analytical structure to begin understanding an under-researched area of dietetic practice.

Research Questions

This study aimed to address the following major questions:

- 1) In what ways are leadership skills currently taught in dietetic education in Canada?
- 2) In what ways are leadership skills used in dietetic practice?
 - a. How do dietitians view leadership?
 - b. How do dietitians develop and use leadership skills in practice?
 - c. How do the ways in which dietitians use leadership skills align with LEADS?
- 3) In what ways might leadership skills be taught in dietetic education, considering current dietetic practice?

To address these questions, I conducted a multi-phase qualitative study and included multiple methods: documentary analysis, one-on-one interviews, and focus group interviews. These methods were implemented through three phases. Phase I aimed to identify the current context of leadership development through dietetic education; Phase II explored dietitians' leadership in practice; and Phase III strived to engage dietetic educators in conversations around integrating leadership into dietetic education. This research enabled me to make

recommendations to the dietetic profession and educators to consider when it comes to leadership development of dietitians.

Background and Context

As food and nutrition experts, dietitians are key to quality care for numerous patients and clients. Throughout the 20th century, the dietetic profession has undergone significant changes which are symbolized by “a literal and figurative trading in of home economists’ aprons in favour of the white lab coat” (Brady, 2017, p. 231). Increasingly enrolled with medical and nutritional science and gradually estranged from its roots with home economics, dietitians sought greater prestige and recognition with the health care hierarchy. Today, dietitians continue to find their place within the health care hierarchy and the ways in which they can be recognized as leaders in the healthcare system.

Throughout my thesis I refer to the Partnership of Dietetic Education and Practice (PDEP) and the Integrated Competencies for Dietetic Education and Practice (ICDEP). To provide background, I will briefly review the formation and role of PDEP and describe the ICDEP. Then, to provide context, I will highlight the recent changes to the ICDEP.

Integrated Competencies for Dietetic Education and Practice

In this section, I describe the formation of the competencies for education and practice of dietitians in Canada. In 2009, three sector partners, the dietetic regulatory bodies, dietetic educators, and the professional association, formed PDEP. The Partnership’s focus is at the intersection of the three sectors, whereby they are reliant on each other’s contributions for safe, effective, and high-quality dietetic practice (Gignac, 2009). They use a consensus building approach to bring the best information, consultation, and deliberations into decision-making. Their first priority was “to develop an integrated set of competencies (knowledge, skills, and

attitudes) as a critical foundation for dietetics education, accreditation of academic and practicum programs, and the regulation of dietitians in Canada” (Gignac, 2009, p. 3). PDEP created the ICDEP, the Canadian dietetic entry-to-practice standards which prepare dietitians to deliver high quality and safe dietetic services (Dietitians of Canada, 2016; PDEP, 2013). Work to develop the ICDEP began in 2009, with Version 1.0 of the ICDEP published in 2012 and Version 2.0 published in April 2013 (PDEP, 2013). The ICDEP is the source of dietetic competencies as well as entry-to-practice and ongoing competency standards, which dietetic education programs reference when developing their programs’ curricula.

The following is a summary of key terms used in ICDEP Version 2.0 (PDEP, 2013) which will help to provide context to my research, in particular for Phase I. The ICDEP consists of an interrelated set of practice competencies, performance indicators and foundational knowledge specifications. According to PDEP (2013), practice competency is a task that is performed in practice that can be carried out to a specified level of proficiency. The performance of a practice competency requires application of a combination of knowledge, skills, attitudes, and judgements. At the time of my study conceptualization and Phase I implementation, the interdependent dietetic competency areas were (PDEP, 2013):

1. Professional Practice - Demonstrate professionalism.
2. Communication and Collaboration - Communicate effectively and practice collaboratively.
3. Nutrition Care - Provide services to meet the nutrition care needs of individuals.
4. Population and Public Health - Promote the nutrition health of groups, communities and populations.
5. Management - Manage programs, projects and services related to dietetics.

These five competency areas represent the abilities that dietitians bring to the workplace as well as how they apply professional judgment according to the situation (PDEP, 2013). The practice expectations of a registered dietitian in professional practice, even at entry-level, are expressed by the Practice Competencies (PDEP, 2020, p. 5).

Each competency area has associated Performance Indicators and Foundational Knowledge areas. A Performance Indicator is a task that can be carried out within an assessment vehicle, successful completion of which provides an indication of the candidate's ability to perform a practice competency. The purpose of Performance Indicators is to "express the learning outcome expectations for pre-registration education and assessment of candidates" (PDEP, 2020, p. 5). The Foundational Knowledge specifications provide a summary of the broad knowledge base that is necessary to prepare candidates to achieve the practice competencies. This is intended to guide curriculum development for academic education. Although the foundational knowledge specifications provide a guide to program content they do not prescribe a particular course structure; education institutions are free to design their programs in any manner that meets the accreditation requirements and program-specific goals.

ICDEP Version 2.0 and Study Conceptualization

When I proposed my research study in 2019 and began data collection in early 2020, it was based on Version 2.0, which was under revision and the new version was expected to be released in late 2020. Based on stakeholder consultations (PDEP, 2018) and a workforce assessment conducted by Dietitians of Canada and provincial interest groups (Dietitians of Canada, 2011; Dietitians of Canada, 2016), there was anecdotal evidence that an emerging area of dietetic competence is leadership. This was further supported by PDEP efforts from 2018-

2020 to revise the ICDEP, which was anticipated to introduce leadership as a new competency area (PDEP, 2018).

Upon review of the working documents and information shared during consultations, the following six performance indicators from Version 2.0 were proposed to fall under leadership: Assess and enhance approaches to dietetic practice (1.11); contribute to advocacy efforts related to nutrition and health (1.12); participate in practice-based research (1.13); contribute to the learning of others (2.05); assess strengths and needs of programs and services related to dietetics (5.01); and manage programs and projects (5.02) (Appendix B).

ICDEP Version 3.0 Released in 2020

In July 2020, PDEP unveiled the latest version of the ICDEP which includes a new competency domain ‘Management and Leadership’ (PDEP, 2020). This domain defines the expectation that “dietitians use management skills and provide leadership to advance health, through food and nutrition” (PDEP, 2020, p. 19). In this context, leadership is defined as a process of influencing and inspiring others towards a common goal, whether formally (through a set role) or informally (PDEP, 2020; Canadian Council of Registered Nurse Regulators, 2012).

Eight practice competencies are associated with the Management and Leadership domain; these are: Manage programs and projects (4.01); assess and enhance approaches to practice (4.02); participate in practice-based research activities (4.03); undertake knowledge translation (4.04); advocate for ongoing improvement of nutritional health and care (4.05); foster learning in others (4.06); foster development of food literacy in others (4.07); and foster development of food skills in others (4.08) (Appendix C). Implementation of Version 3.0 is expected to occur in 2022; despite the anticipated changes, there is limited research to inform the implementation of

leadership competency into dietetic education and practice. The timeliness of my study required me to embrace the concurrent changes affecting dietetic education.

Positionality

As a registered dietitian for over fifteen years, my research interest is in studying dietetic education and practice. More specifically, for my thesis, I was interested in examining the development of competencies—particularly leadership competence—within dietetic education and throughout dietitians’ career trajectories.

Researchers cannot separate themselves from the research but must actively seek to understand their own role and the research’s role (Davis & Sumara, 2006). I am an able-bodied, Canadian-born, cis-gendered woman who is part of a visible minority. To briefly position myself within my research, the focus of my current doctoral study has been largely shaped by my experiences as a health professional, part of interdisciplinary teams, and accessing the Canadian health system; it is not possible to completely remove myself from my research. As a result, my unique background as a researcher—I am a dietitian, Project Management Professional®, and adult educator—combines the knowledge of necessary fields to answer these important research questions, building on work in related fields that are not often combined to gain a deeper understanding of the problem to address knowledge gaps. However, I am aware that my personal experiences shape how I interact with and make sense of my research. Thus, as a researcher, I am engaged in transforming what is known about a subject, and my research itself will impact the systems as I study it.

Overview of the Dissertation

I have organized this dissertation into 11 chapters. Following the introductory chapter is the comprehensive literature review, Chapter Two, that informed my theoretical and conceptual

framework, research questions, data collection instruments, and analysis techniques. The literature review integrates research relating to competency-based education (CBE) in the health professions and leadership development. Next, Chapter Three provides an overview of the theoretical and conceptual framework. Chapter Four provides a detailed description on my methodology and methods.

Chapters Five to Nine present the findings of this study. Chapters Five and Six present the findings from Phase I. In this phase, I explored how leadership is taught in dietetic education by reviewing program websites and documents and holding a focus group interview. Chapter Five presents the themes from the documentary analysis of 13 Canadian dietetic programs. This analysis provided some insights into current dietetic education and leadership. To obtain a more fulsome understanding, Chapter Six presents the perspectives of dietetic educators who elaborate on my documentary analysis findings. Chapters Seven and Eight present the findings from Phase II, the heart of my study. In this phase, through case studies, I aimed to understand how dietitians view leadership and how they use their leadership skills in practice. To accomplish this, I look at how these skills in practice align with the LEADS in a Caring Environment framework. Chapter Seven presents the themes related to dietitians' views on leadership. I present these themes organized by cohorts based on number of years of practice experience. Chapter Eight presents the themes related to how dietitians use their leadership skills in practice. I use the LEADS framework to analyze and organize the themes. In Chapter Nine, I present the perspectives of dietetic educators related to bringing leadership development into the curricula considering recent changes to the ICDEP. Dietetic educators offered strategies/recommendation.

Chapter Ten weaves together the themes from the three phases. This chapter integrates the themes from the five chapters into one coherent discussion. In this chapter, I discuss the

themes of all chapters with reference to my conceptual framework and the published literature. In addition, I acknowledge the limitations of my study. Also included in this chapter are implications and recommendations for practice in dietetic education and leadership development within dietetics. I also propose future research directions on leadership development in dietetic education. I share my final remarks on leadership development and practice in dietetics in Chapter Eleven, which concludes this dissertation.

Chapter Two: Literature Review

In this chapter, I review the existing literature that relates to CBE and leadership development in the health professions and more specifically in dietetics. First, I start with a broad exploration the education requirements in the health professions, which includes CBE and curriculum. I explore how competence is defined and the relationship between CBE and health professions education (HPE). I also review literature related to different types of curricula: formal, informal, and hidden curricula. After reviewing the literature on CBE and HPE, I present a more focused discussion on CBE and entry-level requirements for dietetic practice. Second, I review the literature related to leadership and HPE. I highlight key leadership styles related to my project: traditional, transformational, and distributed. I connect these leadership styles to current literature on healthcare leadership and women's leadership in healthcare. In doing so, I present the literature on gender and leadership, a nexus to my research. This leads into a literature review of leadership in dietetics. This third and final section focuses on leadership development in dietetics by pulling together the literature I have presented thus far to situate my study.

Education Requirements in the Health Professions

Two concepts around teaching and learning relevant to my study are CBE and curriculum. In the literature, there are several perspectives which describe each concept as well as the relationship between the two concepts. I situate my study on the CBE definition proposed by Gruppen et al. (2012) that connects CBE and curriculum within the context of health professions. They suggest that CBE is “a framework for designing and implementing education that focuses on the desired performance characteristics of health care professionals” (p. 1).

Furthermore, they posit that at the “heart” of the framework is curriculum (Gruppen et al., 2012,

p. 2). In this context, Gruppen et al. (2012) consider curriculum as learning experiences, which in this case, support the development of competencies. However, other authors define curriculum in different, yet complementary ways.

Wilson (2016) suggests that in CBE the curriculum content is determined by learning objectives and desired educational outcomes expected for learners to achieve upon completing the curriculum. Similarly, according to Edmunds et al. (2015), the term curriculum can refer to a series of planned events that have educational consequences or outcomes for one or many students. In this regard, curriculum might be the planned learning experiences that develop specific skills, knowledge, and abilities of learners. Thus, the connection between the two concepts, according to Gruppen et al. (2012) and supported by other literature, is that CBE uses a set of expectations or competencies to develop and implement learning experiences. Likewise, applied to healthcare, the competency-based approach identifies requisite graduate competencies for health-system performance, tailors the curriculum to achieve competencies, and assesses achievements and shortfalls (Frenk et al., 2010).

Competencies

Competency is defined in several ways in the literature. For my study, I consider competency as a set of expectations that a learner is required to achieve. Competence is the goal which learners achieve after training and are then considered competent to practice (Albanese et al., 2008; Gruppen et al., 2012). Some scholars see competence as a combination of practical and theoretical knowledge, cognitive skills, behaviours, and values used to improve performance; or as the state or quality of being adequately or well qualified, having the ability to perform a specific role (Palermo et al., 2018; Seijts et al., 2017; Sturm et al., 2017). In nursing, for example, competence is defined as an integration of the attributes that comprise competent

nursing care, within a specific setting and context (Canadian Nurses Association, 2000). This example of competence relates to the previous definition in that there is a combination or integration of attributes that lead to the ability to perform competent nursing care. Drawing from the Royal College *Competence by Design*, progression of competence occurs within a structured but flexible curriculum. The learning objectives, known as “Entrustable Professional Activities,” are tailored to the “acquisition of competencies” required for practice and are thus organized into a progressive sequence (Royal College, 2022). This means that the learning experiences within a curriculum progressively and sequentially develop competence.

The reason I draw upon these definitions is that they complement the way the PDEP (2020) defines competency, which is “the ability to perform a task to a specified standard, and in a way that is observable to others” (p. 5). Therefore, these “tasks” or practice abilities are the set of expectations that a dietetic trainee is required to achieve to be considered competent for entry-level practice. The nuance in the ICDEP definition is that performance of a practice ability can be evaluated. Similarly, in medical education, assessments or evaluations are based on students’ demonstration of knowledge and skills they are expected to attain (Frank, Mungroo et al., 2010). The ICDEP 2020 reframes *areas of practice* (PDEP, 2013) as *Domains of Competence*, which are described by a context and defined by the practice competencies listed within it. To elaborate, each domain of competence has a set of *Practice Competencies*, which are considered the minimum set of practice abilities that dietitians are expected to possess at the point of initial registration, enabling their entry to practice (PDEP, 2020, p. 6).

Although I will continue to refer to competencies as the minimum standards for dietetic education and practice outlined in the ICDEP 2020, *LEADS in a Caring Environment* framework (hereinafter referred to as “LEADS”) is an essential framework for my thesis because it

demonstrates that leadership can be developed throughout the career trajectory and is applicable in many practice contexts. Dickson and Tholl (2014) write in their book on the LEADS framework that competence is most appropriate for training, referring to the minimum skills and knowledge required to do a job. In LEADS, Dickson and Tholl (2020) emphasize the concept of *capabilities* rather than competencies, whereby capabilities are defined as bundles of competencies that must adapt to situations and circumstance and can be developed throughout one's career (Dickson & Tholl, 2020). Thus, Dickson and Tholl (2014) argue that capabilities go beyond the bare minimum and are considered a lifelong journey (p. 28). In Chapter Three, I will describe LEADS further as a key element of my conceptual model. However, it is important to denote that competencies are the minimum set of practice abilities for dietitians.

Competency-based Education and Entry-Level Practice in Dietetics

The ICDEP (PDEP, 2013) is intended to delineate the entry-to-practice competencies for dietitians in Canada and consists of an interrelated set of practice competencies, performance indicators, and foundational knowledge specification. As mentioned above, PDEP (2013; 2020) defines a “practice competency” as a task performed in practice that can be carried out to a specific level of proficiency. In the most current version of the ICDEP, elements of Bloom's Taxonomy continue to be integrated to delineate levels of learning (PDEP, 2020). The ICDEP 2020 also introduces Miller's Pyramid levels to better assess performance indicators (Al-Eraky & Marei, 2016; Miller, 1990). The four levels starting at base of the pyramid are: knows (knowledge); knows how (competence); shows how (performance); and does (action) (Miller, 1990). According to Miller (1990), an individual must *know how* to use the knowledge they have “accumulated” and be “functionally adequate, or of having sufficient knowledge, judgement, skills, or strength for a particular duty” to have competence (p. S63). *Show how* and *action* are

particularly relevant during practical training (e.g., internship) and continuous professional development. The ICDEP was developed to meet the need for reliable and valid assessment criteria and would be strictly enforced by PDEP. PDEP is a partnership that is inclusive of the provincial regulatory colleges, dietetic education programs, and Dietitians of Canada, the national professional association. Although the PDEP (2013) document notes that the model used is "...a PDEP-developed adaptation of *Miller's Pyramid of Clinical Competence*" (p. 3), this model looks the same as and uses descriptors that are used in medical education and training environments. It is unclear how this model can translate to the dietetic education and training environment. Miller's pyramid was developed in the context of medical education and training which is significantly longer than dietetic education and training. Medical education is typically a minimum of eight years, not including undergraduate education. Dietetic education and training are generally five to six years, including undergraduate education.

Despite the practice competencies being organized into discrete, broad areas, they are interdependent and are best considered as an array of abilities that a dietitian brings to the workplace. The performance of a practice competency requires application of a combination of knowledge, skills, attitudes, and professional judgments. Mastery of competency relies on the judgment of not just a single evaluator but multiple assessors and the number of assessments to prove validity and reliability of the assessment process. According to PDEP's (2020) Statement of Entry-Level Proficiency, as a minimum practice standard, "entry-level dietitians apply approaches consistent with standards and best practices in the profession. They recognize situations beyond their capacity and take appropriate steps to ensure such situations are addressed safely and ethically" (p. 6). Thus, the notion of competence is the foundation of the ICDEP, the practice domains, and standards which guide education and professional practice.

The ICDEP is implemented through education programs and the Canadian Dietetic Registration Examination, which are the minimum requirement designed to ensure safe, effective, and ethical entry-level practice. The ICDEP informs how dietetic educators design curricula, to ensure learners meet the entry-level practice standards. At entry-to-practice, entry-level proficiency in all practice competencies is expected (PDEP, 2013, p. 2). To enable proficiency, education programs are encouraged to exceed the content required by ICDEP (PDEP, 2013). Once a dietitian achieves registration and enters the workplace, their competencies evolve with experience and advanced education or professional development.

Types of Curricula

As I described earlier in this sub-section, I see curriculum as a learning experience, which supports the development of competencies (Gruppen et al., 2012). Learning objectives are outlined in the curriculum, which includes the competencies covered (Albanese et al., 2008), instructional methodologies and strategies (Hills et al., 2019; Rodger et al., 2008), instructional delivery and modalities (Gervais, 2016), assessment process (Fitzgerald et al., 2016), framework of curriculum evaluation (Gruppen et al., 2016), and the curriculum timetable (Chen et al., 2017). This type of curriculum typically relates to the formal curriculum of the classroom and informal curriculum of the practical training or clinical environment. HPE is a multi-faceted learning environment comprising of the formal curriculum, informal curriculum, and the hidden curricula inherent to both (Gofton & Regehr, 2006). Hafferty and Castellani (2009) advised that:

[T]he labels formal, informal and hidden and so on, not be unyieldingly linked to given settings, situations, or roles. Although the medical literature frequently labels ‘the classroom’ as formal and ‘the clinic’ as informal, the classroom (as a physical place) can (and almost always does) contain all kinds of curricula (informal, hidden, null, and so

forth), just as the clinic can be site of many important formal learning opportunities.

(p. 24)

Formal Curriculum

Formal curriculum is “the stated, intended, and endorsed official curriculum” (Hafferty, 1998, p. 403). Applied to health professions, Thomas et al. (2016) define the formal curriculum as a planned educational experience, which includes single or multiple session(s) on specific subject, full-year courses, clinical rotation, or entire training programs. It may refer to a curriculum document, texts, films, and supportive teaching materials that are overtly chosen to support the intentional instructional agenda. The formal curriculum embodies the learning activities that are planned, organized, and implemented within an allotted time in the schedule (Edmunds et al., 2015). The formal curriculum is explicit, wherein educators plan and deliver content designed to meet set learning objectives (Edmunds et al., 2015).

Informal Curriculum

The informal curriculum on the other hand refers to what is learned through co-curricular or extracurricular activities and experiences (Edmunds et al., 2015). The informal curriculum concerns the “unscripted, predominantly *ad hoc*, and highly interpersonal form of teaching and learning that takes place” (Hafferty, 1998, p. 403). Karnieli-Miller et al. (2010) developed Hafferty’s ideas and see the informal curriculum as the interpersonal processes in which students interact with other health professionals, patients, and their families. Similarly, according to Gofton and Reghr (2006), the informal curriculum is particularly important to students’ practical training or clinical education; it is how students learn clinical practice and how trainees’ abstract clinical knowledge become concrete skills and abilities. It is at this interpersonal level that students’ knowledge and skills become situated in the context of daily work.

Hidden Curriculum

Hidden curriculum is a concept that refers to unintended learning occurring alongside that which is intended and formally delivered (McKenna, 2020). It includes a “set of influences that function at the level of organizational structures and culture” (Hafferty, 1998, p. 404). Hidden curriculum has been explored in nursing and medicine literature but is rarely encountered in the literature of other health professions (McKenna, 2020; Raso et al., 2019). Much of the literature positions the hidden curriculum as something that is unintentionally transmitted from teachers to students as well as peer-to-peer, faculty member to student, and institution to faculty member or student. McKenna (2020) writes that it is through the hidden curriculum that health professional students learn about the expected behaviours of their profession and become socialized within that profession, such as knowing when they can speak up and ask questions within a medical team. These forms of transmission can have implications both for student and faculty development (Hafler et al., 2011).

According to McKenna (2020), teaching and learning in the hidden curriculum involves a lack of intentionality and awareness that “some of what students learn may not necessarily be what educators intend, and educators may be unaware of the full scope of what they are teaching students, namely, through their behaviors and actions” (p. 3). Despite the lack of intention or awareness, studies have suggested that students value the hidden curriculum in developing their professional roles (McKenna, 2020). For example, third- and fourth-year medical students were interviewed about their perceptions of the hidden curriculum and reported that it was through this they learned about how to behave as doctors (Ozolins et al., 2008). Medical students in this study felt that hidden curriculum was related to learning the “cultural” aspects of being a doctor such as attitudes, communication skills, and other “core” behaviours of “being a good doctor”

(Ozolins et al., 2008, p. 608). For Thomas et al. (2016), the unplanned socio-psychological interactions between students and teachers can create a learning environment with unintended consequences on learners' thoughts and behaviours. This hidden curriculum is important to teaching and learning; it includes all the unintended learning outcomes, the unofficial expectations, values, and the unstated organizational or professional socialization processes that occur within learning environments (Edmunds et al., 2015; Ozolins et al., 2008).

Hidden Curricula and Professional Socialization

The effects of what is described as the hidden curriculum are rarely innocuous and, in many ways, are more influential than the formal curriculum (Lawrence et al., 2018). Hidden curriculum is the space where a student's tacit inculcation into the professional culture occurs through "the unstated, taken-for-granted, and sometimes unconscious group understandings about how things are done within the group" (Hafferty & O'Donnell, 2015, p. 7). This notion aligns with Gofton and Regehr's (2006) explanation that the hidden curriculum reflects the institution's widely held values but more so the values of those individuals surrounding the trainee personally.

The educational program by itself may be insufficient to shape professional identity, profession-specific socialization can facilitate the development of skills, values, and identity. Professional socialization continues to be an integral aspect of HPE, and students recognize that simply accumulating core scientific knowledge is inadequate preparation for their professional roles (Strouse & Nickerson, 2016; Taylor & Harding, 2007). Silveria et al. (2019) suggest that hidden curriculum in HPE influences students as they develop their own professional identity. Similarly, Swanepoel et al. (2016) found that dietetic students gained confidence and formed their professional identity through participating in a clinic setting as part of their curriculum.

Consequently, in many health professions programs, the initial years of a degree program are regarded as a rite of passage—with the simultaneous profession-specific socialization that occurs during this training period contributing to mastery of the profession's skills and values, and solidifying occupational identity (Hall, 2005, p. 190).

According to Price (2008) and MacLellan et al. (2011), the role of mentors, peers, and role models is influential in formulating career expectations and career-choice decisions. Price (2008) writes that in nursing, early experiences strongly influence an individual's view of the nursing profession. The way an individual self-identifies as a nurse is greatly influenced by other nurses in the practice setting. In dietetics, professional socialization has a similar role in shaping identity; it is also important to the continuous improvement of academic and practical placement curricula and to the continued strength and growth of the profession (MacLellan et al., 2011). Professional socialization is essential to fulfilling professional roles, as is understanding the values and norms that are fundamental to the essence of the profession (Howskins & Ewens, 1999).

These concepts of formal, informal, and hidden curricula are important in HPE because they not only influence what and how educators teach, but also what learners purposefully or inadvertently learn. The formal, informal, and hidden curricula are prevalent in educational experiences, whether in-person or online. Furthermore, hidden curricula may also have an influence on how health professions socialize their trainees' professionalism and collaboration. Trainees are exposed to a variety of perspectives throughout their education, which enable them to develop their skills, knowledge, abilities, and attitudes forming their professional identity. This type of enculturation is influenced by the informal and hidden curricula.

Leadership Development through Health Professions Education and in Practice

Leadership studies is a burgeoning field of research. In this sub-section I begin by exploring leadership styles that are relevant to my thesis. Then, I review literature related leadership development through HPE and in practice.

Leadership Styles Relevant to Thesis

Different theories approach leadership from various perspectives and can be utilized for different purposes — one theory does not necessarily negate another — it is possible to study leadership with a hybrid approach using multiple theories. Several theories and models have emerged on leadership, ranging from a focus on traits and characteristics of leaders to processes involved in the construction of leadership models (Ayeleke et al., 2018; Chobanuk & James, 2015). For example, Seijts and colleagues (2017) propose that leader character can be developed through deliberate practice, such as learning new skills or competencies. Other research by Uhl-Bien and colleagues (2007) draw from complexity science to develop an overarching framework for the study of Complexity Leadership Theory. Furthermore, individual models typified by styles of leadership are increasingly becoming of limited value given the complexity with which organizations are now contending (Clarke, 2013).

The body of studies on healthcare leadership have created a patchwork of approaches and styles. For example, Turner (2019) identified nine approaches in the healthcare leadership literature, including generalist models (Barr & Dowding, 2008; Dye, 2010; Gopee & Galloway, 2009; Gunderman, 2009), transformational leadership (Choi et al., 2016; Maccoby et al., 2013), servant leadership (Tropello & Defazio, 2014), ethical leadership (Sahne et al., 2016), complexity leadership (Weberg, 2012; Uhl-Bien & Arena, 2017), coaching as a leadership style (Hicks, 2014), authentic leadership (Read & Laschinger, 2015), leadership for improvement

(DaCosta, 2012), and shared or distributed leadership (Fitzgerald et al., 2013; Rogers, 2014). In this literature review, I have intentionally chosen to explore further the approaches that have enhanced my understanding of healthcare leadership and helped me develop my conceptual model in Chapter Three. In this sub-section I will explore a few leadership styles most relevant to my thesis. I begin with a brief discussion on traditional leadership because it is intertwined with studying the career trajectory, which typically includes assuming formal leadership roles. Then, I will discuss transformational and distributed leadership.

Traditional Leadership

Traditional notions of leadership are conceptualized in relation to a hierarchy of an individual's positional authority and often focus on the leader's role in determining future desired states and directing organizational action to achieve those states. Katz and Kahn (1978) describe formal leadership as the incremental influence of position holders exercised via direct and indirect means to maintain or alter the existing dynamics in and of a system (see also Osborn et al., 2002). Underpinned by hierarchy, traditional leadership assesses power in relation to 'climbing an organizational ladder'. As an individual 'climbs the ladder' and assumes greater leadership roles, they gain more power. Underpinning this approach remains the assumption that leadership is essentially a process of interpersonal influence whereby leaders exert influence over followers to achieve desired goals (Clarke, 2013). As such, leader development has been shaped by leader-centric theories of leadership, ranging from trait to behaviour category and style perspectives (Northouse, 2004).

Traditional leadership models, while relevant to this research, limit understanding of the breadth of leadership styles essential at different levels of an organization. The key critiques of this approach concern the failure to consider how leadership is as much dependent on followers

as it is on formal leaders (Higgs, 2003), and how different contexts shape leadership effectiveness and its enactment (Osborn et al., 2002). Many authors have pointed to the limitations of traditional leadership theories, which tend to focus on individual characteristics and skills, and have explored other models such as distributed leadership (Chreim et al., 2013; Currie & Lockett, 2011; Gronn, 2002). These newer perspectives have shifted understanding leadership away from its traditional individualistic focus to a more collective, social concept (Clarke, 2013).

In what follows, I discuss two other leadership styles: transformational leadership; and distributed or shared leadership. These leadership concepts provide alternative views to traditional leadership models and expand the ways in which leadership is applied to the healthcare sector. Before I discuss healthcare leadership, I will first briefly discuss each of these contemporary leadership styles.

Transformational Leadership

One leadership style that shifts from traditional hierarchical frameworks is transformational leadership. Leadership that is tied to formal hierarchical positions in traditional organizations is replaced by power sharing and collaborative participation across boundaries (Chreim et al., 2010). Central to transformational leadership is the notion that people require a sense of mission and purpose to be able to work effectively, which extends beyond receiving a thank you or a reward for effective performance (Avolio & Bass 2002; Collins et al., 2019). While a transformational leader might have a systems perspective, they are also aware of their relationships with subordinates and improving their work-related experiences (Gabel, 2013).

According to Gabel (2013), the four components of transformational leadership are (1) idealized influence, (2) inspirational motivation, (3) intellectual stimulation, and (4)

individualized consideration. Transformational leaders see idealized influence as a model for employees, apply inspirational motivation to communicate vision and mission, and use intellectual stimulation to support and challenge employees (Gabel, 2013). They also apply individualized consideration to understand the strengths and weaknesses of their employees and recommend opportunities for development (Gabel, 2013).

Education and training in healthcare, as in other fields, has hierarchical elements that are comparable to the leader/follower or supervisor/supervisee relationships and may benefit from the application of transformational leadership. In HPE, transformational leadership principles should not be confined to these generally accepted hierarchical roles; rather leadership can be diffused not only vertically, but also horizontally, across a network (Chreim et al., 2010; Gabel, 2013). This can be reflected through teaching a principles- and values-driven approach; emphasizing relationships between leaders and subordinates; and having the intention to transform and enhance the growth and work-related experiences of both of subordinates and leaders (Gabel, 2013). As a result, transformational leadership in healthcare is associated with higher levels of collaboration between health professionals, employee retention, organizational commitment, and job satisfaction (Perez, 2021; Wylie & Gallagher, 2009).

Distributed Leadership

Distributed leadership, which is sometimes used interchangeably with shared leadership, looks at the ways in which leadership can be “shared” across the levels of an organization in a less formal yet deliberate way (Chreim et al., 2010; Gronn, 2002). Although there has been some contention regarding the two terms, both types of leadership have similar core components (Northouse, 2007). Distributed leadership is considered to be a collective process where individuals negotiate their positions with respect to others in more unpredictable ways, rather

than perceiving leadership as the result of single individuals (Denis et al., 2010). Distributed leadership brings valuable outcomes by drawing more fully and effectively upon available talent, with role-sharing, trust, and collective influence improving the quality of decision-making (Beirne, 2017; Ong et al., 2020).

Building on Gronn's (2002) earlier work, Armstrong and Laschinger (2006) describe three different types of distributed leadership: collaborative, collective and coordinated distribution. They point out that collaborative distribution occurs when leaders work together to carry out a specific leadership function that develops into shared practice. Collective distribution occurs when two or more leaders work separately, but interdependently, towards a common goal that creates shared practice. Co-ordinated distribution occurs when different leadership tasks are performed in a particular sequence for the execution of a leadership function.

Health systems have become increasingly reliant on distributed leadership resulting from the growing complexity of health care. However, concerted effort is needed to ensure uptake at all levels of the system (Chreim et al., 2010; Shannon, 2015). Scott (2010) suggests, "Systems must be organized in a way that promotes, even requires, collaboration" (p. 89). In health care, distributed leadership requires more people in leadership roles. Macintosh and Layland (2019) state that more people in leadership roles lead to new ideas and solutions, while creating a strong team approach. People with different skills and from different levels may pool their expertise and resources to foster change. This is particularly evident when interdisciplinary programs are implemented in healthcare organizations (Chreim et al., 2010). Thus, distributed leadership has become an important model in health care.

Although these ideas are popular and the virtues of distributed leadership are frequently discussed, conventional hierarchical thinking about leadership is deeply engrained within health

care, though health care is under considerable pressure to encompass other types of leadership (Beirne, 2017). While health systems might need collaboration, a collaborative approach to leadership may be challenging for interprofessional teams embedded in traditional health care and related systems, such as the HPE system, that reinforces the idea that physicians sit at the top of the hierarchy (Lingard et al., 2012). In their study, Mitchell and Boyle (2020) indicate that professional salience determines the impact of shared leadership and underscores the importance of professional distinctions. Professional salience reflects a situation in which professional identity is the main basis on which the self and other team members are perceived (Mitchell et al., 2015). Mitchell and Boyle (2020) argue that to mitigate against the potentially negative effect of shared leadership, team members must mutually respect the professional expertise of each other.

Leadership Development in the Health Professions

As I recently discussed, the scholarship surrounding leadership styles and healthcare leadership is well-developed (Denis & Van Gestal, 2016; Marchildon & Fletcher, 2016; Turner, 2019). Leaders function in complex environments and need to be prepared to assume informal leadership roles at various stages of their careers, regardless of their formal positions (Dickson & Tholl, 2014).

Leadership Development Through HPE & Practice

Health professionals must be educated to demonstrate the personal and interpersonal competencies necessary for effective leadership (Gabel, 2014). Although leadership is often thought of as an innate set of characteristics, Kouzes and Posner (2017) identify leadership as a skill that can be deliberately learned. This claim is further supported in the literature, that some leadership skills can be taught through education experiences (Caroll, 2005). Leadership

education thus should facilitate leadership skill development to build human capacity and be informed by leadership theories and research (Buschlen & Guthrie, 2014).

Leadership education focuses on individual development and includes learning from other effective leaders (Buschlen & Guthrie, 2014). There is evidence in the literature that suggests education leaders and curriculum designers should revise HPE to include a more explicit focus on leadership (Beacham et al., 2017; Bradd et al., 2019; Frenk et al., 2010). For instance, nursing education, Cassiani et al. (2019) argue that it is essential to bolster leadership skills in nursing education at both the undergraduate and graduate level. Nursing degree programs and continuing education should strengthen nurses' leadership potential in the academic curriculum. Furthermore, Shariff (2014) suggests that nursing education should include more areas such as leadership so there is interest among new graduates beyond clinical practice. Furthermore, nurses with an advanced education can assume wider responsibilities in the health system, including leadership, research, and teaching (WHO, 2021). Despite the call for greater leadership development, only 50% of reporting countries indicated the existence of nationally supported leadership development programs for nurses (WHO, 2021). This is significant because not all levels of nursing and midwifery education preparation include leadership skills in the curricula.

In practice, effective strategies to support aspiring women leaders to grow their leadership capacity include sponsorship, mentoring, learning, coaching, visibility, and confidence (Belasen, 2020). In some practice areas, it has been recognized that early career healthcare professionals are in accelerated roles where they advance into leadership roles quickly (Whitmore et al., 2019). Whitmore et al. (2019) identified that in long-term care, greater mentorship is needed for early career nurses because their roles in this setting tend to accelerate

them into LTC to nurse-leader positions. To meet practice needs, there needs to be investment in leadership skills development for healthcare professionals (WHO, 2021).

The Role of Gender in Healthcare Leadership

Although there are many approaches to healthcare leadership in the mainstream literature, the amount of literature stands in stark juxtaposition to the lack of scholarship on gender and healthcare leadership. Today, most healthcare workers in Canada are women; women comprise 83% of workers in the health care and social assistance sectors, which reflects employment in hospitals, medical offices, nursing, and residential care facilities (Statistics Canada, 2016). Women hold a unique position in healthcare, yet they hold significantly fewer leadership positions – on average only 25% (World Health Organization, 2019); men continue to fill key leadership roles in healthcare. The female leadership gap is clear and, there is an increasing demand for talented female leaders in top healthcare positions (Kalaitzi & Czabanowska, 2015). Women continue to experience systemic barriers and frustrations with unconscious biases. In a recent report, 55% of healthcare executives believe that women have been passed over for an opportunity or promotion based on their gender (Korn Ferry, 2019). In this sub-section, I discuss the role of gender in healthcare leadership. I explore women's work as "care work" and implications for women in leadership positions. From there, I discuss the literature related to leadership development in dietetics, a feminine profession.

"Care Work" as Women's Work

The notion of "care work" as women's duty has been problematized in the literature (Benoit & Hallgrimsdottir, 2011; Dodd & Gorham, 1994; Reverby, 2002). Healthcare has some of the more highly stratified divisions of labour, where there is differential in power, status, and influence of various occupational interest groups (Bourgeault, 2017). Gender norms position

women as more naturally suited to conduct emotional and care work, which situates women in caring professions. These conditions place considerable challenges on women in the healthcare workforce: specifically, the gendered devaluation of care work and expectations that women will provide emotional and care work in and beyond “caring” fields (Benoit & Hallgrimsdottir, 2011). In dietetics, research connecting the profession as “care work” is limited. I lean on literature from nursing and other health professions to discuss some of the issues faced by women in healthcare.

Women constitute more than 80% of the Canadian health workforce. However, their representation in leadership positions is low (Bourgeault et al., 2018). The effect of gender on the organization of healthcare is best exemplified by women’s principal roles as support workers in the caring professions and segregation within medicine. There has always been a gendered division of labour among health professions, and women are predominantly in support roles such as personal support workers and dental assistants (Adams, 2010). Riska (2010) identified that women physicians are relatively well represented in specialties that confirm gender-essentialist notions of women’s work, such as child and adolescent psychiatry, geriatrics, and pediatrics (p. 429).

Women physicians continue to be underrepresented in positions of leadership and prestige globally, including career advancement (e.g., rank attainment) (Carr et al., 2015), progression (e.g., leadership roles) (Ross, 2017), and remuneration (Jena et al., 2016). The discrepancy in representation, opportunities, and compensation between women and men in medicine is further exacerbated in medical specialties (Leigh et al., 2019). Bourgeault and colleagues (2018) write that “women in typically female health professions and in the professions of medicine and dentistry are underrepresented at the top levels of both clinical

leadership and the most prestigious subspecialties” (p. 95). In Canada, less than 40% of specialists are women (Canada Medical Association, 2018). As such, women’s work in healthcare has been positioned within the “caring” professions rather than “curing” professions (Dodd & Gorham, 1994; Treiber & Jones, 2015).

Nurses and midwives account for nearly 50% of the global health workforce and constitute the largest health care workforce in most countries (World Health Organization, 2020). In 2019, there were 439,975 regulated nursing personnel—Licensed Practical Nurses, Registered Psychiatric Nurses, Registered Nurses, Nurse Practitioners—practicing in Canada (Canadian Institute for Health Information, 2020). The proportion of male regulated nurses has grown over the last five years, with registered psychiatric nurses having the highest proportion (19%) of male nurses (Canadian Institute for Health Information, 2020). It is evident that nursing continues to be not only a dominant health profession but also a female dominated health profession. Nurse leaders are known to foster healthy work environments where collaborative teams use their collective voices to create change, promote innovation, and improve care at every level of the healthcare system (Alexander & Lopez, 2018). Despite their significant contribution to the health workforce, research has shown that nurses’ contributions are not recognized, and nurses lack opportunity to be involved in health policy development (Shariff, 2014). Furthermore, even though women have attributes considered effective for leadership, such as sensitivity and empathy, there is concern that nurses are not empowered to assume leadership positions (Cassiani et al., 2019). As the most dominant health care professionals, nurses continue to face systemic barriers in some areas of practice such as policy and leadership.

Care work is also deeply intertwined with women’s responsibilities beyond their professional roles. Many women’s career trajectories do not occur in a straight line; many are

deterred by other responsibilities related to caring for family (Rochon et al., 2016, p. 1055). Rochon and colleagues (2016) write that women often have a slower start to their careers they are expected to “balance” career and family responsibilities (p. 1054). The challenge of trying to succeed in their family, clinical, and academic roles contributes to why women remain underrepresented in leadership (Meyer et al., 2019). Much of the research about caregiving roles, work-family conflict, and work-family enrichment of healthcare professions has focused on nurses (Williams et al., 2021). Though dietetics is also predominantly female, and the work settings are similar, a dietitian’s work may differ in physical tasks and other ways. Williams et al. (2021) provide a foundation for other predominantly female professions, such as dietetics, particularly in healthcare to explore and compare the work/life interface of practitioners.

A Feminine Profession: Dietetics

Dietetics is a female-dominated profession, whose knowledge base has historically centered on food. Brady (2017) writes that dietetics arose from home economics in the early 20th century. Although home economics has been the subject of scholarly inquiry, the history of dietetics has received little attention from historians or from the profession itself. The profession of dietetics comprises the practical application of medical and nutrition science through nutrition therapy and care work. These are highly feminized, but also imbued with discourses on food, nutrition, health, and eating that are highly racialized and classed (Biltekoff, 2013; Hayes-Conroy & Hayes-Conroy, 2013). Brady’s research (2018) on dietetics also provides important insights about the relative power and place of women and feminized professions within the healthcare hierarchy.

The dietetics profession in Canada is homogenous—over 95% of dietitians are Canadian-born, heterosexual, middle- to upper-class Caucasian females (Brady, 2018; Dietitians of

Canada, 2011; Siswanto et al., 2015). Factors that contribute to the underrepresentation of men and minorities in the dietetic profession include low salary, relatively high cost of education, and the perception that dietetics is a profession more suited to women (Greenwald & Davis, 2000). Advocates within the dietetics profession call to better train and sustain a profession that fully reflects the diverse Canadian society (Mahajan et al., 2021). The introduction of leadership as a new competency area in 2020 (PDEP, 2018) may pose further challenges for certain minority groups within dietetics and between professions.

Dietetics and Leadership Development

Little is known about Canadian dietitians' leadership development (Arendt & Gregoire, 2005; Hunter, Lewis, & Ritter-Gooder, 2012; McCollum, 2014). Currently, literature in this area stems from traditional areas of dietetic practice in clinical nutrition (Arensberg, et al., 2019; Morris & Matthews, 2014; Patten et al., 2021) and foodservice management (Gregoire et al., 2005), where leadership tends to relate to positional authority a dietitian might have.

Earlier research conducted by Arendt and Gregoire (2005) found that dietetic students see themselves as leaders yet limited research has been done on dietetic trainees and leadership since. Leadership development through mentorship within the dietetic profession has gained traction. However, much of the literature is related to dietitians already in practice rather than the trainee experience. Through their research, Hunter et al. (2012) identified that all dietitians in their study recognized that encouragement, nurturing, and being supported were essential factors in their leadership development. Guidance by role models provided challenge and direction and inspired them to strive for and choose excellence as their standard. Participants thought it is possible to obtain theoretical knowledge of leadership while in practice, but leadership skill development requires ongoing interaction over time.

Related to mentorship and role modeling is professional socialization through the education system. MacLellan et al. (2011) studied professional socialization in dietetics and their findings suggest that the process of professional socialization is a complex and stressful process, which begins before entry into the formal education system. Within the formal education system, faculty and preceptors can have a positive or negative impact on an individual's professional growth and development. Similarly, Olson et al. (2016) suggest that ongoing professional self-discovery mediated by university context and curricula can have a positive impact on professional socialization in allied health professionals. Swanepoel et al., (2016) found that dietetic students developed their confidence and professional identity through participation in a university health clinic. These findings support the evidence that dietetic curriculum should provide students with authentic learning opportunities in a safe environment, prior to potentially stressful placement experiences. This enables students to discover the nuances of dietetic practice, apply interpersonal skills and develop confidence in those skills that are crucial professional practice, including leadership.

There is limited research that investigates leadership and dietetics from the perspective of CBE. Although there is evidence that dietetic curricula attempt to distinguish between leadership and management (Boyce, 2014), there is less agreement to include leadership as part of dietetics curricula (Tweedie et al., 2021). Nonetheless, recent work in the United States by Miner et al. (2020) provide curriculum developers in healthcare professions directions about leadership competencies required for entry into the professional workforce. The objective of their research was to identify leadership competencies and skills needed by entry-level registered dietitians. Findings from their qualitative analysis suggest different leadership perspectives may exist

between educators and practitioners. Miner et al. (2020) urge educators to consider differences in leadership perspectives when preparing students for leadership positions.

Situating My Study

As a researcher investigating leadership development throughout the career trajectory, it was important to gain an understanding of how leadership is currently taught through HPE. Based on my literature review, it became evident to me that much of the research has been conducted in medical education and nursing education; limited research has been conducted on allied health, let alone dietetics. Drawing from insights gathered from the literature review, there is a gap in research related to leadership development in dietetics, particularly in Canada. This becomes an important area to explore since the ICDEP 2020 now require leadership to be an area of competence for Canadian dietitians. There is also limited research on the ways in which leadership is used in practice, and even less research on how leadership is developed in dietetic trainees. My research contributes to the field by examining this area of practice in the Canadian context.

Summary of Leadership, HPE, and Dietetics

In this sub-section I reviewed key leadership styles relevant to my thesis. Although formal leadership and transformational leadership are widely discussed in the literature, distributed or shared leadership is strongly connected with promoting leadership at different levels of a system. After my discussion of these leadership styles, I reviewed the literature related to leadership development in health professions. Drawing from primarily medicine and nursing, effective leadership development has positive impacts on the healthcare workforce and effective care delivery. Although leadership development is seen as essential, gender disparities continue to be a barrier for women healthcare professionals. Challenged with work-life balance

and systemic barriers, women continue to be underrepresented in key healthcare leadership positions despite accounting for a significant portion of the healthcare workforce. In the literature, there is limited research on dietitians' leadership development and how they leadership use in practice (e.g., clinical settings). The available research on dietitians' leadership suggests that leadership is essential for dietetic practice however, there is growing evidence that supports the need to integrate leadership into dietetic curricula.

Chapter Three: Conceptual Framework

Two theoretical concepts guide this research: complexity leadership theory and feminist theory. These theories and related concepts shaped my understanding and guided my research plan. Healthcare has multiple, interconnected complex systems which can be studied through complexity and systems theory (Plsek & Greenhalgh, 2001). In addition, with the understanding that health professions are highly gendered, feminist theory stresses the importance of considering the issues related to gender and diversity as a cross-cutting theme. With these theories as my foundation to my conceptual framework, I also draw upon LEADS because it focuses on leadership at the individual level while highlighting the direct linkages with the other levels of a system. In this chapter, I will review these theories and frameworks, show how they have informed my understanding and development of my orienting conceptual framework, and then present this framework in the last section.

Complexity Leadership Theory

Complexity science is a cross-disciplinary approach to research that focuses on the emergence and evolution of complex adaptive systems: the patterns of relationships within them, how they are sustained, how they self-organize, and how outcomes emerge (Burns, 2001; Davis & Sumara, 2006). Complex systems are characterized by rich interconnectivity. When elements of a system interact, they can trigger non-linear, unexpected, and unpredictable events that put the system into a dynamic or emergent state (Cilliers, 1998; Lipsitz, 2012; Uhl-Bien, 2021). Complexity and systems theory provide an effective way to rethink and improve healthcare (Drath et al., 2008; Heylighen et al., 2006). With this lens I have a deeper understanding of the interconnections between individual professionals, teams, and healthcare systems.

In complexity theory, learning takes place at multiple levels, from the cellular to the societal, including the individual person level and the level of the system or group (Davis & Sumara, 2006). Learners adapt to experience in a self-organizing manner – like plants respond to sunlight or animals change in response to exercise – rather than merely ‘take in’ facts (Davis & Sumara, 2006). Complexity theory is compatible with both Piagetian constructivist approaches to how individuals make sense of experiences, and Vygotskian social constructivism/sociocultural approaches to how social knowledge and practices structure people’s learning and knowing (McMurtry, 2015). From a complexity perspective, both individuals and social collectives can be seen as adaptive, self-organizing learners – learners that are deeply entangled and mutually influencing (Davis, 2009).

Health organizations are complex systems because they cannot be fully understood through reductionist approaches focusing on isolated individuals and factors. Rather, health organizations and the individuals, teams, and other groups that compose them are multi-faceted and interrelated systems that evolve and learn (Sargeant, 2009; Kernick, 2016). Uhl-Bien and Arena (2017) write, “perhaps no one is feeling complexity more strongly than healthcare, where volatile regulatory environments, evolving pay structures, changing patient relationships, and wearable technologies are combining to create tremendous uncertainty with respect to where healthcare will go” (p. 10).

Complexity theory acknowledges the “messiness” that we seek to control in healthcare and encourages us to embrace it (Khan et al., 2018, p. 200). According to Weberg (2012) a new type of leadership is needed within healthcare organizations, based on adaptive capacity, understanding the external environment, connecting with the internal organizational culture, and thriving in situations where groups need to learn their way out of unpredictable problems.

Weberg (2012) argues that by leading at the intersections of the system through strong networking, by allowing for distributed decision making, and by fostering conditions for the organization to adapt to these pressures quickly and effectively, the outcome is an adaptable healthcare organization. Marchildon and Fletcher (2016) also assert that systems thinking is essential for future health system transformation.

Recognizing the complexity of healthcare, “strong and competent management and leadership workforces are thus required to navigate the sector” (Ayeleke et al., 2018, p. 89). Leadership styles continue to be studied, because effective leadership of healthcare professionals is critical for strengthening quality and integration of care. Sfantou et al. (2017) conducted a systematic review and found that leadership styles were strongly correlated with quality care. It is therefore essential to consider the ways in which healthcare professionals apply their leadership. Ayeleke et al. (2018) remind us that while some clinical leaders may work in formal management roles, for others leadership is exercised from a clinical or frontline position. Uhl-Bien and colleagues (2007) propose a model, Complexity Leadership Theory (CLT), grounded in a core proposition: much of leadership thinking has failed to recognize that leadership is not only the influential act of an individual or individuals but rather is embedded in a complex interplay of many interacting forces. Complexity leadership is the application of CLT and draws upon insights from complexity science to frame leadership as an element of a social system. As individuals learn from working within the system, they contribute to ongoing, recursively elaborative adaptations. Learning emerges from the ongoing co-evolution between a complex adaptive system and its dynamic circumstances (Grant et al., 2022). Complexity leadership enables an organization to deal more successfully within dynamic environments (Lichtenstein et al., 2006). Expanding on this notion, Uhl-Bien et al. (2007) describe dynamic

environments as being the networks of interactions and interdependent relationships, as well as the conflicting constraints and tensions in the network, that can generate adaptive behaviours and problem solving. Grant and colleagues (2022) elaborate and write that “individuals may influence the social groups they nest within, while social groups (and the collective knowing and practices they produce) shape the experiences and beliefs of those individuals” (p. 8).

Furthermore, distributed or shared leadership is embedded within CLT (Clarke, 2013; Uhl-Bien et al., 2007).

CLT connects leadership processes with a system capacity for adapting to change, dealing with ambiguities, and responding more effectively to complex problems (Clarke, 2013). Uhl-Bien (2021) posits, “Leadership is a co-creation. It is co-constructed in combined acts of leaders and followers” (p. 158). The interdependent agents—the leaders and those they interact or collaborate with and influence—within the system can generate novel behaviour. Leadership, then, is an interactive dynamic that emerges from the interactions in complex adaptive systems where new learning and problem-solving is the outcome (Lichtenstein & Plowman 2009). The focus is on how leadership might bring about conditions that enable organizational effectiveness, in contrast to determining it. Based on CLT, leaders enable adaptive, rather than predictable and orderly, responses to complexity (Uhl-Bien & Arena, 2018). Leaders can capitalize on the collective intelligence of groups and networks, which in turn provides a pathway for including diversity (Uhl-Bien & Arena, 2018). Lichtenstein and colleagues (2006) write that respect for diversity is cultivated “through one-on-one interactions” (p. 8). CLT’s recognition of the role of interactions in leadership forms a natural connection with theories that examine the structures within which these interactions occur, and in my research this includes feminist theory.

Feminist Theory

Feminist theory also underpins this research; it shifts assumptions, analysis, and topical focus towards the female viewpoint and experience. Feminism emphasizes the importance of social, political, and economic structures that shape societies, stressing that gender must be considered when examining oppression, domination, power, and powerlessness in our society (DeBeauvoir, 1957; Firestone, 1970; Friedan, 1963). Feminist theory illuminates social problems and issues that may otherwise be overlooked or misidentified by the historically dominant male perspective, promoting equality and justice (Grosz, 2010; Morris & Nott, 2018; Reverby, 2002; Turner & Maschi, 2015). Furthermore, feminist perspectives increasingly address the intersectionality of gender, race, ethnicity, class, sexuality, and (dis)abilities, among others, in shaping health and well-being (Crenshaw, 1991; Reverby, 2002).

In a professional culture context, feminism considers the social, cultural, and gendered norms that impact women's roles and experiences in the workplace. Feminism is particularly useful for this study because, as Adams (2010) notes, traditionally women's health care labour was concentrated in positions that were seen to support men in higher-ranking professions. For example, several health care occupations, such as physiotherapy, speech therapy, and dental hygiene, were established as work for women under male doctors' or dentists' authority (Adams, 2010). Today, we see more women in traditionally male-dominated roles, however women are less visible in healthcare leadership positions (Bourgeault, 2018). Historically, some feminist scholars have argued that the cause for this gendered division of labour is that reason and the mind have been associated with the masculine, whereas emotions and the body have been coded as feminine (Jaggar, 1989). Although the mind-body dichotomy might be seen as outdated, the gendered nature of the health care division of labour remains. Despite more women entering

increasing some health professions that in the past they were under-represented, gender continues to be relevant for employment at all levels of the health system (Bourgeault, 2018). Brady (2018) writes that feminist sociology should consider the ways in which expertise is embodied, which becomes important for feminized and highly gendered forms of knowledge. For this reason, I will employ feminist theory as a lens to address the intersectionality of participants in this study.

LEADS in a Caring Environment Framework

In Chapter Two: Literature Review, I introduced LEADS, a healthcare leadership framework. LEADS is built around the notion of capabilities, rather than competencies or minimum entry-level requirements, and can be applied to leadership along the career trajectory. The development of LEADS draws from earlier work published by Dickson (2007; 2009). The critical elements from these two publications are the descriptions of how leadership development shapes healthcare delivery practices, and how in a complex and constantly evolving healthcare context, the design of leadership educational programs is shaped by the needs and driving forces in the existing healthcare system. Thus, LEADS is designed to showcase the capabilities required of both formal and informal leaders to meet diverse challenges and bring about cultural shifts in healthcare (Dickson & Tholl, 2014; Dickson & Tholl, 2020). The LEADS framework proposes that all leaders—regardless of their position in the organization—must be able to lead themselves, engage others, achieve results, develop coalitions, and effect systems transformation in order to ensure their organizations remain relevant, sustainable, and successful. To reflect the range of leadership, the LEADS acronym represents the five domains of capabilities: Lead self, Engage others, Achieve results, Develop coalitions, and Systems transformation (Dickson &

Tholl, 2014; Dickson & Tholl, 2020). In this section, I will provide a more fulsome description of LEADS and highlight its limitations.

The Framework - Domains and Capabilities

As a uniquely Canadian contribution to the healthcare leadership scholarship, LEADS is foundational to my research on dietetic leadership development. Table 1 *LEADS in a Caring Environment Leadership Capabilities Framework* presents the domains and capabilities inherent in healthcare leadership. The first domain is “Lead self”, and within this domain successful leaders cultivate self and others, demonstrate self-awareness and self-management, and exhibit character (honesty, integrity, optimism, confidence, and resiliency). The second domain is “Engage others”, and this domain reflects the ability of leaders to enable others to grow, and to create engaging environments where people have meaningful opportunities to contribute. The third domain is “Achieve results”, whereby successful leaders connect with others, develop a shared vision and translate it into action, hold themselves and others accountable for results, integrate quality improvements and evidence into decision-making, and manage resources responsibly and creatively. The fourth domain within the framework is “Develop coalitions”, which expresses that leaders create relationships with other groups of individuals or organizations and work towards a common goal. Finally, the fifth domain is “Systems transformation” which describes how successful leaders change systems: they build personal and organizational understanding of the complexity of health systems, mobilize knowledge to challenge processes and guide change, lead changes consistent with vision, values and a commitment to health, and orchestrate improvements in health services delivery.

Table 1

LEADS in a Caring Environment Leadership Capabilities Framework

Domain	Capabilities
Lead self	Self-motivated leaders ... Are self-aware Manage themselves Develop themselves Demonstrate character
Engage others	Engaging leaders... Foster development of others Contribute to the creation of health organizations Communicate effectively Build teams
Achieve results	Goal orientated leaders... Set direction Strategically align decisions with visions, values, and evidence Take action to implement decisions Assess and evaluate
Develop coalitions	Collaborative leaders... Purposefully build partnerships and networks to achieve results Demonstrate a commitment to customers and service Mobilize knowledge Navigate socio-political environments
Systems transformation	Successful leaders... Demonstrate critical thinking Encourage and support innovation Orient themselves strategically to the future Champion and orchestrate change

Summarized from *Bringing Leadership to Life in Health: LEADS in a Caring Environment*, Dickson and Tholl (Eds.), 2020.

The LEADS framework is organized sequentially to begin with micro-level individual practices (i.e., Lead self) and moves to broader practices and capabilities that have implications for the healthcare system on a macro-level (i.e., Systems transformation). In this way, Dickson and Tholl (2014) intended that the LEADS framework could demonstrate healthcare leaders' distinct capabilities at different levels of interaction and impact (i.e., on the micro-, meso-, and macro-level or on the individual, societal, and system level). The LEADS framework leans towards recognizing systems influences on leadership, rather than focusing on specific contexts that might shape individual leadership.

Distinguishing Between Competencies and Capabilities

The application of LEADS is particularly important in the Canadian context because of its relatively high uptake across the healthcare sector (LEADS Canada, 2021). LEADS was designed to embody the key skills, behaviours, abilities, and knowledge required to lead in all sectors and types of organizations. It strives to foster a common understanding of what leadership looks like at all levels through different capabilities. Originally designed for leadership development, LEADS can also be leveraged as an effective change model and culture-reshaping tool, a foundational component of systems transformation (Canadian College of Health Leaders, 2016).

The LEADS capabilities-based framework developed by Dickson and Tholl (2014) emerged as a leading model in Canadian healthcare leadership scholarship because it was developed by drawing upon Canadian-specific data and literature. In addition, LEADS takes a more holistic approach than Turner's (2019) typology of leadership models by defining twenty leadership capabilities across five distinct domains. Furthermore, Dickson and Tholl (2014) make an important shift in LEADS from the notion of competencies to capabilities. They suggest that capabilities can be developed over time, unlike competencies which often are associated with entry-level practice. In their work, they define capabilities as "individual abilities required in the unpredictable and dynamic context in which leadership is required" (Dickson, 2007, p. 2). Importantly, Dickson and Tholl (2014) advanced notions of leading outside of one's official title by "leading from where you are" (p. 283) or self-leadership, collaboration, and leading in a complex environment.

Limitations of Competencies Frameworks and Leadership Development

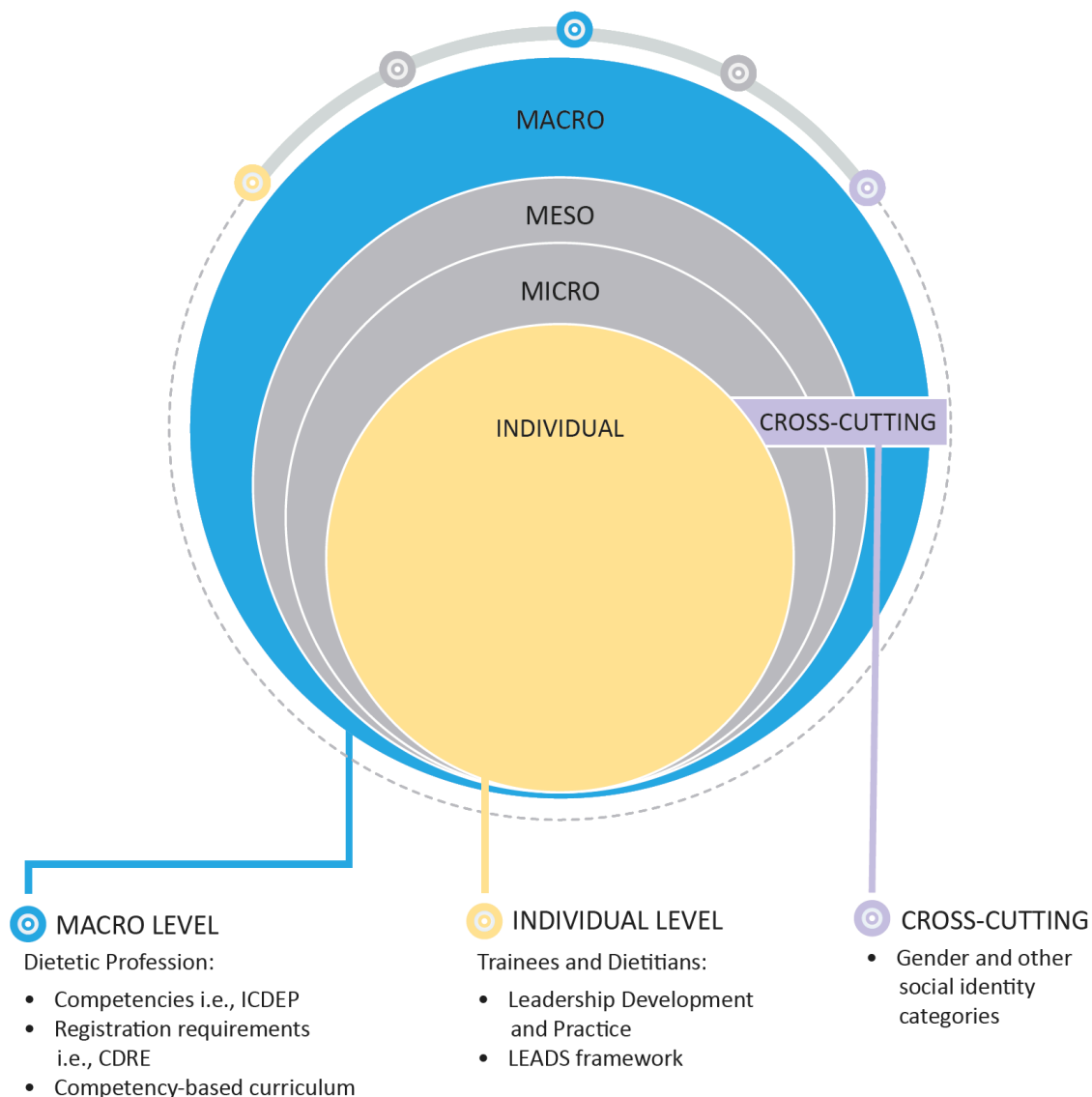
While LEADS has gained recognition in Canada and internationally (Shannon, 2015), the framework itself does not reflect gender or diversity (Dickson & Tholl, 2020), which brings about opportunities to expand the framework. The LEADS framework is not intended to specify how diverse groups within the healthcare workforce operationalize its capabilities: how they do so are individually and professionally determined. There continues to be significantly less known about gender and other equity-seeking groups and their leadership in the health sector (Betron et al., 2019; Khan et al., 2019). This is particularly problematic considering that the number of women working in healthcare, including diverse women in specific roles, far exceeds the number of men. In a recent OECD report (2019) women are over-represented in health and long-term care professions, yet many women are in jobs with poor working conditions. Furthermore, women continue to provide more informal care than men, which may impact their ability to have a full-time job. In the next sub-section, I will explore the nexus of healthcare leadership and gender to develop my own conceptual framework for this study.

Each of the LEADS domains comprises four measurable and observable capabilities of exemplary leadership, which can include important equity, diversity, and inclusion dimensions. Accumulating evidence suggests that greater diversity across multiple characteristics, including gender, improves staff experience, organizational performance, and patient outcomes (Penfold et al., 2019). For instance, Bourgeault et al. (2019) reviewed 111 published articles and 43 grey sources to conduct a gap analysis on the state of knowledge for women's leadership in three key health sectors: healthcare, health sciences, and Indigenous health. They found that across the healthcare literature more is known about the barriers to women's leadership than the facilitators of women's leadership, that interventions are seldom evaluated, that there is a lack of data on

allyship in the context of women's leadership in healthcare, and that the literature on women and Two-Spirit leadership in Indigenous health is especially sparse. Moreover, the healthcare leadership literature rarely includes a feminist analysis of leadership, specifically an analysis of gender, which has been a central component of feminist leadership literature more broadly (Clover et al., 2017). Thus, my conceptual framework begins to draw in equity, diversity, and inclusion dimensions to create a more fulsome framework.

Orienting Conceptual Framework

I present an orienting conceptual framework, Figure 1, which depicts the different, nested layers of structural influences on the dietetics education and practice systems. By integrating complexity theory and feminist theory, I am able to expand on frameworks developed on health professions scopes of practice (Bourgeault & Merritt, 2015; Nelson et al., 2014) and healthcare leadership (Dickson & Tholl, 2014; Dickson & Tholl, 2020). To begin, my conceptual framework draws from the systems perspective of complexity leadership and organizes different elements into macro-, meso-, and micro-levels similar to the scopes of practice model. I add to this model by embedding LEADS into the individual or micro-level. Since dietetics is a feminized profession with a dominant female workforce, I also integrate elements of feminist theory as a cross-cutting concept, which enables me to understand the experiences of my participants more deeply. My conceptual framework not only draws a direct application to dietetics, but also integrates gender and other social categories such as race and disability as cross-system factors.

Figure 1*Conceptual Framework of the Study*

My conceptual framework consists of four main levels: the macro-, meso-, and micro-levels, plus the individual level. Although each level is depicted as a distinct layer, drawing from complexity, each of the nested layers are interconnected. Changes in one level may influence the entire system. Furthermore, I add a cross-cutting element related to diverse social categories,

which are not isolated or unique to any one level of the system. Social identity categories, such as gender or race, are enmeshed at all levels of a system.

The outermost layer—the macro-level—contains the high-level structure of the system. The structures include the education requirements, assessment and competency standards, and registration requirements of a profession. In the case of dietetics, this would be the ICDEP and the Canadian Dietetic Registration Examination. For instance, at the macro-level, I explored the influence that ICDEP has on shaping dietetic curriculum. This macro-level investigation occurred through my documentary analysis and focus group interview in Phase I.

Moving inwards, the meso-level addresses institutional influences such as unionization, and supply and retention of workers. For example, this layer may address challenges with number of dietitians in practice and where dietitians practice in the workforce. It is also important to consider leadership at the organizational level, which is responsible for barriers for women to rise into leadership roles (Castellucci, 2019; Ellinas et al., 2018). Research continues to show that although women comprise most of the health and social care workforce, they remain underrepresented in senior leadership positions (Penfold, 2019; Wolfert et al., 2019). This may have implications for a female gendered profession, such as dietetics, to be in leadership positions in healthcare.

Continuing to move inwards, the micro-level encapsulates team composition and vision, hierarchy, socialization, and professional cultures. Here we might see how an individual dietitian demonstrates their leadership skills within a team or hierarchical environment. It is at this micro-level that I go deeper and propose an individual level where I apply the LEADS framework.

In this thesis, I specifically focus on the macro-level, individual level, and cross-cutting elements because these align with my research questions. Although my framework mentions the

meso-level and micro-level, I do not focus my analyses on those levels. These levels are included yet greyed out to denote that I acknowledge that the system is multi-layered and complex however, those levels are not the foci of my study. I chose to exclude focused analyses on the meso-level and micro-level in order to manage the amount of data for my thesis.

By integrating the LEADS framework, I can expand the notion of competence to include potential ‘capability’ development of dietitians. In addition, I can investigate the experiences of individual dietitians, look at their dietetic education, and how they use certain competencies or skills such as leadership. The LEADS framework enables me to distinguish leadership at the different levels including self-leadership and engaging others with the purpose of enabling system change. By completing semi-structured interviews in Phase II, I gather perspectives that I then analyze and align themes with LEADS.

Throughout my research, I included a gender-based analysis plus (GBA+) approach (Government of Canada, 2020; Morgan et al., 2016). I was conscious of gender dynamics and gendered experiences of my participants. I was also conscious some participants might have unique experiences related to another social category they self-identified with. Gender and other social categories related to equity, diversity, and inclusion affect all levels of the system. In my model I draw a line across the levels to denote this cross-cutting element. Using the GBA+ analytical process enabled me to explore the cases more deeply to identify whether the participants discussed experiences related to gender or another diversity categorization. In my research, the GBA+ approach is used to assess how diverse groups of people, which includes other identity factors such as race, ethnicity, age, and mental or physical disability, experience leadership development.

This conceptual framework synthesizes several concepts and enables me to understand the complexities associated with leadership development of dietitians. For simplicity, my conceptual framework is drawn with distinct layers and a cross-cutting element. All parts of the system are interconnected. When one aspect of a system changes, it has an effect on other areas of the system: changes do not occur in isolation. Furthermore, as individuals have experiences and reflect upon these experiences, they develop their own understanding and incorporate new information into their pre-existing knowledge or schemas. As discussed in my literature review and at the beginning of this chapter, dietetics as a system interacting with other healthcare systems. A systems thinking perspective allows the investigation of the different yet interrelated layers within a system and appreciate its dynamic nature. My conceptual framework permits the integration of data because it acknowledges the interconnections between the different layers and elements within the system—from the individual to the macro-levels as well as with cross-cutting social elements.

My model includes at the individual level the LEADS framework. In doing so, my conceptual framework incorporates the inward influence of context to the outward focus of leaders embedded in LEADS. Recognizing that dietetic education is competency-based, drawing on LEADS expands leadership potential by way of developing capabilities.

My conceptual framework also adds gender and other social categories as a cross-cutting element. Integrating feminist approaches recognizes that the gendered nature of care work amplifies the perspectives of participants from a predominantly female profession. In my study I explore the ways in which dietitians develop and use their leadership skills. The case study methodology is instrumental in facilitating a holistic understanding of the complexities of dietetic education and practice. The capabilities encompassed within each LEADS domain are

non-hierarchical but must be equally cultivated to sustain the lifeline of leadership. Applied as a theoretical framework, LEADS helped me understand the complex processes that characterize leadership in healthcare. Integrating a GBA+ analytical process is a novel contribution to advancing theoretical gaps in the existing LEADS framework.

Chapter Four: Methodology and Research Design

The methodology of this project aligns with complexity science and complex adaptive systems. With this view, I designed a study that has multiple phases and employs different methods to investigate different aspects of leadership in dietetics. The health profession education system is in constant interaction with the health system, among others (Frenk et al., 2010). By drawing on complexity science, I have the understanding that systems and subsystems are interrelated; they do not exist in isolation. For this reason, I considered connections between data collected and integrated themes to develop my understanding of dietetic leadership. As my epistemological position, complexity science enables an understanding of the study of learning and learning systems (Davis, 2009, p. 105), where learning is self-organized adaptation in a complex system (McMurtry & McMurtry, 2016). My positioning led me to be adaptable as I learned about leadership participants and when there were revisions to the ICDEP. Although my research objectives remained the same, my understanding of dietetic leadership evolved as I collected and analyzed data, which informed later stages of my project.

Further, I adopt an inter-objectivity ontology, where there are no independent objects or essential truths, but rather reality emerges through the interactions among different systems (Davis, 2009). As a result, my positioning as a researcher is a snapshot of one aspect of the education system. Davis and Sumara (2007) use the term “not-yet-imaginable” to refer to the space of possibilities that is opened through the exploration of the current context (p. 6).

In a previous chapter, I presented a conceptual framework that builds on the leadership and HPE literature and existing frameworks. The model is unique because it applies complexity science principles to the profession of dietetics and includes gender as a cross-system factor. When I conducted my research, I was conscious about interactions within and between the

individual, micro-, meso-, and macro- levels. Therefore, I conducted my study investigating different layers in each phase while being cognizant that other elements from different layers might emerge throughout the investigation. Presenting each layer separately enabled me to ask specific research questions while being able to integrate findings throughout study.

This study had a three-phase qualitative design which involved a diverse array of data collection techniques and methods. Although there were three distinct phases, they were interconnected and results in one phase influenced work in another. Phases I and II occurred concurrently, and influenced the ways in which I collected and analyzed the data. Phase III occurred after both Phases I and II were completed, thus preliminary findings from these phases influenced my Phase III work.

Triangulation was achieved by employing multiple methods for collecting and analyzing data, redundancy in data collection, and the inclusion of multiple perceptions to clarify meaning (Farmer et al., 2006; Stake, 2006). This enabled me to draw connections between the interrelated components of the system. I employed a document review of dietetic program documents, one-on-one interviews with dietitians, and focus group interviews with dietetic educators as a means of collecting data on the current context of leadership development of dietitians. First, Phase I included a documentary analysis of a selection of program documents, and then a focus group with dietetic educators. The preliminary findings from the documentary analysis were presented to the focus group. Then, I completed a thematic analysis of interview transcript.

Concurrently, Phase II was an exploration of dietitians' leadership skill development and their use of leadership skills in practice. This phase involved a qualitative multi-case study where I employed semi-structured interviews (Stake, 2006; Yin 2003/2018). Each interview was considered a case. To gather multiple perspectives, I aimed to interview as many dietitians as I

could recruit within a specific time frame. Although I was aiming for a maximum of 24 participants in this phase, I was able to interview over 30 dietitians. This allowed for a wide variety of perspectives, but also highlighted redundant and reoccurring themes. Once I completed the interviews, I began with individual case analyses followed by cross-case analyses of purposively sampled cases, which grouped by career stage.

Finally, in Phase III, to understand how leadership skills might be taught in dietetic education, considering findings from Phases I and II, focus groups with dietetic educators were held. Triangulation facilitated the interconnection between the phases and enhanced my understanding of the current context of dietetics, which would unlikely be achieved should I have chosen to use one method over another. My conceptual framework depicts distinct layers and elements however, triangulation enables me to draw necessary connections between the layers and elements because these do not exist in isolation. Furthermore, some of my preliminary findings were shared with participants in each of the phases, which invited further comments or elaboration on some emergent themes. Table 2 shows the alignment of research questions and project methods. Figure 2 summarizes the alignment between the three phases, research objectives, research questions, and methods.

Table 2

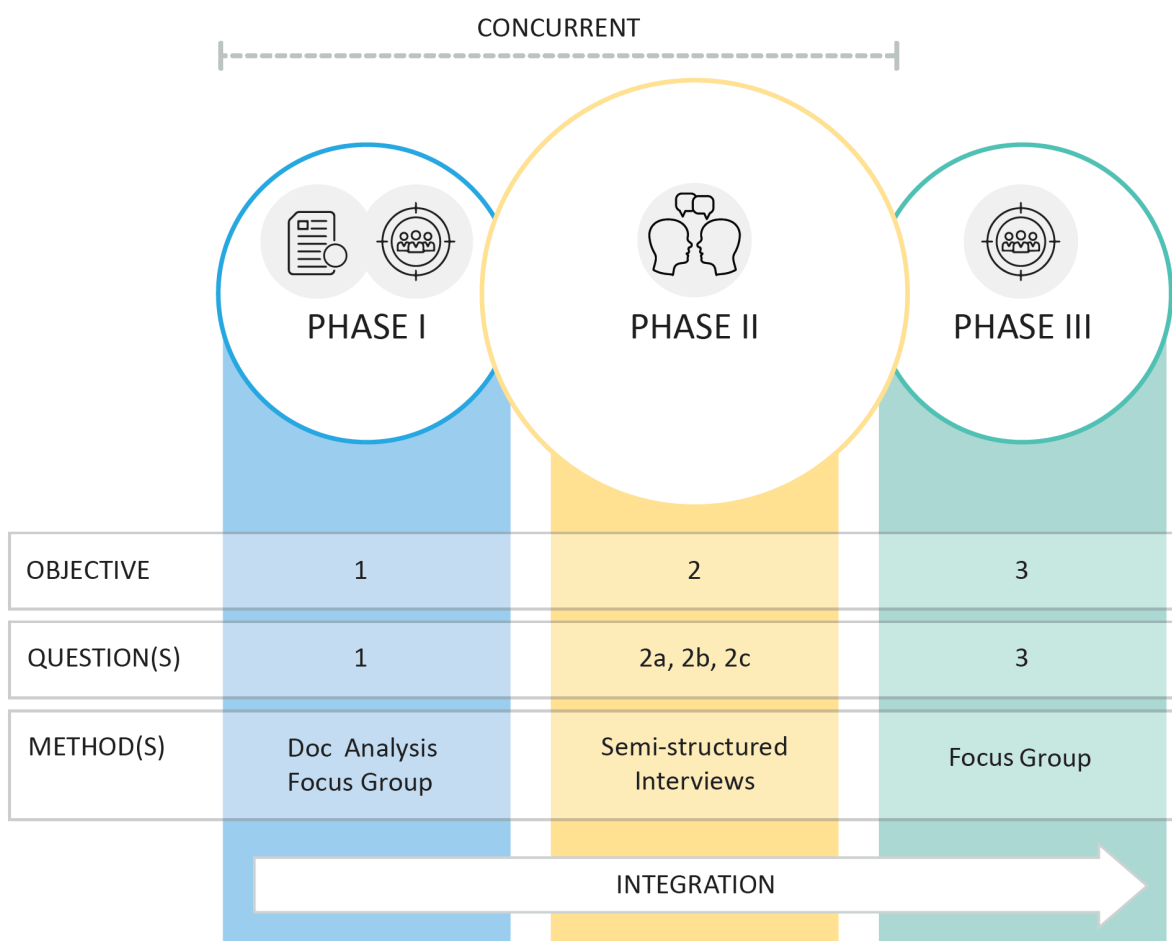
Alignment of Research Questions and Project Methods

Phase	Research Question	Methods
I	1) In what ways are leadership skills currently taught in dietetic education in Canada?	Curriculum document analysis using a standardized extraction tool A focus group discussion with dietetic educators (one 90-minute session)
II	2) In what ways are leadership skills used in dietetic practice? a) How do dietitians view leadership?	Individual interviews with dietitians (one approximately 90-minute session with each participant)

	<p>b) How do dietitians develop and use leadership skills in practice?</p> <p>c) How do the ways in which dietitians use leadership skills align with LEADS?</p>	
III	3) In what ways might leadership skills be taught in dietetic education, considering current dietetic practice?	Three focus group discussions with dietetic educators (one 90-minute session for each group)

Figure 2

Alignment Between Phases, Objectives, Questions, and Methods



Overall, my goal with this research was to gather multiple perspectives and experiences which was achieved through the individual interviews and focus group interviews. Furthermore, the different perspectives enabled me to gain insights about different levels in my conceptual framework. At the macro-level, dietetic educators elaborated on findings related to leadership development in dietetic education by providing their views drawn from working in their programs. At the individual level, dietitians with different years in practice and from various practice settings shared their experiences with leadership development and use in their work. By including multiple perspectives, I developed a more detailed understanding of the systems.

Expert Committee

I involved an Expert Committee assembled from stakeholders in the field who represent different interests of the dietetics profession to inform my research. This Expert Committee complemented my thesis committee because they contributed additional experience in dietetics and other health professions (i.e., nursing). It was important for me to include the voices of dietitians including trainees throughout the research process. Also, I invited one stakeholder from another health profession to join my Expert Committee to gain a different perspective from dietetics, which was recommended by my thesis committee.

The Expert Committee consisted of three practicing dietitians, one dietetic trainee, and one nurse. I had an existing professional relationship with one of the Expert Committee members, who worked for a dietetic association. They suggested other dietitians in different regions of Canada and different practice areas who might be interested in contributing to my research. I contacted three of these individuals and two agreed to join the Expert Committee. Then, I invited a dietetic trainee who I know from working on other projects; the dietetic trainee expressed interest in continuing involvement in other research activities for their own

professional development. Finally, I asked one of my thesis committee members to recommend another health professional, and through a subsequent referral I engaged a registered nurse. The Expert Committee members were from British Columbia, Alberta, Saskatchewan, Ontario, and Nova Scotia, and worked in different practice settings. Each member of the Expert Committee signed a confidentiality agreement (Appendix D). The Expert Committee provided feedback on the document extraction tool (DET) in Phase I and interview questions for all phases, and they were consulted at key stages throughout Phases I-III. On January 15, 2020, I held a “project kick-off” meeting with the Expert Committee and shared high-level updates on my data collection progress. Committee involvement ended in September 2020 when my data collection was complete.

Research Ethics

Ethics approval was required for my Phase I focus group interviews and Phase II semi-structured interviews because my research involved human subjects. I consulted a uOttawa research ethics advisor and one of my supervisors while I prepared my ethics application. I obtained research ethics approval from the University of Ottawa Research Ethics Board (Appendix E). I received approval at the end of the fall semester and just prior to winter holiday, I started my recruitment for Phases I and II in January 2020.

Phase I: Document Analysis and Focus Group

To identify the ways leadership skills are currently taught in dietetics education in Canada, there were two aspects to Phase I: a document analysis and a focus group. This phase is closely linked to the macro-level of my conceptual framework where education needs and requirements are part of the broader structure.

Inclusion and Exclusion Criteria

Accredited dietetic programs across Canada were identified through the PDEP website (PDEP, n.d.). Of all the Canadian programs listed, universities with English dietetic programs were invited to participate in Phase I. I excluded French programs because of my limited French proficiency. Thirteen universities were identified and included on the list. Program administrators and dietetic educators from each of the 13 English universities were invited to share examples of their program documents, such as course syllabi, and participate in a focus group. I provide a detailed description of the document analysis data collection and data analysis in the following section.

Document Analysis

The benefit of conducting a document analysis at the onset of the proposed study was to identify the ways and aspects leadership are currently taught in dietetic education. Documents can be a good source of technical expertise, information from various institutions, and descriptive information, and can offer historical understanding (Merriam & Tisdell, 2016). In this study, I was interested primarily in dietetic program documents related to current 2013 competencies and indicators proposed to fall under the new ICDEP domain of “leadership” (Appendix A) or that mentioned “leadership development”.

Data Collection

To develop a foundational understanding of dietetic programs in Canada, I gathered publicly available program documents through an online search of program websites. I started this process mid-January 2020. First, based on the PDEP accredited dietetics programs, I created a list of the 13 English dietetic programs I wanted to explore and their websites (Appendix F). I assigned each university a code (e.g., Program 1, Program 2, Program 3). I went to each website

to gain a cursory view of what types of program documents might be available online, and to identify the program administrators and dietetic educators associated with each program if I did not have a contact at the program already; I completed the table by including their contact information. My plan was to contact these individuals to request select program documents and to invite them to participate in the Phase I focus group.

The types of documents available on program websites include admission requirements, course mapping, promotional materials, and technical reports. Examples of course syllabi, assignments, and internship manuals were more difficult to find. Unfortunately, few documents from the websites have sufficient content to be considered for analysis. To add to the publicly available program documents from websites, I emailed the 13 dietetic program administrators and educators on February 1, 2020 (Appendix G). I included information about my study and requested electronic copies of select course syllabi, assignments and/or internship manuals. As mentioned earlier, I was particularly interested in courses or program documents that demonstrated how leadership is developed through their programs, however I left it to the discretion of each program to determine what documents they would be willing to share.

Of the 13 programs contacted, seven dietetic programs shared a selection of program documents such as course outlines, assignments, and internship manuals. Two programs expressed interest in sharing program documents but were unable to participate at the time. One program explicitly did not want to share program documents because the person I corresponded with said in an email that they were not comfortable sharing documents for a variety of reasons but did not explicitly indicate. Three programs did not respond to the email invitation to share program documents. I asked the dietetic programs to send their curriculum or program

documents within eight weeks and sent follow-up emails at the end of February and mid-March. I gathered documents from websites and directly from programs until March 31, 2020.

Data Analysis

Rather than being taken at face value, documents need to be read critically, appraised, and analyzed, and discussed in terms of authenticity, reliability, meaning, and theorization (McCulloch, 2004). Another way to understand the components of a document analysis is proposed by Duffy (2005), who distinguishes between external and internal criticism when analyzing documents, although these may overlap. External criticism aims to identify whether a document is both genuine (i.e., not forged) and authentic (i.e., it truthfully reports on its subject) (Duffy, 2005, p. 129). Internal criticism is the analytical method where the contents of a document are subjected to rigorous analysis which identifies, for example, the type of document, what the document says or how it is used, or when and in what circumstances it was produced (Duffy, 2005, p. 130). Authenticity, as McCulloch writes, is determining whether the evidence is “genuine” (McCulloch, 2004, p. 35). I understood the documents I obtained from the universities’ websites and shared from the dietetic programs to originate from the programs themselves. Furthermore, since these documents are from accredited dietetic programs, I expect the course documents related to dietetic competencies to align with the requirements for accreditation.

Reliability refers to the extent to which the document’s account can be relied on (McCulloch, 2004, p. 36). The documents analyzed in this study provide foundational knowledge of how leadership is currently taught in dietetics and would not be considered fulsome. Thus, I planned a focus group with dietetic educators to validate and elaborate on the findings of the document analysis. To understand the meaning of the document, the evidence must be clear and

comprehensible to the researcher (McCulloch, 2004, p. 38). I created a DET to help me organize the information I was gathering from the documents (Appendix H). Using this extraction tool guided my work to ensure I was collecting relevant data from each of the documents. The DET also enabled me to systematically examine, compare, and cross-reference the various documents. The DET was developed with an internal criticism analytical method (Duffy, 2005) where the competencies and questions of interest were organized into a chart. I shared my DET with the Expert Committee and asked for their feedback, which was incorporated into the final version.

First, from the websites I identified each program's key features, such as whether it was an integrated or graduate program stream, the application process, and its course sequence. I also included a list of the documents reviewed, from both the online search and directly submitted by the program. Next, for each document, I entered key phrases or notes into the DET where I thought a specific competency was addressed. I started a new extraction table for each document rather than combining notes from different documents into one table. This provided a visual comparison of which documents contain more information about leadership development than others. Once I completed the analysis for all the documents from one program, I wrote a summary consolidating the information about how leadership is taught in that dietetic program. After reviewing all 13 programs, I compared the program summaries to identify similarities between programs and unique ways leadership is covered in the curricula. I reviewed the summaries for patterns through thematic coding (Braun & Clarke, 2019). I developed a list of initial codes based on the DET such as "course assignment", "in-class activity", and "readings", and the type of course "clinical nutrition", "food service management", and "professional practice". I also documented codes that emerged from the data such as "awards" and "professional portfolio". I used the codes to identify themes from the document analysis.

Once the extraction process was complete, an interpretive approach (McCulloch, 2004, pp. 39-40) was applied which aimed to establish that a cogent interpretation of the documents was achieved through the focus group. An approach to documentary research with interpretive elements considers the construction and deconstruction of the documents, attempting to gain a deeper analysis in terms of power or influence of the various groups that these documents might represent (McCulloch, 2004, p. 39). The selection of documents from the different programs provided a foundational knowledge of the ways leadership is currently taught in dietetic education, however I wanted to ensure that I had an accurate understanding of the programs and curricula. To achieve this, the document analysis findings were summarized and presented to a focus group for validation, elaboration, and interpretation.

Focus Group Interviews

One of the goals of using focus group interviews is to learn participants' opinions and to better understand a particular topic (Morgan, 1997). Focus groups are particularly useful when conducting in-depth research because opinions are shared, and richer ideas that resonate within the group emerge as participants often play off each other's comments. Focus groups can produce a rich body of data expressed in the respondents' own words and contexts and are useful for exploratory research when little is known about the phenomenon of interest (Stewart et al., 2007). The group dynamics of focus groups enable participants to voice options and generate new ideas, insights, and perspectives that may not arise in individual interviews.

The purpose of the focus group interview was to obtain insights from dietetic educators about their programs by providing educators with the opportunity to validate and/or elaborate on the findings from the document analysis. This process helped to establish the current context of dietetic education in Canada, which was limited from the document analysis alone. From the

document analysis, I was interested in strengthening my understanding of the ways in which educators see leadership demonstrated in courses or placements, and other ways trainees gain leadership skills outside the program. One advantage I found from including a focus group interview was that it began to help me understand the interactions between other levels of my conceptual framework. While the document analysis primarily situated my understanding at the macro-level, the focus group interview began to enhance my understanding of the meso-, micro-, and individual levels, where institutional factors, socialization, and education are influential on leadership skills development. Once I drafted my focus group questions, I shared these questions with the Expert Committee, asked for their feedback, then revised the questions.

All 13 universities were invited to participate in the focus group, whether they provided program documents or not. I emailed the administrators and educators of the 13 dietetic programs on March 15, 2020 and invited them to participate in the focus groups. I included additional information about Phase I of the study and the consent form (Appendix I). I adapted this consent form for the Phase III focus group because it would be similar (Appendix J). I sent a follow-up email at the beginning of April to those who had not yet responded to the invitation to participate. Individuals who expressed interest in participating in the focus group were provided with a Calendly® scheduling link to sign up for a focus group session that was most convenient for them. Table 3 is a summary of the programs included at each stage of Phase I.

Table 3

Summary of Programs Websites and Documents Reviewed, and Focus Group Participation

Program	Website	Select Program Docs	Focus Group Participation
1	YES	YES	YES
2	YES	no	no
3	YES	no	no
4	YES	no	no
5	YES	YES	no

6	YES	YES	YES
7	YES	no	no
8	YES	no	no
9	YES	YES	no
10	YES	YES	YES
11	YES	YES	no
12	YES	no	no
13	YES	YES	YES

Four programs yielded information across all three forms of data collection. Each program was from a different province. Three programs offered undergraduate dietetic programs; one program offered undergraduate and graduate-level dietetic options.

Data Collection

Dietetic educators representing six programs were scheduled to participate in two separate focus groups, with three participants in each group. However, two educators withdrew due to COVID-19 workload-related issues, thus I was able to convene only one focus group interview with four educators. I ensured that the consent form to participate in the focus group was complete in advance of the session. I used Zoom.us® (Zoom), a web-based conferencing application to host the 90-minute focus group session with the four participants on April 21, 2020.

At the beginning of the focus group interview, I introduced each participant and provided approximately 5 minutes for the participants to converse with each other as a way for them to organically get to know each other. Before asking any interview questions, I presented the key findings from the document analysis (Appendix K). Participants were then asked and responded to three semi-structured interview questions:

- 1) What are your thoughts about these findings?
- 2) In what ways is “leadership” demonstrated by trainees in class/placements?

3) What other ways do trainees gain leadership skills outside of the dietetic program?

The focus group interview was recorded and transcribed verbatim. The participants were given the option to review the password-protected transcript and provide feedback within two weeks. All the focus group participants reviewed their transcripts but did not provide any edits.

Data Analysis

The transcript was reviewed for patterns of shared meaning through deductive and inductive coding (Braun & Clarke, 2019). The semi-structured interview guide formed the basis of deductive coding, which included initial thoughts about the findings, the ways leadership is demonstrated by trainees, and the other ways trainees gain leadership skills outside of the dietetic program. Inductive codes were unrelated to the questions and emerged from the participants' responses. Then, initial themes were drawn from the deductive and inductive codes. The themes generated from the focus group were summarized and compared to the findings from the document analysis. From there, I returned to the program documents and websites to see if I could gather additional information about the different activities or courses mentioned. Minimal new information was obtained through this confirmation process.

Phase II: Multi-Case Study

To understand the ways dietitians currently use and develop their leadership in practice, Phase II is structured as a multiple case or multi-case study. Through a diverse array of data collection techniques and methods, qualitative case study methodology provides an in-depth study of case(s) to achieve as complete an investigation and understanding of a phenomenon as possible (Merriam, 2001). Data were collected from 35 individual participant cases (Stake, 1995; 2006). Stake (2006) suggests “an important reason for doing the multi-case study is to examine how the... phenomenon performs in different environments” and “both typical and atypical

settings should be selected. When cases are selected carefully, the design of a study can incorporate a diversity of contexts” (p. 23). In my study, each participant is considered one independent case, where each case is an in-depth account of a dietitian’s leadership journey and experience. After each case was analyzed, a cross-case analysis was conducted.

Inclusion and Exclusion Criteria

The target population included individuals who were, at the time of the study, registered dietitians who had developed or considered developing their leadership skills. Participants were excluded if they were not registered with one of the provincial dietetic regulatory colleges in Canada.

Recruitment Strategies

In January 2020, a recruitment poster (Appendix L) was posted online through social media including LinkedIn, Facebook, Instagram, and Twitter, and shared through dietitian networks via email list serves. I invited potential participants who wished to learn more about the research and/or participate in the study to email me directly. Recruitment continued until mid-February.

When a potential participant contacted me, I responded to any questions they might have and a link to an initial intake form (Appendix M). Participants were asked to read the information sheet and complete the intake form if they wanted to participate in the study. The intake form was used to gather basic information: email address for study correspondence, first or preferred name, province or territory of residence, area of dietetic practice, and preferred method of conducting the interview, phone or virtual using Zoom. Zoom was chosen as the virtual platform for its ease of use, stability, video and audio quality, and recording functionality. A hand-held audio recorder was also used as backup, should there be issues with the Zoom

recording. Once I received their expression of interest to participate, I responded with a new email that included a link to schedule an interview through Calendly® as well as the consent form (Appendix N). I asked the participants to read and complete the consent form before the interview, and invited them to ask me any questions that arose. Two days before the scheduled interview, I sent an email confirmation and reminder to complete the consent form, if they had not done so already. At the beginning of the interview, I confirmed that I had a copy of their consent form, had obtained verbal consent prior to recording the interview, and reminded participants that they could withdraw or stop the interview at any time. This two-step process to obtain consent ensured that the participant was willing to proceed with participation in the study and understood the interview was being recorded and gave them the option to end the interview at any time.

Sample Size

The determination of sample size in a multi-case study is based on different criteria than a quantitative study. The goal of qualitative research is not to obtain statistical significance and generalize findings, but rather to explore the research question more deeply by identifying similarities and variations within the sample—as Patton (2002) states it is a “trade-off...” (p. 101). This study initially aimed to recruit a purposive sample of 20-25 dietitians to attain diversity within the sample and reach theoretical saturation (Guest et al., 2006), where each dietitian was considered one case study (Stake, 2006). In addition, the intent was to obtain a wide variety of themes and minimize the potential for participant attrition.

A total of 42 dietitians responded to the recruitment poster, of which 39 completed the intake form and 38 dietitians were scheduled to participate in the interviews. Three dietitians withdrew from the study due to COVID-19 related issues so as a result, 35 dietitians participated

in the semi-structured interviews. There were a couple of reasons I allowed more than 20-25 participants to schedule an interview. First, it was surprising to me to see how many dietitians were interested in speaking with me about leadership. Thus, I wanted to give these dietitians an opportunity to voice their experiences through this study since there is limited research conducted in this area. Second, to prepare for potential participant attrition, I chose to allow all participants who expressed interest in participating in the study before the recruitment deadline to schedule an interview. One study participant was scheduled late August 2020. They received the recruitment poster from a colleague and encouraged them to participate because they work in a non-traditional role for a dietitian. While I was not looking for additional participants at that time, I thought it was important to include this dietitian since they might have unique perspectives gained from working in a non-traditional role.

Participants

Table 4 summarizes the demographic information of the interview participants. Thirty-four dietitians self-identified as female and one as male. The participants' ages ranged from 25 years old to over 60 years old. With respect to number of years of experience as a dietitian: three dietitians had less than 5 years; four had 6-10 years; 12 had 11-20 years; six had 21-30 years; and 10 dietitians had over 30 years of experience. Three participants self-identified as a member of one or more of the visible minority groups: one Black (e.g., African, African American, African Canadian, Caribbean), one West Asian (e.g., Arabian, Armenian, Iranian, Israeli, Lebanese, Palestinian, Syrian, Turkish), and one Latin American (e.g., Mexican, Indigenous Central and South American). One participant self-identified with, or has ancestry as an Aboriginal person (status or non-status Indian, Métis, or Inuit). Three participants self-identified with a disability or impairment; one participant made it known to me that they had a hearing impairment and

accommodations for the interview were arranged. Four participants spoke at least one other language in addition to English or French and English: Arabic, Portuguese, Spanish, Italian, Greek and Dutch. A more detailed description of each participant is provided in the Phase II findings section of subsequent chapter. I assigned a pseudonym for each participant based on their gender and popular names generated from a brief online search “popular names 2020”.

Table 4

Summary of Case Study Participants by Demographic Information

Demographic criteria	Number of participants
Gender	
Female	34
Male	1
Age group	
25-29 years old	3
30-39 years old	8
40-49 years old	8
50-59 years old	9
60+ years old	7
Years of dietetic practice experience	
5 years or less	3
6-10 years	4
11-20 years	12
21-30 years	6
Over 30 years	10
Self-identification	
As a member of a visible minority, Yes	3
As a member of a visible minority, No	32
With, or have ancestry as an Aboriginal person, Yes	1
With, or have ancestry as an Aboriginal person, No	34
With any disability or impairment, Yes	3
With any disability or impairment, No	32
Languages spoken	
English	35
French	6
Languages in addition to one or both official languages	5

Most dietitians completed their dietetics education through a Canadian university program; one dietitian completed her training through a combination of different placements

unaffiliated with a university program; three dietitians were internationally educated and completed their retraining after prior learning assessments were conducted by a provincial regulatory college. Regarding education before completing their dietetics degree, 26 dietitians reported that dietetics was the first post-secondary degree they completed whereas nine dietitians completed a degree prior to dietetics. With respect to completing or being in the process of completing a degree, diploma, or graduate certificate, 13 dietitians did not complete further studies; 22 dietitians did complete a degree after completing dietetics, which includes two dietitians completing a PhD.

In the early career cohort, one dietitian self-identified with one of the diversity categories. Dietitians in this cohort work in clinical (n=3), long term care (n=1), community (n=1), research (n=1), and private practice (n=1). One dietitian completed a degree before dietetics. All seven dietitians completed their dietetic education in Canada. Three dietitians completed master's degrees; one dietitian was in process of completing a master's degree and another dietitian is completing a PhD degree.

In the mid- career cohort, three dietitians self-identified with one of the diversity categories. Dietitians in this cohort work in a variety of settings: community (n=3), nutrition management (n=3), clinical (n=1), long term care (n=1), education (n=1), private practice (n=1), and policy (n=1). Four dietitians completed a degree before dietetics. Two dietitians did not complete their dietetic education in Canada. Seven dietitians completed master's degrees and one dietitian completed a PhD degree; one dietitian was in process of completing a master's degree.

In the mid- to late- career cohort, one dietitian self-identified with one of the diversity categories. Dietitians in this cohort work in community (n=2), long term care (n=2), private practice (n=1), and business (n=1). Two dietitians completed a degree before dietetics. One

dietitian completed her dietetic education outside of Canada. Three dietitians had completed master's degrees; one dietitian was in process of completing a master's degree.

Lastly, in the late career cohort, two dietitians self-identified with one of the diversity categories. Dietitians in this cohort work in different settings: long term care (n=3), management (n=2), clinical (n=1), education (n=1), private practice (n=1), and research (n=1). Two dietitians completed a degree before dietetics. One dietitian completed her dietetic education outside of Canada. Four dietitians have completed master's degrees and one completed a PhD degree.

Data Collection

The data collection method consisted of one virtual semi-structured interview with each participant as well as researcher field notes. I created a draft interview protocol, which was reviewed by the Expert Committee, and their feedback integrated. Then, I scheduled time with one dietitian to practice interviewing online and pilot test the interview questions. This pilot interview data was not included in this study. Based on the pilot, I created a short list of key questions that I could share with participants in advance, should they want to prepare some responses or examples. Following recruitment, upon contact by the potential participant, I provided general information (Appendix M) about the study, which included the purpose, time commitment, and sampling process; if they were still interested in participating, then they were invited to complete an electronic intake form (Appendix N), which asked for their preferred name, email address, area of practice, province of residence, and preferred way to conduct the interview (phone or virtual). I used the information in the intake form for future correspondence and scheduling. I emailed individuals who completed the intake form with the opportunity to ask questions and seek clarification. I included the consent form (Appendix O) and a weblink to schedule a convenient time for a 90-minute meeting in February or March 2020 through

Calendly®. As mentioned earlier, one dietitian contacted me in late August 2020; they reviewed the study information and were interested in participating. This interview took place on September 3, 2020.

A few days before each scheduled interview, I sent the participant a reminder email with phone and/or Zoom information, a reminder to complete the consent form if they had not done so already, an electronic demographic questionnaire (Appendix O), and the main interview questions so each participant had the option to prepare notes and/or examples. I created an alpha-numeric code to assign to each participant to ensure anonymity, and only I have access to the information linking the participants to their unique identifier. I gave the participants their unique alpha-numeric identifier to be entered into the demographic questionnaire. They were asked to complete the demographic questionnaire in advance of the one-on-one interview.

Participants signed and sent me their consent form before the interview. I then signed and provided a copy. At the beginning of the interview, I reviewed the consent form with the participant and obtained verbal consent. This step ensured the participant was comfortable proceeding with the recorded interview. I recorded the interview via Zoom and had an external audio recorder for backup. The interviews were scheduled for 90 minutes; interviews ranged in length from 45 to 95 minutes. Interviews started on February 8, 2020, and ended March 29, 2020, with one additional interview on September 2, 2020. I asked participants a series of semi-structured interview questions from an interview guide (Appendix P). The interview guide included additional optional probing questions that were not included in the questions provided to the participant in advance. Once an interview was complete, the audio recording was transcribed initially through Transcribe.Wreally®, then the transcript was reviewed for accuracy. Participants were provided with a password-protected copy of their transcript and given the

option to provide feedback within two weeks. Six participants provided edited transcripts where fillers such as ‘uhm’ or ‘uh-huh’, were removed, and misspelling of proper nouns such as names of organizations or rural/remote regions, were corrected.

Data Analysis

The data analysis of each transcript in this phase occurred in three main steps. First, I analyzed each individual case. The participant’s ‘Case Study ID’, which was the unique identifier that links the demographic questionnaire and participant transcript, was also used on the DET. I am the only person who has access to the list of unique identifiers. As I read the transcript, I entered passages or notes from the interview into extraction tool categories such ‘definition of leadership’, ‘ways considers oneself a leader at work’, ‘ways leadership skills are used’ (Appendix Q). I completed an extraction tool for each of the interviews.

Then, I used this analysis to select cases for further analysis, for each of which I wrote a case report. The case reports enabled me to synthesize the information in the extraction tool because not only did I re-read salient points raised by the participant but also resulted in the creation of a detailed summary that I could use to compare the individual cases.

Last, I used these case reports for cross-case analyses. This approach not only enabled me to gather perspectives from a variety of participants, but also created a strategy for me to manage the amount to data I obtained from the interviews. I was able to include interviews that provided perspectives related to different aspects of my conceptual framework. The details of each of these steps follows.

Individual Case Studies

To develop an understanding of each participant’s experience with leadership, it was essential to analyze each case independently prior to conducting a cross-case analysis. To begin,

a case study extraction tool (CSET) (Appendix Q) was developed to assist in extracting codes and developing categories from each of the transcripts. The process, extraction tool, codes and categories were discussed and reviewed with my supervisors. First, I read four transcripts while listening to the audio recordings, and highlighted passages that seemed interesting or salient. I continued by reviewing the marked-up transcripts using the CSET and entered the data into the extraction tool. Once the CSET was completed for the four transcripts, I shared my analysis with my supervisors for feedback. Then, I revised the CSET, re-analyzed the four transcripts and completed additional analyses of two other transcripts. Again, the analysis was reviewed by my supervisors for feedback, and I received approval to continue with the analytical process.

When I began my analysis of the first four transcripts, I felt it was important for me to read the transcripts, highlight salient passages, and make notes because I had completed subsequent interviews since I completed the initial interviews. It was necessary to be reacquainted with each participant in order to appreciate what they were saying about their leadership experience. Initially, with the four transcripts, I was looking for passages or stories that related to each of the sections in the CSET. Since the CSET was based on my semi-structured interview guide, many of the participants' responses aligned with the CSET. My semi-structured interview guide aimed to get a sense of the participants' personal definitions of leadership, what skills or qualities they think is necessary for leaders, and ways they developed their own leadership skills so far. I also strived to identify how they use leadership in practice. In order to do this, I asked at least one question that related to each of the LEADS domains.

I did not limit my exploration to the direct responses to each of the questions. I remained open to emergent codes or ideas that did not necessarily align with the CSET. At the bottom of the CSET is an area where I documented any of these emergent codes. In addition, I was also

aware that participants may revisit elements of an earlier question later in the conversation. For example, they might describe an experience related to “Engaging others” while also highlighting important qualities of a leader such as accountable, trustworthy, or visionary. In this case, I would make additional notes in the relevant section of the CSET. I presented the four completed CSET to my supervisors for feedback and made minor revisions to the CSET to help add more clarity. I continued this process of reading and highlighting the printed transcripts, entering passages and codes into the CSET, and organizing emergent ideas into the CSET. Then, I reviewed the codes to construct themes.

I decided to create a CSET after trying to analyze the transcripts in NVivo®, a software that is widely used in qualitative analysis. I initially analyzed the four transcripts using NVivo®, systematically creating some of the codes that would become the codebook. I found that using the software limited my ability to understand the participants’ experiences. Upon reflection, it was as though I was pre-occupied with creating a codebook with common words that came up, rather than appreciating what the participants were actually saying. I was also referring to hard copies of the transcript, highlighting and making notes, which became redundant. After I shared my experience with my supervisors, we agreed that, going forward, manually coding the transcripts and organizing the data into an extraction tool was the best way for me to remain connected to the participants’ experience while systematically arranging the codes and passages for further analyses, and to construct themes. The CSET was completed for all 35 transcripts, then I organized them by career stage before selecting some of the CSET for the cross-case analyses. While not all cases were included in the cross-case analyses, I did review all the transcripts and selected the ones that would give me the breadth and depth of responses.

Cross-Case Analysis Participant Selection

After reading all 35 transcripts and completing a CSET for each one, I discussed with my supervisors potential strategies to manage the amount of data I gathered from the interviews. Purposeful sampling, which includes criterion sampling, is widely used in qualitative research for the identification and selection of information-rich cases (Palinkas et al., 2015). We thought that purposively sampling within a category might help me limit the number of case studies I analyzed in detail. Based on my research questions, it made sense to group the participants by number of years in dietetic practice, then selecting cases to study in depth by using other criterion: diversity, variety of practice setting, and richness of interview. First, I categorized the full set of participants by career stage: early career, mid-career, mid-to-late career, and late career (Years of experience: > 5 years, 6-10 years, 11-20 years, 21-30 years, over 30 years, respectively) (Table 5). In consultation with my supervisors, I decided to select three to five cases from each career stage to manage the size of the cross-case analysis and to ensure a maximum variation sample such that a variety of perspectives are included. I selected participants from each career stage based on three criteria:

- 1) Diversity (gender, visible minority, Indigenous, disability, internationally educated),
- 2) Variety of practice settings (clinical, community, food service, research, non-traditional, etc.), and
- 3) Richness of interview (contains thick description).

Table 5

Case Study Participants by Career Stage

Years of dietetic practice experience	Participants	Category (sub-total)	# of Cases for Cross-Case (min-max)
5 years or less	3	Early	3-5
6-10 years	4	(7)	

11-15 years	6	Mid	4-5
16-20 years	6	(12)	
21-25 years	5	Mid-Late	3-5
26-30 years	1	(6)	
Over 30 years	10	Late	4-5
		(10)	
Dietitians interviewed	35		14-20

Table 6 summarizes the cases selected for the cross-case analysis. In total, I purposively sampled 18 participants by including four to five participants from each career stage. To ensure variation in each category, first, I selected a diverse group of dietitians based on the demographic questionnaire. One concern I had when I began to select participants was tokenism (Smith & Dransfield, 2019). Kanter (1977 as cited in Yoder, 1991) defined tokens as members of a subgroup that composed less than 15 percent of the whole group (p. 179). I was interested in including the voices from a variety of dietitians in response to a recent call to action to improve diversity in dietetics (Mahajan et al., 2021; Riediger et al., 2019; Warren, 2019). To address this potential imbalance, I also considered their practice areas, years of practice experience, and the richness of their interviews. Thus, these participants were selected not only by the demographic categories but also by the depth of information gathered in the interviews. A more detailed summary of the participants is included in Chapters Seven and Eight Phase II Findings.

Table 6

Case Study Participants Selected for Cross-Case Analysis

Career Stage	Participant (Pseudonym)	Self-identified with diversity category/ies	Practice Setting
Early Career	Danielle	No	Clinical
	Tenley	No	Long term care
	Emma	Yes	Clinical
	Alexander	Yes	Community
Mid-career	Margaret	Yes	Community
	Norah	No	Private practice
	Elizabeth	Yes	Long term care

	Charlotte	No	Government / Policy
	Xeni	No	Nutrition Management
Mid- to Late- Career	Lucy	Yes	Community
	Penelope	No	Long term care
	Hattie	No	Private practice
	Waverly	No	Business
Late Career	Grace	Yes	Long term care
	Olivia	No	Clinical
	Remi	Yes	Education
	Gemma	No	Private practice
	Kamila	No	Research

Individual Case Study Summary Reports

Based on the information in the CSET, I wrote a case study summary report for each of the 18 case studies to be included in the multi-case study analysis. A sample case study summary report is included in Appendix R. The purpose of this step was to synthesize the extractions from the CSETs into concise summaries of the findings for the individual cases. Each case study report summarized the CSET which contained the participant's responses to the interview questions including questions related to the LEADS domains, as well as emergent comments or ideas. The intent was not to construct a narrative but rather organize the individual extractions in a way to bring forward into a cross-case analysis. A few case study reports were reviewed by a supervisor for clarity and approved for further analysis.

Multi-case Study Analysis

Once I selected the individual cases for the multi-case study analysis and wrote the case study summary reports, I analyzed the reports to identify themes related to the Phase II research questions. These questions are: How do dietitians develop and use leadership skills in practice? and, how do the ways in which dietitians use leadership skills align with LEADS? I began by manually coding and analyzing the summary reports and organized the information into one excel spreadsheet which had one tab for deductive codes based on my semi-structured interview

questions, and another tab for inductive codes from emergent ideas (Appendix S). I chose to begin with manual coding because I was able to understand the responses more deeply and to see all the information together in one document. While I tried to use NVivo® 12 to organize the coding, I found the manual process using an excel table more useful because it allowed me to have a more fulsome overview of the categories and codes.

I conducted a cross-case analysis within each career stage, in other words between the case studies in each group. I reviewed the responses from participants and looked for common and emergent codes. I began by analysing the participants' responses based on the interview questions, while making additional notes for responses that emerged from the conversations. Part of the analysis of emergent themes was related to identifying themes specifically related to equity, diversity, and inclusion. In Phase II, I was interested in understanding the ways in which dietitians develop and use their skills in practice, and how their use of leadership skills aligns with LEADS. As mentioned earlier in Chapter 3, the LEADS framework is not intended to specify how diverse groups operationalize its capabilities. Adding an additional framework related to equity, diversity, and inclusion provides a way to identify and unpack the experiences of the participants that cannot be addressed by LEADS alone. As a female dominated health profession, it is imperative to consider the gendered nature of the work, and the impact of the work environment on women.

Although originally discussed in my thesis proposal, I did not follow through with a cross-case analysis between career stages. After analyzing the selected case reports within a career stage, the information gathered was too refined for further analysis between the cases. In consultation with a supervisor, I decided that a between career stage analysis was not feasible nor required to answer Phase II research questions.

Phase III: Focus Groups

The purpose of Phase III was to identify the ways leadership skills might be taught in dietetic education and to develop recommendations for practice. In addition, the focus group interviews provided opportunities to not only hear from dietitians involved in dietetic education, but also to create additional linkages between the different levels of my conceptual framework. To address this objective, focus groups with dietetic educators were organized and conducted.

Data Collection

In July 2020, I sent my recruitment email to at least one dietetic educator at each of the 13 English university programs, the same programs invited to participate in Phase I. Since there was some attrition in Phase I due to COVID-19 and recognizing that people's ability or capacity to participate may be more limited heading into the fall semester, I also encouraged the educators to forward my recruitment email to other educators affiliated with their programs, should they be unable to participate. I received responses from 10 programs. Nine programs were interested in participating in the study, one program was unable to commit to participating at the time, and three programs did not respond. Of the nine programs interested in participating, 11 dietetic educators were scheduled to participate in three separate focus groups. However, two educators from the same university withdrew the day of the focus group due to workload issues. As a result, eight programs were represented by nine dietetic educators. Three of these educators also participated in Phase I. Table 7 summarizes the participation of educators in Phase I and Phase III focus groups.

Table 7

Dietetic Educator Participants from Each Program in Phases I & III Focus Groups

Program	Focus Group Participation	Focus Group Participation
1	YES	YES

2	no	YES
3	no	no
4	no	no
5	no	YES*
6	YES	YES
7	no	no
8	no	YES
9	no	YES
10	YES	YES
11	no	no
12	no	no
13	YES	YES

*Two educators participated in different focus groups

I ensured that each potential participant completed the consent form to participate in the focus group in advance of the sessions. Each of the three focus groups had three participants. The participants joined the focus group sessions through Zoom, and the focus groups were scheduled for one 90-minute session on each of August 20, August 25, and September 2, 2020.

At the beginning of each focus group, I briefly introduced each participant. Then, I asked each participant to talk about their role in their respective programs. I also gave participants time for open conversation since some of them knew each other. Before asking the participants the interview questions, I presented them with preliminary findings from Phase I and Phase II (Appendix T). The participants were then asked and responded to three semi-structured interview questions:

- 1) What are your thoughts about these preliminary findings?
- 2) In what ways might educators integrate or adapt (more) ‘leadership’ training/experiences into the curricula?
- 3) What other recommendations or considerations do you have related to ‘leadership’ as part of the curricula?

In general, the interview focused on the three main questions. The participants agreed with the preliminary findings from the document analysis. Some participants elaborated by providing examples from their programs. Participants reported they found the findings from Phase II interesting. They added their own leadership development experiences to the discussion. They also discussed the role of the professional association, Dietitians of Canada, in developing leadership. I will elaborate on these findings in the Chapter Nine: Findings - Phase III. The focus group interviews were recorded and transcribed verbatim. I provided participants with the opportunity to review their password-protected transcripts and provide feedback within two weeks.

Data Analysis

Phase III enabled an additional integration of multiple perspectives with previously collected data. Like the data analysis of the Phase I focus group, the transcripts were reviewed for patterns through deductive and inductive coding. The semi-structured interview guide formed the basis for deductive coding and the inductive codes emerged from the participants' responses. In Phase III, I was interested in learning from the educators how might leadership skills be taught in dietetic education, considering current dietetic practice. To initiate and situate the focus group conversation, I shared preliminary findings from Phase I (program document analysis and focus group) and Phase II (semi-structured interview with dietitians). The findings from these phases considered together give a sense of how Canadian dietitians develop their leadership skills, and how these skills are used in practice. Phase III then gathers different perspectives from educators who might have some insights on how to shape dietetic education going forward, in light of impending changes to the ICDEP, which includes "leadership" a new competency domain

(PDEP, 2020). The codes were reviewed with my supervisors, and then themes were gleaned from the various codes. The themes are reported in Chapter Nine: Findings - Phase III.

Summary of the Methodology and Research Design

My research investigates how dietitians develop and use their leadership skills in practice. This chapter provided a detailed account of the methodology and research design employed in this study for each phase: document analysis and focus group (Phase I), cross-case study (Phase II), and focus group interviews (Phase III). The elements included a description of the design, recruitment of participants, data collection methods, and document and thematic analysis processes. As I designed my research, I was acutely aware of my view that dietetics is a system, interrelated with other healthcare systems. In the previous chapter, I presented my orienting conceptual framework, which represents the different, nested layers of a dietetics system and the structural influences on dietetics education and practice. My research design included different qualitative data collection techniques to understand the different layers of the system as well as the interactions between the layers. Furthermore, the semi-structured interviews with individual dietitians in Phase II strived to capture unique perspectives which included some views on social categories and intersectionality. The following chapters provide the key findings from Phase I, Phase II, and Phase III before moving on to a discussion chapter.

Chapter Five: Phase I Findings - Documentary Analysis

The Phase I findings set the foundation to understand the current context of how leadership is taught in dietetic education. In addition, this phase begins to look at the macro-level of my conceptual framework, where I examine the structures that influence this system such as education needs, competency standards, and registration requirements.

Findings - Documentary Analysis

There are 13 universities in Canada that offer an accredited dietetic education program in English. I reviewed the program websites to identify general information about each program and gather publicly available course documents. Then, I analyzed the program documents which were sent to me from dietetic educators from seven of the programs. I used a DET (Appendix H) to organize the document review process and extracted themes related to the ways in which leadership is currently presented in program documents. It was important for me to develop a preliminary understanding of how each dietetic program is organized, before diving into an analysis of the course documents. Based on my conceptual framework, this step enabled me to not only grasp the different activities and courses taken in a program, but it also helped me to begin connecting the relationship between program curricula and the ICDEP.

Website Review Findings

The program websites provide a variety of information, which include admission requirements, resources for students, promotional materials, survey results, and technical reports. Although the websites offered a wealth of information about applying to a program and course offerings, I was particularly interested in aspects that directly related to 'leadership'. Of the 13 programs, I found four programs explicitly referred to leadership somewhere on their websites.

I found one document available on Program 1's website related to a review of courses mapped to 'Foundational Knowledge Content Area and Level of Cognitive Complexity'. In this document, under the content area 'Interprofessional Collaboration', three courses are listed that cover team functioning and collaborative leadership; these are 200-level food systems course, 300-level professional practice course, and 400-level public health course. No other description was provided in this document.

Program 9 states on their website that their program trains "future leaders" in areas like dietetics, nutrition, food security, among others. Leadership is not mentioned in any other areas of the website.

Another program, Program 10, provided general advice on how to successfully obtain a dietetic internship on their website. Completing an accredited dietetic program does not guarantee an internship position in some universities; only integrated dietetic internship programs offer guaranteed internship positions. Program 10 identified that success in obtaining an internship depends on several factors such as academic performance and involvement in community or extracurricular activities, as well "personal characteristics - evidence of leadership abilities, communication skills and self-direction". In addition, essential skills - aptitude and attitude - are cited in the document "Essential Skills and Attributes for Students" which states that "students must have the capacity to develop leadership, management and supervisory skills". That represented the extent to which information about leadership abilities and capacity to develop leadership was presented on the website.

Program 12 stated on their website that one of their program goals is, "to prepare students for professional leadership as they progress through their career paths" (Program 12). This is achieved through seven learning objectives (Table 8).

Table 8*Program 12 - Leadership-related Learning Objectives*

Learning Objective	
1	To acquire critical thinking and problem-solving skills, through activities such as laboratory assignments, community-based projects, service learning and other opportunities for critical reflection.
2	To improve oral and written communication skills for use with diverse audiences and settings.
3	To engage in ongoing research activity within the Department.
4	To develop skills in communication, nutritional assessment, planning, implementation and evaluation, in preparation for dietetic internships.
5	To develop knowledge and skills in health advocacy.
6	To become aware of the role of nutrition in interdisciplinary practice.
7	To identify innovative directions for dietetic practice.

Select Program Document Findings

The program documents shared by dietetic educators from seven different programs included a selection of course outlines or schedules, assignments, rubrics or grading schemes, and internship education program manuals. Educators provided a range of one to 13 documents. The purpose of analyzing several program documents from various dietetic programs was to investigate the ways in which leadership is reflected in the program, particularly within the curricula. As discussed in an earlier section, the PDEP working group tasked to lead the revisions of the PDEP (2013) identified six practice competencies in the 2013 ICDEP (Appendix A) that might relate to leadership and was proposed to dietetic stakeholders. The six practice competencies fall under three areas: professional practice, communication, and management. I used these practice competencies to guide the documentary analysis of program documents and my results are organized by practice areas. I was only able to review the program documents sent to me from Programs 1, 5, 6, 9, 10, 11, and 13. In addition, I made note of strategies that may develop leadership in dietetic trainees beyond the minimum practice competency. For each

program, I provide a visual summary which includes the title of the document, publication date, number of pages, and a brief summary of the purpose of the document. I would like to note that the title of the documents has been modified to maintain anonymity of the program, and I used generic titles related to the course content.

Program 1 - Findings

Program 1 is a fully integrated dietetic internship program. Students apply to the dietetic internship program at the end of their second year of undergraduate program; each year the program receives about 100 applications and admits 34 students. The program involves five years of study: two prerequisite years and three program years, of which the fifth year is spent in internship placements. The internship consists of 39 weeks of structured practice education courses.

The program documents I received and reviewed for Program 1 included course syllabi for their professional practice, public health, nutrition assessment, and food systems courses. In addition, I reviewed a program overview document, an alumni survey report, and a foundational knowledge curriculum mapping table which I found online. A summary of the documents I reviewed is in Table 9. I organized the information under four section: title, publication date, number of pages, and summary. I used the same format for the other programs' curriculum documents tables in this chapter.

Table 9

Curriculum Documents Analyzed - Program 1

Title	Publication Date	Pages	Summary/Purpose
Program Curriculum and Practice Education Overview	2019 update	11	High-level course mapping, which includes course instructors, and a summary of updates to core (3 rd and 4 th year) courses learning outcomes.

Professional Dietetic Practice I syllabus (300-level course)	Fall 2018	5	This course introduces students to the Dietetics Major and dietetic practice in the Canadian context. The course features guest speakers, discussions and applied assignments to enhance your knowledge and skills related to professional practice, communications, and interprofessional collaboration.
Professional Dietetic Practice II syllabus (300-level course)	Spring 2016	6	This course focuses on: (1) nutrition communication, (2) professional practice concepts, and (3) practice environments.
Professional Dietetic Practice (400-level course)	Winter 2019	7	This course focuses on skill development and application for: (1) year 5 practice education, (2) practice-based research, and (3) practice settings.
Public Health Nutrition syllabus (400-level course)	Winter 2019	9	Theory and methods in public health nutrition and health promotion program planning to assess, plan, implement, and evaluate nutrition-related programs for communities and populations, including factors affecting behaviour and the social determinants of health.
Nutrition Assessment syllabus (300-level course)	Fall 2018	5	Students learn how to use dietary, anthropometric, biochemical, clinical, and related information to assess the nutritional status of individuals and populations. students engage in critical analysis and interpretation of assigned readings and a group-developed case study, present research on their case study to the class, and provide ongoing critical and constructive feedback to their classmates.
Food System syllabus (300-level course)	2018-2019	11	Students in this course have the opportunity to contribute to addressing issues of food system sustainability and community food security through collaboration with local and regional organizations.
Alumni Survey	April 2018	2	Infographic of survey data collected (2012-2016) from dietetic program alumni.
Dietetics Program Overview	January 2015	2	An overview of the dietetic profession, dietetic program, and program outcomes.
Review of Courses: Foundational Knowledge Content Area and Level of	August 2017	11	Table includes the content area, cognitive complexity level requirement, cognitive complexity level achieved, list of courses,

 Cognitive
Complexity

 and cognitive complexity level achieved
by course.

Professional Practice. The professional practice courses assist students to transition from campus-based learning to the practice education or internship component of the program to prepare for entry to practice. The courses emphasize collaborative and reflective approaches, which are essential for practice. Students are graded on a pass/fail competency-oriented basis in alignment with student assessment methods used during the program's practice education years. In the first of three professional practice courses, students learn how to self-assess and develop learning plans, and in the second professional practice course, students self-assess and document progress towards achievement of ICDEP-related personal learning goals and performance indicators. In the final professional practice course, students develop skills for year 5 practice education (internship), by learning how to complete educational needs assessments, develop plans, and learning session and resource development.

Communication. Of the documents reviewed, the professional practice and food science courses provide opportunities for students to contribute to the learning of others, specifically their peers. In the professional practice courses, students apply their communication and collaboration skills through activities that are consumer-focused as well as for group education. These activities include blogging, self-assessment and learning plan development, preparing consumer focused nutrition articles, and resource development. Students collaborate with their peers to plan, deliver, and evaluate education sessions for varied target audiences. In the food science courses, students demonstrate presentation and facilitation skills related to food products and preparation methods. Other courses provide students with opportunities to informally present

outcomes from in-class activities. How students are assessed in these courses was not clear; however, peer-evaluation was commonly one assessment strategy.

Management. In one of the 400-level courses reviewed, dietetic students apply concepts in business strategy, operations, marketing, organizational behaviour, human resources, finance, accounting, project management, and ethics to real-life work situations. I was unable to identify how these are evaluated throughout the course.

It was not apparent to me that there were any innovative strategies to develop leadership skills of dietetic students aside from traditional strategies related to teaching the ICDEP 2013 in the course documents reviewed for this program. Leadership competence appears to be integrated into several courses, yet it remains unclear how it is taught, and even less so how it is evaluated.

Program 5 - Findings

Program 5 is accredited and prepares graduates for application to a dietetic practicum program that leads to registration as a dietitian. Students apply to the honours specialization after successfully completing the first-year requirements with no failures; however, they are not guaranteed admission to a dietetic practicum program. Prospective students must also have an average of at least 75% in the chemistry, biology, physiology, and two food and nutrition courses.

I was sent a link to Program 5's course outlines which are posted online every year; this link did not appear to be available or easily searchable on the program website. At the time (February 2020) a few course documents were posted on this site. I reviewed six course outlines, and these are listed in Table 12. When I initially scanned the course outlines, I noticed that several of the course outlines referred to institutional competencies. These institutional

competency categories are problem solving, critical thinking, communication, inquiry & analysis, self-awareness and development, and social awareness and engagement.

Table 12

Curriculum Documents Analyzed - Program 5

Title	Publication Date	Pages	Summary/Purpose
Nutritional Assessment (300-level course)	Fall 2019	14	Survey of the methods used in the assessment of food and nutrient intakes and nutritional status of groups and individuals, in both health and disease.
Food Management I (300-level course)	Fall 2019	11	Application of scientific principles to the procurement, storage, processing and service of institutional food. Menu-planning to meet nutritional requirements. Food trends, sanitation, and safety.
Clinical Nutrition A (300-level course)	Fall 2019	10	Introduction to the profession, medical nutrition therapy, and nutrition care process.
Clinical Nutrition B (300-level course)	Winter 2020	12	Introduction to the profession, medical nutrition therapy, and nutrition care process.
Food Systems (300-level course)	Winter 2020	9	Covers the processes and practices associated with food production in Canada.
Community Nutrition (300-level course)	Fall 2019	9	The role of nutrition at the local, national, and international levels. Emphasis on planning and evaluating nutrition interventions and policy efforts to support population health.

Professional Practice. In the nutrition assessment course and in one of the clinical nutrition courses, one of the learning outcomes states, “to act as the patient’s/client’s nutritional ombudsman”, which also relates to social awareness and engagement and valuing. An interactive approach to learning includes group work involving patient case studies, class discussions, and role playing are noted in both course outlines; however, neither outline includes any assessment tools e.g., rubrics. In the food systems course, students are expected to demonstrate professional

skills and behaviours, which includes leadership, yet it is unclear how this is taught or assessed. Lastly, in the community nutrition course, students are required to demonstrate basic skills necessary for professional performance which includes “respectful written, oral, and interpersonal communication; leadership; self-reflection; ethics and judgement”.

Communication. In the nutrition assessment course, one of the learning outcomes explicitly states, “to demonstrate leadership skills through effective and efficient group work” specifically through communication, problem-solving, and self-awareness and development. As stated earlier, this course utilizes an interactive approach which includes group work and class discussions; however, it does not include assessment tools. In one of the clinical nutrition courses, “respecting the ethics as applied to personal and professional behaviour, especially the confidentiality in patient care management” is cited as a learning objective. In addition, nutrition interviewing and counselling skills are taught and assessed in this course; there is an emphasis on critical thinking and the students’ ability to put theory into practice. In the food systems course, students develop confidence in discussing farming practices and food production systems to support evidence-based conversations with consumers and clients. Learning is synthesized through various strategies, including a group assignment.

Management. To assess the needs of programs and learn to manage different projects, the community nutrition course covers program planning and evaluation by enabling students to analyze the Population Health Promotion Model as a framework, explain the process and value of conducting situational assessments, and identify the steps required to plan and evaluate intervention strategies. No other course outline explicitly noted objectives or activities related to managing projects.

Most course outlines highlight one or two aspects related to how leadership is developed in the course, particularly in the professional practice course. I did not review specific assignments, activities, or assessment strategies. I did not see any novel strategies to develop leadership in these courses.

Program 6 - Findings

Program 6 is a graduate degree program with an integrated internship. Students complete practica in at least three different settings to achieve the variety of required ICDEP 2013 competencies, and gain experience in traditional and emerging areas of dietetic practice. Students complete graduate-level courses in community nutrition, clinical and nutritional assessment, and foodservice management. They also have a final project in applied nutrition. The program is generally one year in length.

Similar to Program 5, I was sent a link to Program 6's department website where the course outlines are posted and given a list of course codes to refer to. I was also provided two documents related to practicum course assignments. A summary of the curriculum documents I reviewed for Program 6 is listed in Table 11. I reviewed ten course documents, which were primarily course outlines and assignments.

Table 11

Curriculum Documents Analyzed - Program 6

Title	Publication Date	Pages	Summary/Purpose
Admission Requirements	No date	1	Table of Faculty program admission requirements for masters and PhD.
Community Nutrition (6000-level course)	Winter 2020	13	Concepts and knowledge of nutrition as applied in community and public health nutrition. Examines current programs in applied nutrition.
Foodservice Management	Winter 2018	5	Students critically assess and integrate foodservice management literature and

(6000-level course)			theories from undergraduate coursework to address the multifactorial issues of foodservice operations in healthcare.
Practicum I Course Outline (6000-level course)	Fall 2019	18	Course provides a practicum of at least 3 days per week plus a weekly 3-hour seminar to discuss and reflect on theory, dietetic practice and research issues.
Practicum I Assignments	Fall 2019	12	Lists assignments, learning objectives and PDEP performance indicators, and rubrics. Includes select resources.
Practicum II Course Outline (6000-level course)	Winter 2019	15	Similar to Practicum I course.
Practicum II Assignments	Winter 2020	7	Lists assignments and rubrics. Includes select resources.
Practicum III Course Outline (6000-level course)	Summer 2019	9	Similar to Practicum I and II courses.
Final Project Course Outline (6000-level course)	Fall 2018 - Summer 2019	8	Students will gain skills in applied research for dietetic services. The course includes a research project to be completed over the course of the program.
Final Project Course Outline (6000-level course)	Fall 2019 - Summer 2020	7	Similar to previous year.

Professional Practice. In this program, students participate in practice-based research most notably through their final research project course. This course is offered each term of the graduate degree. In this course, students identify, develop, conduct, and implement a research project. An evaluation rubric was not provided. The course outline provides an overview of how each component of the research project is evaluated. Students also participate in the research process through their clinical nutrition course by facilitating a case study. As part of the case study presentation, students research and select recommended resources for dietitians working with a particular population and recommendations for patient educational strategies and learning resources. In the Practicum II course, students reflect and write about their personal counselling style. This activity enables students to assess and enhance their approach to dietetic practice

working one-on-one with clients or group counselling. In the community nutrition course, students learn how psychosocial, organization, and community theories can be used to design, implement, and evaluate community nutrition programs. In addition, they use a program planning model to develop a community nutrition intervention.

Communication. In the final research project course, students are given the opportunity to present their research proposals to their peers for feedback. Students can learn from their peers and use the feedback to improve their initial proposal and improve their final mark. No rubric was provided for this course activity, so it is unclear how it is evaluated.

In the practicum courses (I-III), students participate in highly interactive weekly seminars which include practice sessions, presentations, and discussions. Students learn how to self-assess their presentation style and identify areas for self-improvement. In addition, students create a rubric to assess and document changes in their selected areas of improvement. These documents included rubrics for how students would be evaluated on their presentations and participation. For oral presentation style, students are evaluated on aspects such as eye contact, poise, voice, organization and content. In this course, students also create a podcast to reflect and share their learnings from their practicum. This is one activity that appears to be unique to this program and will be discussed in more detail shortly.

Lastly, in the foodservice management course, students learn to incorporate adult learning in the creation of an in-service plan for a specific target group in a food service or healthcare setting. In this activity, students create a plan with the intention of contributing to the learning of their target audience. In addition, as they discuss the in-service plan with their peers, they too contribute to the learning of their peers.

Management. In both final course project outlines, students create a research proposal that guides their research throughout the winter and summer semesters. During the winter semester most students begin to collect data, and during the summer semester students finish data collection, complete data analysis, and write their final reports. Activities to support students' learning include writing retreats and 'elevator pitch' or 'speed-dating' presentations. These activities enable students to share their research proposals with their peer and receive feedback. A priority of the research project course is to support student learning through formative assessment. Students can submit assignments, get feedback and resubmit assignments to enhance their learning and increase their final marks.

In the Practicum II course, in small groups, students develop a nutrition business concept which is then further developed in the Practicum III course where students create a financial plan and business pitch. The rubric identifies that students will be evaluated on their oral presentation skills and their ability to clearly organize and articulate their business idea.

In the community nutrition course, students develop a process and evaluation plan for a community nutrition intervention. In addition, they prepare a grant proposal for a community nutrition intervention based on sound program planning, development, and evaluation strategies. No rubric was provided for this course.

In the foodservice management course, students employ management strategies to translate Ministry of Health standards into a plan for menu development, staff education, and nutrition care. Students also learn to objectively appraise the role of Continuous Quality Improvement in the evaluation of operational outcomes. Like the Practicum II and III courses, the foodservice management course provides students with another opportunity to formulate a

product development process for an innovative food product or service to support client nutritional needs and budgetary constraints.

Through these courses, students gain experience in working with others, learn to communicate different types of plans to others by writing in a succinct and organized fashion and through oral presentations, and develop their skills in critical analyses. The one activity that stood out was the creation of podcasts. This has not been articulated in any of the other course outlines or documents reviewed. The podcasts are integrated into the practicum course and serve as one way for students to reflect and share their practicum experience. They are evaluated based on identifying one key lesson from the placement, integrating the learning objectives from the course, and including integral mechanics for oral presentations such as clear and engaging introduction, use of transitions, and a conclusion.

Program 9 - Findings

Program 9 is a 3.5-year accredited professional program that leads to qualifications to become licensed as a dietitian. Students must complete first-year undergraduate in the general nutrition program before applying to transfer to the dietetics program. Students in the dietetics program gain hands-on experience through 40 weeks of supervised internships in various domains including clinical, community nutrition, and food service systems management. Upon completion of the program, graduates are eligible to become registered with a provincial regulatory body.

While the website provides overviews of some courses, there were no course documents posted. Two course documents were sent by Program 9 for inclusion in this analysis. The two documents are in Table 12.

Table 12

Curriculum Documents Analyzed - Program 9

Title	Publication Date	Pages	Summary/Purpose
Nutrition Counselling (400-level course)	Winter 2020	5	This course teaches techniques and strategies to enhance interpersonal skills for the healthcare environment. The course reviews skills used in professional practice in the dietitian's role as nutrition communicator, interviewer, counsellor, educator, motivator, and behaviour change facilitator.
Human Resources (400-level course)	Fall 2020	5	The course examines the effects of human resource policies, programs, and actions on the organizations where dietitians and nutrition professionals work, including organizational competitiveness, employee performance, and relationship to the larger community.

Professional Practice. In the counselling course, students learn techniques and strategies to enhance their interpersonal skills for the healthcare environment. The course reviews skills used in professional practice in the dietitian's role as nutrition communicator, interviewer, counsellor, educator, motivator, and behaviour change facilitator. These skills are experienced through whole class and small group discussion and activities, video viewing with reflection and discussion, role-playing, and individual research. No other information was included in the course outline that provided details on the activities or assessment.

Communication. In the counselling course, students contribute to the learning of their peers by actively participating in group discussion and class activities. No other strategies or evaluation criteria were articulated in the course outline. In the human resource management course outline, five critical success factors are listed which would contribute to students' learning process. In addition to being prepared and time management, for students to effectively contribute to the learning of their peers, students must be present, actively participate in class and

group activities, and be respectful of the ideas and opinions of others. In this course students also learn how to construct orientation and training plans. No other details about how these plans are taught or evaluated are indicated in the course outline.

Management. In the human resource management course, students learn how to manage employees within an organization. They learn how to implement a performance management plan and create elements of a rewards and recognition program. Students learn how to manage human resources through readings, cases, and lectures in addition to drawing from experiences from their classmates. Furthermore, students create their own personal and professional development or career plan. The individual and group assignments provide opportunities for the practical application of organizational behaviours concepts discussed in class; however, no assessment of evaluation tools was included in the course outline.

Based on the two documents provided by this program, there was little evidence of novel ways these specific competencies are designed, taught, or evaluated.

Program 10 - Findings

Program 10 is a partially integrated dietetic program; there are a limited number of integrated dietetic internship positions within the program. Sixty to eighty percent of third-year applicants are accepted into the integrated program. Students who complete the undergraduate degree in foods and nutrition may consider applying for a post-degree accredited dietetic internship; however, completion of the degree does not guarantee an internship position.

I was provided eight documents to review and include in this phase of the study. The documents are specific to students planning to apply for the integrated dietetic internship offered by the program, or for interns already in the internship program. The documents provided do not reflect content covered in the first three years of the food and nutrition program. The *Essential*

Skills and Attributes document briefly described the skills and attributes for students enrolled in the university's dietetic internship program. The other seven documents were the learning guides and performance objectives for the internship rotations students complete as part of the integrated program. These documents are listed in Table 13 along with a brief description of each document. The two learning guides were developed for each program level to ensure that a minimum number of competencies/performance indicators are completed in each program level, and that all competencies are completed by the end of the program. It is a guide used by the interns and their preceptors and provides all the information needed for the placement e.g., code of conduct, and examples of placement activities. The performance objectives documents outline all the competencies and performance indicators expected to be covered in each level.

Table 13

Curriculum Documents Analyzed - Program 10

Title	Publication Date	Pages	Summary/Purpose
Essential Skills and Attributes	No Date	3	Description of the skills and attributes for students enrolled in the dietetic internship program.
Learning Guide Level I	April 2019	119	Contain a list of performance objectives, competencies, performance indicators, and sample activities for Level I.
Learning Guide Level II	April 2019	96	Contain a list of performance objectives, competencies, performance indicators, and sample activities for Level II.
Nutrition Care I Performance Objectives	March 2018	14	Outlines all the competencies/performance indicators expected to be covered in Level I related to Nutrition Care.
Nutrition Care II Performance Objectives	February 2019	14	Outlines all the competencies/performance indicators expected to be covered in Level II related to Nutrition Care.
Management I Performance Objectives	February 2017	7	Outlines all the competencies/performance indicators expected to be covered in Level I related to Management.
Management II Performance Objectives	April 2018	10	Outlines all the competencies/performance indicators expected to be covered in Level II related to Management.

Public / Population Health (II) Performance Objectives	February 2019	7	Outlines all the competencies/performance indicators expected to be covered in Level II related to Public and Population Health.
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The ‘Essential Skills and Attributes’ document noted two areas related to ‘leadership’. First, with respect to personal characteristics, students must demonstrate evidence of leadership abilities, communication skills, and self-direction. This evidence can be documented in their e-portfolio, which is a key activity during both levels of internship. In addition, the learning guides, Level I and Level II, requires students to write a brief biographical sketch which provides an overview of the student’s education, work experiences, memberships, community service, leadership roles, volunteer activities, and personal interests. Second, under ‘essential skills’, students must have the capacity to develop leadership, management, and supervisory skills. Leadership is not mentioned in any more detail in the Essential Skills and Attributes document, or the learning guides.

Next, I will present the ways in which the competencies and performance indicators related to leadership are included in the five performance objectives documents. It is important to note that the learning objectives documents clearly identified which competencies and performance indicators are covered in each practice area. They only provided sample activities and did not include any evaluation tools or examples of evaluation methods. Furthermore, there were minor distinctions between Level I and Level II Performance Objectives. Since no evaluation criteria was provided, an assumption is made that students are introduced to specific aspects of practice in Level I, then over the course of the internship and into Level II begin to be more competent and able to practice independently.

Professional Practice. In Level I Nutrition Care Performance Objectives, there were no performance indicators related to assess and enhance approaches to dietetic practice; contribute to advocacy efforts related to nutrition and health; or participate in practice-based research. In Level II Nutrition Care Performance Objectives, by designing enteral and parenteral feeding regimens, interns contribute to advocacy efforts related to nutrition and health. An activity would be based on the nutritional assessment and nutrition goals and the intern would decide on a method of nutrition support taking into consideration: intended duration of nutrition support, the patient's condition, any limitations to access, and functionality of gastrointestinal system. In Level II, evaluating time management by participating in workload measurement activities within the clinical nutrition setting can inform how to enhance approaches to dietetic practice. This performance indicator could be achieved through reviewing the dietitian's client care statistics, gathering information on purpose, method, and frequency of recording, or limitations.

In the Level I and Level II Management Objectives, interns assess and enhance approaches to dietetic practice by understanding and participating in the different areas of the food service or business organization. Potential activities to gain this experience could be participating in inventory management and learning the procedures for ordering from the production centers as well as determining how forecasting is conducted. Students could also identify timing of delivery, from production centres to service centres. Another activity could be to map the floor plan of the food service operation and flow of food. The Level I Management Objectives also note that professional practice related to enhancing approaches to dietetic practice can be achieved through managing the preparation and delivery of food within the food service operation. Potential activities listed included ensuring procedures for quality and quantity control are maintained, including standardized recipes, portion control, sensory evaluation of

food, special dietary products by completing “tray audits”, or standardizing one recipe to improve efficiency and test acceptability by conducting an “acceptability panel”.

In the Level II Public and Population Health Performance Objectives, interns develop skills for assessing food and nutrition related issues of groups, communities, and populations, which contributes to developing their ability to advocate for nutrition and health for their clients. To achieve this, one activity could be to become familiar with the characteristics of vulnerable population groups and the factors determining their nutritional health. In addition, interns may identify current community health issues as they relate to population health and nutritional status.

Communication. In the Level I and Level II Nutrition Care Performance Objectives, interns work on their ability to contribute to the learning of others through being able to assess nutritional status and related risks. One activity that would meet this performance objective would be during the diet interview to determine the client and/or family perspective and assess the patient’s comprehension and adherence to previous dietary restrictions. Once the assessment is complete, the intern would identify learning needs related to nutrition and/or dietary modification. In addition, interns develop, implement, and manage a nutrition care plan for individual patients as well as identify opportunities for supporting individuals in making healthy eating and lifestyle choices through a variety of strategies. A sample activity that would meet these two performance objectives is based on a completed nutritional assessment during which interns prioritize nutrition problems and establish nutrition goals, considering risk and available resources. They could then develop client-centred nutrition education and support plans, and counsel the client and family or caregivers on healthy eating, modification of food patterns, and healthy lifestyle, as appropriate.

In the Level II Management Performance Objectives, by understanding and participating in the functions and activities of supervisory staff, interns contribute to the learning of others through activities such as attending department meetings and staff training.

In the Level II Public and Population Health Performance Objectives, one of the requirements is for students to participate in needs assessment and establish priorities for the delivery of nutrition services in a community setting. This enables interns to further develop their ability to contribute to the learning of others. This can be achieved by completing a ‘community profile questionnaire’ to better understand their clients, or developing a resource map for a particular community, outlining the community’s assets, resources, support services, needs and other relevant issues. Interns may also apply nutrition expertise and interact with the public to promote nutritional health as a way to contribute to the learning of others. They can participate in community events to educate/promote food and nutrition (i.e., supermarket tours, community/wellness fairs, cooking classes, community garden workshops). Another activity is to use knowledge of typical nutrition throughout the life cycle and deliver a nutrition education presentation to a specific population group (i.e., children, adolescents/student, adults, pregnant mothers, and the elderly).

Management. In the Level I and Level II Nutrition Care Performance Objectives, students learn how to assess programs and services related to dietetics in the clinical environment by understanding the various roles, responsibilities of all staff, and procedures followed in the clinical area. Interns identify human and material resources required for effective operation of the nutrition services department. One activity interns may complete is learning the office procedures and routine duties performed for a variety of clinical positions through different rotations throughout a hospital.

In the Level I and Level II Management Performance Objectives, to understand the various components of the food service or business organization, students learn how to conduct needs assessments of programs and services related to dietetics. The document listed sample activities such as reviewing the mission, strategic and operational plans, and organizational objectives to gain an understanding of their relevance to the department/organization. If there is a strategic plan, students consider how it is reflected in the established goals and objectives. Interns can also work a variety of early and late shifts to gain an understanding of staffing requirements and the responsibilities associated with each shift. They could also learn the procedures followed by supervisory staff then follow procedures to inform production staff of: a) what is to be prepared b) how it is to be prepared c) how much is to be prepared d) when it is needed, and e) by whom it is needed; they can participate in the process used to communicate this information to production staff.

In the Level II Public and Population Health Performance Objectives, interns can apply the management performance indicator on assessing programs and services by expanding their understanding of various roles of the population health or community dietitian or nutrition professional, both within the organization and across practice settings, and the skills needed to apply in these practice settings. This can be achieved by discussing how food/nutrition issues/programs are integrated into strategic direction and activities of the organization. Another activity could be to train or educate community food mentors, in-service teachers, provide prenatal training, and others.

In the Level II Public and Population Health Performance Objectives, the ability to define the role of a community-based health agency within its broader environment and describe its organizational structure includes all the leadership-related performance indicators being

investigated in this study. It was the only performance indicator identified that contained the five related to leadership development. Sample activities to achieve these performance indicators include reviewing an organizational chart for the community-based organization, identifying the professions represented at your organization and their roles on the interprofessional team, participating in interprofessional meetings, and identifying how the organization works in partnership with other organizations or community-based health services in the community, region, and province, as applicable.

Based on the documents provided by this program, there was evidence of several ways these specific competencies are designed and possibly taught in the internship; however, there was no information on how these performance indicators are evaluated. These competencies are designed into the curricula through activities such as in planning, monitoring, and evaluating nutrition care plans, participating in inventory management, or becoming familiar with food and nutrition related issues of vulnerable populations. They are also taught through activities that require students to engage with others, which includes their preceptors, peers, other health professions, and patients or clients.

Program 11 - Findings

Similar to Program 10, Program 11 is a partially integrated dietetic program. Students can choose from one of three human nutrition undergraduate options; however, only two provide students with options to become a dietitian. The first option: students may complete the undergraduate in dietetics and then apply to an accredited post-graduate internship or a graduate program with a combined internship. This university has an integrated dietetic program at the graduate level, so students would be eligible to apply to this program. Graduate interns progress through the same experiences as the undergraduate interns. One difference is graduate students

take additional graduate level courses with the intent is for the individual to graduate ready to assume higher level responsibilities. The second option: students can apply for the undergraduate combined internship. Both options are highly competitive and students with strong academic records are encouraged to apply.

I was provided with one document, the internship manual, from Program 11 (Table 14). This manual is given to students who are accepted into the undergraduate and graduate integrated dietetic internship programs. The manual includes general information about the internship and expectations of interns such as a code of conduct as well as general information about assignments and projects in placement and sample templates for documentation and evaluation.

Table 14

Curriculum Documents Analyzed - Program 11

Title	Publication Date	Pages	Summary/Purpose
Internship Manual	August 2019	138	This manual is given to undergraduate and graduate dietetic interns. It contains general information about the internship program and provides details related to assignments and activities.

In this manual, the only place ‘leadership’ is mentioned is in the section describing the business plan project. An optional component of the assignment is to include a ‘operations plan’ which provides details about management/leadership, staffing, layout, equipment, and the process design or flow of production or service. This manual does not explicitly refer to aspects related to leadership development.

This manual does not contain clear identification of the proposed leadership practice competencies in relation to specific ways interns might be taught or evaluated. In the section

‘sample enabling activities’, I identified some sample activities that might relate to the proposed leadership practice competencies:

Professional Practice. To assess and enhance approaches to dietetic practice, interns can learn the office procedures and routine duties performed for a variety of clinical positions. This can include a review of job descriptions for clinical nutrition services staff. In a community setting, interns can identify how the organization works in partnership with other organizations or community-based health services in their community, region, and province. To contribute to advocacy efforts related to nutrition and health, interns develop skills for assessing food and nutrition related issues of groups, communities, and populations. They may participate in advocacy strategies related to population health and where possible, participate in the ongoing advocacy process for a current nutrition issue such as breastfeeding-friendly community initiatives, health insurance payment for nutrition supplements or nutrition counselling, food security, or school nutrition policy. As part of professional practice and leadership development, interns are expected to participate in practice-based research. This could include identifying various methods of nutritional screening and their appropriate use by conducting a literature review or searching for the most up-to-date screening method for a particular condition.

Communication. The ability to contribute to the learning of others is one way to potentially develop leadership skills. This could be achieved through internship by identifying opportunities for supporting individuals in making healthy eating and lifestyle choices through a variety of strategies. Interns can apply principles of education to select/develop/evaluate education materials for the community. They can develop or modify a nutrition resource for a target group or develop a checklist for evaluating nutrition education materials, outlining criteria such as name of resource, intended use, background, recommendations, appearance, layout,

readability, visual appeal, source, or cost. In addition to direct patient or client nutrition education, interns may also train or educate community food mentors, deliver in-service to teachers, or other health professions on a nutrition-related topic.

Management. To assess strengths and needs of programs and services related to dietetics, interns can learn required operational procedures and proper documentation and paperwork for each practice setting or organization. Interns will be able to expand understanding of various roles of the dietitian or nutrition professional both within the organization and across practice settings, and the skills needed to apply in these practice settings. To learn how to manage programs and projects, interns can develop, implement, and evaluate a population health plan. The interns could develop a plan for a nutrition intervention with established objectives and outcomes, including how the intervention will be implemented, monitored, and evaluated and take into consideration mission, vision, cost effectiveness, efficacy, and budget within the community nutrition or other practice setting.

Program 13 - Findings

Program 13 accepts approximately 11 students into their program per year. The program offers an integrated practicum stream or a graduate program stream. For the integrated practicum stream, students may apply in January of their third year. The integrated program has two levels: Level 1 and Level 2. Level 1 includes one 400-level nutrition course and 16 weeks of practical training is completed from May to August between third and fourth year. Level 2 includes one 400-level nutrition course and 32 weeks of practical training is completed from May to December after their fourth year. Unsuccessful applicants who meet the eligibility criteria can reapply to the graduate stream in their final year of study. The graduate practicum stream is 48 consecutive weeks of practical training and includes two 400-level nutrition courses. This stream

starts after finishing fourth year and is completed between September and August with a short break in December.

The program documents I reviewed for Program 13 are summarized in Table 15. I received from one of the educators of the program course outlines and schedules for the courses they regularly teach: Professional Practice, Introduction to Research, Nutrition Counselling, and Senior Seminar. In addition, I found on the program's website and reviewed a program course sequence, a foundational knowledge curriculum mapping table, and review of nutrition programs report.

Table 15

Curriculum Documents Analyzed - Program 13

Title	Publication Date	Pages	Summary/Purpose
Bachelor of Science in Nutrition, Dietetics Option, Course Sequence	2019/20	2	Summary of the required nutrition and non-nutrition (e.g., biology, chemistry, physiology) courses in each year of the dietetic program (Year 1 to Year 4).
Review of Courses: Foundational Knowledge Content Areas	Oct 2012	5	Provides a summary of the various content areas, cognitive complexity for each content area, and associated courses.
Review of University-Based Nutrition Programs	March 2016	50	Report on the current state of nutrition programs in the province and recommendations for any improvements that may be necessary to deliver high quality, relevant nutrition programming.
Professional Practice in Nutrition and Dietetics (400-level course)	Fall 2016	9	Outlines course objectives, assignments, and evaluations (rubric).
Professional Practice Course Schedule	Fall 2016	3	Schedule of topics, readings and/or assignments.
Intro to Research in Nutrition and Health Course Outline and Assignment Guide (300-level course)	Fall 2019	17	Outlines course objectives, assignments, and evaluations (rubric).

Intro to Research Schedule	Fall 2019	4	Schedule of topics, readings and/or assignments.
Nutrition Counselling Course Outline (400-level course)	Winter 2019	10	Outlines course objectives, assignments, and evaluations (rubric).
Nutrition Counselling Schedule	February 2020	1	Schedule of topics, readings and/or assignments.
Senior Seminar (400-level course)	Winter 2019	8	Outlines course objectives, assignments, and evaluations (rubric).
Senior Seminar Assignment and Grading Guide	Winter 2019	15	Contains marking schemes for all assignments, contributions, and take-home reflection/self-assessment.

The program course sequence, foundational knowledge curriculum mapping table, and nutrition programs report provided contextual information about the program and dietetic education in the province. Although the foundational knowledge curriculum mapping document (2012) pre-dates the ICDEP 2013, it lists ‘collaborative leadership’ as a content area and is associated with two 300-level nutrition courses: Professional Practice and Community Nutrition; these two courses are still a part of the current dietetic program curriculum. Leadership development of students or interns is not discussed anywhere else in these three documents. Documents from Program 13 do not indicate any specific practice competencies covered in the courses, so I used my judgement to determine which activities might relate to the proposed leadership competencies.

Professional Practice. Upon review of the course outlines and schedules, it was not clear how the practice competencies related to ‘assess and enhance approaches to dietetic practice’, or ‘contribute to advocacy efforts related to nutrition and health’ are achieved in these specific courses. The practice competency ‘participate in practice-based research’ was evident in the Research Methods, Professional Practice, and Senior Seminar courses. In the Research Methods

course, students are introduced to research methods by ‘acquiring a working knowledge of the research process’. The four assignments in the course are 1) identifying a topic with supporting background information and related literature; 2) developing a survey instrument, 3) articulating a research question, which includes a presentation and annotated bibliography, and 4) presenting the research proposal to the class. These four assignments equate to sixty-five percent of the total mark. In the Professional Practice course, one of the course objectives is to develop and apply research skills through literature searches, and, as appropriate, consultation(s) with stakeholders. Another objective is to report on progress and developments with one’s research project at the final Show and Share days held during class times at the end of the term. In the Senior Seminar, the first course objective is to pursue advanced research on a topic of the student’s choice. Students articulate a research question, search and critique literature and online resources, participate in class discussion about one’s research topic, prepare an abstract about the project, present findings using a professional presentation, and produce an annotated bibliography style written report; these main activities equal approximately eighty percent of the students’ final marks.

Communication. The ability to ‘contribute to the learning of others’ was covered in the four courses primarily by participating and contributing to a collaborative learning community. In the Research Methods course, one objective is to contribute to a collaborative learning community by completing the recommended readings and participating in class discussions. In the Professional Practice course, one of the learning objectives is to develop group facilitation skills which includes reading verbal and non-verbal cues of others, and ‘inviting conversation’. In the Counselling course, the learning approach is active participatory and discussion-based learning. All participants, students, and the professor, engage in co-creation of a collaborative

learning community. One of the course objectives related to contributing to the learning of others is to contribute to a collaborative learning community through active participation in class discussions. Like the Professional Practice course, students are also given the opportunity to facilitate group discussion. Lastly, in the Senior Seminar students ‘exchange information and hold discussions’ with and among audience members including students, the professor, and guests. One of the course objectives explicitly states, “contribute to a collaborative learning community” and this is achieved by students contributing to class discussion, hosting and moderating a presentation, and participating in evaluation of their peers’ presentations. Students are generally evaluated by the professor; four percent of the total mark is from peer evaluation of the presentations.

Management. After reviewing the course outlines and schedules, it was not clear how the practice competencies related to ‘assess strengths and needs of programs and services related to dietetics’, or ‘manage programs and projects’ are achieved in these specific courses.

There was one observation that did not fit neatly into the three categories but that related directly to leadership. The professional practice course description states, “this course is a study of the nature and history of leadership as it relates to social change in health and human services”. This is the only course description that I have seen through this documentary analysis process to explore ‘leadership’ in any context. Although this course is not necessarily about developing leadership skills or competence, one of the course objectives is to complete a term project (presentation and written report), and an option is to complete a case study of a social change movement or a leader of social change. In addition, one of the recommended reference materials is a book by Kouzes and Posner (2008) title, “The student leadership challenge: Five practices for exemplary leaders”.

Summary - Documentary Analysis

To understand how leadership is currently taught in dietetic education in Canada, Phase I included a documentary analysis as a foundation for later phases. I completed a documentary analysis for 13 dietetic programs, and what follows is a summary of the findings recently presented.

The documentary analysis in Phase I included a review of publicly available information on 13 dietetic program websites and select course documents provided by seven dietetic programs. Information that was available on websites included admission requirements such as portfolios, resources for prospective students, promotional materials, survey results, and technical reports. The course documents included course outlines, schedules or syllabi, course assignment details, performance assessments or rubrics, and internship education program manuals. I reviewed the course documents against pre-identified ICDEP 2013 competencies related to leadership. In addition, as I reviewed the program documents, I tried to identify other ways leadership might be taught in their respective courses beyond the minimum practice competency. Based on the documents reviewed, I had limited information on the details of the various activities, how students are evaluated, and innovative strategies that programs integrate into their courses.

Preliminary findings of the website review and documentary analysis gave me a sense of how skills related to leadership were reflected in dietetic education, considering leadership was not a core competency at the time of the data collection and analysis. Based on the website review, many programs identified that at the time of application to a dietetics program, which may include an integrated internship, students are expected to possess personal characteristics related to communication skills and self-direction. From the documentary analysis, I found that

programs offer a range of in-class activities that develop students' dietetic professional practice, communication, and management skills, which also contribute to developing leadership skills. The most common activities across all programs were working on group assignments, creating and delivering presentations, reading special topics articles, and listening to guest speakers. Other activities that some programs integrated into their courses were writing blogs and creating podcasts or infographics. Students regularly contribute to the learning of others through group discussions, presentations, writing blogs, and creating other media. Students also participate in practice-based research which develops their professional practice. They conduct literature reviews, contribute to *Practice-Evidence-based Nutrition* pathways, and complete research projects. To develop their ability to manage projects and achieve results, they learn to develop business or new product plans, as well as develop and monitor nutrition care plans. While it was evident that programs planned and supported some skills development (e.g., critical self-reflection, communication with a variety of audiences) through their courses, it was less evident how they are taught or evaluated. Based on these preliminary findings, I developed questions I wanted to ask the focus group participants.

In this chapter, I presented the results from the Phase I documentary analysis. Through the analysis, I found that leadership skills related to self-leadership and communications were widely taught in current dietetic programs, although they were not explicitly labelled as leadership skills development. This suggests that based on the curricula, limited leadership development occurs through the programs. In the next chapter, I will present the results from the focus group interview with four dietetic educators from different programs. Their insights provide additional context to what I found in the documentary analysis.

Chapter Six: Phase I Findings - Focus Group Interview

In this chapter, I present the results and findings from my analysis of the Phase I focus group interview. The focus group interview was a necessary next step in order to gain a more elaborate picture of the current context of dietetic education.

Findings - Focus Group Interview

One focus group interview was held on April 21, 2020 and included four educators from different dietetic programs: Harper,¹ Dietetics Education Coordinator (Program 1); Amelia, Program Coordinator (Program 6), Jade, Professional Practice Coordinator (Program 10); and Chloe, Associate Professor (Program 13). At the beginning of the focus group interview session, I presented the preliminary findings (Appendix K) from the website review and document analysis to the participants. The purpose of presenting preliminary findings was to stimulate discussion rather than to direct discussion. Participants did not limit their comments to what I presented as preliminary findings. The discussion between the participants evolved and they talked about several ideas, not just those presented. What I gleaned from the website review was at the time of application to a dietetics program, many programs expected students to possess personal characteristics related to communication skills and self-direction. Then, through the document analysis, a range of in-class activities that develop students' dietetic professional practice, communication, and management skills were common across programs, in particular group assignments, presentations, reading special topics articles, and listening to guest speakers.

Based on these findings, I surmised that there is limited leadership development planned into dietetics curricula. The focus group interview served as an opportunity for educators to elaborate on what I have found thus far.

¹ Pseudonyms were given to each educator.

Initial Reactions to the Preliminary Findings

In general, all four participants agreed with the preliminary findings I presented. They discussed personal characteristics such as communication skills and self-direction as ways students demonstrate leadership. The participants talked about how personal characteristics can be developed, and shared examples of how they have seen students develop their leadership skills throughout their educational experience. There was no evidence that each program had a specific definition or conceptual framework for leadership however, some of the educators talked about distributed leadership as important to dietetic practice. Furthermore, the educators also agreed that most common in-class activities whereby students demonstrate their leadership are through collaborating on group assignments, delivering presentations, reading selected articles that have a leadership nexus, and by listening to guest speakers who are ‘leaders’ in specific practice areas. The educators also acknowledged that some programs provide opportunities for students to create blogs, podcasts, and/or infographics. Where the focus group participants began to diverge from the preliminary findings was when they began to talk about, “things happening in the program not reflected in the documents” (Harper, Dietetics Education Coordinator). These “things” could be reflected at three levels: 1) micro-level: curricula, 2) meso-level: program or institution requirements, and 2) macro-level: education needs requirements.

At the curricular level, the educators discussed how program documents such as course outlines or syllabi do not include all the activities that students might complete in the course or assessment criteria. As one example, in the interprofessional health course in Program 1, students are provided with optional modules that many complete. These optional modules provide students with more opportunities to collaborate with other health professions students and are “a way to build IP leadership - some dietetic students excel” (Harper, Dietetics Education

Coordinator). Many programs require students to complete a professional portfolio as one major activity; however, what is to be included in the portfolio may not be clear (Gaba, 2015). In Program 10, they use e-portfolios to teach students how to reflect on their abilities, which includes demonstrating leadership. “Students start to reflect, list their goals, upload evidence or artefacts of achievements. This gets them to demonstrate their ability to be leaders and to take initiative” (Jade, Professional Practice Coordinator). The other programs noted their students also create professional portfolios throughout their practice education.

At the program and institution level, the educators discussed how faculty hiring practices may influence how students are socialized within the program. From their perspective, hiring practices relate to leadership and leadership development because the institution determines who is recruited into the faculty (e.g., tenure-track positions, administrative and leadership roles.) They thought the composition of the faculty can influence how and what students are taught. From their perspective if there is an emphasis on PhD researchers as faculty members, then there may be less emphasis on leadership and other essential skills development. They talked about how some programs prefer to hire “PhD researchers to teach but some are not great teachers” (Harper, Dietetics Education Coordinator). Although some dietetic educators have pursued advanced training in adult education (e.g., graduate certification, master’s degree, or completed a doctorate in a social science), educators with this training are not considered for some faculty positions. Often faculty are hired based on having a PhD in a ‘science’ rather than in ‘education’ or a ‘social science’. The participants agreed that “what can be cultivated as a faculty may depend on who is hired” (Chloe, Associate Professor). In their opinion, the participants thought that educators who understand, value, and integrate adult learning principles into their practice instill in their students that “their ideas and personal experiences matter” (Chloe, Associate

Professor). The participants believed that this ability to recognize an individual's personal experiences and thoughts are valuable is integral to developing leadership skills because they thought it relates to an educator's ability to develop another person's skills and self-leadership. Without this recognition, it may be challenging to enable students to appreciate their ability to self-lead or lead in different situations. Furthermore, it helps to develop students' self-confidence and positive self-esteem.

Until recently, dietetics has had a strong focus on management; in fact, the ICDEP 2013 contained a practice area labelled 'Management'. Taking this into consideration, one participant queried what does the "interconnection between leadership and management... look like when we currently teach students?" (Amelia, Program Coordinator). Most dietetic curricula would be developed in relation to the ICDEP, thus with 'management' having a strong focus in the 2013 version, the participants discussed how this influences what is emphasized. They mentioned that leadership is often enmeshed with management. Although leadership skills are considered important, different skillsets are essential to be an effective manager; however, these may not be delineated as being a manager tends to be associated with position of authority such as managing and leading a team or staff. In addition, participants suggested notions of leadership are entwined with advocacy work that students begin to learn about through their professional practice courses and in other dietetic courses. "How do we be better leaders and advocate for our profession?" (Harper, Dietetics Education Coordinator). With the anticipated shift towards 'leadership' being recognized as an area of practice, the educators agreed that 'leadership' concepts must be better integrated into all areas of dietetic education, not just in management courses.

The Ways in which Leadership is Demonstrated by Trainees

Although leadership is not a competency area in the ICDEP 2013, the focus group participants shared their thoughts on the ways that leadership is demonstrated by nutrition students and dietetic trainees. From their perspective, students demonstrate leadership through their ability to critically reflect, collaborate with other classmates, and develop and implement comprehensive plans.

The educators agreed that critical reflection is a core component whereby students demonstrate their self-leadership. Generally, from the beginning of the program, students are taught and encouraged to reflect through different activities related to a variety of practice situations not only from their perspective but also from the perspectives of their patients or clients and other stakeholders such as other health professionals. One such example is through having students work through complex case scenarios related to end-of-life care and feeding (Chloe, Associate Professor). "We don't actually teach theory about leadership and what it is and how to get a sense of self when it comes to it" (Amelia, Program Coordinator); however, through different activities students learn how to self-assess, identify areas for professional development or improvement, create learning plans, and self-evaluate. This personal and professional growth is often documented through a portfolio or e-portfolio. As described earlier, professional portfolios provide one way for students to collect 'artefacts' which "demonstrate achievements and growth as a professional" (Jade, Professional Practice Coordinator).

The ability to collaborate with others was also highlighted as an integral part of demonstrating leadership. Not only are students required to participate in group projects as part of the courses, they are also expected to engage their peers or colleagues when they are completing their practice education (internship). In Program 6, students are expected to deliver a

webinar on a unique subject to teach their colleagues. To develop learning objectives for the webinars, students are encouraged to consult their peers to determine the knowledge level or needs of the target audience. This skill development becomes beneficial for their future practice as dietitians because students learn how to consider the different needs of their patients, clients, peers, or another audience.

Students can also demonstrate their leadership skills through their ability to plan, and implement the plan, to achieve a desired outcome. Two ways were discussed among the focus group. First, students develop self-directed learning plans as part of their internship. In these plans, students are expected to identify what they plan to do in a rotation, the activities they will complete, and how they will be assessed in relation to the ICDEP 2013. With support from their preceptors, students complete the activities outlined in their plan throughout the placement. The nutrition care process is another way that students demonstrate their leadership skills. By effectively completing a nutrition assessment, making a nutrition diagnosis, selecting nutrition interventions, and monitoring and evaluating the nutrition care plan, dietetic students position themselves to be leaders in this area of practice. In doing so, they are encouraged to think critically of the situation and consider the ways in which their practice is patient-centred. Harper from Program 1 provided an example from a course they teach, “In my nutrition care course, I say to students, ‘Do you just go with what the doctor says? How do you become a [nutrition] leader? You need to advocate for your patient?.’” In this example, students are expected to use their clinical judgement and be critical of nutrition recommendations from other health care providers; the key is to be an advocate in the best interest of the patient and at times this may mean challenging the perspectives of other on the health team.

Ways to Gain Leadership Skills Outside of the Program

The final question I asked the educators to discuss was aimed at identifying ways students gain leadership skills outside of the dietetic programs. The main way dietetic students gain leadership skills outside of the program is primarily through extracurricular activities. Many of these activities are within, but not limited to, the nutrition and dietetics profession. Students are part of different nutrition and food-related clubs, associations (e.g., Nutrition Students' Association; Canadian Association of Foodservice Professionals), conference planning committees (e.g., Science Atlantic Nutrition and Food Committee). Some students are also able to integrate their extracurricular activities, such as sports and athletics, with their interest in nutrition; this can be seen through various awards or bursaries that are related to a specific area such as demonstrating leadership in sports and nutrition (Chloe, Associate Professor). The educators agreed that leadership can be developed in various ways including outside of the academic environment. One educator said, "it is important that leadership is built both internal as well as external of the academic tower" (Amelia, Program Coordinator). Students gain leadership skills outside of the program through extracurricular activities related to the profession as well as their own personal interests.

Three other themes emerged from the focus group interview in addition to the themes derived from direct responses provided by the dietetic educators. These emergent themes are: 1) Leadership can be developed, 2) Role of educators in curriculum planning, and 3) Faculty and academic environment.

Leadership Can Be Developed

Although some students have positional leadership experience through supervisory or managerial roles such as being a coach or food service supervisor, all four educators thought

leadership can be developed in dietetic students. “Many students have been 'coaches', so a more supervisory, managerial role... but how do we cultivate what is 'really' leadership?” asks Amelia, Program Coordinator. This can be accomplished “by taking baby steps” (Chloe, Associate Professor). Chloe, Associate Professor described one of the first activities students complete in one of their courses as attending to a nutrition booth at local farmers’ market. Often, this is the first-time students talk to the public about a professional topic that they are interested in. An educator said, “What it’s for is to have 17 and 18-year-olds feel comfortable talking to the public for the first time in their lives about a professional topic... I think a hallmark of good leadership is you’re not afraid to talk to strangers, you know your stuff so don’t be shy” (Chloe, Associate Professor). As students move further along in the program, they start working on more complex activities and assignments, often interacting and collaborating with their peers to solve problems like case scenarios or developing knowledge translation products such as infographics or webinars. One educator commented, "this isn't art school yet they are so creative" (Chloe, Associate Professor).

The educators brought up ‘advocacy’ as one specific aspect of leadership that is developed through nutrition programs. In their programs, they all said students are encouraged to think about ‘effecting change’ and ‘social responsibility’. This is often introduced through a professional practice course, yet integrated in other courses such as clinical nutrition or community nutrition. Students learn about the ways in which they can ‘effect change’ through their practice with a particular emphasis on advocating in the best interest for their patients, clients, community, or population.

Role of Educators in Curriculum Planning

Throughout the focus group interview, the participants recognized that often courses are shaped by the individuals who teach them, their ontology, and their personal and professional experiences. They thought that educators who know and value adult learning theories and principles are more likely to facilitate and support transformative learning of their students. In addition, they suggested that educators who value lived experiences are better able to integrate this into their learning activities. The participants thought that some educators focus extensively on the didactic lectures and lack the interest or ability to integrate more interactive, experiential learning in their classes.

The participants further discussed educators' responsibility for their own professional development. All the universities have a teaching and learning support service that professors and instructors can access to learn strategies on how to improve or design their courses; although these services are available, they may not necessarily seek the support. One educator remarked, "It's not required for profs and educators to seek out support—you have to have the right person in the job who is going to go above and beyond and seek learning or self-improvement" (Harper, Dietetics Education Coordinator). Amelia, Program Coordinator concurred with this comment and said, "We educate the students but can also get ourselves educated". Recognizing that educators themselves have a role in course development and curriculum planning, the interview also included discussions related to the faculty and academic environment. As one participant said, "The structure of the program has the opportunity to develop leadership skills in dietetic trainees" (Amelia, Program Coordinator) and depends on what the program or institution values.

Faculty and Academic Environment

The educators discussed the hiring practices from their experiences within their programs or personal experiences with other programs. They thought that programs need to consider what is valuable for professional programs, and “What makes a good clinical educator. The [program] wants PhD researchers to teach but they’re not necessarily effective” (Harper, Dietetics Education Coordinator). They thought that having clinical expertise or holding a PhD does not necessarily mean an individual is effective as an educator or has the knowledge of how to develop competencies through curricula (e.g., leadership competencies). The educators felt that having a faculty with diverse training and education would be one way to ensure competencies, such as the new leadership competencies, are thoughtfully integrated into the dietetic curricula. Although more programs have non-tenured teaching positions, there is a common perception that what is most valued by the institutions are PhD researchers as educators, preferably with a scientific research background. PDEP requires accredited programs to have a certain number of professors with PhDs, yet the preference for ‘science’ backgrounds remain unclear. “We don't have a clinical lead, someone who works in hospital and at university, but we would benefit from it in terms of leadership type or sending a message across to interns during their training” (Jade, Professional Practice Coordinator). In addition, the educators also felt it was necessary to acknowledge the importance of having scientific researchers in the faculty:

It’s important to say we need those people who love the scientific facts. We absolutely need them... What we don’t do is value people who are experts in course design. How about we pull together ideas to design incredible courses? That’s not valued as much (Chloe, Associate Professor).

While clinical educators and educators with other expertise are needed in the program, the participants thought that these educators are often undervalued, and at times face discrimination.

Discrimination, Horizontal Violence, and Microaggressions

The educators briefly discussed horizontal violence and microaggressions in the workplace. Horizontal violence may be verbal, non-verbal, or physical violent actions, which may include eye-rolling, gossiping, humiliation, failing to support others due to personal dislike, refusing to share information, manipulating, or intimidating (Krut et al., 2021). The educators felt that there are some university programs which are biased and discriminate against individuals for not having a PhD or studying a “science”; this is reflected not only in the programs’ hiring practices but also how they interact with colleagues. Two educators described personal experiences where they were explicitly told that they were not eligible for a position because the faculty preferred individuals with ‘science’ backgrounds although that was not a requirement for the specific teaching positions. There is also the issue of “that whole garbage about you don't have a PhD means you're not very smart” (Chloe, Associate Professor). The educators felt that less value is often placed on the thoughts or opinions of educators who do not have a PhD. One educator described a personal situation where they felt they were discriminated against and rhetorically asked the group, “Do I need to get a PhD to actually have my ideas heard?” (Amelia, Program Coordinator). To mitigate the situation, this educator described how they use “other types of social currency that those who have a PhD don’t have; I can utilize those to get what I think this program needs for the benefit of the students”. The other educators agreed that these forms of microaggression are common in the academic environment.

Lastly, the educators discussed how dietetic education is situated within a highly-gendered academic environment. They briefly discussed how although dietetics is a female-

dominated profession, there is an expectation for women faculty to prioritize their academic work. “The kind of jobs we have in universities were designed for men with wives that did the shopping, the laundry, taking care of the children... women don't have ‘staff’ at home” (Chloe, Associate Professor). The educators felt it is important to acknowledge the kind of working conditions that particularly female faculty and staff find themselves in.

Summary - Focus Group Interview and Phase I

The focus group interview provided an opportunity for me to gather additional insights from dietetic educators, whose perspectives elaborated on the findings from my documentary analysis. The focus group participants elaborated on the preliminary document analysis findings by providing detailed descriptions of their dietetics programs and what they believed to be the ways in which they taught leadership. This phase aligned with the macro-level of my conceptual framework and sought to better understand the connection of system structures including education requirements. Thus, taken together, the documentary analysis and focus group interview situated the current context of dietetic education by drawing a more fulsome picture of the connection between program curricula and the ICDEP.

The four dietetic educators who participated in the focus group reacted to the preliminary document analysis findings and reflected on their own experiences with their respective programs. First, there appears to be consensus that aspects of leadership can be taught, in particular skills related to ‘leading self’. They concurred with the document analysis, and also provided more context of the ways in which students learn leadership skills. Second, in addition to the experiences offered by the program, many students further develop their skills from extracurricular activities, resulting in some students advancing into leadership roles in student organizations. In class, students contribute to several group assignments whereby they strengthen

their communication skills and teamwork abilities. The educators also said students take on extracurricular activities to further develop their skills and enhance their resume. Lastly, educators have a role to play in shaping the curricula. While many dietetic educators are quite passionate about the work they teach, they are often faced with systemic barriers which can prevent them from fully contributing to the program. They are often faced with workplace discrimination, horizontal violence, and microaggressions.

Phase I began with a documentary analysis and was followed by a focus group interview. The documentary analysis findings were presented in the previous chapter; the focus group interview findings were presented in this chapter. What appeared from the documentary analysis was evidence that some leadership-related skills associated with communication skills and professional practice are part of the curricula, although these are not explicitly linked to leadership development of trainees. To develop a better understanding of how these skills are taught and to obtain further insights, I drew on the responses from four dietetic educators who participated in the focus group interview. Their collective responses provided much needed insight into how leadership-related skills are taught or experienced in different programs. It became apparent the role dietetic educators have in shaping how curricula is taught; however, educators are often faced with barriers that limit their ability to fully exercise their own self-leadership within the academic institutions. Taken together, the documentary analysis and focus group interview underpin my understanding of the current context of how leadership is taught in dietetic education.

Chapter Seven: Phase II Findings – Dietitians’ Views on Leadership

In this chapter and the subsequent chapter, I present the cross-case findings from Phase II interviews with dietitians currently in practice. This phase aligns with the individual level of my conceptual framework where I aim to understand how dietitians both view and use leadership in their practice. The objective for this phase was guided by two research questions, thus I will present the findings in two parts. In this chapter, I present findings related to dietitians’ views on leadership. In the subsequent chapter, I offer findings that align with LEADS.

In Phase II, dietitians were invited to talk about the ways in which they define leadership, use their leadership skills in practice, and how they recommend developing leadership skills. I organized the 35 participants into four categories based on their number of years of practice experience: Early Career (<10 Years); Mid-Career (11-20 Years); Mid-to Late Career (21-30 Years); Late Career (30+ Years). Then, I purposively sampled cases from each category based on diversity, variety of practice setting, and richness of interview.

The early career cohort had four participants. They ranged in age from 25-34 and had 2-7 years of practice experience. All dietitians in this cohort completed their dietetic education in Canada. The mid-career cohort had five participants. They ranged in age from 35-59 years old, and had 14-20 years of practice experience. Three dietitians completed their dietetic education in Canada, and two dietitians were internationally educated. The mid- to late- career cohort had four participants. They ranged in age from 40-54 and had 21-27 years of practice experience. Three dietitians completed their dietetic education in Canada, and one dietitian was internationally educated. Lastly, in the late career cohort, all dietitians had more than 30 years of practice experience. They ranged in age from 55 to over 60. All dietitians in this cohort completed their dietetic education in Canada.

The findings from the Phase II cross-case analysis within each cohort are organized and presented by cohort of dietitians. Specifically in this chapter, I summarize the themes related to how dietitians understand or describe leadership. Their views on leadership provide a foundation on the ways in which dietitians conceptualize leadership without explicitly being taught through their dietetic education.

Early Career Dietitians' Views on Leadership

Four early career dietitians with less than 10 years of practice experience provided information to better understand how they develop and use their leadership skills. Their pseudonyms are: Danielle, Tenley, Emma, and Alexander. Two dietitians work in clinical settings, one dietitian works in long term care, and one dietitian works in the community setting.

Four notable themes related to early career dietitians' views on leadership: credibility and confidence; conflict management skills; empowering and supporting others; and communication skills. All four dietitians said a leader is someone who is credible and able to manage conflict. Some of them also thought a leader empowers others to achieve their goals. Lastly, communication skills were discussed at length by two dietitians.

Credibility and Confidence

Early career dietitians believe that leaders must be credible. From their perspective credibility includes having nutrition knowledge, competent dietetic practice, and experience. Additionally, three participants highlighted that confidence is associated with credibility. To them, having confidence enables a leader to advocate or speak up for a patient or client in interdisciplinary situations; this in turn may contribute to a leader's credibility among the team. For instance, Danielle said, "A leader is confident, has many years of experience, and is highly knowledgeable, making them a 'good resource'." for early career dietitians such as herself.

From Emma's perspective, "Entry-level dietitians must also recognize they do not know everything, and that self-confidence comes with time and experience." This might suggest that although early career dietitians enter the profession with nutrition expertise, it is with experience that they gain confidence and credibility.

In Alexander's experience, a credible leader is someone who also incorporates cultural safety as part of the way they lead. This was a unique perspective raised in the interviews. Alexander recognized by observing those he worked with—health leaders and community partners—that a leader needs to understand the complexity of rural and remote communities. In particular, Alexander suggested that leaders must understand the experiences of Indigenous people and communities said, "until you can do that, you have no credibility and you're not effective." Being non-resident and non-Indigenous, Alexander acknowledged establishing credibility takes time and said, "I'm still learning... it never stops." In addition to having confidence, credibility seems connected with having requisite knowledge and relevant experience working with specific populations or contexts.

Conflict Management Skills

Early career dietitians said that a leader can successfully manage difficult situations when working with other people. They felt that a leader can keep their composure and possess the management and interpersonal skills to address conflict. In addition, they suggested that a leader can work through issues with others regardless of their own professional or personal background. As Tenley stated,

For the most part, all my staff are twice my age and age has been a big factor... so when disciplining staff I just feel like I had to learn the hard way, that being a manager was going to mean that I wasn't going to be well-liked 100% of the time... so just learning to

be more assertive... and being more confident that I do have the skills and I am in a position that I can have those difficult conversations with people.

Danielle offered another perspective when she recalled observing her manager in the healthcare setting. She noticed her manager was not doing as much in nutrition and instead was dealing with non-nutrition related issues and concerns, such as staffing and finances. Based on her observation, she said a manager position is not a role she would want. From their perspective, early career dietitians suggest that a leader remains composed and “level-headed” while providing guidance or advice to those they work with. In addition, a leader is someone who can have difficult conversations and manage workplace issues.

Empowers or Supports Others

Three participants said that a leader empowers and supports others, which suggests a leader is someone who helps an individual succeed in their work and/or attain their professional goals. This is seen when a leader supports their staff in achieving their goals or helping another person (e.g., intern, colleague) to develop their professional skills. Danielle described her experience as a new graduate working in clinical nutrition. She identified her manager, also a dietitian, as an exceptional leader because she greatly supported Danielle in applying her knowledge and developing her skills in practice:

When I had difficult cases or I wasn't really sure what to do, I could ask [my manager] or even the other dietitians questions or bounce ideas off of them. So, it was really good to have that support... It definitely makes a difference to have a manager that is a dietitian and understand what your job is. Whereas my current manager, she's great, but I think she is a psych nurse and then did an MBA.

Furthermore, Danielle distinguished between having a non-dietitian as a manager. While this idea was not explored further with this participant, Danielle suggested that her current manager may not understand the role of a dietitian. The lack of understanding of a dietitian's role, from Danielle's perspective, might present a barrier to supporting early career dietitians.

Communication and Interpersonal Skills

Emma and Alexander also discussed how, in particular, a leader must have effective communication and interpersonal skills. They described a leader as being able to interact with individuals and groups with honesty and integrity. Emma considered someone in her workplace who has significant experience communicating and interacting with others in his role as a leader. Similarly, Alexander talked about how a leader interacts with people in the community. When he reflected on his experience living remotely, Alexander said:

The longer you stay in the region, the more you keep talking to people and going back to the communities. Eventually you start to understand people's expectations, and you start to change your expectations and perspectives as well. And so, then you're able to communicate and talk in a way that makes sense to their lives.

From their experience, having effective communication and interpersonal skills enables leaders to work with others, and gain insights that can inform their viewpoint and actions.

Beyond the Individual Level

Early career dietitians responded to several questions about their leadership skills. Responses to these questions were themed according to their views on leadership and how they feel they use their leadership skills in practice. In my study, the individual level of my conceptual framework included the LEADS domains. There were no emergent themes that might

relate to other levels or cross-cutting elements of my conceptual framework. Therefore, early career dietitians did not describe leadership beyond the individual level.

Mid-Career Dietitians' Views on Leadership

Five participants in the 11-20 years of practice experience group were considered this group mid-career dietitians. They are established in their work and alluded to working for more years without any talk about retirement, unlike the late career dietitians with over 30 years of dietetic experience. Their pseudonyms are Margaret, Norah, Elizabeth, Charlotte, and Xenia. The areas of practice these dietitians work in are: long term care, community, policy and government, private practice, and nutrition management.

Three themes noted in mid-career dietitians' views on leadership were: confidence; empowers or supports others; and collaboration. Four dietitians said having confidence is key to being a leader and they also suggested that confidence can be developed over time. Like early career dietitians, these mid-career dietitians thought empowering or supporting others to develop their professional skills is an important quality of a leader. Lastly, collaboration was seen as an important leadership skill to help achieve goals.

Confidence

Four dietitians talked about how confidence in one's own nutrition knowledge and the ability to lead a team were important to leadership. For example, Margaret suggested that confidence in her knowledge and skills has helped her be resilient in her current workplace. Margaret said she is passionate about implementation and applied sciences. Many researchers in her workplace have a biomedical background and do not consider her work as research, and Margaret said it was, "almost to the point that they were discrediting what I do... I'm sorry, but that is bullshit." She has helped others see the value in applied research, but Margaret said she

needed confidence to be able to challenge their traditional way of thinking. Having confidence enabled Margaret to withstand or recover quickly from challenging situations. For Margaret, she equated her confidence and resilience as part of her leadership character.

As another example, Xeni talked about leading a team during organizational change when she was in an acting director role. Many of the staff Xeni led were concerned about the impending restructure and uncertain about either job security or program areas. In confronting the situation, Xeni took the opportunity to exude confidence and said, “We can do this and I’m happy to take the lead and we’ll just continue to sail the ship.” Confidence enabled Xeni to lead the team through a challenging situation.

Although these participants suggested confidence as a key characteristic of a leader, they also recognized that confidence is developed with experience. Elizabeth’s response provided an alternative view about being confident because she does not consider herself a leader with less than 10 years of experience. Although she comes up with ideas, Elizabeth said she loses confidence in seeing her ideas through. Elizabeth said part of the issue is her day-to-day clinical work consumes most of her time. Because she does not have the confidence to share her ideas with others, they are not aware of her ideas and therefore, Elizabeth is unable to gain support to plan and implement the ideas. While she does not see herself as a leader nor feels she has confidence to be outspoken, Elizabeth described the advocating she does for residents as leadership. She views her ability to lead when working directly with residents differently than when she needs to implement changes that might impact the organization. Sometimes when she makes dietary recommendations for residents, the food service manager and other staff are not able to implement the recommendations. This inability to implement recommendations is partially related to lack of time, money, and/or staffing. Over the years, she has become more

confident in advocating for residents, and in some situations has learned “to fight for the important things to make sure they’re implemented.” She does this by being open to talking about how to work within the constraints, seeing as the dietary recommendations are in the best interest to the residents.

Empower or Support Others

Another essential leadership skill for this group is the ability to empower or support others in achieving goals. For mid-career dietitians, a leader supports individuals as well as groups. With individuals this could be demonstrated through mentoring. From Charlotte’s perspective, mentoring can help with career advancement or gaining experience in a practice area. In her organization when someone wants to gain experience in specific areas such as strategic planning, the individual is matched with a more experienced employee who would support and develop those skills. A leader also has an ability to be authentic and personable within their professional relationships. Margaret shared her story about how her PhD supervisor demonstrated this type of leadership. When Margaret was completing her PhD, she was also pregnant and described the connection she had with her supervisor:

I got motherhood principles more strongly from my PhD supervisor than from my mom because... we were similar in many ways. She had her children while doing her grad studies, she was an academic like myself, and I spent so much more time with her during the time I needed that support, so being there at the right time.

Margaret felt empowered or supported by her supervisor, which she believed exemplified leadership because her supervisor recognized her competing challenges as a graduate student. Margaret and other dietitians see a leader as someone who sees an individual as a whole and is able to provide supports in the workplace to help manage challenging situations.

Collaboration

These dietitians also gave examples of how leaders support teams to achieve goals through collaboration. For collaboration to be effective, Xeni thinks a leader must be transparent and develop trust with individuals and within a team. To support others in achieving goals, Xeni believes there must be trust built and a clear plan defined. To establish trust and create a plan, Xeni suggests having individual conversations. These one-on-one conversations can help identify issues and collaboratively plan next steps. In addition, Elizabeth added that leadership can happen at a more “invisible, quiet-level” and “leadership is not I’ll give you orders and do what I say... a leader does not have the best ideas” but rather a leader supports a team in coming up with the solutions collaboratively.

Beyond the Individual Level

Two themes emerged relating to other levels of my conceptual framework. At the micro-level, mid-career dietitians talked about the role of hierarchy in their work and its impact on their self-leadership. At the macro-level, they shared their concerns about regulatory colleges’ requirements as a barrier to pursuing certain leadership roles, which also has meso-level implications for the supply and retention of dietitians. These themes demonstrate how other levels of the system affect an individual’s ability to be a leader in their work.

Micro-level: Hierarchy

Mid-career dietitians alluded to a hierarchy within healthcare settings, where medical doctors are at the top, followed by nurses, then allied health professionals. While I did not unpack this specific idea further in the interviews, what emerged from this cohort was that there are some shared roles and responsibilities between doctors, nurses, and dietitians. Despite having shared roles and responsibilities, mid-career dietitians felt they were excluded from certain

interdisciplinary situations and leadership opportunities. Charlotte said, “Dietitians can do more than just take diet histories,” yet at times dietitians are excluded from care planning for residents or clients. There are also some roles that a dietitian or nurse can fill such as certified diabetes educator (Norah) and health promotion facilitators (Margaret). Norah and Margaret thought that although dietitians and nurses have the same responsibilities in these roles, nurses are more likely to be considered for succession planning or leadership roles even though dietitians have comparable, if not more management training included in their undergraduate degree course work.

Macro-level: Registration Requirements

One issue raised by some dietitians was related to pursuing leadership roles that are not directly related to nutrition. In some Canadian provinces, dietitians must practice a minimum number of hours per cycle in recognized nutrition areas of practice. From their experience, when dietitians step into leadership or non-traditional roles, even if the role is within healthcare, there are concerns related to their ability to maintain their registration with the regulatory college because their minimum practice hours related to nutrition may not be met. According to their stories, it is not uncommon for dietitians to pursue leadership roles in areas not directly related to nutrition at the cost of not meeting regulatory college requirements. Furthermore, they noted this is not the situation when doctors or nurses go into leadership or interprofessional roles. The perception is that doctors and nurses are encouraged to take on greater leadership roles as they progress in their careers while being able to maintain their MD or RN credential. Dietitians felt that, for MDs or RNs, advancing into leadership roles or using transferrable skills was encouraged, if not expected, within those professions whereas in dietitians these leadership roles or applying transferrable skills to non-nutrition related areas of practice was discouraged by the

profession. From their personal examples, it became apparent that registration requirements are a barrier for some dietitians to advance into roles that use more leadership skills.

Xeni provided an example of a dietitian going to work in a lead role in the area of cultural safety. She described her reaction when the dietitian said, “I’m leaving the profession.” Xeni thought it was interesting that the dietitian had to leave the profession when she was taking a more senior role that drew from her skills acquired as a dietitian. Xeni said, “I think that’s a disservice to us [dietitians]... how are we going to be in all these different leadership roles if we feel like we have to leave our profession behind?”

Mid- to Late- Career Dietitians Views on Leadership

Four participants in the 21-30 years of practice experience group were mid- to late- career dietitians. Their pseudonyms are: Lucy, Penelope, Hattie, and Waverly. They talked about retiring soon while other dietitians talked about what they might want to do for the rest of their dietetics careers. In addition, for a couple of the participants, becoming a dietitian happened after working for several years in a different career and thus they may not have been practicing as a dietitian as long as others yet had prior professional experiences.

Four themes were noted among these mid- and late- career dietitians’ views on leadership: communication skills; credibility; empower or support others; and other qualities specifically being professional, confidence, and being authentic. All these dietitians said communication skills are crucial for leaders. Similar to early career dietitians, these dietitians also thought being credible is key to leadership however it was not as closely connected to confidence. Dietitians at this point in their career also believed empowering or supporting others is an essential leadership skill, as expressed in the two previous cohorts. Lastly, there are a

number of leadership qualities that were considered important to be able to lead in various contexts.

Communication Skills

One skill all four dietitians said is important to leadership is the ability to communicate effectively. Similar to the early career and mid-career dietitians, these dietitians thought a leader must be able to communicate with teams, stakeholders, and the media. For example, Lucy schedules regular touchpoints with stakeholders to regularize communication. Lucy tries to be open and transparent, which can be challenging because she might have information that she is not allowed to share. So, she said it is also important to navigate the information she can share, and that which she cannot.

Credibility

Being credible was considered an important leadership skill by three of four dietitians. Credibility was associated with having expert nutrition knowledge, which they said dietitians have at entry-level but is further developed over the course of one's career via ongoing learning and through experiences. According to Waverly, leadership is about "staying up-to-date and staying current and making sure that you are knowledgeable as a leader in your industry." Similarly, when Penelope reflected about people she considers leaders in the profession, she said these people also have professional and volunteer experience within the field. Interestingly, for this cohort, gaining experience has a role in being credible whereas for the mid-career dietitians experience has a role in developing confidence.

Empower or Support Others

This group thought that a leader empowers or supports others to complete tasks and develop their skills. Hattie noted that in a traditional sense, the purpose or functions of a leader is

to lead other people towards a common goal; however, this can be accomplished through different ways (e.g., autocratic, cooperative, or inclusive). Lucy said a leader is supportive of the growth of others. She thinks a leader encourages people to move up the career ladder. From her perspective, a leader enables others to grow and evolve in their abilities so they can advance into other roles or change to a different organization.

Demonstrate Leadership Qualities

This cohort of dietitians noted several qualities that are essential for leaders to be effective in different contexts. The ability to be professional, which included keeping their composure in difficult situations, was seen as a key leadership skill by some of these participants. According to Waverly, a leader demonstrates their professionalism when interacting with others; the leader is respected and can lead them through challenging situations. She provided an example from her experience teaching students. When a freezer breaks down on a Friday afternoon she tells them, “You’re the one who has to take action and keep smiling and reassure everybody, all at the same time.” What this might suggest is that when a leader sees an issue and takes action to address it, then that leader keeps their composure when faced with challenges and can support others simultaneously.

In addition to the leadership skills noted thus far, Penelope said that leaders are confident and goal-oriented. From Penelope’s perspective, a leader is confident in their skills and knows when to ask for help. Furthermore, Penelope sees leadership as more of a “quiet undertaking” where someone takes initiative and can gather people who can help achieve goals. In these situations, Penelope thinks a leader can be quiet yet be able to achieve results and get tasks done. This perspective might suggest that although different types of people might be in leadership roles, a leader has the ability to plan and implement a strategy to achieve goals.

A leadership quality two dietitians talked about was being authentic. Waverly said a leader genuinely cares about other people. She gave an example when she had a manager who was supportive of her professional development and “would go to bat” for her. As a result, Waverly felt committed to this manager; from her perspective part of her role was to make her manager successful and vice versa. Waverly’s commitment and view of her role in her manager’s success might reflect her values related to supervisor-subordinate relationships. She described how it is important to her to support her manager succeed. Hattie also talked about how dietitians who are social media influencers post “very personal stories, that I go ‘woah’... but it shows that everyone is human.” She continued to say that these personal stories appear to show the dietitian’s vulnerabilities, which make them more relatable to others. From Hattie’s perspective, dietitians who are able to share some of their personal stories, in particular on social media, are not afraid to be true to who they are and authentic. Authenticity came through as a quality that enables leaders to connect with those they work with as well as the public through social media.

Beyond the Individual Level

Two themes emerged that might relate to other aspects of my conceptual framework. At the macro-level, dietitians talked about what is taught through dietetic education programs. In addition, some dietitians talked about having a family and its impact on career decisions, a theme related to the cross-cutting dimension. These themes demonstrate how other levels of the system affect an individual’s ability to be a leader in their work.

Macro-level: Dietetic Education Programs

All dietetics programs are based on the ICDEP and inform what is taught in dietetic education programs. At the time of data collection, the ICDEP did not include leadership as an

explicit practice domain. Despite leadership being absent from the ICDEP until 2020, Hattie thought of one program in particular that “really encourages a well-rounded education” without explicitly providing any leadership instruction. This sentiment was shared by Lucy, who said that although she has developed her leadership skills through various ways, going through the dietetics and public health nutrition degrees did not teach any specific leadership skills. They both expressed that it is the educator delivering the course who influences what is taught. In relation to working on her master’s degree, Hattie said that “when you’re doing these courses or having these education[al] experiences, it’s so dependent on who your instructor is.” Hattie thinks aspects of leadership development, in particular transferable skills such as advocacy, should be incorporated into dietetic education so dietitians know how to advocate for change.

Cross-cutting Dimension: Having Family

A unique element described by this cohort was the impact of having a family on their career choices such as pursuing leadership roles and their self-leadership. Three dietitians talked about how having a family and the responsibility of being a primary caregiver has influenced the career choices. Lucy was originally planning to go to medical school. She had completed a BSc and the required courses to write the MCAT and apply for medical school. Partway through the process, she met her husband, but her parents were strict about finishing school before getting married. As a result, instead of pursuing 8-10 years of medical education, she completed two additional years of education and completed a second bachelor’s degree in nutrition and became a dietitian. To Lucy, becoming a dietitian had fewer professional and leadership responsibilities than if she pursued medicine, which she thought enable her to find balance with her personal life. Likewise, a few times throughout Penelope’s interview she spoke about having children while studying, and more recently having the responsibility to care for her mother. Being a parent and

caregiver has made Penelope consider how she can balance work and life while also being satisfied with her career. Penelope described the ways in which she manages herself by taking responsibility for her mental health, and how she actively seeks opportunities for personal learning. Her approach to finding work-life balance demonstrates Penelope's self-leadership. Hattie offered a different perspective. She said her husband was very supportive of her pursuing dietetics. Part of the reason was that they did not have any children, so going back to school in her early 30's was feasible. For Hattie, her personal circumstance enabled her to pursue dietetics later in her career and other leadership development opportunities such as committee work.

Late Career Dietitians Views on Leadership

Five dietitians who have more than 30 years experience are part of the late career cohort. Their pseudonyms are: Gemma, Grace, Kamila, Olivia, and Remi. They work in clinical settings, long term care, private practice, research, and dietetic education.

Four themes emerged for late career dietitians' views on leadership: confidence; empower or support others; leadership qualities; and has vision. All these dietitians said that leaders have confidence. Similar to the previous cohorts, the ability to empower and support others was identified as a leadership skill. Dietitians in this cohort identified several other leadership qualities that leaders, in various contexts have developed. Lastly, two dietitians talked about leaders having a vision, which was a unique emergent theme.

Confidence

All five late career dietitians see leaders as confident individuals. A few dietitians think confidence is a quality always present in a leader yet suggested that confidence can increase as expertise develops. Olivia suggests that a leader has expert knowledge, which contributes to their confidence. Grace was the only participant in this group that did not identify herself as being

confident. Upon reflecting on herself as a leader, Grace said, “although I’ve been at this for quite some time, I still don’t see myself as a very confident person. I am confident in my skills and abilities but there are times when I self-criticize.” Gemma and Remi both described themselves as being outspoken and able to voice their opinions, even when their opinion may differ from others. Remi is particularly vocal when she believes something is not right and said, “I’m sorry I can’t couch that. It would make me physically ill to sit there and suck it up when I think it’s wrong.” Confidence for this cohort was seen as a distinct leadership quality.

Empower or Support Others

Three cases talked about how a leader empowers or supports others. From her perspective, Grace considers a leader as someone who can see potential in others and will do what they can to support them in developing themselves. She suggested this could be through mentoring, coaching, or offering more formal training. Similarly, Remi sees a leader as someone who can mentor others and looks for opportunities to grow. She said, “leadership to me is enabling the people I work with to be the best that they can be.” Interestingly, earlier in her career, Olivia viewed leadership primarily in relation to mentoring or helping other dietitians develop the skills they need to advance in their careers and achieve job satisfaction. Having worked as a dietitian for over 30 years, Olivia now sees a leader as having more of a systems perspective, and someone who has a sense of the big picture.

Demonstrate Leadership Qualities

Similar to the mid- to late- career dietitian cohort, this cohort of dietitians also noted several qualities that are essential for leaders. To them, leaders are personable, trustworthy, motivational, inspiring, and accountable. Reflecting on what others might see in her as a leader, Gemma said that she is approachable, has an outgoing personality, is able to develop trust, and

has passion about nutrition. She said, “I not only have a strong conviction of what I believe in, but I have a big voice... earlier in my career, I was a trendsetter, motivator, and influencer.” To Gemma having an influence is a part of her identity as a leader. Similarly, Remi has confidence in her abilities to complete tasks and meet objectives. She said, “I will deliver what I say I’m going to deliver, so you don’t need to stay on my case. You may not like how I get there, but I will get there.” When she leads others, she does not micromanage but gives them “a lot of rope” because she does not like others to micromanage her work. Kamila added that a leader is a trustworthy person who has credibility and is fair and equitable when making decisions. In addition, Kamila said, “Sometimes [a leader has] to make difficult decisions for the good of the program you’re supposed to be managing.” Kamila also said that there are some leaders who “lead from behind” and have influence on what is happening but these leaders tend to be “fairly quiet and thoughtful themselves.” Their examples suggest that leaders possess a variety of qualities that enable them to lead in a variety of contexts.

Vision

Grace and Kamila think a leader has a vision. While this was a theme discussed by only two participants, it was a salient point that they detailed in depth. Grace talked about a leader having the ability to see the big picture and look for different opportunities to improve the system. She elaborated and suggested that a leader seeks to improve the quality of service delivered, for example, to individual residents at her long-term care facility. Kamila also views a leader as someone who has a vision and can mobilize other people to work towards it. She said the vision could be work-related or associated with a particular area someone is passionate about and advocates for. To these dietitians, having a vision is what enables an individual to effectively lead others towards achieving goals that affect the wider system.

In addition, Kamila talked about a leader having passion in the work that they do. From her perspective, Kamila thinks a leader has passion for the vision they have, which she sees in both students and dietitians in practice. She said, “You meet certain students and they have the fire in their belly... and it’s the same fire, it doesn’t matter what position, they’re going to advance their vision.” She gave an example of a leader who was able to take action towards realizing an idea. This leader was able to get a private grant to start a dietitian service and gain support from others, which filled the need of a particular province at that time. To Kamila, a leader is “not just going to be content as a manager or work nine-to-five.”

Beyond the Individual Level

Four themes emerged that might relate to other aspects of my conceptual framework. At the individual level, these dietitians talked about how some individuals are “natural leaders.” This notion adds to the individual level of my conceptual framework because the LEADS framework is built upon the premise that leadership can be developed. Similar to the mid-career cohort, late career dietitians discussed the challenge of working within a hierarchical system and the effect it might have on practice. Unique to this cohort, at the meso-level, late career dietitians talked about the supply of dietitians in the workforce and its impact on employment in leadership roles. Lastly at the macro-level, similar to the mid- to late- career cohort, dietitians talked about how the curriculum is taught in dietetic programs.

Individual Level: Natural Leaders

Three dietitians talked about “natural leadership” abilities. Gemma and Remi both described themselves as natural leaders, and in some ways they believed they have always been leaders. Gemma said, “I’ve never thought about leadership, ever... I just grew into this leadership role and people like to follow me.” Remi said when she thinks about the ways in

which she developed her leadership skills she claimed her “leadership skills have always been there... [she]’ll collaborate with other people but always drift to the top somehow.”

Conversely, Kamila does not consider herself a natural leader. She has used “trial and error” as her approach to developing her leadership skills. Kamila explained further and said that she looked at people she admired in terms of their leadership style and skills, and then tried to match what she could. Kamila admired a clinical lead who she described as:

A very loud aggressive leader... five-foot-four, thin, always had high heels and dressed to the hilt... you know, a very stylish person. That’s not me... but one of the things I could emulate was she had vision... so you have to figure out what you’re capable of doing and sustaining and still be true to yourself.

Once Kamila figured out qualities she wanted to emulate, then she considered the areas that she was passionate about and wanted to advocate for.

Micro-level: Hierarchy

Among these dietitians, a theme that emerged throughout the interviews was related to misperceptions of dietitians’ capabilities primarily from other health professionals. Although dietitians have a diverse skill set, Kamila said healthcare is “highly hierarchical, with physicians as the lead” and often physicians and nurses do not know what dietitians can do. In one hospital-based project, Kamila said there was a situation when the nurse practitioner asked a dietitian to do several tasks, not taking into consideration the dietitian has her own patient workload. In this situation, Kamila said it would be beneficial to have other health professionals on the project to share the work and make it an interprofessional effort. Gemma thinks dietetic students and interns are taught that they are “superior” for becoming a health professional with the training they receive; however, this is not the case when dietitians work in clinical environments where

“we’re not worth much”. Gemma described an experience with a doctor: “When I [said] I’m a dietitian, he just said... ‘oh’” and disregarded what she had to say about the client’s nutrition status. From Gemma’s perspective, “people think that we tell you to eat your carrots and we do so much more than that. We’re the people for all around [well-being], we have the education and training to put it all together.”

Meso-level: Supply & Retention of Dietitians

According to these dietitians, they said dietitians are not given adequate resources to do their work let alone take on leadership roles. Kamila co-led an action group aimed at establishing dietitian primary healthcare services. A driving force behind this action group was to ensure dietitians were accessible when people required treatment. Kamila said, “I’d already worked in the hospital so I knew how awful it was. We were not very effective... they would say ‘let’s call the dietitian and give her 15 minutes with the patient’... that was the level of our counselling.” Gemma talked about a personal experience, when her mother was in the hospital. Gemma observed the clinical dietitians and was surprised at their interactions with the patients and family/caregivers. “I just couldn’t believe how they weren’t helpful. And I thought ‘wow’ [dietitians] are just taking a back seat... I can see how people can get frustrated with our profession, being on the other side.” From Gemma’s perspective, clinical dietitians are not proactive yet Kamila suggests that they are under-resourced. This might suggest that clinical dietitians are so few that they are unable to dedicate adequate time to meet the needs of patients.

Macro-level: Dietetic Education Programs

Gemma thinks dietetic education is broad but not broad enough. Her opinion is there is too much focus on clinical nutrition and hospital settings despite fewer jobs in those areas. Gemma said that dietitians are trained more than unregulated nutritionists but dietitians do not

have the leadership skills “so [the profession] fails at that key piece... [we] don’t train how to be leaders and I think that’s been the downfall of our profession.” Olivia did not receive any leadership training through her dietetics education and felt that she would have been better prepared for her first job had she learned some leadership skills. She suggests that the profession could create a dietetics master’s degree program, similar to the U.S., allowing for more time commitment to cover not only nutrition but also skills development such as leadership.

Summary - Dietitians’ Views on Leadership

The objective of Phase II was to understand how dietitians develop and use leadership skills in practice, and relates to the individual level of my conceptual framework. In this chapter, I presented the findings related to the ways in which dietitians view leadership. Having an understanding of how dietitians view their own leadership enabled me to better understand the contexts in which their leadership skills are used in practice. Leadership has not been considered an area of competency for dietitians until recently. Thus, these dietitians provided insights into how they view leadership in light of not having been encultured to through schooling and professional practice. In the next chapter, I use the LEADS framework to present findings related to how dietitians use leadership in practice.

Findings in this chapter were presented by cohort and suggest that there are some ways in which dietitians view leadership similarly across the career trajectories. Several leadership qualities were emphasized by dietitians in the different cohorts. Having self-confidence and able to manage oneself in difficult or challenging situations were described by several dietitians across the cohorts. All four cohorts considered the ability to empower or support others to achieve personal or professional goals as a part of effective leadership. Being empowered to pursue different opportunities was described by dietitians as an important quality of a leader. For

several dietitians, being empowered was experienced when a mentor or supervisor helped them pursue developmental opportunities which enabled them to develop transferrable leadership skills or leadership roles. Similarly, having support was exemplified by dietitians describing when a mentor or supervisor recognized that they have other challenges (e.g., in their personal life) and work with them to reduce barriers in their professional life to help manage the situation. The ability to communicate effectively with individuals and groups was also seen to be an essential leadership skill. They thought that listening and seeking feedback or input are qualities that leaders show when they work with others.

Various leadership qualities emerged within each of the cohorts. From their perspective, these qualities contribute to a leader's professionalism. The qualities they talked about included honesty, integrity, and confidence. Interestingly, the early career dietitians view confidence as essential to perceptions of credibility—having confidence in their nutrition knowledge enables them to appear credible to others. At this early career stage, confidence gives them the ability to engage with other health professionals and advocate for those they work with. For the other three cohorts, credibility and confidence were discussed as separate leadership qualities.

Ability to manage conflict, collaboration, and having vision also emerged as salient themes. A theme that was a leading theme for one cohort may have been a minor theme in the other cohorts; the idea might have been mentioned by one participant and not discussed in depth. Early career dietitians suggested that leaders are able to manage conflicts and gain support to resolve issues, a leadership ability that appeared to be important to this cohort. Mid-career dietitians talked about collaboration as being key to leadership. These dietitians thought collaboration enables leaders to support teams to achieve goals. Lastly, one unique theme emerged from the late career dietitian cohort which sees a leader as having a vision. They

considered a leader as someone who has a systems perspective and has a view on how to challenge the status quo to improve a particular system.

In addition to identifying dietitians' views on leadership, I noticed emergent themes that might relate to and expand other elements of my conceptual framework. These themes included: hierarchy of professions within healthcare; curriculum and educators in dietetic programs; registration requirements; supply and retention of dietitians; the notion of natural leaders; and the influence of family and caregiver responsibilities. The emergent themes were gathered from the mid-career, mid- to late- career, and late career dietitian cohorts; there were no emergent themes from the early career dietitians. Interestingly, the notion of "leaders are born" came through only in the late career dietitian group. This might suggest that recent research on leadership has influenced the ways in which dietitians understand the developmental aspect of leadership.

Chapter Eight: Phase II Findings – Dietitians’ Leadership in Practice

In this chapter I present findings and use LEADS as an analytical framework. In my analysis, I align dietitians’ experiences with the five LEADS domains and capabilities, which is nested in the individual level of my conceptual framework. This chapter begins with a brief review of the LEADS framework. Then, I present the themes from the cohort cross-case analyses organized by the five LEADS domains. Within each LEADS domain, the themes are organized by career-stage cohort. Important to note is some capabilities are not represented because those capabilities did not emerge as themes when I analyzed participants’ responses.

Review of the LEADS Framework

The LEADS framework showcases the capabilities required of leaders to meet diverse challenges and bring about cultural shifts in healthcare (Dickson & Tholl, 2014; Dickson & Tholl, 2020). To depict the range of leadership, the LEADS acronym represents the five domains of capabilities: Lead self, Engage others, Achieve results, Develop coalitions, and Systems transformation (Dickson & Tholl, 2014; Dickson & Tholl, 2020). Important to highlight is the shift in LEADS from the notion of competencies to capabilities. Dickson and Tholl (2014) suggest that capabilities can be developed over time, unlike competencies which often are associated with entry-level practice. Thus, the distinction between competencies and capabilities is particularly relevant when exploring dietitians’ leadership in practice. LEADS embodies the key skills, behaviours, abilities, and knowledge required to lead in different sectors and organizations. The LEADS framework endeavors to cultivate a shared understanding of what leadership looks like at all levels through different capabilities.

Mapping Dietitians Leadership in Practice to Lead Self

The first of the five LEADS domains, *Lead self*, emphasizes that an individual cannot lead others without first leading oneself (Dickson & Tholl, 2020). As Dickson and Tholl suggest, “we are all CEOs of self” (Dickson & Tholl, 2020, p. 79). The four capabilities associated with this domain are: Are Self Aware; Develop Themselves; Manage Themselves; and Demonstrate Character. In the sub-section below, I present ways that dietitians demonstrate self-leadership beginning with the early career dietitians.

Early Career Dietitians

The four early career participants with less than 10 years of practice experience talk about how they are self-aware of their abilities, gain experience at work to develop themselves, and demonstrate key leadership characteristics in their work.

Are Self-Aware

Dietitians gave examples of how they are self aware of their strengths and limitations. Emma, who has been in practice for five years, recommends that new dietitians be confident in their nutrition knowledge but also aware of their limits. Tenley also expressed this sentiment. Her work experiences helped identify areas or skills that she needed to improve.

Develop Themselves

Dietitians said some leadership skills are taught through the curricula or in internship. Tenley said she “developed leadership skills through internship because it is competitive; however, once you actually become a dietitian and get hired, there’s less pressure to maintain those leadership skills.”

Three dietitians said they have not pursued or completed any formal leadership development. Instead, they assumed different responsibilities at work to gain experience. Tenley

said to develop her leadership skills she takes the approach of “learn by doing” and this sentiment was shared by others. For example, Danielle said the experiences she has gained through work made her more confident in her ability to be a nutrition care leader. She feels that she “can be a leader in terms of nutrition care and can advocate for better care for [her] patients whether that’s to allied health or to management.”

Most dietitians said pursuing graduate studies or advanced practice certificates are strategies that can develop leadership skills. For instance, Alexander earned a Master of Health Administration and said many of the courses covered leadership-related topics. Emma completed a master’s degree in nutrition and is currently in a PhD program. She said completing her PhD is a method to develop leadership. Tenley has completed an advanced certificate in dysphagia management, which has supported her in her clinical work; she is also considering pursuing a Master’s degree in adult education.

Demonstrate Character

Early career dietitians spoke about how they demonstrate their leadership character and model qualities such as confidence and resilience. Alexander and others had humbling early career realizations regarding their entry-level skills. In some leadership roles, these dietitians felt their entry-level skills were inadequate. When Alexander began his first year as a dietitian, he thought he was a leader. Upon reflection, he recognized that despite being “well-educated” and “an expert in nutrition”, there were other skills he needed to develop such as cultural safety and community engagement skills to be more confident in his role.

Even in situations when dietitians felt confident in their abilities, other workplace challenges required resilience. For example, Tenley found it challenging as a new graduate to step into a management role without any professional employment experience aside from

internship. She was uncomfortable managing a department because many staff were much older than her. Despite having management skills required for the position, Tenley felt she had to learn how to be more assertive to succeed in this role. Upon reflection, early career dietitians recognize that challenging situations enable them to identify areas for personal or professional development. Furthermore, as they gain experience, they become more confident in their abilities to handle challenging situations.

Mid- Career Dietitians

The five mid- career dietitians spoke about knowing their values and limits. They also provided examples of how they develop themselves as practitioners and leaders. Lastly, they identified leadership qualities that they feel are necessary for themselves to lead.

Are Self-Aware

Dietitians talked about knowing their values and limits, which is facilitated by self-reflection. Xenia said she uses critical reflection to see if she had “any blind spots” during a meeting or in other activities in her day. She thinks that if any activities or tasks were overlooked or go unseen for too long, then it could lead to issues. Self-confidence seemed correlated to knowing their values, strengths, and limitations. Margaret exemplified this when she said leaders must continue to carry the vision and their principles with them during challenging times as a demonstration of their character. As a researcher, Margaret said she firmly believes in evidence-based practice, however this may not always align with organizational goals. As she gained more experience and her self-confidence developed, Margaret was able to take lead researcher roles and held firm values or principles despite facing some challenges.

Develop Themselves

Completing additional training or education, having a mentor, and gaining work experience were seen as strategies to develop leadership. Two dietitians completed graduate degrees: one earned her PhD and the other earned a Master of Arts in Leadership. Margaret said, “I think having a little bit of formal training could be good, but it’s not the only way.” All mid-career dietitians provided examples of professional workshops, courses, or certificates they had completed, which they said contributed to some leadership skills.

Three dietitians said having a mentor, whether it be a more experienced colleague or through a workplace mentorship program, was another way to develop leadership skills. Xeni specifically recommended having a mentor or a coach in leadership roles to support career laddering. She noted that many organizations offer leadership programs that facilitate mentorship matching. Similarly, Charlotte said mentoring has helped her with career advancement and gaining new experiences.

All mid-career dietitians said gaining work experience developed leadership skills. To them, work experience develops one’s self-awareness, confidence in nutrition knowledge, and ability to lead teams. Xeni suggested that developing leadership skills through work takes some risk. She recommends pursuing opportunities even when they are not long-term and accepting opportunities that may not be clearly defined. Charlotte said she developed her leadership skills over her career by facilitating meetings, being organized, and mentoring colleagues in the government. As her confidence developed, she was able to pursue opportunities to lead larger teams and projects. Norah shared an interesting observation from early in her career. She observed the dietitians who worked in the same role for several years and said they appeared to be “on neutral, and just kept doing what they were having to do”, so they became complacent

and lacked leadership. When she started her career, Norah tried different practice areas and organizations said these experiences strengthened her leadership skills.

Demonstrate Character

Another way dietitians talked about self-leadership was in situations where they had to be resilient or work through a challenging time. Charlotte said resilience is demonstrated through understanding the big picture and trying to get others to understand the big picture as well. In Charlotte's work, this is in relation to doing performance measurement evaluation, where often the government is effective in developing frameworks but too busy to evaluate the outcomes. Being resilient in these situations requires the persistence to raise awareness of potential positive outcomes (e.g., cost savings), and ability to continue to see the big picture despite "being in the nitty-gritty."

Taking initiative was one characteristic that also connected with self-leadership. Xeni thinks organizational change is constantly happening, which requires dietitians to be "very flexible and have almost that 'can-do' attitude." Although all mid-career dietitians gave examples of how they are pro-active and results-driven, Xeni mentioned that this is not always the case. Xeni said she witnesses "something plays out in the profession" where dietitians may not respect different viewpoints or "victim blaming" others for not taking actions, rather than individuals taking responsibility and figuring out how to make situations better. Her insight suggests that the experiences of these dietitians may not fully reflect the drive, motivation, or professional character of other dietitians.

Mid- to Late- Career Dietitians

The four mid- to late-career dietitians with 21-30 years of practice experience shared examples related to the ways in which they actively pursued opportunities or challenges for

personal learning and character building. They also talked about how they take responsibility for their own performance.

Develop Themselves

Although two dietitians said that pursuing formal education such as completing graduate studies or a certificate program developed leadership and other transferrable skills to them, leadership development is not just about formal education. Completing workplace programs and gaining experience at work were the most common strategies to develop leadership among this cohort of dietitians. According to these dietitians, many workplaces offer leadership training programs. For example, Waverly has been a part of leadership training programs through her work and completed a train-the-trainer program. Similarly, Lucy participated in an organizational-led leadership development program. Through the leadership development program, she learned about leadership concepts and was matched with a leader in the organization to be her mentor. Lucy said this was beneficial because she did not complete her education or have a professional network in Canada.

Gaining experience earlier in one's career was seen to help develop leadership skills. From Waverly's perspective, however, being an independent consultant early in one's career is challenging due to limited opportunities for networking. Waverly recommends early career dietitians gain experience in a large corporation to access a wider network of people and organizational leaders who could become mentors. Penelope believes that she learns through different experiences and in turn shares what she learned with her colleagues. She said, "I don't think there's enough sharing going on, which is why people get stuck."

Mentorship was described as another way to develop leadership. Most dietitians gave examples of when senior dietitians mentored them. In Hattie's case, she studied and worked in

business before pursuing dietetics and attributes this to helping her develop leadership skills before entering dietetics. She said, “I think that initial exposure in the business world really helped me.” In her business career, she had a female boss who mentored and supported her. In dietetics, Hattie has never been mentored and has only observed leadership practices.

Manage Themselves

The ability to respond to feedback and seek job satisfaction were considered important aspects of self-leadership to the dietitians in this study. With more experience, Waverly said an individual can learn to better give and receive feedback. She said that as she gained more experience, instead of “going to my car and crying” she has learned to critically think about the feedback and appreciate it as a developmental opportunity. Similarly, Penelope said as she gets older, she has learned to not take feedback personally when something does not go right.

Job satisfaction was expressed by three dietitians in this cohort. Waverly believes that there are diverse interests within dietetics, and it is essential to expose students to other opportunities beside clinical. She has had clinical dietitians say to her, “wow that really sounds like you have a lot of fun and it’s a rewarding career that you have” since she works in business. Penelope expressed immense job satisfaction and said:

I feel very fortunate that I’ve been able to do so many different things even if it’s on a pretty small scale. My name isn’t plastered around but I’ve tried really hard and I’ve had fun and I’ve had a lot of variety and I’m really happy with how my career has gone.

Penelope continued to talk about how the process of retirement is scary because she is not sure what she will do. Although she is looking forward to not having the stress of work she said, “it is a little bit scary letting go of the things that kind of anchor me.” Penelope’s statement might suggest that an important part of her identity is being a dietitian, and her work has brought her a

level of job satisfaction. While Lucy did not express job dissatisfaction, she did raise one concern. She thinks there are limited opportunities for dietitians to advance in their careers. She said, “one of my biggest issues [in Canada] is that a lot of those positions are created so that a dietitian is not eligible to really apply.” This might suggest that although a dietitian may want to pursue another opportunity there are barriers to applying for the job (e.g., member of College of Nurses).

Demonstrate Character

Dietitians talked about different ways they model leadership qualities such as confidence, resilience, and advocacy. Having confidence was seen as an important characteristic of a leader. For example, in private practice, Hattie works at various doctors’ offices and “they all have different views of what the dietitian should be able to do and the value of the dietitian.” She thinks having resilience helps in those circumstances because it takes significant time to prove or demonstrate one’s value.

Dietitians shared experiences related to how they were resilient in their work. For example, Lucy said that she is resilient and adaptable to changing situations when there are leadership or political changes. When there are changes to senior leadership or funding from the government, Lucy said these can impact how a program is implemented or operates. Lucy did what she could to manage the program with limited support; however, she said “sometimes you do have to go through situations like this where you just have to let go.” In this situation, rather than resisting the change, Lucy remained professional and adapted.

Advocacy was another important leadership skill for this cohort. For instance, Penelope said leadership skills help dietitians advocate for their patients or clients. For example, in long-term care she looks after “real people and someday we will be those people or our parents will be

those people in long-term care... so why wouldn't we try to make it as good as possible?"

Penelope suggests that part of advocacy work is seeing the bigger picture and recognizing that we are all part of a health system that we access.

Late Career Dietitians

The five late career dietitians have 30+ years of dietetic practice experience. Dietitians shared detailed examples related to the ways in which they develop themselves, manage their own performance, and demonstrate character.

Develop Themselves

Dietitians recognized that pursuing advanced education or training is one way to develop leadership skills and credibility. At this stage of their careers, however, they considered whether an opportunity has professional benefits. Furthermore, they thought gaining experience was key to developing leadership skills.

With respect to advanced education contributing to leadership development and credibility, Olivia said, "we need the knowledge background first, then we need the practical. I don't think I could have done my job... without having a master's in leadership. I just wouldn't know where to get those foundational skills." Gemma thinks the dietetic profession emphasizes having advanced education and "people don't consider me an expert because I don't have the credentials that people now have." Despite judgement on her level of expertise, Gemma said she has no regrets for not pursuing further education because from her perspective she has had a successful career.

Dietitians consider how potential experiences might contribute to their careers and whether they are beneficial or necessary. For example, when Remi is offered a professional learning opportunity, she asks herself "what am I going to get out of doing this?" in part because

she is planning to retire soon. Remi considers whether she will learn something new, otherwise she might recommend someone else more suitable for the opportunity. Similarly, a senior leader in dietetics once asked Gemma if she would do a master's degree and Gemma responded, "does it bring me more money? And the answer was 'no'". At this point in her career, Gemma does not think she needs a master's degree because she is content with what she earns and has job satisfaction.

Although gaining experience is important, one dietitian considered being given leadership roles a poor developmental strategy. Olivia said too often a health professional (e.g., nurse) is put into a leadership position because of an accommodation (e.g., due to gradual return to work after an injury). Olivia said:

[The nurse] might have been a fantastic floor nurse, and they end up sometimes not being fantastic leaders. They lose a lot of their satisfaction with their work because it's not a good fit... so I think that's kind of the wrong ways of building a leadership team.

From Olivia's perspective, leadership skills need to be present before an individual takes a leadership role.

Some dietitians recommend networking to develop leadership skills. Gemma paid to join the American Dietetic Association because they offered more resources on different nutrition topics and networking opportunities. Similarly, Kamila used different dietetic associations to meet other dietitians, some of whom became her mentors at different stages of her career. However, Kamila said, "if you couldn't afford to go to the national conference, which I couldn't do because I had young kids and didn't have a job, then you kind of lost touch." These examples suggest there is a financial cost associated with networking activities which could be a barrier for

dietitians to meet potential mentors and gain unique experiences that might develop their leadership skills or lead to leadership roles.

Having the support of a mentor was suggested by two dietitians. Although Remi thinks there are natural leaders, she also thinks that people can develop their leadership skills but “there needs to be some innate qualities that are there so that you can then build on.” Likewise, Kamila recommends finding a person who is more experienced and working on interesting projects that can be a mentor.

Manage Themselves

Some dietitians described their leadership in relation to exploring non-traditional areas of dietetic practice. Gemma said that she does not seek recognition as a leader, “it just fell into place... I didn’t really think about it.” Over 25 years ago, she said there were limited opportunities to do non-traditional dietetic work, yet she was offered several contracts that were “out of the box.” As a result of pursuing non-conventional areas of practice, she has become a “pioneer” or leader in those areas. Interestingly, Olivia described her leadership as being an “explorer.” She has always been interested in exploring areas of nutrition “away from the general stream”, looking for innovative practices.

Seeking job satisfaction was seen as important. Olivia said that often dietitians go into the profession with an idea of the work they want to do; however, those jobs are not available. Either there are limited job prospects in the geographical area someone wants to live (e.g., small cities, rural/remote communities), there are no options to specialize in a practice area, or the opportunities lack adequate compensation (e.g., in nutrition communication people want articles for free). As a result, Olivia thinks people end up leaving the profession because dietitians cannot do the type of work that they want to or they become “stagnant in their work and unhappy.” As a

private practice dietitian, Gemma shared a similar response. Gemma said she was not going to give up her full-time job until she had a lucrative contract, “but you take chances.”

Demonstrate Character

Dietitians demonstrate self-confidence when they advocate for the profession or those who may not have a voice (e.g., clients, patients, residents, staff). Gemma tries to be more visible in the public to raise the profile of dietitians. She recognizes that the current trend for private practice dietitians is to be in social media; however, she said, “I’m the last of the Boomers” and notices that many older private practice dietitians feel “inferior” because they are not on Facebook or Instagram. Gemma feels comfortable with the experience that she has and believes she still has an influence in her own way and so she continues to advocate for dietitians within her abilities.

In addition to advocating for dietitian services, dietitians also advocate for those who may not have a voice in their settings. For example, in Remi’s work in higher education, she said she advocates for her staff. She thinks part of her role is to be a “voice” and represent the interest of her department, “going to bat for them, fighting for them with senior management, and advocating on their behalf.” In one situation, she raised concerns to senior administration because staff were struggling with the implementation of a new information management system. She said, “I figure fire me at this point, but you need to hear this and we can’t just put our head in the sand.” Remi demonstrated that sometimes as a leader in her work, she needs to advocate for her staff because she is in a position where she can raise these concerns.

Summary of Lead Self

The themes presented related to *Lead self* demonstrate how dietitians use self-leadership from the beginning of their careers. Gaining experience was considered the main strategy to

develop leadership skills (i.e., *Develop themselves* capability), although it was suggested that formal education contributes to building knowledge foundation and developing transferrable skills. Early career dietitians provided examples related to becoming confident at their workplace, often facing challenges related to being young professionals with limited experiences. They relied on gaining different work experiences to develop self-leadership. Dietitians in the other three cohorts also described various ways they develop their leadership skills; however, many dietitians pursued graduate-level education, advanced training or certification, and mentorship as strategies to develop themselves. Furthermore, mid- to late-career and late career dietitians talked about how they expect job satisfaction in their work, which relates to the *Manage themselves* capability. In contrast, early career dietitians are often encouraged to try different experiences to discover what area or practice they might be interested in pursuing further. Dietitians with more experience generally described themselves as being confident in pursuing opportunities because they have experience and know what areas are of interest to them.

Mapping Dietitians Leadership in Practice to Engage Others

The second domain is *Engage others*, where Dickson and Tholl (2020) state that leaders engage others and get together to develop and deliver service. Drawing from distributed leadership, engagement is defined as “constructive joint action between leaders and followers to achieve a shared vision of high-quality patient care” (Dickson & Tholl, 2020, p. 99). The four capabilities associated with this domain are: Foster Development of Others; Communicate Effectively; Contribute to the Creation of Healthy Organizations; and Build Teams. In this subsection, I present the ways in which dietitians demonstrate how they engage others in their work.

Early Career Dietitians

The four early career dietitians shared examples related to fostering the development of others, communicating effectively, and building teams.

Foster Development of Others

Dietitians described how they support and challenge others to achieve professional and personal goals. Two dietitians talked about teaching interns TPN calculations. Danielle explained how she let one intern do the calculations their way although she anticipated it would be incorrect. Then, she discussed the proposed tube feed regimen with the intern so they could learn from their mistakes:

I think that's how people learn and making their own mistakes and learning from it rather than you trying to prevent them from making mistakes at all.... If it was going to cause harm to a live patient, then I would do something.

During the interview, Danielle reminisced about her time as an intern. Her preceptor would “[kick] your tires before you went to see your first patient...” to assess an intern’s readiness to independently see a patient. Also, her preceptor would give Danielle resources that might be helpful while she delivered a nutrition education session independently. Learning from her personal experience as an intern, Danielle currently uses a similar approach as a preceptor.

Mentoring peers was also raised as a way to support the development of others. Although Emma said she does not lead “anyone except for myself and maybe whomever decides to participate” in her research, interestingly she did consider herself using leadership when she mentors less experienced graduate students and when she teaches undergraduate students. As a mentor and part-time professor, Emma believes that in those situations she has expertise or practical experience that she can share with others.

Communicate Effectively

Related to team building, early career dietitians said engaging others requires effective communication. Tenley talked about her experience engaging staff in an operational change project related to implementing opening dining hours at the long-term care facility. Tenley, other project coordinators, and the cook collaborated to find different ways to engage staff, which improved communications. For example, to gather feedback on the proposed changes, Tenley hosted a group session, engaged in one-on-one conversations with staff, and consulted the residents.

Build Teams

All early career dietitians described teamwork situations, such as working with Indigenous community members, foodservices staff, or interprofessional health teams. For example, when Alexander works with Indigenous community partners, “in addition to all your standard leadership skills... cultural safety is number 1” and is essential when collaborating with Indigenous people in the communities. Alexander said that when he works with different Tribal Councils and Indigenous governments, “it’s kind of intuitive” to collaborate. He said not only will people have local expertise, collaborating also helps to divide or spread workload, “people are already pretty overworked anyways, but with collaboration, not only do you get a better result, but your work is actually getting easier when you collaborate.” Interestingly, Emma does not see herself as a leader in her clinical role. Balancing a part-time clinical job as a full-time PhD student makes it challenging for Emma to be a leader when she is at the hospital. She said:

I wouldn’t say I’m a leader in all positions... because you only have so much time to be a good leader... for example at my clinical nutrition job, I wouldn’t say I’m a leader obviously because I [work part-time] and rely on other people so much in that job.

Thus, in her role as a clinical dietitian, she does not see herself as leading a team but rather drawing support from others on her team.

Mid- Career Dietitians

Similar to early career dietitians, mid- career dietitians shared examples related to fostering the development of others, communicating effectively, and building teams.

Unsurprising, one difference between the early and mid- career dietitians is that mid- career dietitians spoke about developing a variety of people whereas early career dietitians primarily spoke about developing the skills of interns.

Foster Development of Others

Mid- career dietitians said they have fostered the development of students, staff, and other health professionals. Margaret, Charlotte, and Elizabeth all provided examples from their role as preceptors to dietetic interns. Charlotte says interns often come in with “fresh ideas... they’re such a valuable resource and they’re often underutilized [yet] bring forward a lot of interesting ideas.” She said preceptors can support and give students a voice and enable them to be heard.

In addition to developing dietetic students and interns, two dietitians talked about developing staff and other health professionals. Xenia said she mentors staff who report to her, in particular new staff. She sees part of her role as mentoring and being a “cheerleader” to support mentees pursue opportunities that they may not otherwise consider. For example, she would provide encouragement if a mentee wanted to apply for a permanent position or different job and offer “tips and tricks” for interviews. Norah has mentored nurses as they work towards completing their certified diabetes educator credential; interestingly she has mentored dietitians to attain their certified diabetes educator credential, but not as many. When mentoring nurses,

Norah works with them to develop their “nutrition lens” not just “medication lens.” She enables them to develop a more wholistic approach to diabetes management for their clients, in particular the ways in which food and nutrition can be effective in managing blood sugars.

Communicate Effectively

Dietitians thought that the ability to effectively communicate the importance of nutrition to others was critical in establishing themselves as leaders. Norah said that in private practice, she needs to be able to communicate factual, evidence-based messages especially as a leader in nutrition. Norah said dietitians have a responsibility to:

...relay scientific, evidence-based nutrition information... because clients are coming to you for information and if you're not going to communicate that information effectively, they're not going to listen to you. They're going to go listen to someone else, or something posted on social media... and that could be a big cause of misinformation.

Similarly, Charlotte said this can be especially challenging when “you have registered holistic nutritionists ‘diagnosing’ problems” and giving misinformation. Nonetheless, dietitians have an important role in educating their clients and public on healthy eating and nutrition.

Build Teams

These dietitians facilitated collaboration and cooperation among team members. They thought that their ability to collaborate with others reflects their leadership ability. For example, Elizabeth engaged co-workers and staff by making sure they feel part of the team. With better understanding of their important role in resident care, Elizabeth sees that the dietary staff take greater pride in their work. From Elizabeth’s perspective, she thinks clinical staff are “more educated and motivated” than the dietary staff in the kitchen who appear to be “less motivated... pretty much just there to get a paycheck... and have low pride in their work.” Thus, to motivate

dietary staff, Elizabeth supports them to understand their essential role in providing resident care, because working in the kitchen can be isolating from the “big picture” or directly working with the residents.

Mid- to Late- Career Dietitians

Mid- to late- career dietitians shared examples related to fostering the development of others, contributing to a healthy organization, and building teams. Similar to the mid-career dietitians, this cohort talked about a wide variety of contexts and individuals they engaged.

Foster Development of Others

All dietitians in this study spoke about how they supported interns and colleagues in their professional development. Penelope said she has been a preceptor for dietetic, nutrition management, and nursing students. She appreciates having students and believes it is important to contribute to a positive learning experience. To facilitate this, Penelope provides what she calls “polite coaching” and will give the student pep talks, however she expects students to do their part. She said, “if they’re coming up short, then this is the best time to tell them before they go out and get a job.” Similarly, Waverly has been a preceptor for dietetic interns who want practical experience in business. She said some interns need more coaching to bridge into their professional role. She provided an example when an intern was 45 minutes late and inappropriately dressed for a business presentation. Waverly discussed time management and professional attire with the intern.

Dietitians also support their colleagues. As a mature student completing her master’s degree, Hattie said that she encouraged some of her younger peers who were facing challenges during the program. One peer she helped was a student who started the master’s program directly after finishing their bachelor’s degree. The student was struggling with the workload and Hattie

guided the student in determining strategies to do the work more effectively as well as explore other options.

Contribute to the Creation of Healthy Organizations

Dietitians in this study agree that there is an opportunity to share nutrition knowledge with other professionals, which can influence how other professionals understand dietetic practice. For example, Penelope writes articles and speaks at different engagements for dietetic and other professions. Contributing to a healthy organization can take the form of demonstrating nutrition expertise, which can also educate other health professionals (e.g., doctors) on what dietitians can do. Hattie said she has had patients referred to her because their doctors recommended they go on a fad diet (e.g., Atkins). In these situations, Hattie said it is important not to put the doctor down but instead work with the patient to understand their situation and develop an evidence-based nutrition plan to meet their nutrition and health goals.

Build Teams

The primary way these dietitians use their leadership skills is when collaborating with other health professionals, staff, and stakeholders. In her work as a program manager, Lucy tries to create a collaborative environment between different stakeholders. Recognizing it is not possible to please everyone, Lucy encourages the team to listen to everyone's perspective and incorporate as much feedback as possible within the scope of the project. An issue Lucy identified was that often stakeholders work in silos, "and there's no effort to address that. Part of it comes down to who is your leader and what are they going to instil as a culture." Furthermore, Penelope said from her experience funding and support from organizations are more likely to happen when people can come together as a group.

Late Career Dietitians

Late career dietitians shared examples related to how they foster the development of others, contribute to a healthy organization, and build teams.

Foster Development of Others

These dietitians have supported or challenged students and colleagues to achieve professional goals. Gemma said she enjoyed mentoring students in private practice. She talked about one intern she had who “was fantastic because she could think outside the box but she failed her [clinical] internship... it was awful.” In this situation, Gemma contacted the program coordinator and talked about how this student was effective in private practice and nutrition consulting. Remi supported a student in finding a mentor. She met this student during a networking event organized by a co-op program. He introduced himself and Remi “got a sense that he’s quite ambitious, a little bit more mature.” The student said he was interested in getting more involved at the college and asked Remi to be a mentor. Remi felt she was not the right person to mentor him at that time however, she gave him a few contacts and made other suggestions such as attending ‘breakfast with the board’ sessions.

Recommending or suggesting opportunities to other dietitians for ways to develop their skills was common between these dietitians. Olivia and Remi mentor many of their colleagues, especially new to the department, program management, or leadership roles. Grace shared an experience from earlier in her career when a senior dietitian encouraged her to try other practice areas and offered to give her different experiences within the department. These diverse work experiences helped Grace gain a better sense of what type of dietetic work to pursue further.

Contribute to the Creation of Healthy Organizations

Dietitians in this group talked about fostering relationships within the workplace. Fostering relationships is achieved through supporting the work of colleagues and developing rapport with those they serve. Remi considers herself a leader because she supports staff and her colleagues. She said, “a lot of my department chairs haven’t got a business background and so they’re struggling to learn about budgets, hiring, and so on. I bring that experience to the table and often mentor them.” In Grace’s work, she values being visible on the units and seeing the dining room experience firsthand. She believes it is essential for leaders to see firsthand the experiences of those they serve, such as the residents and their families.

Build Teams

Although most of the dietitians shared stories about how they effectively build teams, Remi added one unique counter example related to a leader who she thought poorly engaged with people. Remi does not like the leadership style of one of the senior administrators because he talks about team building but from her perspective, he is “the least team-building person you’d ever want to associate with.” Her frustration with the leadership at the organization is because it is “very patriarchal and unilateral. It’s not working.” From Remi’s perspective, the way in which this leader interacted with others was not collaborative.

Summary of Engage Others

The *Engage others* themes demonstrate that throughout the career trajectory, dietitians engage others in their work, whether directly with individuals or with teams. *Building teams* was the one capability that elicited responses from all cohorts. Team building with other dietitians, health professionals, and staff was considered essential for leadership. It appeared that dietitians, including the early career dietitians, might be in supervisory roles where they are expected to

facilitate workplace environments that are collaborative and cooperative. With respect to *Fostering development of others*, one main difference between early career dietitians and the other cohorts was who they supported. Except for Alexander, who had the most experience in the early career cohort and held a management position, early career dietitians tended to only support dietetic interns through their role as preceptors. Dietitians in the other cohorts fostered the development of other health professionals, staff, and dietetic interns. As dietitians progressed in their careers, they seemed to have greater opportunity to mentor or support the development of other individuals.

Additional *Engage others* capabilities were evident among some of the cohorts. Dietitians in the early career and mid-career cohorts also emphasized the role effective communication has in their work when they engage others. For early career dietitians, the emphasis was placed on timely communication as a strategy to support and facilitate organizational change. For mid-career dietitians, effective communication of nutrition information to those they serve and to the public were seen as necessary to dietetic practice. These dietitians believed that their ability to *communicate effectively* was key to their leadership practice. Dietitians in the mid- to late-career and late career cohorts described how they create engaging environments which promote opportunities for others to contribute and aim to provide resources so others can successfully meet their responsibilities. Striving to reduce organizational barriers for individuals and teams was considered part of effective leadership practice by these dietitians. Reducing organizational barriers supported positive work environments and created *healthy organization* for others to work in.

Mapping Dietitians Leadership in Practice to Achieve Results

The third LEADS domain *Achieve results* is “the most task-oriented of the five domains” (Dickson & Tholl, 2020, p. 126). The four capabilities associated with this domain are: Set Direction; Take Action to Implement Decisions; Strategically Align Decisions with Vision, Values, and Evidence; and Assess and Evaluate. In this sub-section, I present the ways in which dietitians demonstrate how they achieve results in their practice.

Early Career Dietitians

Early career dietitians shared examples related to taking action to implement decision; strategically align decisions with vision, values, and evidence; and assessment and evaluation.

Take Action to Implement Decisions

Dietitians talked about the ways in which they accomplish goals at work. One strategy is to establish deadlines or milestones. To develop a realistic plan, Emma creates smaller tasks and sets milestones. Another strategy dietitians use is related to engaging others. Tenley said she engaged staff throughout the *Open Dining Project* to create buy in and mitigate resistance to change. It was essential to her that she communicate to staff that these changes were important especially for the residents.

Strategically Align Decisions with Vision, Values, and Evidence

Alignment with organizational vision and values was important to early career dietitians and they were aware of evidence-based practices that support their work. Tenley said she consistently acts in a manner that aligns with the long-term care facility’s values and the Planetree Model. For example, when completing nutrition assessments, Tenley takes the time to ask the residents about their food preferences. She also works closely with the Residents Council, and regularly consults the activity director, which provides her with insights into

residents' preferences. When managing the nutrition needs of specific residents and to get a sense of the feasibility of the nutrition plan, Tenley consults nursing when she plans to adjust a resident's food intake.

Assess and Evaluate

Dietitians said the ability to assess and evaluate progress is key to accomplishing goals. When tasks are not going according to plan, Emma said she might meet with someone (e.g., her supervisor) to discuss options. This enables her to reflect on the plan, revise the plan if needed, and get reassurance. This is a similar approach to what Tenley described when the *Open Dining Project* was not going according to plan and consulted staff. She would observe and talk to staff during the dining services to understand the situation.

Mid- Career Dietitians

Mid-career dietitians talked about how they inspire vision and aim to align decisions to the vision. According to the LEADS framework, the ability to inspire vision and align decisions is how goal-oriented leaders achieve results (Dickson & Tholl, 2020).

Set Direction

Dietitians discussed a few strategies that they use to achieve a goal or a vision in their workplaces. These strategies have a nexus to themes previously discussed in *Lead self* and *Engage others*, yet have an important function in achieving goals beyond personal development or developing others. For example, Xeni said that giving support to others, whether an individual or team, to set a clear vision of the work can support others to reach goals. To facilitate this, Xeni suggests having individual conversations, which can help to identify issues and collaboratively plan next steps.

Strategically Align Decisions with Visions, Values, and Evidence

The ability to create short and long terms goals that aligned with a broader vision was important to some dietitians. For Norah to achieve her business objectives, she must determine how her services align with medical clinics she wants to collaborate with. To accomplish this, she identified her primary services, and set a goal to network with certain medical clinics in her area. Since rapport building and collaboration is important to her, Norah meets with the lead medical doctors at clinics. These meetings give her a sense of the clinic's needs and determine actions she can take to develop programs or services for the clinic's clientele.

Mid- to Late- Career Dietitians

Dietitians in this cohort described the ways in which they are goal-oriented in relation to individual personal development and in their workplaces. The personal development goals better aligned with *Lead Self* and thus are not discussed in this sub-section. Examples they gave that somewhat aligned with *Achieve results* were being able to set direction and assess and evaluate.

Set Direction

Dietitians felt it was important to manage expectations of stakeholders and senior leadership. Lucy said she asks for support to mitigate risks and resolve issues. Similarly, Penelope said a part of leadership is mediating between the different interest groups and associations and finding ways to be diplomatic.

Assess and Evaluate

Three dietitians talked about how they use reflection to assess and evaluate outcomes of a plan. Hattie said when things are not going according to plan, reflection helps. To achieve goals, Lucy tries to focus on the planning stages, as early as possible. She reviews the timeline and determines areas of adjustment to keep on track.

Late Career Dietitians

Late career dietitians described the ways in which they assess or evaluate plans.

Assess and Evaluate

Four dietitians talked about how establishing a timeline and milestones enabled them to reach goals because these were used to monitor and assess progress. Kamila said that a leader uses management skills to develop coherent plans and identify tasks to achieve a goal or complete a deliverable. Gemma establishes goals and creates a timeline and, in the past, she has hired students at a higher wage to support her in her work. Effective time management is key to Grace's success as a leader. She arranges her schedule so that she can observe dining room service in-person and sets aside time for emails and other administrative tasks.

When tasks are not going according to plan dietitians recommended using this as an opportunity to re-evaluate. Remi steps back to reassess but said, "I don't give up though. I will if something is really not going to work and I'm the first one to admit that. Maybe that's another leadership trait... I have no qualms about admitting if I'm wrong." Remi considers the options, and she believes there is more than one way to reach the same goal. Similarly, Gemma reassesses the goal and may change parts of it. Gemma said that if a goal is too difficult to achieve, then she considers other strategies to reach that goal. She advised, "you got to step back and go, okay, do I need help from another avenue?"

Summary of Achieve Results

Analysis of data related to *Achieve results* tend to elicit examples related to achieving professional goals (i.e., develop themselves) and work-related goals or project objectives. Several responses were related to improving a specific area of professional practice, which might be achieved through completing a course. Early career dietitians talked about taking action to

implement decisions, which suggests that they act in a manner consistent with organizational values. Their view appeared to be action-oriented, yet demonstrated limited evidence of contributing to developing plans, assessment, or evaluation. Mid-career and mid- to late-career dietitians described ways in which they *set direction*, recognizing that the capability to set direction is tied to planning, assessment, and evaluation. They aimed to inspire vision, communicate clear expectations, and measure and evaluate outcomes. Mid- to late- and especially late career participants emphasized *assess and evaluate*, whereby they compare the results against established benchmarks and adjust plans if needed. As dietitians gained more experience in their careers, it appeared they were more involved in establishing goals and recognized the need for continuous monitoring of progress.

Mapping Dietitians Leadership in Practice to Develop Coalitions

The fourth LEADS domain, *Develop coalitions*, emphasizes relationship dynamics *between* rather than *in* organizations (Dickson & Tholl, 2020). In doing so, it adds a layer of complexity to leadership practice because it implies that strategic leaders must build “productive relationships between organizations that serve the needs of patients, families, and citizen” (Dickson & Tholl, 2020, p. 147). The four capabilities associated with this domain are: Purposefully Build Partnerships and Networks to Create Results; Mobilize Knowledge; Demonstrate a Commitment to Customers and Service; and Navigate Socio-political Environments. Dickson and Tholl (2020) suggest that to develop coalitions, leaders must integrate capabilities from the other domains with the capabilities in this domain. In other words, the domains do not operate in silos. Leaders use capabilities from *Lead self*, *Engage others*, *Achieve results*, and *Systems transformation* to *develop coalitions* with other individuals, groups,

and organizations. In this sub-section, I present the ways in which dietitians draw from other domains and contribute to their abilities to develop coalitions.

Early Career Dietitians

Early career dietitians talked about how they collaborate with diverse groups. Specifically, they shared examples related to building partnerships and navigating socio-political environments typically within their organizations.

Purposefully Build Partnerships and Networks to Create Results

Dietitians generally described building partnerships and networks within their organizations, except for Alexander. Danielle and Emma described coalition development in the context of collaborating with other professionals or students where regular collaboration was seen as a form of building a partnership. As an intern, Danielle observed collaboration between health professionals, “when I did rotations on the stroke unit... the speech-language pathologist and the dietitian were always seeing patients together and they just always had the flow of things down really well.”

Alexander provided a unique perspective in this cohort because he works with many Indigenous communities and government agencies. To gain the trust and confidence from those involved, he said he not only has to demonstrate what he calls “foundational skills” such as punctuality, integrity, conscientiousness, and composure, but also accountability. From his perspective, “you need to be able to deliver on some things as well; you need to show that when given a task you will get it done.” Furthermore, he strives for win-win situations and when that is not possible, then he looks for ways to compromise.

Navigate Socio-Political Environments

Early career dietitians gave examples of leaders navigating through conflict and mobilizing support. To manage these situations, they primarily talked about their strategies when having difficult or challenging conversations typically within their immediate teams. Danielle and Tenley believe the most effective way to address conflict is to have a one-on-one conversation with that person rather than being confrontational. If there is tension, Danielle suggests the key is to not place blame on anyone and try to come up with a solution together.

Mid- Career Dietitians

Mid- career dietitians shared examples related to building partnerships, customer service, and navigating socio-political environments.

Purposefully Build Partnerships and Networks to Create Results

Dietitians talked about how they build partnership and networks with individuals and groups based on trust. They all shared experiences that highlighted the need for trust in collaboration and coalition building. In Margaret's experience, she felt certain contexts required more effort to build trust. In academia a level of trust was inherent with her role as a professor and having those credentials. Now that she is working in public health research, she must demonstrate her skills and abilities to gain her team's and community partners' trust.

Once a foundation of trust has been established, dietitians thought creating connections with other individuals and disciplines is would be possible. Elizabeth emphasized creating connections with the food service manager and other dietitians because they might be responsible for menu planning, and with translators to help communicate with residents. Similarly for Charlotte, working as part of an interdisciplinary team enables "cross fertilization" of ideas.

Demonstrate a Commitment to Customers and Services

Each dietitian spoke to their commitment to improve services for clients, patients, residents, and the public. Two dietitians described contexts where they collaborated with other organizations. Norah gave several examples of aligning her goals with those of the clinics', all while being client-centred in her programming. Similarly, Margaret said, "We have to keep in mind that when we work with communities, we have to respect their priorities. Part of our work with them and the innovation is building capacity and empowerment."

Navigate Socio-Political Environments

Some dietitians spoke about navigating conflictual situations or managing workplace politics. Their responses to managing conflict included managing their own reactions, clarifying whether there were miscommunications, and finding solutions collaboratively. Having to manage one's own reactions demonstrates a connection with *Lead Self* and leveraging their capabilities from another domain to be effective. For Elizabeth, she focuses on herself first by staying calm and not being defensive. Then, she looks to come up with solutions with the team rather than arguing with others. Margaret also stated that leaders should recognize and understand that some conflict is "healthy conflict" when dealing with different opinions. Thus, Margaret suggests that not all disagreements are negative, as they can help form connections and develop coalitions.

Mid- to Late- Career Dietitians

Mid- to late- career dietitians shared examples related to building partnerships, mobilizing knowledge, and navigating socio-political environments.

Purposefully Build Partnerships and Networks to Create Results

Developing rapport was considered important to create connections and trust with individuals and groups and entailed how a dietitian conducts themselves as a professional.

Waverly collaborates with her clients because the more she strategizes with them the more confidence they have in her abilities. Penelope and Lucy try to be open and transparent with stakeholders. At times, Lucy finds this challenging because she might have information that she cannot share with partner organizations. In these consent-bound situations, she said it is important to be professional, mindful of what can be shared, and have tact when sharing information.

Mobilize Knowledge

Dietitians talked about how they facilitate collaboration among diverse groups and perspectives. Penelope gave an example of working with different interest groups. Penelope believes a leader's role is to help mediate between groups to achieve consensus. She said, "everybody has their own idea of what's right and it can be very cumbersome to be the person who's trying to untangle two headstrong people moving in a different direction, in opposite directions." Being diplomatic and willing to help move an agenda forward are important skills of a leader.

Additional strategies to facilitate a harmonious exchange of information was also raised. Waverly said to manage team dynamics, she looks at the diversity within the team. In one situation, her team intentionally hired a man to address issues they attributed to a business team comprised of all women. She said, "There was often a level of cattiness [that adding] a man into the situation, regardless of who he was, it stopped the cattiness." Interestingly, Waverly's example was the only situation described when a man was intentionally recruited for a role.

Navigate Socio-Political Environments

When faced with workplace conflict, dietitians talked about how they navigate these situations. Before making any big decisions, the first step Waverly recommends is to "take a big

breath.” She said when things are heated, sometimes the best strategy is to walk away, think about the most professional response, and come back later. Once the situation has been dealt with, she also advises to move on rather than holding grudges. For Lucy, she aims to be open-minded and understand the perspectives of others, especially the ones that differ from her own. She goes into conversations without preconceived ideas and listens until she has adequate information. Another strategy Penelope talked about was to avoid getting caught in the politics, if possible. When there is workplace politics, Penelope said she “does not work through it, I work around it if I can.” Penelope believes that there is a limit to what you need to tolerate. Sometimes you need to be resilient, however, Penelope also says “resilience isn’t endless.”

Late Career Dietitians

Late career dietitians primarily shared examples related to how they build partnerships.

Purposefully Build Partnerships and Networks to Create Results

Dietitians talked about how rapport building creates connections and develops trust with individuals and groups. Remi keeps her “doors open” and is comfortable meeting with someone “on their own turf.” The idea of keeping the door open means that she will meet with people where they are most comfortable, which tends to be in their own offices. She often goes to the department chair’s or other faculty member’s office to have a conversation. Remi recognizes that there are some boundaries, and she tries to overcome them by creating a safe space to have open conversations.

When it comes to relationship building with individuals, listening and providing constructive feedback was considered vital. Grace said, “You have to give the feedback in a timely manner as well as listening to them.” In addition, Grace suggested that accountability is part of engaging others and developing relationships. Taken together, Grace suggested these

relationship-building actions help to build trust and rapport with individuals and groups. From Gemma's experience, she tries to be personable and collaborative with other health professionals in her clinics to build rapport. Gemma feels that "not everybody fits" with her and does not expect everyone to like her, yet she aims to build a professional relationship. Olivia said it is "extremely important to develop relationship with patients and clients." To build this relationship, Olivia develops rapport over time; she does not expect to earn their trust upon the first meeting. She positions herself as a "support person and not a disciplinarian." Therefore, Olivia's example demonstrates a collegial approach to building partnership.

Summary of Develop Coalitions

The themes presented in *Develop coalitions* appeared to be intertwined with *Lead self*, in particular the capabilities: *Manage themselves* and *Demonstrate character*. When they described their experiences developing coalitions, dietitians talked about how developing coalitions relates to their own performance at work and included examples of leadership qualities (e.g., honesty, confidence). All cohorts described unique ways to build partnerships and networks with the aim to create connections and trust with individuals and groups. Strategies they used included having one-on-one conversations, obtaining feedback from groups, and identifying areas for compromise. In addition, dietitians utilized their transferrable skills (e.g., communication skills) to effectively develop coalitions. To build partnerships and networks, they integrated various capabilities from other domains such as self-leadership and ability to engage others, which demonstrates how the LEADS domains are interconnected. Furthermore, the mid- to late- career cohort provided examples related to how they mobilize knowledge among different groups. Often mobilizing knowledge required tact and other leadership qualities such as being able to communicate effectively and collaborate with others. Similarly, to effectively navigate socio-

political environments, dietitians required certain characteristics to manage situations such as being resilient or managing oneself. It appeared that the personal characteristics of dietitians enabled some of them to manage challenging situations.

Mapping Dietitians Leadership in Practice to Systems Transformation

The last LEADS domain is *Systems transformation*. The term ‘system’ denotes the social enterprise (i.e., health care), people dynamics (i.e., culture, beliefs), and efficient and effective operations to achieve goals (i.e., information systems) (Dickson & Tholl, 2020). The term ‘transformation’ refers to “the result of change will be a different kind of system. It’s different from other synonyms for change... which imply adjustment more than revolution” (Dickson & Tholl, 2020, p. 171). The four capabilities associated with this domain are: Demonstrate Systems / Critical Thinking; Orient Themselves Strategically to the Future; Encourage and Support Innovation; and Champion and Orchestrate Change. These capabilities describe a process called “strategic learning” which is “an ability to adjust and adapt to external forces in a productive manner” (Dickson & Tholl, 2020, p. 190). In this sub-section, I present the ways in which dietitians strive to achieve large-scale, systemic change in health care.

Early Career Dietitians

Three early career dietitians talked about how they contribute to systems transformation; the one other dietitian’s responses better aligned with other domains. The three dietitians shared examples related to demonstrating systems or critical thinking and how they include best practices in their work.

Demonstrate Systems / Critical Thinking

Dietitians saw challenging the status quo and implementing effective processes across a system and stakeholders as important. Alexander described an experience related to delivering

diabetes education workshops in rural and remote communities. The workshops had low attendance in part because they were not interdisciplinary, thus it was less enticing for participants to attend if they were not seeing the necessary healthcare providers in one visit. Alexander raised this issue with his supervisor. Initially there was some resistance to pilot a team approach, however this interdisciplinary team approach is now a core function of the hospital rehab service.

Orient Themselves Strategically to the Future

Dietitians scan the environment for ideas, best practices, and emerging trends. Danielle joined a community of practice and saw it as an opportunity for dietitians to discuss issues at their sites and solicit feedback from others. This community also had ways to stay connected virtually and share resources via an online members' portal. Similarly, Tenley looks in the Dietitians of Canada *Practice Evidence-based Nutrition* database for tools and resources and meets quarterly with the Food Service Management Dietitian Network to gather current information and best practices.

Mid- Career Dietitians

Mid- career dietitians talked about the ways in which their leadership contributes to systems transformation. They shared examples related to demonstrating systems or critical thinking; and orienting themselves strategically to the future.

Demonstrate Critical / Systems Thinking

Dietitians shared how they use critical thinking skills to effect change whereby they identify an issue, challenge the status quo, or aim to find solutions. For example, Elizabeth worked with a team to audit feeding practices by staff. The team solicited feedback from staff members and identified that staff were not well equipped to feed residents (e.g., adaptive utensils

were not available, lack of chairs to sit on while feeding residents). As a result, Elizabeth raised these concerns with the executive director, and eventually they received the equipment needed for staff to provide better resident care. In this example, Elizabeth demonstrated how she used her leadership skills to address an issue and take steps to improving service delivery.

Orient Themselves Strategically to the Future

When looking for best practices and emerging trends, dietitians turned to their colleagues, professional associations, or evidence-based research for insights. In Xenia's role, regularly meeting with other dietitians and health professions associations enables her to know what is happening within and between professions. In addition, she meets with provincial partners and the regulatory college to understand what is happening in their work. Margaret said that when she works with the evaluation team, sometimes their approach is "traditional" and she collaborates with them to consider alternative research strategies, which might enhance the evaluation approach. She believes in using current methods and trying innovative methods to produce high quality work.

Being aware of emerging trends was considered important; however, dietitians recommended being critical of media sources. Norah cautioned, "You have to look at it with such a thick lens, you really have to be very very critical and look at [the information] from all sides." Norah mentioned that some areas are better researched than others. For example, she said diabetes management is constantly evolving because new research is being disseminated and implemented in practice. This may not be the case in other areas of nutrition practice, thus she advised that when seeking new information, being critical of the information is essential.

Mid- to Late- Career Dietitians

Mid- career dietitians gave examples of ways their leadership contributes to systems transformation. They shared experiences of orienting themselves strategically to the future; encouraging and supporting innovation; and championing and orchestrating change.

Orient Themselves Strategically to the Future

Dietitians talked about how having current knowledge of best practices, research, and technology is part of leadership. Hattie said she brings best practices into her workplace. For example, she asked the lead medical doctor in her clinic if he would support implementing a malnutrition screening tool for seniors, and either offer services or connect seniors to the supports they require. Hattie explained how her approach to best practices could improve the health of the older patients at the clinic. Similarly, Waverly is up to date with current research and technology. As a result, her customers, many of whom are dietitians, often consult her for solutions related to her subject matter expertise. In turn, this has supported her work because rarely does she have to “do a cold call. It’s all by referral.”

The main way dietitians in this study become aware of current nutrition trends and best practices is by attending conferences and events and following credible nutrition sources.

Waverly attends as many events as possible because they help her to build a network with others in the industry as well. Penelope takes opportunities to present and write about current nutrition topics. In doing so, she believes she is “elevating” the profession and demonstrating that “dietitians know what the heck they’re talking about, and we’re the right people to come to when there are questions.”

Encourage and Support Innovation

Dietitians said when they work with other people through change, it is important to get them involved in the planning and implementation phase. For example, Hattie has been working with other dietitians to implement a more *health at every size* approach to their practice. She said the dietitians that promote *health at every size* continue to engage others who practice in the same area, in return a more widespread practice of *health at every size*. Waverly said that it is also important to be sensitive to others who are affected by the change. Early in her career she was part of a food service transformation at the hospital, which resulted in significant layoffs or reassignment of staff. While there were some efficiencies implemented in the system, there were also several jobs affected.

Champion and Orchestrate Change

Dietitians talked about situations when they were a part of continuous improvement projects. They thought that part of a leader's role was to raise awareness to issues that might affect the outcome of the project. Lucy described when she had an issue in a product branding project, which was not meeting the quality expectations. Although her proposed solution would result in an increased budget and delayed project completion, she was confident the final product would meet the deliverable. Lucy clearly articulated the costs and deliverables to both the consultant doing the work and management signing the contract. Likewise, when there is an issue, Penelope said she might put the item on the meeting agenda. Then, she ensures there is an action item associated with that issue.

Late Career Dietitians

Late career dietitians talked about the ways in which their leadership contributes to systems transformation. They shared examples related to demonstrating systems or critical thinking; encouraging and supporting innovation; and championing and orchestrating change.

Demonstrate Systems / Critical Thinking

Dietitians described situations when they challenged the status quo. One area of shared concern is the status of dietetics among the other health professions. Olivia talked about the dietetics profession needs to address issues affecting the profession's longevity. She said, "I think as dietitians, as leaders, we need to figure out where our future is and carve that out for ourselves." Gemma has been working with other dietitians to get medical insurance through workplaces to cover dietitian services. She said:

that is a real big piece missing because our profession is going to go away if we don't get medical insurance coverage... our profession will dwindle. We won't pay \$800 to \$1000 per pair of glasses if it wasn't covered... we won't go to the dentist every six months if it wasn't covered.

From their perspective, the lack of government support and insurance coverage contributes to the Canadian? population's inability to access dietitian services.

Encourage and Support Innovation

When faced with change, two dietitians talked about situations when they embraced it. For example, Remi was the inaugural board chair for a new organization and her role was to lead the establishment of a regulatory college. Remi and the team had to be innovative and make critical decisions that she said, "have paid off big-time over the years... it was probably one of the most exciting teams that I have ever worked with. Everybody was on board. We all have

different skill sets and we pulled it off.” Similarly, Grace suggested that engaging different departments as part of the change management team supports her learn about different perspectives, which can help manage the impact of the change situation.

Champion and Orchestrate Change

Some dietitians have been able to lead or orchestrate change initiatives in their work. When Olivia worked as a clinical dietitian, “there was a member of [the] board who thought dietitians are useless and [they] should actually get rid of them.” Upon reflection, she proposed that the dietitians at the organization look at their scope of practice. The organization found that the dietitians were not working to their scope, which might contribute to the perception that dietitians are “useless”. Despite their effort, some positions were dissolved and “people are now really concerned about their jobs.” This example highlights how dietitians can be proactive and orchestrate change, regardless if the ideal or optimal outcome is achieved.

Summary of Systems Transformation

Themes related to *Systems transformation* demonstrated that dietitians at all stages of their careers have a sense of how their work is interrelated with the wider healthcare systems. Most cohorts described how they continue to be aware of best practices or trends to inform their work—whether directly with patients, clients, or residents, or in developing policies or contributing to organizational change. Most cohorts also talked about how they have a sense of a bigger systems perspective and use critical thinking to challenge the status quo. For early career dietitians, while their experiences may not be at the organization level, they clearly demonstrated how to approach difficult conversations. Mid- to late- career dietitians and late career dietitians both provided a variety of practice experience examples that aligned with most capabilities in *Systems transformation*. Collectively, this might suggest that as dietitians gain experience, they

have more opportunities to effect change at a systems level. This could be related to their position within an organization, but also awareness of what they might be able to do within their work that could contribute to broader organizational change.

Summary - Dietitians' Leadership in Practice

Based on the cross-case analyses, dietitians use leadership in several ways representing many of the LEADS capabilities. All cohorts use their self-leadership in some capacity in their day-to-day work. Often described as transferrable leadership skills (e.g., effective communication, able to manage others) or having certain leadership characteristics (e.g., confident, resilient), dietitians are generally aware of what self-leadership might entail. Dietitians appeared to recognize different forms of leadership beyond formal leadership positions and their examples mapped to each of the LEADS domains. Early career dietitians appeared to be less likely to identify themselves as a leader because they did not hold formal leadership positions whereas dietitians later in their careers were more likely to recognize their self-leadership regardless of their formal roles. A possible contributing factor to views of self-leadership is dietitians' role in *engaging others* whether it is through supporting others in a mentorship capacity or collaborating with people to achieve workplace goals. Nonetheless, the findings suggest that dietitians' leadership in practice is varied and might relate to an individual's understanding of 'leadership'. For several dietitians, leadership appeared to be related to management and formal leadership roles; however, most dietitians recognized other forms of leadership, which may have influenced the ways in which they described their leadership in practice. Distributed leadership appeared to be the most common way dietitians described how they use leadership in practice whereby leadership was not related to having a formal leadership role but rather how leadership is used between those they work with.

Chapter Nine: Findings - Phase III Focus Groups

In this chapter I present the findings from my analysis of the Phase III focus group interviews. I revisit the macro-level of my conceptual framework which I initially explored in Phase I. In Phase III, I brought together preliminary insights from my Phase I and Phase II findings and shared them with dietetic educators. The purpose of Phase III relates to the third research question, which was “in what ways might leadership skills be taught in dietetic education, considering current dietetic practice”. The preliminary findings highlighted how dietitians have been taught about ‘leadership’ and currently consider leadership in their practice. Considering my preliminary findings and the release of the ICDEP version 3.0 in July 2020, educators were asked about how they might integrate leadership development into the curricula and what other recommendations they have. ICDEP version 3.0 includes a new domain entitled *Management and Leadership* which entails that “dietitians use management skills and provide leadership to advance health through food and nutrition” (PDEP, 2020, p. 19).

Findings - Focus Group Interviews

Three focus group interviews were held on August 20, August 25, and September 2, 2020. Each focus group had three participants, of which two participants in different focus groups represented the same institution. In total nine educators from represented eight dietetic programs: Sadie², Practicum Coordinator (Program 1); Hailey, Program Director, (Program 2); Kinsley, Education Coordinator (Program 5); Julia, Education Coordinator (Program 5); Amelia, Program Coordinator (Program 6); Piper, Assistant Professor (Program 8); Madelyn, Internship Coordinator (Program 9); Jade, Professional Practice Coordinator (Program 10); and Chloe,

² Pseudonyms given to each educator and the same pseudonyms for educators who participated in Phase I and Phase III.

Associate Professor (Program 13). Three of these educators also participated in the Phase I focus group. Table 18 provides an overview of the dietetic programs included in Phase III.

Table 18

Summary of Phase III Focus Group Participants Representing Dietetics Programs

Educator (Pseudonym)	Program	Phase I Website Reviewed	Phase I Select Program Docs Reviewed	Phase I Focus Group Participation	Phase III Representative Role
Sadie	1	Yes	Yes	Yes	Practicum Coordinator
Hailey	2	Yes	No	No	Program Director
Kinsley	5	Yes	Yes	No	Education Coordinator
Julia	5	Yes	Yes	No	Education Coordinator
Amelia*	6	Yes	Yes	Yes	Program Coordinator
Piper	8	Yes	No	No	Assistant Professor
Madelyn	9	Yes	Yes	No	Internship Coordinator
Jade*	10	Yes	Yes	Yes	Professional Practice Coordinator
Chloe*	13	Yes	Yes	Yes	Associate Professor

*Participated in Phase I focus group

At the beginning of each focus group session, I presented the preliminary findings from Phase I and Phase II (Appendix T). My Phase I findings underpinned my understanding of how leadership is currently taught in dietetic education. From the documentary analysis, some leadership-related skills were noted as part of the curricula although these were not intentionally connected to leadership development of trainees. Then, through a focus group, I gained further insights into how these skills are taught and the key role educators have in shaping curricula. Phase II situated leadership within the contexts in which dietitians practice. The cross-case analysis within four cohorts, organized by years of dietetic experience, illuminated how dietitians view leadership and how they use their leadership skills in practice.

Based on these findings, the focus groups held in Phase III served as an opportunity for educators to provide their initial impressions about the findings, but more importantly offer their insights on how leadership skills development might be integrated into dietetic curricula given recent competency changes. I asked the educators three main interview questions:

- 1) What are your general thoughts about these preliminary findings?
- 2) In what ways might educators integrate or adapt (more) ‘leadership’ training/experiences into the curricula?
- 3) What other recommendations or considerations do you have related to ‘leadership’ as part of the curricula?

Similar to Phase I, the interview transcripts were analyzed and thematically coded. What follows are the themes related to these questions and emergent themes.

Initial Reactions to Phase I and Phase II Preliminary Findings

After I presented the preliminary findings from Phases I and II, dietetic educators were asked to provide their initial thoughts or reactions. In general, the educators said this research starts the conversation educators need to have about leadership development in dietetics and they felt encouraged that dietitians were willing to participate in this study. One educator said, “If we don’t formalize [leadership] for people, they can’t put a frame around it, reflect, and then leverage that as they move forward” (Amelia, Program Coordinator). Likewise, Jade said using the term *leadership* in orientation sessions might position the concept in the interns’ minds while they go through internship. Four main themes emerged from their initial impressions: the definition of leadership, hierarchy in healthcare, emphasis on individual excellence, and the role of educators. These themes relate to the ongoing challenges of integrating a greater focus on leadership development within dietetic programs.

Elusiveness of Leadership

Educators thought *leadership* is “still a bit elusive” (Kinsley, Education Coordinator), and challenging to distinguish from *management* and *advocacy*. They thought having a framework like LEADS is helpful because it provides structure to the notion of *leadership*. Although the focus groups did not go into deep discussion about the LEADS domains, there was evidence that suggests dietetic educators were trying to make connections with some of the domains. In one focus group one educator said, “[Leadership] kind of contradicts that we also need to learn to be followers. Right? We all can't be the leader all the time and we have to follow, and both listening and speaking up” (Kinsley, Education Coordinator). In response, Chloe suggested that “sometimes to be a really great leader, you have to be a follower.” Their conversation led to a brief discussion about the *Lead Self* domain, where they thought a *follower* could draw from self-leadership and bringing “your best self forward” (Amelia, Program Coordinator). In another focus group, a similar brief discussion focused on *Developing coalitions* and *Systems transformation* domains. Two dietetic educators said that “seasoned [dietitians] struggled with that too” (Sadie, Practicum Coordinator), citing that they have noticed their colleagues also having difficulty in these domains. Julia said that she finds “this challenging, even within [her] own practice”. They suggested that these domains might be challenging for dietitians in part due to lack of confidence and the right skills.

Delineating between leadership and management was seen as a necessity. One educator said there is a need to distinguish between leadership and management roles however, generally programs do not provide theoretical underpinning and hands-on experience in *leadership*. The thought was, if theory is provided through the curriculum, then students might be able to recognize their leadership in their work. “Maybe what we have encultured in dietetics is a

management mindset and we have not encultured a leadership mindset. Maybe that's what we have to do” said Amelia. From her perspective, a management mindset is associated with control and managing risk; a leadership mindset she saw as related to having a vision, being innovative, communicating effectively with others about the plan, and creating a coalition to support change.

In addition, the connection between leadership and advocacy was not clear to some educators. One educator recognized that advocates try to create system transformation, but *leadership* does not come to mind for her (Amelia, Program Coordinator). Another educator suggested two areas within dietetics that has a strong connection between leadership and advocacy; “I see the most leadership in the profession is in critical dietetics, and weight inclusivity more recently. There is strong leadership in those types of groups” (Kinsley, Education Coordinator). Chloe said that from her perspective, dietitians who lead innovative areas of dietetics may have been dismissed by past leaders in dietetics. She provided an example of when she talked to an American researcher who studies the “whiteness of dietetics in the US” and has been told by people within dietetics that race is not an issue. Chloe said, “Where you see leadership coming from... is a bunch of folks who, in my [experience], were told your ideas don't matter.”

Healthcare Hierarchy and Gender

In all three focus groups, the notion of hierarchy within healthcare was raised. Educators perceive a hierarchy of health professions exists in healthcare. In addition, within each health profession, there are individuals who tend to “lead and do everything” (Madelyn). They also thought that the limited presence of dietitians contributes to their position in the healthcare hierarchy:

There is a hierarchy within the healthcare profession: doctors, nurses, and then allied health... [dietitians] are not on the floors 24/7... there is power associated with nurses, positioning themselves, and how they've taken on many roles in higher administration in hospitals (Madelyn, Internship Coordinator)

It was also discussed that stepping into a hierarchical environment is challenging for dietetic interns and “healthcare is a shock to their systems” (Sadie, Practicum Coordinator). Some educators felt that they need to support interns in feeling comfortable in that environment, so they can show their leadership. Sadie noted that “one of the things that comes forward with student practice is that vulnerability of being able to step out into an area where they're not comfortable.” Julia agreed and suggested that as interns go through practicum their leadership skills develop with experience. “Students do not see themselves as having leadership when they get to practicum. Part of leadership is having some influence through dialogue; “if you're not leading, you're not influencing people...a physician, another allied health professional or even the patient—that takes leadership” (Julia).

In the focus group interviews, a common segue from the conversations about healthcare hierarchy was to conversations about women in leadership roles. It was uncontested by educators that dietetics is a female dominated profession. They shared the opinion that many women continue to be underappreciated in leadership positions and “for being outspoken.” Madelyn asked, what can the profession do to "empower [women] to feel comfortable with being in leadership roles?" Hailey suggested highlighting the “diverse leaders” in dietetics because exposure to dietitians in leadership roles in a variety of practice settings, not just in food services, but also in population and public health or in clinical, can be inspiring for students. Piper considers dietetics no different than other female professions in that women have the additional

responsibilities if they have a family. Further, Piper noted that in the early career stage, it is not uncommon for someone to work more hours, paid or volunteering, especially if someone is keen on career laddering and showing leadership strength. Piper recognized that female dietitians early and mid-career likely work more hours or unpaid hours coupled with responsibilities caring for family; she suggested this situation is not unique to dietitians and there are lessons learned from other female professions, such as nursing, that dietitians can learn from (e.g., work-life balance).

Individual Excellence

In two focus groups, the notion of individual excellence was raised. It was suggested by one educator that there is a performative aspect of dietetics, in that there is a set of skills or behaviours that need to be demonstrated by a trainee (Kinsley, Education Coordinator). Another educator concurred and said that because dietetics is highly competitive, course grades are emphasized when applying to dietetics programs; as a result, students also focus on their grades (Chloe, Associate Professor). Chloe said, “Of course we want individuals to be fantastic, but those individuals don't live alone on an island. They are part of a really complex system, like a beehive, with all this buzz going on”. Other educators questioned how authenticity or other genuine leadership skills come through, when students are focused on “performing certain things right” (Kinsley, Education Coordinator). Educators in these focus groups described how trainees develop self-leadership skills and a sense of their professional identity, which relates to elements within the individual level of my conceptual framework.

Role of Educators

The role of dietetic educators was among the themes that emerged in response to preliminary findings from this research. Chloe and Sadie wondered how educators can support

students in developing individual excellence and skills for systems transformation. Kinsley also wondered what role educators have in enabling students to “embody” leadership. For Sadie, she said interns come to practicum with leadership, so she does not see leadership as something that needs to be taught to students, but rather demonstrated by educators and other dietitians:

I'm hoping that they pick up leadership along the way [by observing dietitians] so I don't necessarily feel that leadership needs to be taught. I think it needs to be talked about, because students come to a program with their own leadership skills.

Julia has taken a leadership course as part of her master's degree, which provided “good foundational knowledge” however, the role of educators who do not have a PhD is limited. She said, “There are limitations in terms of what we can do because we don't have a PhD, so I have seen and heard that.” For Julia, although she is keen on developing leadership skills in interns and working with preceptors to support those experiences, she anticipates that she might have limited influence in her program because she does not have a PhD.

Internal Barriers - Groupthink and Horizontal Violence

In two focus groups, educators alluded to groupthink and horizontal violence among the broader dietetic educator group. The dietetic educator group is perceived by some individual educators as resistant to change rather than leading educational change. Chloe asks:

How do you get [dietetic educators], a group of ‘carved in stone’ people... [to consider other educational strategies]? They're nice, beautiful, and lovely people who are committed to what they do... but they love the way things have always been, even though they don't make any sense and expensive.

It appears there is an internal barrier among the educator group to consider alternative or innovative strategies to advance dietetic education.

Furthermore, educators in the focus groups thought dietitians are overly critical of each other, “We do too much, perhaps, being critical on each other and not enough of finding the reasons to praise and uplift each other, to encourage that leadership, to be exemplary for everybody” (Piper, Assistant Professor). Piper, who does not have a clinical practice background, shared a personal experience as a dietitian. There have been several times in her career when she came forward with ideas or suggestions, and often was met with critique by other dietitians; these dietitians essentially ask her, “so what kind of dietitian are you anyway?” suggesting that she does not have valuable experience from a recognized or reputable area of dietetic practice. Excluding the perspectives of educators who have non-traditional professional experience and the horizontal violence associated with it was a genuine concern for educators in the focus group. Piper said, “So it’s a bit of a head game with yourself first” and the dietetic educator group need to recognize that dietetics encompasses a broad area.

Strategies to Bring Leadership Development into Dietetic Education

After providing their initial reactions, dietetic educators in the focus groups were asked in what ways they might integrate leadership training or experiences in their programs or what would enable them to do so. There were six strategies these educators suggested would support them in bringing leadership development into dietetic education. First, educators thought the new ICDEP domain *Management and Leadership* needs more clarity. Currently, the domain does not appear to clearly link to *leadership*. Second, educators recognized that they need to create a safe learning environment that supports self-leadership and personal growth. This would include supporting preceptors in creating a similar environment in placements. Third, educators said shifting the culture among dietetic educators from working in silos to more collaboration is important. Collaboration between programs becomes an opportunity to share resources and

demonstrate leadership and coalition building to trainees. Fourth, educators suggested different curricular activities and experiences focused on leadership be offered in each program. Fifth, educators requested tools and resources that they can integrate into their courses to teach leadership to trainees. Lastly, educators said that continuing to do research on leadership and dietetics is necessary to continue prioritizing this area of practice.

Clarify the Management and Leadership Domain

When the focus groups were held in 2020, the ICDEP version 3.0 was released less than six weeks earlier. All the educators were familiar with the new version, and several educators felt that the new domain *Management and Leadership* was a “catch-all” and “very broad”. They were skeptical in that it emphasizes key management and leadership skills. Hailey said, “The title of the new domain is a catch-all. ‘Development of food skills’ and ‘food literacy’ are in the domain... to me, not that those things aren’t important, but I’m not really connecting those with leadership”. Madelyn and Piper also thought the domain is a catch-all and that “leadership is hard to put in a box” (Madelyn, Internship Coordinator).

Although the domain was considered unclear, most of the educators thought including *leadership* in the ICDEP is a “good move” (Sadie, Practicum Coordinator) and a “step forward” (Julia, Education Coordinator). Sadie said, “When [dietitians] see the word... it stimulates them to think about leadership. I’m actually delighted that it is in there because it has been kind of a void in the past.” By including leadership in the ICDEP, educators thought a gap in dietetic practice is being addressed. While this is a step forward, the educators thought that to bring *leadership* into dietetic education effectively, clarity is needed regarding the connection of the performance indicators listed in the domain with leadership. In addition, a framework like LEADS can help distinguish between self-leadership or “perhaps thought leadership” (Piper,

Assistant Professor) from other aspects of leadership that might not be feasible to develop in dietetic students at this stage of their careers. Unless the *Management and Leadership* domain is clarified, educators thought it might be challenging to develop true leadership skills in trainees.

Create a Safe Space for “Failure”

In each focus group, there were conversations about how dietitians tend to be highly anxious, perfectionists, and introverts, which contributes to a “collective personality” or stereotype. Educators thought these characteristics make it challenging for students and interns to learn from doing certain tasks because they are afraid to make mistakes and fixated on “individual excellence”. They also thought it is the responsibility of educators and preceptors to create a safe space for students and interns “to fail” and learn from their mistakes. Educators agreed that if programs could provide students with a safe environment where they can learn from mistakes, this would have a positive impact on students e.g., develop confidence. Madelyn said students and dietitians often tend to be more anxious and struggle with speaking their voice because they fear making a mistake: “I’m not going to put myself up front because I’m going to make a mistake and it’s not going to work.” Educators agreed it is possible that there is a collective personality in dietetics; however, “just because you’re an introvert doesn’t mean you can’t be a good leader... and so maybe... we have to be told that doesn’t stand in our way of leadership” (Sadie, Practicum Coordinator). Creating a safe environment where students can learn from mistakes and where “success is OK with failure” is something that Kinsley said educators can do. Jade echoed this sentiment and said that this can start in the undergraduate program and “definitely in practicum.”

Enable Leadership Development

Educators thought that they, along with preceptors, have a key role in enabling students to develop self-leadership. They recognized, however, that often educators and preceptors are barriers to students developing self-leadership skills, such as critical thinking (Hailey, Program Director). As an educator herself, Hailey thinks that educators “over define things for students, which can crush their creative thinking and their leadership skills.” Similarly, Kinsley thinks sometimes there is a fear around stepping back and letting students make mistakes and said, “Preceptors can give the students opportunity to make mistakes, [instead of] jumping in and say, ‘oh no, you have to do it my way’.”

Amelia suggested that perhaps educators’ and preceptors’ reactions are due, in part, to dietitians being trained as *managers* rather than *leaders*. She suggests that a manager focuses on such things as limiting risk or providing redirection whereas a leader will assess situations before making decisions, is confident about introducing innovative ideas, and enables students to grow and reflect. Amelia said, “[We need to] have a growth mindset to the approach of training our next cohort, our next set of colleagues, because if we don’t do that, then they can’t step up... they don’t want to take risks and... allow things to grow.”

Develop Students’ Confidence

Having confidence was also seen by educators as key to leadership. They thought that students develop confidence as they go through the dietetics program and learn through challenging situations. Interestingly, Julia said that in her program, the Chair of the department thinks students must learn management skills before developing leadership skills; management skills are predominantly covered in the food service courses. Julia also said that students can elect to take a leadership course however they are required to take food service management

courses. Sadie said that she has seen many introverted students and she can see how interns' leadership "shows up" or is emerging, but interns do not necessarily have the confidence to follow through with next steps. Jade said that in general, she sees growth in students' confidence over their 5-year program, especially in internship. Hailey said that confidence comes to people at different times: "people find their confidence and their voice not simultaneously with each other" and she also said leaders tend to emerge within the group. Thus, currently some programs do not consider leadership a key skill to develop and may not provide the necessary support to enable students to develop their confidence throughout the dietetic program.

Improve Collaboration

An issue educators identified within dietetics is the lack of collaboration between programs and among students. In one focus group, this issue was discussed more deeply. Chloe captured this sentiment when she said educators work in silos:

For September, every single one of us is having to figure out [courses]... I would love there to be a way for educators to get together... to try to figure stuff out, instead... we've been trained to do things individually with excellence.

Kinsley also talked about how getting into dietetics is competitive that "we forget the collaborative part of leadership... so how do we create a system where we build each other up? I don't feel that in dietetics." In the nutrition programs, they recognize that there are students who do not want to become dietitians. In these programs, there needs to be an emphasis on collaboration among the students because it is reflective of the workforce. Kinsley said it is tough for students who aspire to get into internship streams or dietetic masters programs because "things are competitive. So of course [students] focus on themselves because that's how they get into the program." However, Chloe said she would tell students, "Look around at the people who

are in this room with you because you will actually be colleagues with them for the rest of your life. Doesn't matter where they go," students will need to collaborate with other professions and workers. They suggested that there needs to be a culture shift towards greater collaboration among educators, which would then have a positive impact on programs.

Leadership Development Strategies

Educators offered specific strategies to improve leadership development of trainees through dietetic education programs. It appeared to be a shared perspective that some leadership skills can be taught. However other leadership skills emerge from being inspired, or having what Piper called a "leadership attitude." Strategies to improve leadership development through curricula include creating opportunities to gain leadership experience, teaching students about the socio-political nature of healthcare, and developing students who are interested in other areas of nutrition (e.g., medicine, non-healthcare food service management). One other area that educators thought might contribute to leadership development is also promoting the diversity of dietetics (Suarez & Shanklin, 2002; Warren, 2019). They thought that by introducing trainees to the different areas in which dietitians work and dietitians who are leaders in these areas of practice might inspire trainees.

Create Opportunities to Gain Experience Throughout Program

A criticism made by some educators was that from what they have seen in some academic programs, teaching about leadership tends to be didactic. Whereas "gaining experience is transformative" (Hailey, Program Director) and is needed when dietetic educators consider developing leadership into their curricula, Piper suggested that there might be opportunity for students through a practical experience course, not a placement, to partner with an agency to take the lead on a project. Sadie suggested a similar strategy because "part of leadership is taking

action.” Furthermore, learning to advocate or take action through the dietetics program has implications for future practice. As a small profession, educators have the impression that dietitians need to work harder to have a voice. Hailey said, “[Dietetics] is small and that’s hard in a way because to have a voice, and let people know what we do, and what our training looks like means we’re probably going to have to really work hard at it.” By offering students practical experience through courses and collaborating with industry partners, educators think that this can provide them with skills that enable trainees to be leaders and have a voice once they enter the profession.

Teach About Navigating Socio-Political Situations

Educators talked about how they have experienced in their careers, and have observed in their colleagues, being challenged by workplace politics and unpreparedness to manage these situations. They thought that it is important to teach students “how to play the game” (Chloe, Associate Professor) so that they are better prepared when they enter the workplace. The “game” Chloe was alluding to was knowing how to work through organizational barriers and mobilizing support to accomplish goals. She said, “There’s ways to get done what you want to get done, and nobody told me that when I was in school.” Amelia talked about a “secret language associated with socio-economic success” that she learned about in a workshop. She related this idea to leadership—behind the “secret language” is that some privileged people have the right language and skills to advance, yet others who do know have the knowledge of “the language” are at a disadvantage. Thus, Amelia suggested that perhaps educators have a role in “decoding the secret language of leadership” for students, enabling them to navigate socio-political situation in their work. Amelia said, “How do you position your idea? It’s not asking for permission. It’s about

I've got a novel idea that will boost our bottom line, or I got a novel idea that will help people. So maybe we have to teach them the secret language of leadership.”

Develop Students Pursuing Other Areas of Nutrition

Two educators raised an interesting point about students in undergraduate nutrition programs who are interested in pursuing career pathways other than dietetics such as medicine or food services in non-healthcare institutions. These educators suggested that there also needs to be consideration for their needs and interests as well. Chloe said, “We want to be careful not just to have [the nutrition program] defined by the dominant identity” or career aspiration of many of the students. Thus, while these educators are looking to make changes to curricula, they are reminded to ensure these opportunities will benefit all students in developing requisite skills necessary for them to succeed in their chosen career paths.

Promote The Diversity of Dietetics

Lastly, two educators suggested that programs, with the support of the professional association, can actively promote the diversity of dietetics—not only demographic diversity but also non-traditional areas of dietetic practice. Piper said that there is an opportunity to engage people who are leaders in the profession; the challenge will be for the profession to identify strategies to engage these leaders. In addition, Piper suggested encouraging those dietitians to share their journey, and discuss the impetus for pursuing non-traditional roles. Similarly, Hailey said, “I think sometimes they don't realize the massive impact that they have in students being able to see what they do.” She suggested the professional association could develop a “brain trust” where retired dietitians are engaged and able to share their experiences in meaningful ways with students.

Suggested Next Steps

Educators who participated in these focus groups expressed their appreciation for the opportunity this study has given them to start conversations about leadership. “What you present us with is an opportunity to start talking about what it is to do” (Chloe, Associate Professor). They would like to see findings from this study published “because evidence is most compelling when it is peer-reviewed” (Piper, Assistant Professor). Furthermore, Sadie said although she has received formal leadership training, she is keen to hear about new research on the subject, “you forget, right, and it’s just nice for you to bring this forward for me as a person to reflect”.

In addition to evidence-based research articles, educators suggested having other resources that might help them integrate leadership development into their programs. Jade suggested that I could deliver a workshop on leadership or create a workshop that educators can deliver to their students on leadership. “Anything that you can create that would help someone, like myself, to facilitate a session when I’m speaking with interns... like the non-traditional things we might not think about when it comes to leadership” (Jade, Professional Practice Coordinator). Hailey also suggested, “[a workshop] could be a really cool type of initiative that isn't related to their academic program of study, per se” instead it would be for students who really want to develop their leadership skills. This initiative would be considered extracurricular, and not a requirement of the program.

The educators suggested subsequent research areas that could build on this current study. Sadie said she would like to see similar research but from students’ perspectives. She said, “I would love to see someone ask the students what leadership is, what their definition of leadership is, and what skills they have to be a leader.” In addition, Chloe would like to see an opportunity to capture leadership perspectives of dietitians with intersectional identities.

Summary

This chapter presented the findings from Phase III focus group interviews with dietetic educators. Their initial reactions to Phase I and Phase II findings suggest that leadership development of dietitians is currently hindered by a nebulous understanding of the leadership hierarchy in healthcare, a focus on individual excellence, and horizontal violence within the profession. Despite these barriers, educators appeared optimistic and offered strategies to integrate leadership development in their programs. These strategies include: getting clarity on the new *Management and Leadership* domain; creating a culture where students feel safe to make and learn from their mistakes; and improving collaboration between students and within the profession. Strategies for programs to consider that would enable leadership development among their students ranged from providing practical leadership experience through courses to teaching students how to manage socio-political situations in the workplace. Given the objectives of this study, these educators offered suggestions on next steps coming from this study to support their practice in developing leadership skills in trainees, as well as research areas for further exploration.

Chapter Ten: Discussion

I conducted a multi-phase qualitative study to understand the ways in which dietitians develop and use leadership skills in practice. Phases I and II were implemented concurrently; Phase III was completed once the first two phases were complete, and was an opportunity to synthesize some of the preliminary findings. In Phase I, I conducted a documentary analysis on publicly available resources and select documents given to me by dietetic educators. I also held one focus group interview with dietetic educators where I began the session by sharing preliminary findings and they elaborated on the findings. This phase enabled me to understand how leadership is currently taught through dietetic education.

Then, in Phase II, I conducted 35 semi-structured interviews with dietitians in practice. These interviews were individually analyzed then organized into cohorts based on career stage. Once analyzed and organized into cohorts, I purposively selected 18 cases for deeper analysis in this case study phase. Within each career stage, I conducted a cross-case analysis of the purposively selected cases. Part of the analysis included using the LEADS framework as an analytical tool, which provided me with initial codes related to healthcare leadership. This phase was instrumental to my understanding of the ways in which dietitians currently use their leadership skills in practice.

Finally, in Phase III, I held three focus groups interviews with dietetic educators. In these interviews, I gathered insights from dietetic educators to understand how dietetic education might integrate greater leadership development, in light of current dietetic practice. This phase was critical because it enabled me to integrate some of the early findings from Phases I and II, and engage dietetic educators in developing recommendations for leadership development in dietetic education.

I chose a multi-phase approach, with one of the phases being a multi-case study, to gain an understanding of the current context of leadership within dietetic education and dietitians' leadership practice. I collected data using multiple methods (i.e., documentary analysis, focus group interviews, and semi-structured interviews) to answer the following research questions:

- 1) In what ways are leadership skills currently taught in dietetic education in Canada?
- 2) In what ways are leadership skills used in dietetic practice?
 - a. How do dietitians view leadership?
 - b. How do dietitians develop and use leadership skills in practice?
 - c. How do the ways in which dietitians use leadership skills align with LEADS?
- 3) In what ways might leadership skills be taught in dietetic education, considering current dietetic practice?

In this chapter, I discuss my findings as a whole, address how I have answered my research questions and addressed how they add to the research literature. Then, I describe how my conceptual framework evolved, and explain how my study contributes to theory and methodology.

Addressing the Research Questions

Each phase of my study was designed to correspond to one major question, however, in many cases findings from other phases of the study contributed to the responses to the research questions and these are included here to provide a fulsome picture of leadership development and practice of dietitians.

Leadership Development Through Dietetic Education in Canada

The first research question asks: "In what ways are leadership skills currently taught in dietetic education in Canada?" To develop a foundational understanding of how leadership skills

are currently taught in dietetic education in Canada, I conducted a documentary analysis and held one focus group interview with dietetic educators. In Chapter 5, the documentary analysis provided limited information about how leadership is currently taught through dietetic programs. This finding was unsurprising as it has been recognized in other research that reviewing dietetic course documents may not reflect the full breadth and depth of content (Fraser & Brady, 2018). Fraser and Brady (2018) noted that course descriptions included in academic calendars are necessarily brief and may not reflect the full breadth and depth of content included in the course for which they are written.

Course mapping documents, if available, appeared to be the most useful when exploring alignment between competencies and course objectives; however, most programs did not share these with me. In general, the information related to leadership skills ranged from personal characteristics of successful applicants who demonstrate leadership potential, to in-class activities that developed a specific leadership skill. Personal characteristics or “essential skills” (Program 6; Program 10) related to effective communication skills and self-direction were often cited as requirements at the time of applying to the program. For example, one program wrote in their orientation manual that the program prepares students “to be leaders in their chosen discipline...” and students “must have the capacity to develop leadership, management, and supervisory skills” (Program 10). The essential skills that some programs required were for students to demonstrate their emotional intelligence when communicating with others. Thompson and Miller (2018) cite emotionally intelligent communication, which includes strategic communication and communication clarity, as important for successful leaders. There was also a range of in-class activities described in the program documents reviewed in this study. The most common leadership skills taught through dietetic programs are communication and

collaboration skills. Typical ways in which these two skills are taught are through working on a group assignment, preparing and delivering presentations, completing select course readings, and listening to guest speakers who are leaders in a specific nutrition discipline. Interestingly, one program (Program 6) has activities related to creating blogs and podcasts as another nutrition communication skill.

More specifically, the documents were analyzed to see how leadership skills are designed, taught, and evaluated in the courses. As Blum (2021) writes, leadership skills must be prioritized alongside the ability to perform clinical procedures as effective leadership is increasingly recognized as essential to the delivery of high standards of education, research, and clinical practice. All dietetic programs demonstrated that leadership skills are designed in the curricula to be developed through ‘management’ related courses, such as food service management, and in ‘professional practice’ courses. The leadership skills most evident in the design of these courses are the ability to plan and implement projects, as well as communication skills. Some programs also clearly designed leadership skills development in their ‘public health’ or ‘community nutrition’ courses as well as in ‘counselling’ courses if the program had one. In these courses, effective communication skills, both oral and written, are emphasized. According to Osuna et al. (2018) the quality of communication and deliberation with patients or clients has an impact on the health decision making process. Thompson and Miller (2018) write that leadership skills to support leaders include agility, interprofessionalism, civility, and a strong capacity for strategic, emotionally intelligent communication. Thus, communication skills are undoubtedly essential in health professionals’ work. In the literature, effective communication strategies are associated with an individual’s ability to lead oneself as well as others (Eigsti et al., 2018; Osuna et al., 2018). Furthermore, effective communication is associated with

transformation leadership, whereby a transformation leader must be able to foster teamwork, autonomy, creativity, and empowerment (Brewer et al., 2015; McComb, 2013). A few ‘nutrition care’ courses provided explicit leadership-related skills development; however, the most evident ways are related to introducing concepts related to interprofessional collaboration and communication. Interprofessional leadership skills among health practitioners are considered important in today’s healthcare environment (Neghandi et al., 2015; Thompson & Miller, 2018).

The main performance indicators most related to leadership development that were evident in the course documents were ‘contribute to the learning of others’ and ‘participate in practice-based research’. Contributing to the learning of others is achieved through engaging in discussions, delivering presentations, writing blogs, creating podcasts, designing infographics, and creating videos. These activities can promote a sense of curiosity, which is important in learning (Solomon et al., 2021). The dietetic educators said that participating in practiced-based research is experienced by dietetic trainees through conducting literature reviews and completing research projects. These skill development opportunities are directly linked to what health professionals, including dietitians, might experience in practice. For example, Solomon et al. (2021) write that facilitation capability is recognized as an enabler to effective collaboration. “To successfully maximize clinical partnering... requires staff who are highly skilled in facilitative approaches and understand the importance of systems thinking, learning with and from each other, and using a strong evidence base” (Solomon et al, 2021, p. 198). Similarly, collaboration and leadership skills are stipulated in physician competency profiles such as CanMED roles (Nieuwboer et al., 2019). While the documents I reviewed provided limited information about how leadership skills are designed, taught, and evaluated in courses, other researchers have also found this to be the case when studying leadership skills development. Nieuwboer et al. (2019)

note that good quality research on leadership in certain practice areas is scarce, and issues a call for more profound support in developing leadership skills in these areas.

Upon review of the wide variety of documents, it was evident that the ICDEP informs what dietetic programs in Canada must develop through curricula. The documentary analysis highlighted transferrable skills that are often associated with leadership, which were elaborated on by dietetic educators. Furthermore, when dietitians were interviewed in Phase II, some of them talked about their experiences in their dietetic programs with respect to leadership. Their perspectives add to a more holistic view of how leadership is developed through dietetic education. Taken together, the documents, comments by dietetic educators, and experiences of practicing dietitians are valuable because up until the present time, leadership has not been a competency area required in dietetic education programs, and the documents alone do not provide the whole picture.

Transferrable Skills

Findings from Phase I demonstrate that leadership skills may not be explicit in dietetic education, but transferrable skills that are aligned with leadership emerged. Communication and collaboration were highlighted in the documentary analysis as important skills associated with leadership, and further supported by the examples provided by the dietetic educators in the focus group interview. Through the documentary analysis, I found that, at the time of application to a dietetics program, many programs expected students to possess personal characteristics related to communication skills. And in terms of collaboration, students develop collaboration as they contribute to several group assignments whereby they strengthen their communication skills and teamwork abilities. Interestingly, as mentioned in Chapter One, the performance indicator *Contribute to the learning of others* (2.05) in the ICDEP version 2.0 (PDEP, 2013) was listed

under the *Communication and Collaboration* domain and was expected to fall under the new *Leadership* domain (PDEP, 2020). So, students regularly collaborate and contribute to their peers' learning through the various in-class activities. Furthermore, the documentary analysis showed a range of in-class activities that develop students' communication skills, which also contribute to developing leadership skills, such as group assignments, presentations, reading special topics articles, and listening to guest speakers.

Educators in the focus group elaborated on the documentary analysis and said students take on extracurricular activities to further develop their leadership skills, in particular their communication and collaboration skills. They said these extracurricular activities related to the profession as well as their own personal interests. For example, the educators said students might be involved as part of a conference planning team and take on lead roles in these groups. Other ways the educators said students develop their leadership might be through their athletics, and in doing so the student might be a team captain or coach. Although these skills are not explicitly connected to leadership in the curricula, several dietitians shared examples from practice where they use their communication and collaboration skills and discussed how these are necessary for effective leadership. For instance, early career dietitians suggested that communication and collaboration are essential to their work with other health workers and community partners. Interestingly some late career dietitians perceived that entry-level dietitians lacked or under-used their communication skills with patients. Dietitians in all cohorts emphasized the role of communication and collaboration in leadership as important aspects of work so that dietitians do not work in silos.

The important role of communication as a component of leadership is emphasized in the literature, agreeing with the findings of this study. Thompson and Miller (2018) identify that

emotionally intelligent communication, which includes strategic communication and communication clarity, is important for successful leaders. Collaboration is also identified in the literature as an important component of leadership. Several researchers suggest that interprofessionalism and the ability to foster teamwork and empowerment are considered essential to health professionals' work and leadership (Brewer et al., 2015; McComb, 2013; Thompson & Miller, 2018). Furthermore, based on the ICDEP version 2 (PDEP, 2013, p. 11), communication and collaboration skills are required in dietetic education.

In this study, having self-confidence was also seen as connected to leadership. This agrees with literature that suggests that confidence and self-efficacy are important components of leadership that can be developed through education and practice. The documentary analysis showed that through the curriculum, dietetic students gradually develop their competence in different practice areas, such as communication and collaboration, which contribute to self-leadership.

Dietetic educators thought that the curriculum supports developing students' confidence and self-efficacy, which they suggest can contribute to the students' leadership abilities. In a study conducted by Forbes et al. (2018), they found that new graduates' self-efficacy affected their ability to perform tasks within their scope of practice. More specifically, new graduates' confidence and ability to perform patient education was directly influenced by their experiences in their training (Forbes et al., 2018). Self-efficacy is an individual's perception of their own ability to successfully perform a particular task or behaviour (Bandura, 1977). A lack of self-efficacy can impact a health professional's ability to communicate with patients (Svavarsdottir et al., 2015). Dickson and Tholl (2020) suggest that leadership includes having qualities such as confidence, and through my study I have found that self-efficacy is another leadership quality.

Thus, confidence and self-efficacy might be factors that influence an entry-level dietitian's ability to communicate with others and apply other transferrable skills into leadership roles.

Alignment between curricula and what students will need in practice has been discussed in the literature. DeLong and Elbeck (2017) suggest there must be a connection between curricula and what is needed in practice. While developing confidence or self-efficacy was not emphasized through the program documents examined in my study, it was a point made by some dietitians who were interviewed. These dietitians attributed confidence to a dietitian's ability to take on leadership roles, as well as apply transferrable skills such as communication and collaboration. A few dietitians also said that in their educational experiences, they did not find they were taught any leadership skills and reported feeling unprepared to take on lead roles at entry-level. This was also supported by perceptions that some dietitians had of early career dietitians, who they thought did not "step forward" as they would expect of a "leader in nutrition" in key situations that might require a dietitian to be assertive (e.g., nutrition care for a patient).

In the LEADS framework, communication, collaboration, and characteristics such as confidence and self-efficacy are also identified as important to leadership. According to the framework, communicating effectively is considered a capability related to engaging other people; collaboration is important when developing coalitions and integral for leaders to be successful in the other domains (Dickson & Tholl, 2020). Even though I did not use the LEADS framework to analyze data in Phase I, there is a demonstrated connection with what emerged from the documentary analysis and focus group. Leadership appears to require effective communication and collaboration skills as well as certain leadership characteristics.

Developing Self-Leadership in Programs

The notion of self-leadership was emphasized by four participants in the focus group interview. In addition to developing communication skills, which are essential for leadership, the educators said learning to lead oneself was also considered essential. In the literature review, self-leadership can be understood as a self-influence perspective that concerns leading oneself toward performance of tasks and managing oneself to do work that must be done (Manz, 1986). The term ‘self-leadership’ first emerged from organizational management literature by Charles C. Manz (1983), who later defined it as a “comprehensive self-influence perspective that concerns leading oneself toward performance of naturally motivating tasks as well as managing oneself to do work that must be done but is not naturally motivating” (Manz, 1986, p. 589). The concept was based on the (then novel) insight that self-leadership is a prerequisite for effective and authentic team leadership (Manz & Sims, 1991). Du Plessis (2019) acknowledged the opportunity to complement the concept with insights from positive psychology research, offering the following definition: Positive self-leadership refers to the capacity to identify and apply one’s signature strengths to initiate, maintain, or sustain self-influencing behaviors.

Educators talked about developing self-leadership in students through critical reflection and collaborative activities in a variety of courses, rather than through one specific course. These activities help students not only become self-aware of personal strengths and challenges, but also develop strategies to improve oneself or have a “growth mindset” (Jade, Professional Practice Coordinator). This is consistent with Thompson and Miller (2018) who write that self-leadership aligns two personal attributes: self-awareness and developmental motivation, whereby self-awareness is the ability to understand one's personal strengths and challenges combined with an eagerness to grow.

While self-leadership skills appeared to be taught in professional practice and communication type classes, these skills were also taught in clinical and management courses. This is a prudent strategy for dietetic programs because students have a variety of opportunities and settings where they can learn and apply these skills. Interestingly, it has been argued that self-leading individuals are more productive regardless of their role (Birdi et al., 2008; Manz & Sims, 1991). The development of self-leading skills begins in the first year and this can be seen in the dietetic courses, where they introduce students to some of these skills in their first year, then gradually develop their capacity over the subsequent years. In addition, more recently, Dickson and Tholl (2014) advanced notions of leading outside of one's official title by "leading from where you are" (p. 283) or self-leadership, collaboration, and leading in a complex environment. As seen in the syllabi and focus group discussion, the data showed that students are able to learn and practice self-leadership skills in a variety of contexts, rather just associating these skills with one specific course or role (e.g., clinical).

Further Leadership Development Through Extracurricular Activities

Research suggests that the situation for students pursuing dietetics is especially competitive to secure a dietetic internship (Siswanto et al., 2015). To address this issue, the dietetic educators said some programs have integrated the internship into their curricula. Despite the shift to integrating internship into dietetic programs, students may still find applying to enter dietetic programs competitive. Students may use non-job-related experiences, such as participation in extracurricular activities during their studies to demonstrate knowledge, skills, abilities, and other personal characteristics (Roulin & Bangerter, 2013). In the focus group, the educators discussed different ways students gained leadership outside of the learning experiences offered by the dietetic programs. Extracurricular activities, whether directly related to nutrition

and food or not, may give students additional opportunities to practice many of the transferrable skills such as communication. Some students may also pursue leadership roles in these activities, such as holding a co-chair position (Harper, Dietetics Education Coordinator).

Similar to my thesis findings, Roulin & Bangerter (2013) found in their study with 197 students that students mainly engage in extracurricular activities for internal motives (e.g., passion). As students became closer to entering the labour market, students became more active in professionally related associations or volunteering activities and sought more leadership positions. Marinescu et al. (2017) also found that students acquired leadership skills through extracurricular activities, throughout the academic environment. This is consistent with what (Amelia, Program Coordinator) said about students volunteering with the university's Dietitians of Canada student network or the dietetic program student group. Although participating in extracurricular activities has advantages to improve job prospects, it has been researched that students in highly competitive health science programs are also at risk for burnout when taking on these activities (Almalki et al., 2017).

Role of Dietetic Educators - "Dietetic Educators Matter"

The role of the educator is important in informing, designing, and delivering the program. In dietetics, many dietetic educators are dietitians themselves, some of whom have taken advanced training in adult education. Like nursing education, dietetic education encompasses a variety of teaching roles such as clinical oversight, clinical practice, simulated, on-line, and didactic instruction, and doctoral projects/dissertations that all impact workload (Thompson & Miller, 2018). In addition to their teaching roles, educators play a critical role in shaping learners' professional identity and career path. Chen and colleagues (2017) write that educators have a role in nurturing learners' early passions teaching and focusing on identity formation and career

development to provide a vision and path for them in the profession. “Dietetic educators matter” (Chloe, Associate Professor) yet despite the critical role educators have in shaping dietetic education, the focus group participants reported systemic barriers including discrimination, horizontal violence, and microaggression. Some participants talked about how they have personally experienced power imbalance in the workplace which have resulted in inequitable and at times discriminatory outcomes.

The ICDEP informs what is required to be taught through the dietetic programs; however, this study identified that dietetic educators also influence the curricula. In my study, dietetic educators elaborated on the findings from the documentary analysis, which suggest that leadership is taught through transferrable skills such as communication and collaboration. In the focus group interviews during Phase I, dietetic educators described how they bring current contexts into their teaching. They talked about how they might invite dietitians who might be considered “leaders” in their practice area as guest speakers. One dietetic educator in particular has an interest in leadership development, and said she talks about this topic in her professional practice course. What this finding might suggest is that dietetic educators have greater understanding of what is specifically taught in their courses and program than what is presented online or in high-level course documents. This would also be true for leadership education within the dietetic program. Dietetic educators are responsible for developing and implementing learning experiences for students and interns. To accomplish this, they consider the ICDEP competencies and performance indicators when developing courses and practice-based experiences. Several dietetic educators observed that often how a course is taught depends on who is teaching it. Thus, the ways in which leadership competencies are taught in dietetic education may depend on who is teaching in the program.

In my study, dietitians who were interviewed recalled that positive learning experiences were often associated with dietetic educators who were passionate about the subject and had a keen interest in creating learning experiences that were learner-centred. Some dietitians attribute educators as having a key leadership role as mentors to students in the program. From their perspective when they were students, they recognize that educators can lead or point them in a direction that can influence the kind of jobs or opportunities they pursue early in their careers. So, there appears to be a connection between dietetic educators, their perceived role as mentors by some students, and career decisions made at entry-to-practice. In addition, dietitians acknowledged these memorable educators as having a role in influencing their early career paths. It became apparent in this research that dietetic educators play a role in shaping how curricula, including leadership competence, is taught.

From this study, the gendered nature of the dietetic profession appeared to influence dietitians' choices for career paths and pursuing specific roles. When I looked at leadership in dietetic education, despite dietetic educators' role in shaping curricula, there is evidence in the literature that suggests mid- and senior-level dietitians are unwilling or unable to take leadership roles due to feelings of under-appreciation, inadequate compensation, and low job satisfaction (Porter, 2005); however, the educators in the focus group all reported overall satisfaction with their positions despite dietetic education being situated within a highly-gendered academic environment. The educators talked about the importance of acknowledging the working conditions of female faculty and staff—many of whom continue to have both professional (e.g., teaching, program management) and personal (e.g., caregiving) responsibilities without any additional institutional support. Women working in academics are often faced with having to make work-life balance choices, which may affect one's career trajectory (Rochon et al., 2016).

Recognition of the responsibilities of female faculty and staff is needed even in a female-dominated profession such as dietetics.

Although they are satisfied with their work, each participant shared experiences of discrimination, in particular related to level of their education. To be a dietetic educator generally requires, at minimum, a master's degree; many educators completed their post-graduate training in adult education. Two of the educators reported that although they know they do meaningful work for the students, often the program, faculty, or university do not “hear” them because they do not have PhDs (Amelia, Program Coordinator). Furthermore, it became evident that the stratification of various sciences continues to be present in academia (Cohen, 1994; Cole, 1983). Another educator talked about how many dietetic programs prefer faculty to have a science rather than social science background, which is often not a requirement indicated in the job posting. This educator talked about an experience where she was not considered for a faculty position because her PhD was not in a science but in rehabilitation (Chloe, Associate Professor).

From their experiences, the dietetic educators in this focus group also said that this type of discrimination has been coupled with horizontal violence and microaggression. As described previously, the behaviours associated with horizontal violence can be covert or overt in nature, and these behaviours contribute to bullying or incivility in academia (Dellasega & Volpe, 2013; Krut et al., 2021). The experiences of bullying described by the dietetic educators in my study are consistent with Clark et al.'s (2013) findings that incivility within nursing is especially evident among nurse educators working within academic settings. Several researchers suggest that incivility is embedded within layers of performance-drive, oppressive hostile bureaucracy, trickling down, instilling fear, and reinforcing uncivil behaviours among and between members (Christensen & Evans-Murray, 2021; Stalter, et al., 2019). These types of behaviours in the

academic environment result in a lack of support for the dietetics educators to do their jobs well, and perpetuate microaggressions, and this was true in my study as well.

Research suggests that curricula that is responsive to practitioner needs (e.g., attainment of competency) and industry demands (e.g., patient care, health system) prepare the trainee to gain competency in each of the core domains of health professions education, including leadership competencies (Parsons et al., 2018). Parson et al. (2018) argue that health profession education programs are motivated by the belief that faculty trained in teaching and learning will ultimately improve patient care through improved preparation of future practitioners and improved test scores that impact the careers of health professionals and the prestige of the institutions. This research supports the need to have dietetic educators who have expertise in leadership because they have influence and impact on preparing dietetic students and interns for practice. Furthermore, with the ICDEP version 3.0 (PDEP, 2020) containing *leadership* as part of a new domain, it would be beneficial for dietetic programs to have dietetic educators who have the expertise and capability to integrate leadership development into the curricula.

Collectively, the documentary analysis and focus group interviews underpin my understanding of the current context of how leadership is taught in dietetic education. My study found that leadership skills have not been explicitly taught through dietetic education, but rather are developed through transferrable skills that can be useful in leadership. Dietitians and dietetic educators also thought that transferrable skills that are taught in dietetics, notably communication and collaboration, are important for dietitians to be leaders in their practice. These skills help dietitians work with others on a day-to-day basis. What also emerged in this study is the influence of dietetic educators on what and how skills are taught in the different courses, including leadership skills. To enable intentional leadership development through the curricula,

and to reflect the new ICDEP version 3.0 (PDEP, 2020), what might be beneficial for programs is to have dietetic educators who are skilled at leadership development.

Dietitians' Leadership in Practice

The second research question asks: “In what ways are leadership skills used in dietetic practice?” To understand how leadership is used in dietetic practice, I consider three sub-questions: “How do dietitians view leadership?”; “How do dietitians develop and use leadership skills in practice?”; and “How do the ways in which dietitians use leadership skills align with LEADS?”. In Phase II, I addressed these research questions by conducting semi-structured interviews with dietitians to explore the ways leadership skills are used in dietetic practice. The findings demonstrated that dietitians use leadership skills in a variety of ways and contexts throughout their careers. All four cohorts provided personal examples of their leadership skills in practice that aligned with each of the LEADS domains and most of the capabilities. This might suggest that although dietitians were not formally taught leadership skills through their dietetic education, there is evidence that they possess and use leadership in their different practice areas throughout the career trajectory.

The LEADS framework provided a way to understand leadership in dietetic practice. Studies have used LEADS to explore leadership in medicine (Dickson & Van Aerde, 2018), nursing (Tannis, 2012), and in specific contexts such as mentorship (Batara & Woolgar, 2016), biomedical ethics (Levitt, 2014), and health technology assessment (Tucker et al., 2019). This leadership framework offers an accepted approach to providing a more robust viewpoint of both professional and clinical perspectives in determining the best outcome for an individual and for the healthcare organization, as well as guiding decision-making at the patient practice level through to determining the future priorities of the healthcare delivery system within a larger

community. In the following sub-sections I discuss the key findings related to dietitians' views on leadership and how leadership is used in practice.

Dietitians' Views on Leadership

In this sub-section, I am responding to the question "How do dietitians view leadership?" Throughout the interviews, dietitians provided their views on leadership, how they currently conceptualize leadership and what qualities they consider are important for leaders. First, dietitians continue to conceptualize leadership in relation for formal leadership roles within a hierarchical healthcare structure. Despite evidence of dietitians describing or defining distributed leadership in their practice, their experiences were often enmeshed with leadership meaning holding or pursuing a formal role (e.g., management position). Second, dietitians recognized the importance of leaders working effectively with others, albeit often described in relation to a leadership role or managing people. Although some dietitians work independently in their roles, they may need to collaborate with other health professions or be a preceptor to an intern or a student. Third, dietitians identified qualities or characteristics that they associated with effective leadership. These are transferrable between areas of practice, and some can be developed over one's career. Lastly, dietitians highlighted how there are systemic barriers for them to effectively use their leadership in practice. These barriers can limit their ability to pursue career paths and may lead to some dietitians exiting the profession.

Traditional Views of Leadership Prevail. Traditional views of leadership are prevalent in the way in which dietitians describe leadership. It appeared that for several dietitians in this study having a management role was synonymous with what they conceptualized as being a leader. Although these dietitians identified how they applied self-leadership in their work, their views on leadership were often conflated with holding formal leadership roles. In many

instances, a clear delineation between their views on leadership and management was lacking. From their perspectives, being a “manager” or in a management role formalized their position as a leader.

Dietitians working in management capacities is not new (Delaney et al., 2021; Fleurke et al., 2020; Rusali et al., 2021). Several dietitians interviewed in this study suggested they were leader on their clinical teams because they are the lead for a patient’s nutrition management. When dietitians work in clinical settings, they have a key role in successful management of health conditions (Ireton-Jones & Weisberg, 2020; Osland et al., 2020). Dietitians are consulted by the healthcare team on nutrition interventions and provide nutrition counselling to patients. In this study, several dietitians said having nutrition expertise is part of their leadership and having advanced knowledge in a subject area was part of what they considered as leadership.

The management role of dietitians is not limited to clinical responsibilities (Gregoire et al., 2005; Rusali et al., 2021). In my review of dietetic curricula management skills are taught in relation to food service management (e.g., human resources, procurement, financial) and to a degree project management (e.g., developing plans, implementing and monitoring project plans). Therefore, it was unsurprising when dietitians interviewed reported that they have skills in food service and project management. In a scoping review, Rusali et al. (2021) found that dietitians are also responsible for operations management including human resource management, financial management, and project management. Dietitians who worked in management roles, regardless of career stage, reported similar operations management responsibilities as identified in the scoping review.

This study showed that dietitians were able to recognize their management abilities yet did not clearly distinguish their leadership abilities. Part of the issue might be a tenuous

understanding of leadership for individual dietitians, coupled with dietetic education lacking deliberate leadership development. Dietetic education, to date, has emphasized management skills and other transferrable skills (e.g., communication), and has not positioned these skills as part of leadership. In the focus group discussions with dietetic educators, there was consensus that the dietetic profession has taken a step towards including more leadership capabilities development in the ICDEP (PDEP, 2020). Some dietitians thought that to increase dietitians' awareness and development of leadership the ICDEP (PDEP, 2020) requires further review. Several dietetic educators felt that by intentionally reflecting self-leadership and other domains of leadership in the curricula that dietetic trainees would enter the profession with a more distributed leadership perspective. Miles and Scott (2019) found that in nursing, structured leadership development for prelicensure nursing students promoted students' ability to internalize leadership capacity and apply leadership skills upon entry to practice. Although some individuals might aim to pursue formal management roles (Ayeleke et al., 2018), having a better understanding of distributed leadership could defuse the healthcare hierarchy (Chreim et al., 2010; Gabel, 2013). Cummings et al. (2009) found that in nursing, leadership styles contribute to outcomes in the work environment and have implications for productivity and effectiveness of healthcare organizations. While dietetic education appears to have hierarchical elements like other health professions, dietetics may benefit from the application of distributed leadership into the ICDEP.

Ability to Engage Others. Leadership is often assumed to reside in formal leadership or authority roles—that is, it is assumed to be limited to managers and executives. While leadership has strong connections to administration and management, it is also a quality that can be found in anyone who rises to a challenge and uses their skills to engage with others (Dickson & Tholl,

2014). For the dietitians interviewed, leadership was demonstrated by their ability to empower or support others, and through their communication skills.

The ability to engage others was considered essential to leadership by the dietitians interviewed. Specifically, they thought the ability to empower or support others to achieve personal or professional goals was one of the most important qualities of a leader. Dietitians in all four career-stage cohorts described experiences where someone they considered a leader enabled them to achieve their professional goals, or when they themselves helped others achieve their goals. This was often seen through mentorship and teaching others. Wildish and Evers (2010) write that mentorship is an extension of leadership, and is a core concept related to advanced practice. In my study, dietitians expressed that effective leaders mentor others by guiding skills development, assisting in establishing professional goals, and in some cases helping to network with other key individuals at work.

Similar to what was identified in Phase I through the documentary analysis and focus group interview, the dietitians interviewed in Phase II considered effective communication skills essential for leadership. They thought that a leader must be able to communicate with individuals, teams, and stakeholders. When the dietitians talked about using their communication skills with individuals, they were generally referring to their interactions with those they serve (e.g., client, patient, resident). In this context, communication was part of their leadership because they are the nutrition expert and need to be effective as part of their nutrition education. Some dietitians, those who work in clinical nutrition, self-identified as the “nutrition leader” in their interdisciplinary teams. They believed they need to effectively communicate the nutrition care plan to their teammates, and they have the nutrition expertise which makes them the “lead” in this area. I found that in speaking with some of the late career dietitians, they said they see

early career dietitians having difficulty “speaking up” in these interdisciplinary teams. As mentioned recently, this could be in part a result of a recent graduate’s self-efficacy (Forbes et al., 2018; Omura et al., 2018). For dietitians in private practice, many of them considered themselves “nutrition leaders” as well, because they believe they are credible sources for evidence-based nutrition. Many of these dietitians also engage with the public through media (e.g., television, social, written), and said it was critical they have clear communication when disseminating nutrition information. Pershad et al. (2018) write that the sharing of information on Twitter, for example, can create a communicative and collaborative atmosphere for patients, health professionals, and researchers, and even improve quality of care. However, they found that risks involved with using Twitter for healthcare discourse include high rates of misinformation, and difficulties in verifying the credibility of sources. This suggests that health professionals, such as dietitians, must be cognizant of the information that they are sharing via social media. What I found in my research is that the dietitians who were interviewed considered that part of their reputation as a nutrition leader is being able to communicate accurate information in a way that can easily be understood by the consumer.

There is limited research on dietitians and their communication skills in practice. The lack of communication skills development, once a dietitian is in practice, might have implications for how they are able to draw on these important transferable skills as leaders. Notaras and Wilson (2018) identified in their research that continuing education tends to focus on clinical nutrition knowledge and skills, with few programs available to improve communication skills for dietitians. Their research suggests that workplace support can assist with dietitians’ communication skills development. In a study of nurses, Omura et al. (2018) found that although person-centred care and patient advocacy were core values for many of the

participants, strict hierarchies, age-based seniority, and concerns about offending a colleague or causing team disharmony impeded their use of assertive communication. Novice nurses were particularly reluctant to speak up because of their perception of having limited knowledge and experience. The experience identified in the research by Omura et al. (2018) relates to my findings because early career dietitians might be experiencing very similar reluctance. This reluctance or lack of confidence might limit their ability to show “nutrition leadership” within an interdisciplinary team.

Demonstrates Leadership Character. Evidence in the literature suggests that leadership character is a combination of virtues, personality traits, and values that enable leadership excellence (Seijits et al., 2017). In addition to engaging others and demonstrating effective communication skills, dietitians from all cohorts described several leadership qualities that they considered important. From their view, leadership qualities such as having confidence, a vision for the future, and collaborative practice are critical to leadership. Several dietitians who were interviewed thought a leader is confident when they demonstrate their nutrition knowledge and are seen as credible to others. Confidence was seen through actions such as speaking up in interdisciplinary teams and advocating for those they represent (i.e., clients, patients, residents, community partners). To them, credibility was associated with having expert knowledge in nutrition and experience. Having expert knowledge in nutrition coupled with confidence enables dietitians to situate themselves as leaders in nutrition. Having a vision was also considered important for some dietitians, particularly those who are in the mid- to late part of their careers. In their view, a leader is someone who has a big picture sense of what can be done and can engage other people to work towards the vision they have in mind. To achieve this, they see a

leader as someone who is also able to collaborate with others. They considered collaboration essential to leadership.

While dietitians in Phase II described important leadership characteristics needed in practice, there was some evidence in my study from Phase I to suggest that dietitians must also come into the dietetic programs with some leadership or capacity to develop leadership. Having demonstrated some leadership capability is common in other health professions such as medicine (Killackey, 2016). There were a few program documents that stated prospective dietetic students must demonstrate in their application how they have leadership potential, which can set them apart from other applicants. Some program documents stated that a general program objective is to prepare students to be “leaders in nutrition”. Although some dietetic educators elaborated on this notion, this objective was not clearly substantiated in Phase I; however, being a “leader in nutrition” was a view supported by the dietitians interviewed in Phase II. The expectation that students must demonstrate leadership potential when applying to dietetic programs was further elaborated in the focus group interview. The dietetic educators talked about how students would often describe how they have taken leadership roles (e.g., coaching in a sport, teaching kids through a summer camp, taking a key role on a planning committee) in their extracurricular activities. The dietetic educators discussed how dietetic students seem to understand leadership in association with a role whereby they are coaching or leading others, rather than recognizing other forms of leadership such as self-leadership.

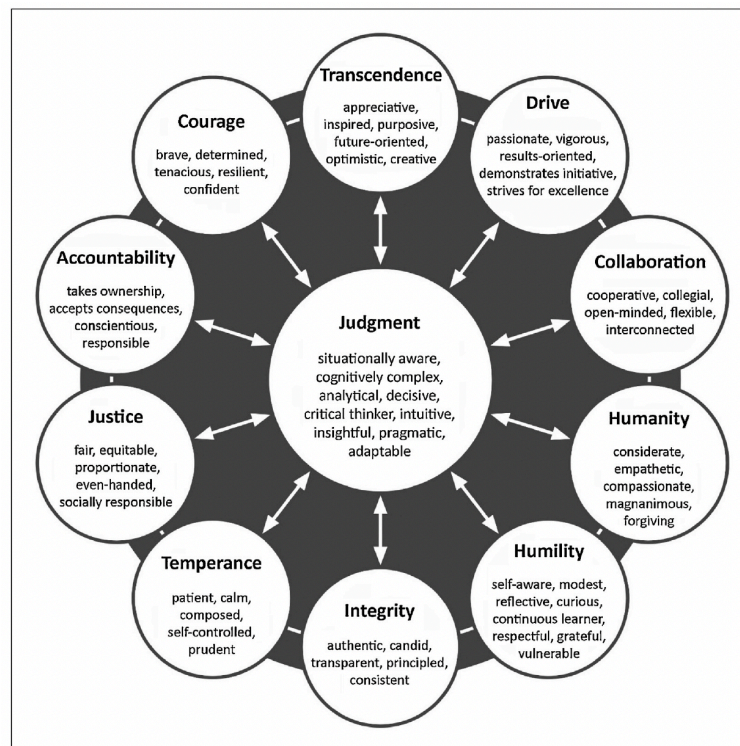
Dietitians also viewed that some characteristics and skills can be developed with training and experience; however, there is a belief, primarily among late career dietitians, that there are some “natural leaders” or that leadership may be innate. They believe that these individuals tend to rise to the top and lead groups and appear to demonstrate an innate ability to gravitate towards

positional leadership roles. While there is evidence in the literature that supports the innate leadership abilities (Arvey et al., 2006; De Neve et al., 2013), most dietitians were able to self-identify how they use their leadership skills regardless of their position. In other words, from dietitians' perspectives, leadership is not necessarily tied to a position of authority and can be demonstrated from where they are in their dietetic practice. Dietitians viewed that there is a developmental aspect of leadership, which can be cultivated over one's career. Therefore, while some dietitians believe there are "natural leaders", most dietitians believe that leadership skills can be developed.

The notion of leadership characteristics has been explored in the research literature. It has been posited that leadership characteristics are inclusive of an individual's values, virtues, and traits (Crossan et al., 2016). Crossan et al. (2016) developed the Character Leadership Model which teases apart the complex nature of leadership character. The Character Leadership Model (Figure 3) presents the leadership character dimensions and associated elements. This model enabled me to understand and appreciate the complexity of the responses that dietitians described as leadership character. Since I was using the LEADS framework as an analytical tool, I was aware that the 'Demonstrate Character' dimension of *Lead self* refers to leadership characteristics; however, it does not go into depth about what these leadership characteristics are. The Character Leadership model captures a range of leadership characteristics, which helped me to recognize the different types of dietitians' leadership characteristics. Many of the leadership qualities that dietitians in my study viewed as important are captured in three Character Leadership dimensions, namely: Courage; Transcendence; and Collaboration (Crossan et al., 2016, p. 9).

Figure 3

Character Dimensions and Associated Character Elements



In my research, dietitians primarily talked about leaders being confident; being able to manage conflict by keeping composed and using judgement; and having vision or being future-oriented. In addition, collaboration was seen as a key characteristic or quality of a leader. Dietitians in my study described being confident as a feeling of self-assurance arising from one's appreciation of one's own abilities or qualities; little doubt about oneself or one's abilities; and a feeling or belief that one can do something well or succeed at something. Confidence is a character element associated with having courage (Seijits et al., 2017). Dietitians in my study described the ability to keep composure as a leadership characteristic demonstrated when managing conflict, which according to Crossan et al. (2016) demonstrates a leader's judgement and temperance. Dietitians in my study also talked about leaders having a vision, which connects with the *Systems transformation* domain of the LEADS framework, where a leader can orient themselves strategically to the future by integrating emerging trends and best practices into their

work (Dickson & Tholl, 2020). In addition, dietitians' views of having a vision relates to the Character Leadership model dimension *transcendence*, which identifies being future-oriented as an associated element. Therefore, dietitians' having a vision and being future-oriented demonstrates alignment between the LEADS framework and the Character Leadership model.

Systemic Barriers to Advancement. Dietitians in my study described systemic barriers that prevent or discourage them from pursuing opportunities. Some of them felt they have been unable to pursue certain jobs because they either do not meet the qualifications or would not have enough (or any) practice hours in nutrition. These concerns appeared to be more evident in mid- and late- career dietitians. This might be because early career dietitians are beginning to establish themselves in their work, whereas mid- and late- career dietitians are looking for advancement or something different in their careers. Some early career dietitians felt they needed to establish themselves in their practice by demonstrating their abilities to other dietitians which could be challenging. Aebersold and Schoville (2019) describe an example from nursing where some early career nurses might experience “a destructive rite of passage... as they learn to navigate the complex world of health care” (p. 27).

First, a few dietitians who were interviewed said that they have not applied for a job, such as an interdisciplinary team lead or manager role, because the applicant needs to be a member of the College of Nurses even though they would not be providing direct nursing care. They believed that this requirement excludes dietitians and other allied health professionals from applying for the position. Furthermore, there was a view that sometimes nurses are put into leadership roles of allied health teams even though they are not interested in management; dietitians thought that this is partly because it appears that advancing into leadership positions is an expected part of a nurse's career trajectory.

Second, some dietitians in my study said that there are barriers in dietetics that limit their ability to pursue leadership positions. Some provincial dietetic regulatory colleges require dietitians to have a minimum number of practice hours. The College of Dietitians of Ontario, for example, requires a dietitian to practice at least 500 hours of dietetics over three years to ensure that dietitians can “practice dietetics safely, ethically, and competently” (College of Dietitians of Ontario, n.d.). Dietitians in my study said that there are some healthcare leadership roles that they are interested in but would not meet the minimum number of practice hours to maintain their membership because they would not be considered “dietetic practice”, such as being an accreditor for the Ministry of Health and Long Term Care in Ontario. They felt this was problematic for them because they may have to consider leaving the dietetic profession should they want to pursue a leadership role or other healthcare jobs. They also said that they do not see this as the case in nursing or medicine, where it is considered a natural progression in those professions to advance into leadership roles in their careers.

Dietetic Educators and Their Leadership in Practice. In addition to the interviews with dietitians in Phase II, the focus group interviews with dietetic educators in Phases I and III also provided evidence of dietitians’ leadership in practice. The reason I chose to briefly describe dietetic educators’ leadership is because they are dietitians who appear to have a key role in leading the profession whereby they train future dietitians. When I started my study, I saw dietetic educators as primarily a source of feedback on their respective programs however, as I progressed through my study I recognized that they have learned about leadership by being leaders themselves. Furthermore, as described in Chapter Ten, dietetic educators believe that their views should matter with respect to shaping the profession. The conversations with dietetic educators not only provided more details about the programs and recommendations for

leadership development through education, but also many of the educators spoke about their own experiences as dietitians themselves. Dietetic educators described how they work within their abilities to create opportunities in their courses for trainees to achieve their professional goals, whether it is to become a dietitian or apply nutrition knowledge to another professional area such as food service management. This demonstrates how dietetic educators foster the development of others, one of the LEADS framework capabilities. So as educators, they use leadership in their work by developing curricula that supports training future dietitians.

Despite their critical role in teaching future dietitians, some dietetic educators reported facing barriers within their workplace that could impact their job satisfaction and mental health and wellbeing. Dickson and Tholl (2020) write, “Many prevailing ideas of leadership are artifacts from a bygone era when hierarchy, privilege, gender and restricted access to information determined who had power and who did not” (p. 7). Yet these ideas continue to persist and have implications for dietetic leadership practice. These barriers limit dietitians’ ability to fully exercise their own self-leadership and advance into leadership roles within academic institutions. Although several dietetic educators expressed satisfaction in their teaching and program administration roles, some educators also described barriers at work which included workplace discrimination, horizontal violence, and microaggressions.

My research found that some dietitians experienced forms of discrimination in the workplace, which affected their mental health. My findings were similar to the research conducted by Sukhera et al. (2020) who reported that as individuals become aware of hidden influences of bias in their workplace, they experience dissonance and discomfort, which affects their mental health. Furthermore, these barriers might impact dietitians’ mental health and wellbeing. A few dietitians interviewed also described experiences where they felt

microaggressions from other health professionals. Microaggressions can be defined as statements, actions, or incidents of indirect, subtle, or unintentional discrimination, and the day-to-day constancy of microaggressive assaults can gradually erode the wellbeing and resilience of the victim (Molina et al., 2020; Rimmer, 2020). Dietetic educators talked about how at times they were undermined despite having the nutrition expertise on the team. While dietetic educators have a key role in dietetic education, some of their experiences suggest that they also face barriers in their work to be able to self-lead.

Dietitians' Development and Use of Leadership Skills

Next, in this sub-section I discuss the research question 2b), “How do dietitians develop and use leadership skills in practice?” The dietitians’ interviews that I explored more deeply through my cross-case analysis highlighted that they develop and use their leadership skills in a variety of practice settings, not just in leadership roles. Developing and using leadership skills in a variety of settings was evident in my research because even when a dietitian did not have a formal leadership position, they still were able to provide an example of how they used leadership skills in their work. In the following sub-sections, I discuss how dietitians develop their leadership skills and use them in practice. To help me understand the different ways in which dietitians use their leadership skills, I used the LEADS framework to guide my analysis. Here too the LEADS framework was a helpful guide for my analysis.

Dietitians' Leadership Skills Development. Leadership skills development for dietitians in this study were attributed to gaining work experience, mentorship, and formal learning. A common approach to developing leadership, according to the dietitians in my study, was to gain experience at work. The types of experiences they referred to included accepting leadership opportunities when they are presented (e.g., leading a working group or project),

being mentored by someone with more experience, and supporting the development of other (e.g., as a preceptor or mentor). In a study on leadership development for medical residents, Patel et al. (2019) found that healthcare executive mentors enabled mentees to gain experiences that they otherwise would not have access to. Some dietitians in my study also talked about how they were asked by a colleague at work to consider a new or different opportunity, such as taking the lead on a project, applying for a leadership position, or being a preceptor to a student. The dietitians who talked about developing leadership by leading a working group or project said that these experiences helped them learn how to engage with stakeholders, develop project plans and facilitate meetings, and gain a better sense of the “big picture” or a systems view.

Dietitians who talked about leadership being developed through mentorship described either being mentored themselves or mentoring others. A shared view among many dietitians was that one of “the best” ways to develop one’s leadership is to be a preceptor. They strongly believed that mentoring and teaching dietetic interns or other health professions students contributed to their own leadership development in practice. A recent study by Hutchins et al. (2021) identified that dietitians who are preceptors found that it improved their teaching skills and kept them current in dietetics. Other research has identified teaching as one way to contribute to the development of others (Engage others LEADS domain), and keeping current is considered important to being oriented to the future and improving a system (Systems transformation LEADS domain) (Dickson & Tholl, 2020). Hutchins et al. (2021) also found that as preceptors, dietitians developed their confidence in mentoring dietetic interns, and were more likely to continue preceptoring other students. My findings and the research of others (Hutchins et al., 2021) suggest that there needs to be support for dietitians who are preceptors, so that they

not only continue to engage students, but their own self-efficacy and self-leadership continues to develop.

By formalizing mentorship into dietetic practice, there is an opportunity for dietitians to recognize mentoring as part of their leadership in the profession. Formal mentorship programs have been effective at developing leadership capacity in medicine and nursing (Ogilvie et al., 2021; Patel et al., 2019). Mentorship for professional development and advancement in careers has been studied in nutrition and dietetics (Palermo, 2010), but the research is limited. There appears to be more research conducted on dietitians mentoring dietetic students and interns (Benoit et al., 2022; Besnilian et al., 2015; Hicks-Roof, 2018). In the literature, there is greater and more recent evidence of mentorship for professional development and advancement in other health professions such as nursing (Mijares & Radovich, 2020; Mitchell, 2021). Mijares and Radovich (2020) write that a structured mentorship program using a nursing clinical “ladder” increases elements of work engagement and satisfaction among hospital nursing staff. Similarly, again in nursing research, Mitchell (2021) found a positive correlation between mentorship, job satisfaction, and retention of nurse practitioners in rural areas. The literature supports that mentorship in dietetics is one strategy to develop leadership skills in practice and can be achieved through being a preceptor. In addition, mentorship in other health professions, such as nursing, demonstrates that mentorship can have a positive effect on job satisfaction and retention, and has the potential to have a similar effect in dietetics.

In addition to gaining experience at work, some dietitians completed formal education or participated in a training program to develop their leadership skills. One dietitian and one dietetic educator completed their graduate studies in healthcare leadership. Both believed that the different courses in the program prepared them to take on leadership roles at work, and made

them more confident in leading teams. Other dietitians developed their leadership skills through workplace programs or workshops. Those that participated in leadership development programs were matched with mentors who supported them in integrating the course materials into their work and enabled them to gain specific leadership experiences. Leadership development workshops were described by these dietitians as being shorter learning sessions (e.g., half day to two-day workshops) where a specific leadership-related topic such as facilitation skills or providing effective feedback was the main focus. A systematic review found that leadership development programs in healthcare were usually offered to develop leader competencies, but some programs also encompassed organizational development (Jeyaraman et al., 2017). This is similar to my research, in that some dietitians were able to participate in leadership development and organizational development training through their workplaces.

Dietitians' Leadership Skills In Practice and Alignment with LEADS. In this subsection I will address “How do dietitians use leadership skill in practice?” (second part of research question 2b) and “how do the ways in which dietitians use leadership skills align with LEADS?” (research question 2c). One of my research questions was to know how dietitians use their leadership skills in practice, drawing further on the LEADS framework. To my knowledge, my study is the first to apply the LEADS framework to dietetics. As an analytical tool, the LEADS framework enabled me to identify the different ways dietitians use their leadership skills in practice. From my cross-case analyses, I found that the dietitians interviewed provided clear examples of how they use their leadership skills to *lead self* and *engage others*—the first two LEADS domains. As I discussed in an earlier subsection, dietitians know how to manage and develop themselves, which are two leadership capabilities under the *Lead self* domain. Formal learning opportunities were identified as ways to develop leadership skills; however, dietitians

also felt that experience help build leadership. They thought that as a dietitian develops confidence in their nutrition knowledge and skills, they are more able to lead self and even pursue leadership roles. I thought that the early career dietitians were still able to provide solid examples of how they use leadership in their practice, whereas the mid- and late- career dietitians had more examples to draw from. This observation was unsurprising yet highlights how dietitians need the ability to self-lead throughout their careers. When asked about how they *achieve results* at work, several dietitians provided examples of how they establish professional development goals for themselves. Although setting professional development goals is important for practice, I did not think those examples aligned well with this domain, but rather with the *Lead self* domain which includes seeking opportunities to develop oneself a capability of leadership.

The experiences that dietitians in my study talked about provided extensive examples of how they *engage others* as a part of their day-to-day leadership practice. From being a preceptor to dietetic interns to collaborating with other health professionals and community partners, the dietitians draw on their ability to communicate effectively, foster the development of others, and contribute to a healthy team environment. As I described earlier in this chapter, mentorship was one of the most important ways these dietitians develop their skills as leaders as well as engage with others. Many mid- and late- career dietitians shared examples of how a more senior dietitian or colleague helped them develop leadership skills in practice, and for some dietitians this led to career laddering. Unfortunately, there is minimal research on dietetic mentorship in the workplace; most of the research is on being a preceptor and mentoring students.

The LEADS framework has been applied by others to investigate how mentorship can support leadership development and leadership excellence in health and healthcare, which relates

to the *Engage others* domain. Batara and Woolgar (2017) used the LEADS framework in their study of formal and informal mentorship conversations with emerging established health leaders. They define mentorship as the development of emerging leaders by established leaders (Castonguay, 2012). Batara and Woolgar (2017) draw from the Canada-wide Emerging Health Leaders network, and primarily focused on the *Engage others* domain or the “E” in LEADS. The reason mentorship is important is because “the act of choosing the right career goal is, inherently, a key component of leadership” (Batara & Woolgar, 2017, p. 158). Interestingly, mentorship is seen as uniquely effective in informing an understanding of how organizations operate and supporting individuals to maximize opportunities for growth and development. They found that this can be achieved through continuous reflection at different points along a career path, and health leadership as a journey where partnership is imperative and mentorship an iterative art. The research connecting mentorship and leadership development in practice provides a compelling argument for focusing on mentorship to develop dietitians’ leadership.

Dietitians at all career stages provided examples of how they *achieve results*, *develop coalitions*, and contribute to healthcare *systems transformation* through their work—the other three LEADS domains. I found that dietitians who had more experience provided richer responses to these questions. Early career dietitians were able to describe what they do in practice, but their experiences did not go into as much detail as dietitians in the mid- and late-career cohorts. The mid- and late-career dietitians’ experiences varied, and they described their experiences with more details, often talking about the impact their actions had on others or the system.

In my study, the ways in which dietitians use their leadership to *achieve results* in their work was best demonstrated by how they develop and implement plans. As these dietitians

implemented their plans, they needed to involve others. Some dietitians identified themselves as nutrition leads and work directly with patients, clients, or residents. A key part of their work is nutrition care planning. These dietitians talked about how they develop nutrition care plans and worked collaboratively with their colleagues (e.g., other health professionals, food services) to implement the plans. Important in this example is that to implement the nutrition care plan, these dietitians needed to engage their colleagues. Other dietitians talked about project work they led and described their planning and implementation process. In these examples, they also talked about how they engaged other people to achieve the goal or results, and what actions they had to take if the direction was not going according to plan. When asked questions in the interviews about how they might *achieve results* at work, several dietitians provided examples of how they set professional development goals for themselves.

Dietitians in my study provided examples of how they *develop coalitions* to contribute to *systems transformation* in practice. Similar to *achieve results*, dietitians who had more experience tended to give more fulsome descriptions and demonstrated a variety of ways they have used their leadership in these two domains. I found that in their examples coalition building was closely related to dietitians achieving systems change in their workplace, thus it was difficult to talk about coalition building without describing their overall purpose or goal. Collectively, this might suggest that as dietitians gain experience, they have more opportunities to work with others beyond their immediate teams and effect change at a systems level. This could be related to their position within an organization, but also could be related to awareness of what they might be able to do within their work that could contribute to broader organizational change. Having a systems perspective enables reframing of healthcare reform objectives in terms of larger health system requirements and is essential for future health system transformation

(Marchildon & Fletcher, 2016). Dietitians in my study demonstrate how they can contribute to system changes from where they are, and this is evident at all career stages.

Dietitians in this study also talked about how they *engage others* when they *develop coalitions*. All cohorts described ways to build partnerships and networks, which also highlights the connections to engaging others. Thus, it is difficult to solely focus on how dietitians in practice develop coalitions without discussing how they *engage others*. I thought this was interesting because it speaks to developing communication and collaboration skills early in dietetics, which the programs do. As discussed in the literature review, less is known about Canadian dietitians' leadership development through education and in practice. It has been suggested that most health professionals do not hold formal leadership positions and may or may not aspire to them (Downey et al., 2011). In this study, what became apparent was that effective communication and collaboration skills are important to *developing coalitions*. Therefore, dietitians should continue to development of communication and collaboration skills because these skills are essential in different domains of leadership.

Regarding how dietitians use their leadership at a *systems transformation* level, most dietitians in the cohorts described how they continue to be aware of best practices or trends. Early career dietitians know how to find current information that might be applicable to their work through the *Practice-based Evidence in Nutrition* library, and dietitians in other career stages also turn to this library as a reputable source of information. Attending conferences and other networking events were also described by dietitians as ways to be aware of current trends. Mid- and late- career dietitians differed from early career dietitians in that some mid- and late career dietitians said that early- career dietitians are a source of best practices and trends. From their perspective, early career dietitians are also a source because they are recent graduates and

have been taught current information; they are also familiar with current technology, which enables them to be more adept in finding information. I found this to be interesting, because early career dietitians did not describe how they might contribute to the knowledge of more experienced dietitians in practice. It has been suggested that having staff who understand the importance of systems thinking, learning with and from each other, and using a strong evidence base is needed in health professions education (Solomon et al., 2021). The implication, then, is that there is an opportunity to enable early career dietitians to understand their contributions from where they are to others who have more experience or at a wider system level. Shaping early career dietitians' dietetic leadership identity starts in dietetic education, and this will support their leadership in practice.

Through my study I determined that the LEADS framework was effective in understanding individuals and their leadership in practice. The framework covers a range of leadership capabilities through the five domains. This enabled me to ask participants a variety of questions to explore how they use their leadership in their work. Their responses aligned with at least one of the four LEADS capabilities in each domain. I discovered that as the dietitians were responding to a question, they often talked about who they might be engaging or collaborating with. This observation suggests that while LEADS describes five distinct domains, they are still interconnected. Furthermore, this observation also connects with my own conceptual framework, which recognizes that within a system, the different elements are connected or enmeshed. Thus, I consider the LEADS framework a useful tool to analyze and develop an understanding of dietitians' leadership in practice.

Considerations for Teaching Leadership in Dietetic Education

The last research question asks: “In what ways might leadership skills be taught in dietetic education, considering current dietetic practice?” To understand how leadership skills might be taught in dietetic education, I conducted three focus group interviews with dietetic educators. One of the key drivers to focus on more intentional leadership development in dietetic curricula is the recent change in the ICDEP (PDEP, 2020), where the new *Management and Leadership* domain expects dietitians to “provide leadership” (p. 17) in their work through food and nutrition.

The new domain was viewed by some dietetic educators as a “catchall” because they thought the performance indicators did not reflect what they would consider leadership, and they also thought the performance indicators reflect management skills more rather than leadership skills. The dietetic educators think including leadership as part of the ICDEP is a step forward. They talked about the ways in which they see leadership among students and in their own practice, yet they did not clearly see alignment with the new leadership domain. Even in the focus group interviews, the dietetic educators had different ideas about leadership. As Dickson and Tholl (2020) write, “If we can’t define [leadership], then how can we develop it?” (p. 13). The dietetic educators did not have clear strategies on how to bring more leadership development into the dietetic curricula because to them the performance indicators did not clearly appear to be leadership related. This poses a potential issue because dietetic educators perceive a disconnect between the domain name and the performance indicators associated with the domain.

The dietetic educators provided their thoughts on the preliminary findings I presented regarding how dietitians’ experiences aligned with the LEADS framework. Dietetic educators agreed with one another that in dietetics there is an elusive understanding of leadership. They

also see dietitians as lower on the hierarchy in healthcare, and from their experiences, this results in dietitians being unable to step into leadership roles outside of nutrition and dietetics. The LEADS framework was a new concept to some dietetic educators, and all dietetic educators thought the LEADS framework reflects aspects of leadership in healthcare. *Lead self* and *Engage others* were two domains that they thought could be emphasized in dietetic education because it already exists in the curricula. Dietetic educators suggested connecting “leadership” to skills such as critical reflection, continuous learning, building teams, and supporting the development of others, which are aspects that are already cultivated in dietetic education. The dietetic educators emphasized the need for programs to create a culture where students feel safe to make and learn from their mistakes, which can improve collaboration between students. The dietetic educators thought that it would be beneficial for students to understand and develop self-leadership and continue to work with other students (i.e., nutrition and interprofessional) because these are important leadership areas for practice.

Developing effective leadership relies on developing a variety of personal and interpersonal competencies (Gabel, 2014), as well as the ability to work collaboratively in teams (Careau et al., 2014; MacPhee et al., 2013; McKinney & Waite, 2014; Thibault, 2013). Thibault (2013) finds the current siloed approach to healthcare education unsuccessful in developing competencies required for effective teamwork and collaborative practice, as quite often there is a lack of understanding of the multiple roles of a health professions team. One reason professional silos exist is because each health profession struggles to define its identity, values, scope of practice, and role in patient care, which has led to each health care profession working in isolation (Hall, 2005). To mitigate a siloed approach and enhance leadership competencies,

McKinney and Waite (2014) suggest that students need leadership skills early in their academic careers to encourage optimal function within care teams.

Dietetic educators are key to assisting students to search for, secure, and adjust to work earlier in their preparation (Morgan et al., 2019). The dietetic educators in my study thought it would be helpful to have tools or resources on leadership that they could integrate into the curricula. They feel in some ways the curricula focus on clinical nutrition and food services in hospital settings. As a result, they think it did not sufficiently prepared new graduates to embrace a range of existing and emerging opportunities for diverse work environments. Morgan et al. (2019) also found that there is an overemphasis in dietetic curricula on preparing graduates for traditional areas (e.g., clinical dietetics). New graduate underpreparedness for practice was a concern dietetic educators and late career dietitians shared. One area where they thought dietitians may be underprepared is in managing their own business because they believe that many new graduates pursue private practice earlier in their careers since there are few clinical jobs available. Dietetic educators were keen to develop leadership skills in students; however, it would be helpful to have someone in the profession take the lead on helping educators have a better shared understanding of leadership and facilitate strategies on how this could be integrated into courses.

Applying Theory, the LEADS Framework, and Methodology to Dietetic Leadership

With this study, I explored complexity theory, feminist theory, and LEADS in a Caring Environment framework by applying these to the context of dietetics.

Revised Conceptual Framework

My conceptual framework in Chapter Three was pivotal in structuring my study and analyzing my data. This framework originally depicted a stacked circular diagram, which

represented the foci of my study: the individual level to understand dietitians' leadership experiences; the macro-level for current context of dietetic education; and the cross-cutting element related to gender. The foundation of my original framework was Complexity Leadership Theory and feminist theory. Based on my research findings, I revised my conceptual framework to depict the theoretical and conceptual realities of dietetic leadership in Canada.

During my study I was prompted to look to more literature to better understand and connect findings that were coming up in my analysis. Based on my research, I found that there were other important elements within a system that affect dietitians' ability to develop and use their leadership skills. These important elements caused me to reconsider my initial conceptual framework, and so I turned to the literature for further exploration to see what other researchers have done. My revised conceptual framework continues to take the form of a nested system; however, I add in micro-level, meso- level, and macro-level influences and elaborate on other elements in the framework. In the literature, system influences have been presented in a similar manner. One such example is the Canadian Academy of Health Sciences framework on *Optimizing Scopes of Practice* (Nelson et al., 2014). Although the problematique of the Academy framework was health professional scopes of practice, it is a useful framework to draw from because it teases apart different yet intertwined layers of a health profession.

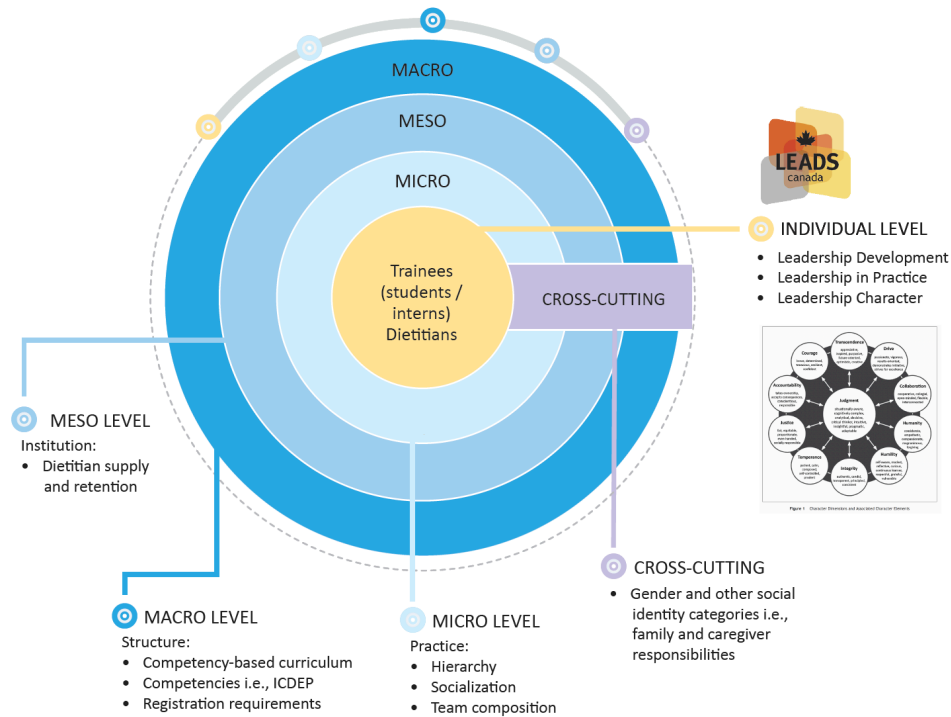
The Academy framework outlines the scopes of practice that support innovative models of care to better address population health needs and a transformed healthcare system (Nelson et al., 2014, p. 25). The framework begins by identifying current Canadian healthcare system insufficiencies and highlights characteristics of a future transformed healthcare system. To get from current to future state, the framework indicates macro-, meso-, and micro-level inputs. These inputs are enablers and strategies for circumventing barriers towards innovative models of

care optimizing scopes of practice. Macro inputs are at the structural level. These include education & training context, economic context, and legal & regulatory context. Education and training contexts encompass education needs and requirements, and assessment, standards, and competencies. Another input at the structural level is the economic context such as funding, financing, and remuneration. Legal & regulatory context includes legislation or form of regulation, registration requirements to practice, and provider accountability. Meso inputs are at the organizational level. These inputs tease apart governance, continuous quality improvement processes, unionization, provider supply & retention, and geography. Micro inputs are at the practice level. These inputs include team composition, team vision, degree of hierarchy, professional cultures, communication, and infrastructure. The framework elements are neither exhaustive nor mutually exclusive.

My research findings fill in levels that I was not originally focusing on in my conceptual framework. When I reviewed the literature to help me draw connections between my findings, I found that the Academy framework (Appendix U) provided a model that is complementary to what I was gathering from my study. To revise my framework, I integrated some of the key elements in the Academy framework that were complementary to which I added unique elements from my study. Figure 4 is my revised conceptual framework which reflects findings that emerged from my research.

Figure 4

Revised Conceptual Framework



In my study, I was already exploring the relationship between competency-based education and dietetic competencies; however, registration requirements were also considered an important macro-level factor. So, at the macro-level, competency-based dietetic curriculum, dietetic competencies (ICDEP), and registration requirements influence the structure within a system. Therefore, my revised framework includes registration requirements. Dietitians in my study provided examples of what has caused them to look for work in certain areas of practice, which for example may be a result of lack of job prospects in a certain practice area (i.e., clinical nutrition). Therefore, I revised my framework to add the meso-level, whereby dietitian supply and retention are considerations for the organization. At the micro-level, factors such as professional hierarchy, socialization into a profession, and team composition are practice area considerations because these emerged as aspects dietitians in my study talked about. The individual level includes not only leadership development and practice but also leadership character. This clearly emerged in my study as many of the attributes of leadership also seemed

to be character attributes, which connected well with the Character Leadership model of Crossan and colleagues (2016). Finally, based on my interpretation of the study I revised the cross-cutting element to include gender and other social identity categories. Internationally educated dietitians are an example of individuals who have intersecting social identities. As discussed in Chapter Eight, some internationally educated dietitians talked about how coming from a different country meant they did not have a network or connections with Canadian dietitians, which was a barrier to securing jobs and advancing into leadership roles.

I found that in analyzing my data using the LEADS framework it was difficult to isolate each domain, and the interconnectedness of the domains was apparent. Similar to the Academy framework, the levels in my revised conceptual framework are interconnected and the elements drawn from my research are not exhaustive to the realities of dietetic leadership. This means that there are other elements within a system that my research did not explore, and thus are not represented in my revised framework.

Exploration of Complexity Leadership Theory and Dietetics

My exploration of Complexity Leadership Theory in relation to dietetics helped me to consider different elements at each level of the system. As I recently described, my conceptual framework expanded to include several elements that work together within the health system and education system. When interpreting the revised conceptual framework, it is important to consider influences from other levels of the system. In my research for example, although my interviews with dietitians focused on the individual level, they described how their day-to-day work impacts and is impacted by other elements such as hierarchy in the workplace (micro-level), available job opportunities (meso-level), and number of practice hours (macro-level). There is evidence in the literature that suggests how nested, complex systems approaches are

useful in healthcare and HPE (Grant et al., 2022). My study demonstrates how dietetic leadership is complex, and despite focusing my research on specific areas, the interconnectedness with the other systems elements is evident.

Based on the findings of this study, I have made a case for leadership development in dietetics to be more explicitly connected to or draw from complexity or systems theory and complex leadership theory. Few articles in the literature integrate complexity theory with health professionals' leadership development; and when they did, they were in medicine and nursing. A scoping review conducted by Belrhiti et al. (2018) showed the limited attention in the current literature to applications of complex leadership in healthcare settings. While they identified several foundational papers (Hanson & Ford, 2010; Scott, 2010; Weberg, 2012), the definitions of complexity leadership are diverse. Belrhiti et al. (2018) concluded that although there is very little empirical research, what remains is a better understanding of the key characteristics of complexity leadership and how complex leaders contribute to better healthcare. By including complexity theory as one aspect of my theoretical framework, my study has contributed to furthering the discussion on the role of theory in connection with leadership development. Furthermore, complexity is consistent with the multifactorial dimensions related to leadership in a nested diagram. This allowed me to consider multiple levels and inputs without conflating them. Critical to my research was to bear all these factors in mind in a coherent and organized way, while recognizing the interconnections between the different factors.

Contribution to LEADS Framework

My study contributes to the LEADS framework by applying it to the dietetic profession. The LEADS framework enabled me to distinguish leadership at the different levels including self-leadership and engaging others with the purpose of enabling system change. As a framework

that is not specific to any one health profession, the LEADS framework was adaptable for my research. To my knowledge, research connecting the LEADS framework and dietetic education and practice has not been explored to the extent that my study has. I have found that dietitians at all career stages demonstrate leadership capabilities. It is understood that leadership effectiveness will vary, depending on the context in which an individual exerts influence. To create a leadership culture, each person in the system, regardless of position or title, must lead when required (Dickson & Tholl, 2014/2020). Dietitians in my study demonstrated how they can “lead when required”. Taking this into consideration, my study gathered perspectives from dietitians who work in a variety of contexts and aimed to understand how they lead from where they are.

Exploration of Feminist Theory and Dietetics

Augmenting complexity leadership theory, my application of feminist theory enables the emergence of critical perspectives in researching dietetic leadership. A feminist lens goes beyond investigating gender differences—it includes the conceptualization, understanding, emulation, embodiment, and expression of gendered natures, which can be influenced by culture.

Application of feminist theories to health professions education and education research can be a powerful means of changing how a health profession is taught and whose voices are heard.

Feminist theories are beneficial and arguably essential to ensure that attempts to increase women and underrepresented groups in leadership and decision-making roles do not stop at recruitment and retention, but also challenge the patriarchal underpinnings of health professions education (Sharma, 2019). While this was not a focus of my study, it was imperative to have an awareness of how gender and other social identity might affect dietitians’ experience as this can often be overlooked when studying health professions.

By applying a feminist lens to my conceptual framework, I was acutely aware of the tensions related to gender and other intersecting identities at all levels of the system. I explored the connections between dietitians' examples where they discussed their gender or cultural background, and their impact on the development of their leadership skills. A feminist approach recognizes the gendered nature of care work (Davies, 1996; Witz, 1990), and the case study method I used allowed dietitians to describe their own realities and arrive at their own truths based on their lived experiences, a notion emphasized by Wambui (2013). This is particularly relevant, given that the profession of dietetics is predominately comprised of a female workforce. I included a GBA+ approach (Government of Canada, 2020) and was conscious of gender dynamics and gendered experiences of the dietitians, and how some dietitians might have unique experiences related to another social category they self-identified with. My study did consider whether power dynamics and inequalities affected the dietitians in my study. I found that some dietitians talked about the hierarchy of health professions having affected their ability to use their leadership in practice as well as advance into leadership roles.

Having an explicit feminist lens is useful when exploring dietitians' experiences, including the gendered nature of care work, which is inclusive of dietetics. Several dietitians faced challenges in making decisions related to their career and raising or providing care for their families. Other dietitians who were educated internationally also alluded to having some additional challenges when trying to establish themselves in the Canadian workforce. Since they were not educated in Canada, they mentioned not having the advantage of being a part of a network from the beginning of their dietetic career. Although my study did not explore this area deeply, it was evident that with this lens, I have become aware that there are opportunities to explore gender and leadership in dietetics further for dietitians with intersectional backgrounds.

Methodological Strengths and Limitations

Overall, my goal was to gather multiple perspectives and experiences which enabled me to gain insights related to my research questions and different elements of my conceptual framework. Qualitative case study is a research methodology that helps in the exploration of a phenomenon within some contexts through various data sources, and it undertakes the exploration through a variety of lenses in order to reveal multiple facets of the phenomenon (Baxter & Jack, 2008). According to Yin (2014), case studies can be used to explain, describe, or explore events or phenomena in the everyday contexts in which they occur.

Using a qualitative approach allowed me to answer my research questions with greater depth of individual experiences. I used different qualitative methods to: situate myself within the current context of leadership development of dietitians through their educational experiences (Phase I); understand dietitians' leadership experiences in practice (Phase II); and gather insights from dietetic educators on their recommendations for how to integrate leadership into dietetic programs (Phase III). Through my research, I demonstrated how combining methods can elicit detailed findings, in particular where limited research exists. My approach allowed me to use numerous sources of evidence to generate an explanation of how dietitians view leadership and use leadership in practice. Integration helped to develop the overall study findings through a process of explanation building (Yin, 2014). I make my largest contribution to methods in HPE and dietetic research in Phase II whereby I use the LEADS framework to analyze the dietitians' experiences. I also make significant contributions to the dietetic profession in Phases I and III by grounding my work in the current context of dietetic education and recognizing the shift between ICDEP versions, which happened concurrently with my study.

This study is not without limitations. In Phase I, I was able to gather publicly available information from 13 English dietetic programs websites and six of these programs shared additional documents with me. The documents I gathered were not an exhaustive representation of all the program documents. This is a limitation because there might be program documents that better or clearly align with the ICDEP than the course syllabi, for example. Furthermore, only four dietetic educators from different programs participated in the focus group interview. While these educators were knowledgeable about dietetic education, the insights from other programs were missing. Not having all programs represented is a limitation because there might be some nuances that did not come through in my research. Nonetheless, Phase I provided a foundation to my research and gave me a sense of leadership development in dietetic education.

Phase II had two main limitations. First, questions asked during the interview aimed to elicit at least one response per LEADS domain and did not capture all the capabilities within each domain. I developed one question per capability, thus four questions per domain. One question from each domain was asked of each participant, however, follow up questions were at my discretion based on the conversation flow. This is a limitation because it may not fully capture the breadth of experiences that might be illustrated by the LEADS framework. Second, the early career cohort in this study was defined as <10 years of practice, and 5-10 years of practice experience may not truly reflect early career practice. I consider this a limitation because the wide range of years in practice does not adequately tease apart the experiences during the first 10 years of practice. For future studies, this grouping could be broken down into at least two sub-groups.

Similar to Phase I, a limitation to Phase III is that not all programs were represented. Although there was greater representation in the focus groups with a total of eight English

programs being represented, that still leaves five English programs not reflected in this study. Again, this is a limitation because there are program nuances that are not captured and could provide different views from other programs.

Lastly, there are four limitations to the overall study. First, this study only included English programs and the interviews were conducted in English. I intentionally excluded French programs because I am not fluent in French and did not have funding or support to conduct part of this study in the other Canadian official language. This is a limitation because it excludes a few Canadian dietetic programs and does not adequately capture Francophone participants' experiences, which they might be able to explain better in their primary language.

Second, data collection started February 2020, which was one month before the beginning of the COVID-19 pandemic. I had initially recruited more participants for the one-on-one interviews and focus group interviews; however, the pandemic affected people's ability to participate in the study at the time. While my study still generated a significant amount of data in the different interviews, I consider the participant attrition due to COVID-19 a limitation because it made it challenging to reschedule and recruit new participants.

Third, in Phases I and III I presented preliminary findings from my study to the focus groups. There is potential that by sharing preliminary findings from my study that the focus groups participants are directed towards a specific idea rather than talking about what naturally might come. As mentioned previously, the purpose of sharing the preliminary findings was to stimulate the conversation within the focus groups. Based on this study's findings, it appears that the preliminary findings may have prompted initial discussion yet did not limit what was discussed in the focus groups as several new ideas emerged through the conversations.

Finally, in Phase II within the early career cohort I combined dietitians with less than 5 years of practice experience with dietitians who had 6-10 years of experience. In general, less 5 years of experience is considered “early career” and those with 6-10 years of experience have considerably more practice experience. I combined these two groups together to manage the amount of data however, the actual range of experience of the four cases that were included in the cross-case analysis was 2-7 years of experience and three of these dietitians had 5 years of experience or less.

Summary

My study explored the ways in which Canadian dietitians develop and use their leadership skills in practice. In doing so, I investigated the current context of dietetic education in providing leadership development and engaged dietitians in conversations about how they use their leadership skills in practice. I also invited dietetic educators to make suggestions on how leadership skills can be developed through dietetic education since the new ICDEP version 3.0 (PDEP, 2020) suggests dietitians use leadership in their work.

My research makes unique contributions to the dietetic profession as well as to theories and methodology because the application of these theories and methodology to dietetic education is limited. This chapter presented a discussion in response to my research questions. By employing several qualitative techniques, I found that dietetic education does provide development of transferrable skills, communication and collaboration, that are necessary for leadership. My multi-case study with dietitians in practice demonstrated how they use their leadership in a variety of contexts and throughout their careers. While most dietitians in my study did not hold formal leadership roles, it is evident they use their leadership skills in many areas of practice throughout their careers.

Chapter Eleven: Recommendations, Directions for Future Research, and Conclusion

This study begins to address the limited understanding of dietitians' leadership development and practice. To date, leadership skills of dietitians have not been explicitly inculcated within the profession. The new *Management and Leadership* domain suggests that dietitians can be leaders in health through nutrition services and food provision (PDEP, 2020). This study identified that the new domain was seen by some dietetic educators as a catch-all, which continues to emphasize management rather than leadership abilities. Furthermore, at the time of the focus group interviews, dietetic educators were uncertain about how to integrate leadership development into their courses. With the ICDEP version 3 being implemented in dietetic programs in the near future, dietetic educators must consider how to integrate leadership in curricula. With limited understanding of dietetic leadership, it remains challenging to effectively implement into dietetic education and practice.

To understand the current context of dietetic education, I conducted a documentary analysis of program documents and a focus group interview with dietetic educators to gather their perspectives. To gain an understanding of the ways in which dietitians develop and use their skills in practice, I used the LEADS in a Caring Environment framework as an analytical framework for the multi-case study. Interestingly, the LEADS framework was effective in highlighting the different ways dietitians use their skills and demonstrates that dietitians use leadership at all stages of their careers. In addition, there were several emergent themes related to leadership and other elements of my conceptual framework from the different interviews I conducted throughout my three-phase study. The final phase of my study engaged dietetic educators through focus group interviews to gather insights into potential strategies to improve

leadership development through programs. Thus, the findings from this study have implications for developing leadership in dietetics.

Recommendations for Dietetic Education and Practice

Although this study is limited to the perspectives shared from 10 dietetic educators who represented their programs and 35 dietitians in practice, several of the findings and implications may be generalized and applied to all dietetic programs and more broadly the dietetic profession. Based on my conceptual framework, I provide the following recommendations organized by macro-, meso-, micro-, and individual levels.

Macro-level Recommendations

The macro-level relates to the structures within a system. In dietetics, this includes competency-based curriculum, the ICDEP, and registration requirements.

- The Partnership for Dietetic Education and Practice should review the *Management and Leadership* domain. In doing so, tease apart performance indicators that relate to *leadership* and consider relevant indicators that directly reflect leadership in practice. The CanMEDS Leader Role (Royal College of Physicians and Surgeons of Canada, n.d.) provides an exemplar for the breadth of leadership abilities and these abilities are not unique to physicians and surgeons. The abilities include a range of leadership abilities such as “Leading change”, “Personal leadership skills”, “Priority setting”, “Quality improvement” and “Supervising other.” The purpose of this recommendation is not to discredit the step forward the PDEP and the dietetic profession has taken to include *leadership* as part of a domain, but rather to clearly articulate and define dietitians’ leadership for entry-level practice. Dietetic education and practice would benefit from a

dedicated leadership domain which reflects the similar breadth of leadership abilities outlined in CanMEDS.

- Dietetic regulatory colleges should consider the current context of dietitians' work. Recognize healthcare leadership as a practice area, which has been done in medicine and nursing (Miles & Scott, 2019; Royal College of Physicians and Surgeons of Canada, n.d.). As dietitians progress in their careers, some dietitians might choose unconventional jobs or career paths (Boitano, 2021); others aim for more formal leadership roles, which may not be in nutrition. Currently, for example, some colleges in Canada explicitly do not recognize holding a position solely in non-dietetic management (e.g., Vice President or Administrator of a hospital) as practicing dietetics (College of Dietitians of Ontario, 2022, p. 5). Insights from this present study suggest that dietitians work in a variety of settings other than traditional clinical environments. Dietitians and dietetic educators reported continued emphasis on clinical skillsets at the expense of developing other skills, which skews future dietitians' perceptions of career paths. The profession may benefit from recognizing career laddering into unconventional or interdisciplinary leadership roles as a part of dietetic practice. In relation to the previous recommendation, by clearly identifying dietetic leadership abilities, dietitians who are interested in pursuing leadership roles are more likely to maintain their registration.

Meso- and Micro-level Recommendations

The meso-level relates to institutional elements such as supply, demand, and retention of dietitians. The micro-level relates to practice elements such as team composition.

- Dietetic programs should explore ways to diversify their faculty. There is current research exploring the diversity of healthcare leadership in medicine and nursing. Studies

show that there are barriers to advancement into leadership roles for health professionals with diverse backgrounds. Dietetics also lacks diversity and suffers from racism and other forms of discrimination (Harris, 2021). Mahajan et al. (2021) wrote a call to action to improve racial diversity in dietetics. Racism perpetuates the lack of diversity in dietetics (Warren, 2019). Dietitians in this study also reported experiencing horizontal violence in the workplace. Burt et al. (2019) suggested mentorship as one strategy to increase diversity in dietetics. Dietetic programs have an opportunity to diversify their faculty by recruiting dietetic educators who not only have the skills and ability to teach and mentor different self-leadership skills but also represent the diverse workforce.

- Dietetic educators should continue integrating interprofessional learning experiences throughout health professions programs. Gergerich et al. (2019) identified in their study on interprofessional training that tension regarding the idea that the physician is the team leader continues to exist. Participants reported experiences with marginalization by team members and the tendency for issues related to hierarchy to go unresolved (Gergerich et al., 2019). In doing so, these learning experiences might increase the understanding of the capabilities of different health professions, which can address professional hierarchies and mitigate potential workplace discrimination. Dietitians work in collaboration with other health professions, and by creating more opportunities to work together can better prepare trainees for future work. There is an opportunity for dietetic education to collaborate with other health professions to develop interprofessional learning experiences that are inclusive of dietetic trainees.

Individual Level Recommendations

The individual level relates to leadership development, leadership practice, and leadership character.

- Dietitians should recognize self-leadership, interpersonal skills, and mentorship as part of their leadership. Dietitians use leadership skills in many ways, and may not hold formal leadership roles (e.g., mentorship). Recognizing forms of distributed leadership can develop and promote building leadership character, which is essential in all areas of practice. Ogilvie et al. (2021) also suggest self-leadership includes self-care, which is aligned with the LEADS capability “manage themselves” where an individual takes responsibility for their own performance and health. Communication and interpersonal skills are central to leadership and should be connected to leadership within the dietetic curricula. Research in medical and nursing education has identified the need for effective communication and interpersonal skills for practice (Miles & Scott 2019; Patel et al., 2019). Mentorship is a key part of leadership yet tends to lack formal recognition as a leadership skill. Mentors have a key role in advocating for greater health profession diversity in healthcare leadership roles (Gardner et al., 2019; Harris, 2021; Zambrano 2019). Harris (2021) describes the challenges minorities face in pursuing nurse executive leadership positions and suggests that mentors have a key role in reducing barriers to advancement. Furthermore, Zambrano (2019) writes that diversity includes more than racial or ethnic considerations; it also includes age and experience. Opportunity exists to develop entry-level competencies related to the LEADS capabilities *Lead self*, *Engage others*, and *Achieve results* because these are the leadership domains which appeared to be critical for early career dietitians’ practice.

- Dietitians could create a community of practice focused on leadership in dietetic practice. According to Wenger-Trayner and Wenger-Trayner (2015), “communities of practice are groups of people who share a concern or passion for something they do, and learn how to do it better as they interact regularly” (p. 1). A dietetic community of practice could lead the profession in best practices around leadership development. These groups can also engage individuals interested in developing their leadership and build connections with other healthcare leadership groups. There might be opportunities for a group to explore further mentorship within dietetics and formalizing mentorship as a part of dietetic leadership.

These recommendations for dietetic education and practice are based on the findings from this study. In addition to contributing to recommendations at different levels of the health system, the findings from this study also highlighted areas for future research related to leadership development for dietitians.

Directions for Future Research

The findings from this study raised several areas worthy of future research. I have identified five areas I believe are important and timely for the dietetic profession.

First, this study focused on dietetic programs delivered in English and the study was conducted in English. I recommend conducting a similar study and broaden the scope to include French programs and Francophone dietitians. A follow up study that is inclusive of both official languages could be conducted using very similar methods to those presented in this study. This study could provide a more robust understanding of leadership development across all programs in Canada.

Second, a study focused on gathering perspectives from specific cohorts (e.g., students, early career) and social categories (e.g., intersectional identities) would provide a more fulsome and diverse understanding of leadership. Most participants in Phase II had over 10 years of practice experience and self-identified as being white women. I suggest conducting a study that explores the experiences of students and entry-level dietitians or dietitians with less than 10 years of experience. This becomes particularly relevant since the latest Integrated Competency of Dietetic Education and Practice (PDEP, 2020) will be implemented into the curricula in the near future. I also suggest exploring the experiences of dietitians who self-identify with a minority group or have intersectional backgrounds. In my study, I attempted to include these voices by asking dietitians to disclose if they self-identified with a minority group. Also, using a GBA+ approach in my study made me conscious that some participants might have unique experiences related to another social category they self-identified with. A similar Phase II method could be followed for both objectives; however, consultations with an expert advisory committee to shape interview questions is recommended. Such a study could expand on the findings from Phase II and provide understanding of the unique leadership experiences of dietitians early in their careers and those who have diverse backgrounds.

Third, Phases I and III highlighted the challenges dietetic educators face within their institutions. Although this study focused on leadership development of dietitians and how they use their leadership in practice, it also raised awareness of the critical role educators have in shaping curricula. This study highlighted the commitment dietetic educators have to their programs. However, several dietetic educators reported experiencing institutional barriers, in particular for those who do not have PhDs, and horizontal violence within the profession. I

would recommend a study that unpacks these experiences further to enable educators to thrive in their chosen area of practice and workplace.

Fourth, collaboration was significant across all cohorts, especially for dietitians with more experience. Dietitians described how they work with other dietitians and health professionals in their day-to-day work, even the dietitians who work in private practice. From their experiences, dietitians talked about how they might use some of their leadership skills and other transferrable skills in collaborative situations. Although my study did not explicitly aim to explore the connection between collaboration in dietetic practice, my study identified collaborative practice as an area that may be worthwhile for further exploration. I recommend research that investigates more deeply specific collaborative practice to identify enabling factors and skills for dietitians to effectively collaborate with others.

Lastly, this study uncovered broader regulatory and organizational barriers that limit dietitians' ability to pursue leadership roles. Dietitians reported concerns of not meeting minimum practice hours if they pursue a non-nutrition leadership role; others described situations where they are not considered for interdisciplinary roles, which appear to prefer candidates with nursing backgrounds. The Partnership for Dietetic Education and Practice in collaboration with provincial dietetic regulatory colleges may want to explore factors that might influence dietitians' decision to linger or leave the profession. Findings from this study could inform the profession's advocacy work and determine strategies to shape the profession to the current health workforce landscape.

Conclusion

Leadership is important in dietetics. It can be cultivated through dietetic education and further developed throughout dietetic practice. To best understand the context of leadership in

dietetic education and practice, it is important to understand how it is currently taught in different programs as well as practicing dietitians' perspectives. This qualitative multi-case study explored how dietitians view and use leadership. It used the LEADS in a Caring Environment framework as an analytical tool to identify various dietitians' perspectives on leadership and their leadership experiences. This study also obtained perspectives of dietetic educators and explored how leadership is currently taught in dietetics.

The findings from this study showed that dietitians use leadership skills throughout their careers. Most dietitians have not received formal leadership development yet recognize that leadership is important in many aspects of their work, in particular self-leadership and engaging others. This study also uncovered the ways in which leadership is taught through dietetic education, considering it has not been considered an Integrated Competency of Dietetic Education and Practice competency requirement until recently. Dietetic educators can consider the different ways in which dietitians use leadership in practice, to inform leadership development curricula. The current curricula appear to prepare future dietitians in communication and collaboration skills, which was identified in this study as integral transferrable skills for effective leadership. The curricula can begin to develop additional leadership skills, better preparing dietitians for entry-level practice. Furthermore, the dietetic profession can consider how some of the systemic barriers contribute to dietitians' inability to be effective leaders, and how the profession can be addressed to better support and retain dietitians.

Dietetic leadership is a function of time, place, and circumstance; every dietitian works in a different context that demands customized action (Dickson & Tholl, 2020). The LEADS in a Caring Environment framework served to conceptualize dietetic leadership at different levels of the system. Furthermore, dietetic leadership is also influenced by systemic factors such as

professional norms and hierarchy, gender, and other social categories. While there is significant literature on health care leadership, the findings from this study point to the need to better understand leadership in the context of dietetics.

Although this chapter concludes my study, the conversation remains open for dietitians to truly discuss what is leadership within the profession. Findings from this study provide strong justification to further explore the ways in which leadership is developed and used in practice by dietitians. If dietitians are expected to “provide leadership to advance health” (PDEP, 2020, p. 17), then it is important to focus on how leadership is developed through the curricula and throughout the career trajectory.

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Appendix A

LEADS in a Caring Environment Domains and Capabilities

Adapted from Figure 3.1 *The LEADS in a Caring Environment capabilities framework* (Dickson & Tholl, 2020, pp. 42-44).

Lead self: Self-motivated leaders...

Are self-aware:

- Aware of their assumptions, values, principles, strengths and limitations

Manage themselves:

- They take responsibility for their own performance and health

Develop themselves:

- They actively seek opportunities and challenges for personal learning, character building and growth

Demonstrate character:

- They model qualities such as honesty, integrity, resilience, and confidence
-

Engage others: Engaging leaders...

Foster development of others:

- They support and challenge others to achieve professional and personal goals

Contribute to the creation of healthy organizations

- They create engaging environments where others have meaningful opportunities to contribute and ensure that resources are available to fulfill their expected responsibilities

Communicate effectively

- They listen well and encourage open exchange of information and ideas using appropriate communication media

Build teams

- They facilitate environments of collaboration and co-operation to achieve results
-

Achieve results: Goal-oriented leaders...

Set direction

- They inspire vision by identifying, establishing and communicating clear and meaningful expectations and outcomes

Strategically align decisions with vision, values and evidence

- They integrate organizational missions, values and reliable, valid evidence to make decisions
-

Take action to implement decisions

- They act in a manner consistent with the organizational values to yield effective, efficient public-centred service

Assess and evaluate

- They measure and evaluate outcomes. They hold themselves and other accountable for the results achieved against benchmarks and correct the course as appropriate
-

Develop coalitions: Collaborative leaders...

Purposefully build partnerships and networks to create results

- They create connections, trust and share meaning with individuals and groups

Demonstrate a commitment to customers and service

- They facilitate collaboration, cooperation and coalitions among diverse groups and perspectives aimed at learning to improve service

Mobilize knowledge

- They employ methods to gather intelligence, encourage open exchange of information, and use quality evidence to influence action across the system

Navigate socio-political environments

- They are politically astute. They negotiate through conflict and mobilize support.
-

Systems transformation: Successful leaders...

Demonstrate systems/critical thinking

- They think analytically and conceptually, questioning and challenging the status quo, to identify issues, solve problems and design and implement effective processes across systems and stakeholders

Encourage and support innovation

- They create a climate of continuous improvement and creativity aimed at systemic change

Orient themselves strategically to the future

- They scan the environment for ideas, best practices, and emerging trends that will shape the system

Champion and orchestrate change

- They actively contribute to change processes that improve health service delivery.
-

Appendix B
Proposed 2013 Competencies Related to Leadership

Adapted from the 2013 Integrated Competencies for Dietetic Education and Practice, Partnership for Dietetic Education and Practice, Canada

Competency Areas	Practice Indicators
Professional Practice	
1.11	Assess and enhance approaches to dietetic practice.
1.12	Contribute to advocacy efforts related to nutrition and health.
1.13	Participate in practice-based research.
Communication and Collaboration	
2.05	Contribute to the learning of others.
Management	
5.01	Assess strengths and needs of programs and services related to dietetics.
5.02	Manage programs and projects.

Appendix C
Management and Leadership Competencies Released in 2020

Adapted from the 2020 Integrated Competencies for Dietetic Education and Practice, Partnership for Dietetic Education and Practice, Canada

Eight practice competencies are associated with the Management and Leadership domain:

ICDEP 2020	ICDEP 2013
Manage programs and projects (4.01)	formerly Management 5.02
Assess and enhance approaches to practice (4.02)	formerly Professional Practice 1.11
Participate in practice-based research activities (4.03)	formerly Professional Practice 1.13
Undertake knowledge translation (4.04)*	Not applicable
Advocate for ongoing improvement of nutritional health and care (4.05)	formerly Professional Practice 1.12
Foster learning in others (4.06)	formerly Communication and Collaboration 2.05
Foster development of food literacy in others (4.07)*	Not applicable
Foster development of food skills in others (4.08)*	Not applicable

*New competence

Note: Management 5.01 (from ICDEP 2013) - assess strengths and needs of programs and services related to dietetics was eliminated.

Appendix D
Expert Committee Confidentiality Agreement

Consultative Expert Committee Confidentiality Agreement

Project title:

A multiple case study exploration of leadership skills development and use by dietitians

Principal investigator: Billie Jane Hermosura

I, _____, am participating in the above-reference project in the capacity of Consultative Expert Committee Member, and may have access to data collected during the course of this Project, including characteristics of participants. I agree that I will:

1. Keep all research information shared with me confidential by not discussing or sharing the information in any form or format (e.g., disks, tapes, transcripts) with anyone other than the primary investigator of this project and other Consultative Expert Committee Members during panel discussions;
2. Keep all research information in any form or format (e.g., disks, tapes, transcripts) secure while it is in my possession. This includes permanently deleting any e-mail communication containing the data after use;
3. Return all research information in any form or format (e.g., disks, tapes, transcripts) to the primary investigator when I have completed the research tasks;
4. Erase or destroy all research information in any form or format that is not returnable to the primary investigator (e.g., information stored on my computer hard drive) upon completion of the research tasks.
5. These obligations of confidentiality will continue after my participation in the Project has ended.

Signature of the consultative expert committee member

Date

Email:

Phone Number:

Signature of the primary investigator

Date

Appendix E
University of Ottawa Research Ethics Board Certificate

Université d'Ottawa

Bureau d'éthique et d'intégrité de la recherche

University of Ottawa

Office of Research Ethics and Integrity

CERTIFICAT D'APPROBATION ÉTHIQUE | CERTIFICATE OF ETHICS APPROVAL

Numéro du dossier / Ethics File Number	S-11-19-4903
Titre du projet / Project Title	A multiple case study exploration of leadership skills development and use by dietitians
Type de projet / Project Type	Thèse de doctorat / Doctoral thesis
Statut du projet / Project Status	Renouvelé / Renewed
Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy)	02/12/2019
Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy)	01/12/2021

Équipe de recherche / Research Team

Chercheur / Researcher	Affiliation	Role
Billie Jane HERMOSURA	Faculté d'éducation / Faculty of Education	Chercheur Principal / Principal Investigator
Christine SUURTAMM	Faculté d'éducation / Faculty of Education	Superviseur / Supervisor
Ivy BOURGEAULT	École de gestion Telfer / Telfer School of Management	Co-superviseur / Co-supervisor

Conditions spéciales ou commentaires / Special conditions or comments

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www.recherche.uottawa.ca/deontologie | www.recherche.uottawa.ca/ethics

Université d'Ottawa

Bureau d'éthique et d'intégrité de la recherche

Le Comité d'éthique de la recherche (CÉR) de l'Université d'Ottawa, opérant conformément à l'*Énoncé de politique des Trois conseils* (2014) et toutes autres lois et tous règlements applicables, a examiné et approuvé la demande d'éthique du projet de recherche ci-nommé.

L'approbation est valide pour la durée indiquée plus haut et est sujette aux conditions énumérées dans la section intitulée "Conditions Spéciales ou Commentaires". Le formulaire « Renouvellement ou Fermeture de Projet » doit être complété quatre semaines avant la date d'échéance indiquée ci-haut afin de demander un renouvellement de cette approbation éthique ou afin de fermer le dossier.

Toutes modifications apportées au projet doivent être approuvées par le CÉR avant leur mise en place, sauf si le participant doit être retiré en raison d'un danger immédiat ou s'il s'agit d'un changement ayant trait à des éléments administratifs ou logistiques du projet. Les chercheurs doivent aviser le CÉR dans les plus brefs délais de tout changement pouvant augmenter le niveau de risque aux participants ou pouvant affecter considérablement le déroulement du projet, rapporter tout événement imprévu ou indésirable et soumettre toute nouvelle information pouvant nuire à la conduite du projet ou à la sécurité des participants.

Marc Alain BONENFANT

Coordonnateur de l'éthique / Ethics Coordinator

Pour/For **Barbara GRAVES** Président(e) du/ Chair of the **Comité d'éthique de la recherche en sciences sociales et humanités / Social Sciences and Humanities Research Ethics Board**

University of Ottawa

Office of Research Ethics and Integrity

The University of Ottawa Research Ethics Board, which operates in accordance with the *Tri-Council Policy Statement* (2014) and other applicable laws and regulations, has examined and approved the ethics application for the above-named research project.

Ethics approval is valid for the period indicated above and is subject to the conditions listed in the section entitled "Special Conditions or Comments". The "Renewal/Project Closure" form must be completed four weeks before the above-referenced expiry date to request a renewal of this ethics approval or closure of the file.

Any changes made to the project must be approved by the REB before being implemented, except when necessary to remove participants from immediate endangerment or when the modification(s) only pertain to administrative or logistical components of the project. Investigators must also promptly alert the REB of any changes that increase the risk to participant(s), any changes that considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project or the safety of the participant(s).

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Appendix F

List of the 13 Canadian Universities Offering Dietetic Programs in English

Adapted from Partnership for Dietetic Education and Practice (n.d.). Accredited programs in Canada <https://www.pdep.ca/accreditation/accredited-program-list.aspx>

1. University of British Columbia
2. University of Alberta
3. University of Saskatchewan
4. University of Manitoba
5. University of Guelph
6. Brescia University College
7. University of Toronto
8. Toronto Metropolitan University (formerly Ryerson University)
9. McGill University
10. University of Prince Edward Island
11. Mount Saint Vincent University
12. St. Francis Xavier University
13. Acadia University

Institution	Website
<u>Undergraduate degrees: Fully Integrated (Academic education and practicum training)</u>	
University of Alberta	https://www.ualberta.ca/agriculture-life-environment-sciences/programs/undergraduate-programs/degree-programs/nutrition-food-science/dietetics-specialization
University of British Columbia	http://www.landfood.ubc.ca/academics/undergraduate/fnh/dietetics/
McGill University	http://www.mcgill.ca/nutrition/programs/undergraduate/dietetics
University of Saskatchewan	https://pharmacy-nutrition.usask.ca/
<u>Undergraduate degrees: Partially Integrated (Academic education and some practicum training)</u>	
Acadia University -BSc in Nutrition (Dietetics option) -Dietetics Practicum Program	https://nutrition.acadiau.ca/home.html
Mount Saint Vincent University -BSc (Dietetics) -Internship Education Program	http://www.msvu.ca/en/home/programsdepartments/professionalstudies/appliedhumannutrition/default.aspx
St. Francis Xavier University -BSc Human Nutrition Program -Integrated Dietetic Internship	https://sites.stfx.ca/human_nutrition/

University of Prince Edward
Island
-BSc in Food and Nutrition <http://www.upei.ca/science/applied-human-sciences>
-Integrated Dietetic Internship

Undergraduate degrees: Not Integrated (Academic education only)

University of Manitoba <http://umanitoba.ca/faculties/afs/dept/fhns/programs/HNS/index.html>
Brescia University College <http://brescia.uwo.ca/academics/undergraduate-programs/school-of-food-nutritional-sciences/foods-and-nutrition/>
Ryerson University <https://www.ryerson.ca/nutrition/>
University of Guelph <https://www.uoguelph.ca/family/>

Combined Masters Practicum Program (Masters education and practicum training)

Mount Saint Vincent
University <https://www.msvu.ca/en/home/programsdepartments/graduatestudiesatthemount/appliedhumannutrition/programrequirements.aspx>
-MScAHN with internship
Brescia University College <http://brescia.uwo.ca/academics/graduate-programs/mscfn-prospective-students/internship-stream-admissions/>
-MSc in Food and Nutrition
(internship stream)
Ryerson University <https://www.ryerson.ca/nutrition/programs/nutrition-communication-mhsc/>
-MHSc in Nutrition
Communication
University of Guelph <https://www.uoguelph.ca/family/master-applied-nutrition>
-Master of Applied Nutrition
University of Toronto <http://www.dlsph.utoronto.ca/program/mpn-nutrition-and-dietetics/>
-MPH, Nutrition and Dietetics
McGill University <https://www.mcgill.ca/study/2015-2016/faculties/macdonald/graduate/programs/master-science-applied-msca-human-nutrition-non-thesis-%E2%80%94-diete>
-Master of Science Applied
program in Human Nutrition
(Dietetics)

Appendix G

Phase I Invitation to Share Program Documents - Email

Dear [Name]:

My name is Billie Jane Hermosura (Joy, you may remember me!) and I am a PhD Candidate in the Faculty of Education at the University of Ottawa, working with Dr. Christine Suurtamm and Dr. Ivy Bourgeault. My research project is titled: *Learning to lead: A multi-case study exploration of leadership skills development and use by dietitians* and strives to understand the ways in which leadership skills are developed in and used by dietitians.

I would like to invite you to take part in my study, which includes three phases. **As a dietetic program director/educator, you are invited to participate in Phase I and/or Phase III.** You may choose to be involved in one or both phases.

Phase I consists of a document analysis of curricula and education program documents. It also includes a focus group of dietetic educators to validate the findings from the document analysis. If you are interested in participating in Phase I focus group, it will involve participating in one virtual focus group session that would last up to 90-minutes. More information about my project is attached in the "Focus Group Phase I Invitation".

I am currently asking dietetic programs to share with me course syllabi, assignment descriptions, internship placement handbooks, etc. that might provide insight into programs teach "leadership" to dietetic students and interns. In particular, I'm interested in documents that relate to ICDEP 2013:

Competency Areas	Practice Competencies
Professional Practice	
1.11	Assess and enhance approaches to dietetic practice.
1.12	Contribute to advocacy efforts related to nutrition and health.
1.13	Participate in practice-based research.
Communication and Collaboration	
2.05	Contribute to the learning of others.
Management	
5.01	Assess strengths and needs of programs and services related to dietetics.
5.02	Manage programs and projects.

I would appreciate your participation in **Phase I** of my project through sharing program documents and joining one of the focus groups. Thank you for your time! If you have any questions about the study, please contact me. My email address is [intentionally blank].

Sincerely,
Billie Jane

--

Billie Jane Hermosura MAdEd, MAN, PMP, RD
Doctoral Candidate
Faculté d'Éducation | Faculty of Education
Université d'Ottawa | University of Ottawa

Appendix H
Data Extraction Tool Template and Examples of Extraction

Document Analysis Extraction Tool (Template)

Project Title	Learning to lead: A multiple case study exploration of leadership skills development and use by dietitians
University	
Program Name	
Program Type	<input type="checkbox"/> Fully Integrated <input type="checkbox"/> Partially Integrated <input type="checkbox"/> Not Integrated <input type="checkbox"/> Post Degree <input type="checkbox"/> Master's Degree and Practicum
Program Documents Received	<ul style="list-style-type: none"> • [list]

Document Name:

Competency	How is this competency designed into the curricula?	How is this competency taught?	How is this competency evaluated?
Professional Practice			
1.11 Assess and enhance approaches to dietetic practice			
1.12 Contribute to advocacy efforts related to nutrition and health			
1.13 Participate in practice-based research			
Communication			
2.05 Contribute to the learning of others			
Management			
5.01 Assess strengths and needs of programs and			

services related to dietetics			
5.02 Manage programs and projects			

How does the content relate to LEADS domains?

LEADS Domain	Evidence in document content
Lead Self	
Engage Others	
Achieve Results	
Develop Coalitions	
Systems Transformation	

Document Analysis Extraction Tool (Example)

Project Title	Learning to lead: A multiple case study exploration of leadership skills development and use by dietitians
University	[REMOVED]
Program Name	School of Nutrition and Dietetics
Program Type	<input type="checkbox"/> Fully Integrated <input checked="" type="checkbox"/> Partially Integrated <input type="checkbox"/> Not Integrated <input checked="" type="checkbox"/> Post Degree <input type="checkbox"/> Master's Degree and Practicum
Program Documents Received	Four documents from educator: <ul style="list-style-type: none"> • Affecting Change in Nutrition and Dietetics Course Outline • Critical Nutrition Counselling Course Outline • Introduction to Research in Nutrition and Health • Senior Seminar Course Description and Assignments/Grading Guide

Integrated Practicum stream:

- Application is made in January of the third year of study
- 48 weeks in two levels taken in two courses, [REMOVED COURSE NAMES]
- Level 1: 16 weeks, is completed from May to August between third and fourth year
- Level 2: 32 weeks, is completed between May and December after the fourth year of study
- Unsuccessful applicants who meet the eligibility criteria can reapply to the graduate stream in their final year of study

Graduate Practicum stream:

- Application is made in the final year of study

- 48 consecutive weeks consisting of two courses, [REMOVED] and [REMOVED]
- The courses are taken between September and August (with a two-week break in December)

.....

Document Name: Review of Courses: Foundational Knowledge Content Area and Level of Cognitive Complexity [Example of a document found online (not from educator)]

Competency	How is this competency designed into the curricula?	How is this competency taught?	How is this competency evaluated?
Professional Practice			
1.11 Assess and enhance approaches to dietetic practice	Content area: -application of dietary requirement, guidelines, and guidance tools to food planning -menu planning and institutional menu mods	NUTR 1###, 4###	Not Available
1.12 Contribute to advocacy efforts related to nutrition and health	Content area: -influence of politics -patient / client / family / community-centred care -Advocacy - Strategies for public and pop health... advocacy... -Social justice, diversity and equity in society -Cultural competence	NUTR 2###, 2###, 3###, 3###, 3###, 3###, 4###, 4###	Not Available
1.13 Participate in practice-based research	Research and evaluation	NUTR 1###, 3###, 3###, 3###, 4###, 4###, 4###	Not Available
Communication			
2.05 Contribute to the learning of others	Content area: -strategies for effective written, oral, and interpersonal comm	NUTR 1###, 3###, 3###, 3###, 3###, 3###, 4###, 4###, 4###	Not Available

	-counselling strategies and techniques -teaching and learning		
Management			
5.01 Assess strengths and needs of programs and services related to dietetics	Content area: -food service facility design -organization and delivery of care -emergency and disaster planning -HACCP -human resource, financial, technical, equipment needs	NUTR 1###, 3###, 4###, 4###	Not Available
5.02 Manage programs and projects	-issues and trends -project management -quality improvement -strategic and operational planning incl needs assessment, goal setting and outcome assessment	NUTR 3###, 3###, 4###, 4###, 4###	Not Available

Content area: **Collaborative leadership** in NUTR 3### and 3### (Level of Cognitive Complexity “2” Demonstrate comprehension; not “3” Analyze, interpret and apply knowledge)

How does the content relate to LEADS domains?

LEADS Domain	Evidence in document content
Lead Self	Professional practice: Reflective practice, professional development, decision making (NUTR 3###, 3###, 4###)
Engage Others	Communication, IP collaboration, team functioning (NUTR 1###, 3###, 3###, 3###, 4###)
Achieve Results	Counselling strategies and techniques
Develop Coalitions	IP conflict resolution NUTR 3###, Collaborative leadership (NUTR 3###, 3###)
Systems Transformation	Strategic and ops planning; Quality improvement (NUTR 4###, 4###, 4###)



Document Name: Critical Nutrition Counselling Course Outline and Schedule of Dates
[Example 1 of a document from educator]

Competency	How is this competency designed into the curricula?	How is this competency taught?	How is this competency evaluated?
Professional Practice			
1.11 Assess and enhance approaches to dietetic practice	This course is the study of nutrition counselling approaches that integrate critical social theory. Students will apply relevant theory in practice sessions to enhance confidence and competence in preparation for their counselling role.	This is a discussion-based, active and participatory learning course. All participants (students/professor) will engage in co-creation of a collaborative learning community.	Participation mark in-class
1.12 Contribute to advocacy efforts related to nutrition and health	None	None	None
1.13 Participate in practice-based research	None	None	None
Communication			
2.05 Contribute to the learning of others	None	None	None
Management			
5.01 Assess strengths and needs of programs and services related to dietetics	Two book study presentations and discussion leader (on a section of the course books)	<p><i>three things you should know;</i> articulate at least one ‘basic truth’ about critical nutrition counselling; pose two points for discussion facilitate class discussion; respond to questions</p> <p>Reflect on the process of developing</p>	<p>In class presentation/discussion (20 minutes including class discussion)</p> <p>evidence of preparation (reading/consultation) presentation of question(s) to be explored description of explorations underway (if applicable)</p>

	Basic Truths Reflections (5 pages double spaced max)	the truths as a learning group. APA writing style required.	demonstrated depth of learning able to respond to class feedback able to respond to questions (to elaborate on concepts) integration of truths able to facilitate discussion
5.02 Manage programs and projects	None	None	None

How does the content relate to LEADS domains?

LEADS Domain	Evidence in document content
Lead Self	Reflective paper
Engage Others	Engagement/facilitation/participation
Achieve Results	None
Develop Coalitions	None
Systems Transformation	None

.....

Document Name: Senior Seminar Course Description and Assignments/Grading Guide
[Example 2 of a document from educator]

Competency	How is this competency designed into the curricula?	How is this competency taught?	How is this competency evaluated?
Professional Practice			
1.11 Assess and enhance approaches to dietetic practice	None	None	None
1.12 Contribute to advocacy efforts related to nutrition and health	None	None	None
1.13 Participate in practice-based research	Evaluation of current research literature and its	Options for what to study include:	Evaluation Grid: Declaration of Intent/consultation report

	<p>application to nutritional issues. Literature review, written and oral presentation of an independent study on a current topic of concern in nutrition.</p>	<ul style="list-style-type: none"> • a food or nutrition-related topic covered in a course that a student wants to pursue in more depth • a food or nutrition-related topic of interest that was not covered in a course • a food or nutrition-related issue or concern that one finds upsetting • topics related to faculty members' programs of research and/or projects. <p>All students in Senior Seminar, including Honours thesis students, will give a formal presentation of their projects as one would give at a professional meeting or conference.</p>	<p>Abstract Professional presentation Written report Moderator/Host/Facilitator Take home reflection on weekly journal entries and self-assessment re: participation and engagement Evaluation of peer presentations (3 required) - one mark deducted for each missed peer evaluation Questions posed in class (a minimum of 4 over the term) have these signed off each week when questions asked during peer presentations; up to 8 marks deducted if questions not posed during the term Weekly journal entries (-2 for each week missed) Expectation is 100% attendance at/participation in all 12 classes 1 mark deducted for any missed class</p>
Communication			
2.05 Contribute to the learning of others	This course features collaborative learning. The entire success of this course depends on	Share information, discuss, support, contribute to, or refute information presented.	In-class participation

	students review of pre-circulated abstracts about peers' presentations and coming to class prepared to discuss their ideas.		
Management			
5.01 Assess strengths and needs of programs and services related to dietetics	None	None	None
5.02 Manage programs and projects	None	None	None

How does the content relate to LEADS domains?

LEADS Domain	Evidence in document content
Lead Self	Student's responsibilities, academic integrity
Engage Others	Collaborative learning
Achieve Results	Progression of assignments
Develop Coalitions	N/A
Systems Transformation	N/A

Summary of Extraction

Five documents for this university were reviewed (one found online, four shared by one of the dietetic educators). This university offers an integrated and post-degree option for dietetics, where both options providing the dietetic trainee with 48 weeks of practical training through an "internship". Eligible students interested in the integrated dietetic program may apply in January of their third year; if they are not successful then they may consider applying with other eligible students for the graduate dietetic internship in their final year of studies.

Two program documents found online that were considered relevant to this study are: 1) 'Foundational Knowledge Content Area and Level of Cognitive Complexity' and 2) a joint report with [Removed Identifiers] entitled 'Review of University-Based Nutrition Programs in [Removed Province]'. One dietetic educator from [the] University shared four course syllabi, course schedule, and evaluation grids. The following information was gathered.

Professional Practice:

1.11 Assess and enhance approaches to dietetic practice

This is designed in the curricula through content related to the application of dietary requirement and guidelines, tools for food and menu planning, and institutional menus modification. In addition, the ‘Critical Nutrition Counselling’ covers nutrition counselling approaches that integrate critical social theory. Students apply relevant theory in practice sessions to enhance confidence and competence in preparation for their counselling role. The way this is taught is through discussion-based, active and participatory learning. All participants (students/professor) engage in co-creation of a collaborative learning community. Evaluation is based on in-class participation and the mark is given by the professor.

1.12 Contribute to advocacy efforts related to nutrition and health

This indicator is designed in the curricula through several content topics including influence of politics on nutrition and health, patient / client / family / community-centred care, advocacy, social justice, diversity and equity in society, and cultural competence. The indicator is taught through at least eight courses. It is unknown through this analysis how it is evaluated.

1.13 Participate in practice-based research

Students are taught how to evaluate current research literature and its application to nutritional issues. This is done through learning how to conduct literature reviews, and written and oral presentations of an independent study on a current topic of concern in nutrition. Options for what to study include:

- a food or nutrition-related topic covered in a course that a student wants to pursue in more depth
- a food or nutrition-related topic of interest that was not covered in a course
- a food or nutrition-related issue or concern that one finds upsetting
- topics related to faculty members’ programs of research and/or projects.

Practice-based research is taught through activities in at least seven courses.

One of the documents reviewed provide a specific example of how practice-based research is integrated into the curricula, taught in the course, and evaluated. All students in Senior Seminar, including Honours thesis students, give a formal presentation of their projects as one would give at a professional meeting or conference. An evaluation grid includes the following criteria: Declaration of Intent/consultation report, Abstract, Professional presentation, Written report, Moderator/Host/Facilitator, Take home reflection on weekly journal entries and self-assessment re: participation and engagement, and Evaluation of peer presentations (3 required). One mark is deducted for each missed peer evaluation. Additional marks are given for questions posed in class (a minimum of 4 over the term); these marks are to be signed off each week when questions asked during peer presentations; up to 8 marks deducted if questions not posed during the term. In addition, weekly journal entries (-2 for each week missed). Expectation is 100% attendance at/participation in all 12 classes; 1 mark deducted for any missed class.

Communication:

2.05 Contribute to the learning of others

At least nine required courses include this indicator as part of the learning objectives. This is achieved through teaching the students strategies for effective written, oral, and interpersonal communications, and counselling strategies and techniques.

One of the course documents reviewed features collaborative learning. The entire success of this course depends on students review of pre-circulated abstracts about peers' presentations and coming to class prepared to discuss their ideas. Students are encouraged to share information, discuss, support, contribute to, or refute information presented. In-class participation marks are given.

In addition, counselling strategies and techniques is noted as a learning objective in at least one course. Through this course, students learn how to effectively counselling clients/patients, by learning how to use motivational interviewing skills. These skills are practiced with peers, which may activity contributes to the learning of others and themselves.

Management:

5.01 Assess strengths and needs of programs and services related to dietetics

At least five required courses address this indicator. The key content areas included in these courses address: food service facility design, organization and delivery of care, emergency and disaster planning, HACCP, and human resource, financial, technical, and equipment needs.

One course in particular uses a book study activity where students read two books, then present and lead a discussion with their peers. Another activity in this course asks students to articulate at least one 'basic truth' about a topic and pose at least two points for discussion. Through this activity, students are asked to critically reflect on the process, assessing the strengths and needs discussed among the group as it relates to program or service delivery in dietetics. The in-class presentation/discussion is 20 minutes (including class discussion), and students are evaluated by the instructor based on the evidence of preparation (reading/consultation), presentation of question(s) to be explored and description of explorations underway (if applicable). The criteria includes the student's ability to demonstrated depth of learning, able to respond to class feedback, able to respond to questions (to elaborate on concepts), integration of truths, and able to facilitate discussion.

5.02 Manage programs and projects

At least five courses align with managing programs and projects, however it is unclear how it is taught or evaluated through these courses because none of the specific course syllabi were reviewed. According to the 'Review of Courses' document, discussions about issues and trends in nutrition, and strategic and operational planning including needs assessment, goal setting and outcome assessment are strategies to integrate this indicator in courses.

Alignment with LEADS

Upon review of the five program documents, there is evidence of leadership development activities, primarily in the 3#### and 4#### level courses.

Lead Self

Professional practice: Reflective practice, professional development, decision making
 Student Leadership Challenge - Student Leadership Principles (NUTR 4####)

Reflective paper (NUTR 4####)

Academic integrity, Professional demeanor (NUTR 4####)

Student's responsibilities, academic integrity

Engage Others

Communication, IP collaboration, team functioning

'Teaching' will be in the form of encouraging reflection and integrating/synthesizing of ideas.

NUTR 4####)

Engagement/facilitation/participation (NUTR 4####)

Contribute to a collaborative learning community by completing the recommended readings and participating in class discussions. (NUTR 4####)

Collaborative learning (NUTR 4####)

Achieve Results

Counselling strategies and techniques

Enhance professional presentation skills through participation in a Research Proposal Showcase (a professional conference style poster presentation). (NUTR 4####)

Progression of assignments (NUTR 4####)

Develop Coalitions

IP conflict resolution (NUTR 3553)

Collaborative leadership (NUTR 4####)

Systems Transformation

Strategic and ops planning; Quality improvement

We make the road by walking (book) NUTR 4####)

Appendix I

Phase I Focus Group Consent Form

Université d'Ottawa | University of Ottawa

Consent Form for Participation in Research Phase I - Focus Group

Learning to lead: A multicase study exploration of leadership skills development and use by dietitians

Principal Investigator:

Billie Jane Hermosura
PhD Candidate
Faculty of Education
University of Ottawa
Ottawa, ON

Supervisors:

Christine Suurtamm EdD
Professor
Faculty of Education
University of Ottawa
Ottawa, ON
(613) 562-5800 ext.
4892
suurtamm@uottawa.ca

Ivy Bourgeault PhD
Professor
Telfer School of
Management
University of Ottawa
Ottawa, ON
(613) 562-5800 ext.
8614
ibourgea@uottawa.ca

Invitation to Participate: I am invited to participate in the research study entitled *Learning to lead: A multicase study exploration of leadership skills development and use by dietitians* conducted by Billie Jane Hermosura at the University of Ottawa.

Purpose of the Study: I understand that the purpose of this study aims to understand the ways in which leadership skills are developed in and used by dietitians.

Participation: My participation will consist essentially of ONE virtual focus group interview that would last up to 90 minutes, during which I will respond to interview questions and engage in discussion about the topic with other participants. The interview session has been scheduled for [April 20, 2020] and the session will occur virtually (Zoom). The session will be audio recorded, then transcribed verbatim.

Risks: I understand that my participation in this study may entail that I volunteer some personal information about my work experiences, and I understand that my identity may become known to other participants in the focus group. I have received assurance from the researcher that every effort will be made to minimize these risks by keeping files confidential and maintaining anonymity about participants(s).

Benefits: My participation in this study will contribute to understanding the topic from a dietitian educator's perspective. It will also contribute to informing subsequent phases of a PhD thesis project. This study may assist in developing a leadership framework for dietetics.

Confidentiality and Anonymity: I have received assurance from the researcher that the information I will share will remain strictly confidential and anonymity will be protected by using file codes and aliases. I understand that the information I provide will be used only for understanding the topic area and may be used as quotes.

Expert Advisory Committee: I understand that this research includes an Expert Advisory Committee which may be informed of the educational programs and some of the demographic details of the participants in order to provide advice on key stages of the project. The Expert Advisory Committee will not have access to participants' codes or pseudonyms and will sign an Expert Advisory Committee

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Canada

Confidentiality Agreement. The researcher will ensure the information is anonymized before sharing with the Expert Advisory Committee; however, since the members of this expert committee will be advising or making suggestions on potential participants/organizations to contacts, I understand that there is a chance they might surmise or draw connections between some of the details given.

Conservation of data: The research data will be stored in password protected electronic files, on a password protected computer and hard copies of information will be stored in a secure cabinet in Billie Jane's home office. It will be stored for a period of 5 years after the publication of findings, at which time the data will be securely deleted.

Voluntary Participation: I am under no obligation to participate and if I choose to participate, I may withdraw from the study at any time and/or refuse to answer any questions. If I choose to withdraw after sharing my responses, since my interview data is interdependent with the broader focus group data, I understand that the research team may not be able to remove my data as it may be integral to the discussion.

Acceptance: I, _____ agree to participate in the above research study conducted by Billie Jane Hermosura of the Faculty of Education, University of Ottawa, whose research is under the supervision of Dr. Christine Suurtamm and Dr. Ivy Bourgeault. I understand that by accepting to participate I am in no way waiving my right to withdraw from the study.

If I have any questions about the study, I may contact the student and/or her professor using the contact information listed at the top of this form.

If I have any ethical concerns regarding my participation in this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, 550 Cumberland Street, Room 154, (613) 562-5387 or ethics@uottawa.ca

I will sign and send the consent form to Billie Jane ! _____. The Principal Investigator will then sign the consent form and send a copy back to me; I will keep this copy for myself.

Participant's signature

Date

Researcher's signature

Date

Appendix J

Phase III Focus Group Consent Form

Université d'Ottawa | University of Ottawa

Consent Form for Participation in Research Phase III - Focus Group

Learning to lead: A multicase study exploration of leadership skills development and use by dietitians

Principal Investigator:

Billie Jane Hermosura
PhD Candidate
Faculty of Education
University of Ottawa
Ottawa, ON

Supervisors:

Christine Suurtamm EdD
Professor
Faculty of Education
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Ivy Bourgeault PhD
Professor
Telfer School of
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Ottawa, ON
(613) 562-5800 ext.
8614
ibourgea@uottawa.ca

Invitation to Participate: I am invited to participate in the research study entitled *Learning to lead: A multicase study exploration of leadership skills development and use by dietitians* conducted by Billie Jane Hermosura at the University of Ottawa.

Purpose of the Study: I understand that the purpose of this study aims to understand the ways in which leadership skills are developed in and used by dietitians.

Participation: My participation will consist essentially of ONE virtual focus group interview that would last up to 90 minutes, during which I will respond to interview questions and engage in discussion about the topic with other participants. The interview session has been scheduled for [date: _____] virtually (Zoom). The session will be audio recorded, then transcribed verbatim.

Risks: I understand that my participation in this study may entail that I volunteer some personal information about my work experiences, and I understand that my identity may become known to other participants in the focus group. I have received assurance from the researcher that every effort will be made to minimize these risks by keeping files confidential and maintaining anonymity about participants(s).

Benefits: My participation in this study will contribute to understanding the topic from a dietitian educator's perspective. This study may assist in developing a leadership framework for dietetics and inform future implementation of 'leadership' in dietetic education and practice.

Confidentiality and Anonymity: I have received assurance from the researcher that the information I will share will remain strictly confidential and anonymity will be protected by using file codes and aliases. I understand that the information I provide will be used only for understanding the topic area and may be used as quotes.

Conservation of data: The research data will be stored in password protected electronic files, on a password protected computer and hard copies of information will be stored in a secure cabinet in Billie Jane's home office. It will be stored for a period of 5 years after the publication of findings, at which time the data will be securely deleted.

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Voluntary Participation: I am under no obligation to participate and if I choose to participate, I may withdraw from the study at any time and/or refuse to answer any questions. If I choose to withdraw after sharing my responses, since my interview data is interdependent with the broader focus group data, I understand that the research team may not be able to remove my data as it may be integral to the discussion.

Acceptance: I, _____ agree to participate in the above research study conducted by Billie Jane Hermosura of the Faculty of Education, University of Ottawa, whose research is under the supervision of Dr. Christine Suurtamm and Dr. Ivy Bourgeault. I understand that by accepting to participate I am in no way waiving my right to withdraw from the study.

If I have any questions about the study, I may contact the student and/or her professor using the contact information listed at the top of this form.

If I have any ethical concerns regarding my participation in this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, 550 Cumberland Street, Room 154, (613) 562-5387 or ethics@uottawa.ca

I will sign and send the consent form to Billie Jane _____ . The Principal Investigator will then sign the consent form and send a copy back to me; I will keep this copy for myself.

Participant's signature

Date

Researcher's signature

Date

Appendix K

Phase I Preliminary Findings Document Analysis Presentation


Université d'Ottawa | University of Ottawa

Preliminary Findings

- Document Analysis

Presented by: Bille Jane Hermosura PhD candidate

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Purpose of the study

- To better understand leadership in the context of dietetics
- To generate recommendations for how leadership development might be integrated into curriculum and professional learning

Research question for Phase I:

- How are leadership skills currently taught in dietetic education in Canada?

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13 Programs

• UBC	• UofT
• uAlberta	• McGill
• uSaskatchewan	• UPEI
• uManitoba	• MSVU
• Brescia	• Acadia
• uGuelph	• STFX
• Ryerson	

English programs only
Reviewed information available on websites and selection of program documents

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Types of Program Documents


Available on website:

- Admission requirements e.g. portfolio
- Resources for students
- Promotional materials
- Survey results, technical reports

Select program documents:

- Review of courses: Foundational knowledge content 'map'
- Course outlines or schedules
- Course assignments and rubrics or grading schemes
- Internship education program manuals

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Specific Competencies

Competency Areas	Practice Competencies
Professional Practice	
1.11	Assess and enhance approaches to dietetic practice.
1.12	Contribute to advocacy efforts related to nutrition and health.
1.13	Participate in practice-based research.
Communication and Collaboration	
2.05	Contribute to the learning of others.
Management	
5.01	Assess strengths and needs of programs and services related to dietetics.
5.02	Manage programs and projects.

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LEADS Framework


Dickson & Tholl, 2014

Competency: minimum skills and knowledge required

Capability: goes beyond the bare minimum; lifelong journey



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Document Analysis Extraction Tool

Project Title: Learning to lead: A multiple case study exploration of leadership skills development and use by dietitians

University: []

Program Name: []

Program Type:

- Fully Integrated
- Partially Integrated
- Not Integrated
- Post Degree
- Master Degree and Practices

Program Document Reviewed: []

Document Name: []

Competency	How is this competency designed into the curriculum?	How is this competency taught?	How is this competency evaluated?
Professional Practice			
1.1.1 Assess and determine appropriate level of clinical practice			
1.1.2 Conduct necessary client history and physical examination			
1.1.3 Participate in public health research			
Communication			
1.2.1 Communicate with the members of other professions			
1.2.2 Assess needs and needs of program and services/individual clients			
1.2.3 Manage program and practice			

How does the content relate to LEADS domains?


1.1.1 Lead Self: [] Evidence in document content: []

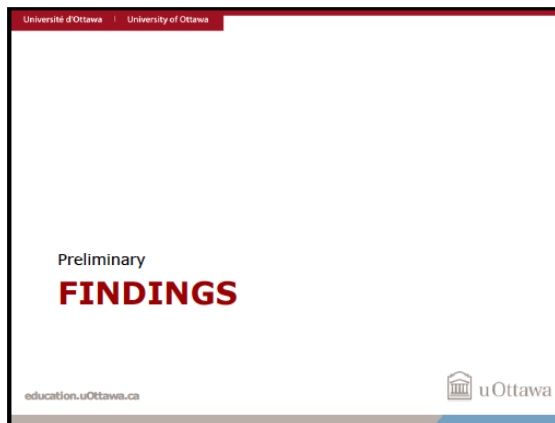
1.2.1 Engage Others: []

1.2.2 Achieve Results: []

1.2.3 Develop Coalitions: []

1.2.4 Systems Transformation: []

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General findings

UPEI:
"Essential skills"
Must have the capacity to develop leadership, management and supervisory skills
Preparing students to be leaders in their chosen discipline...

StFX:
Sir James Dunn awards provided to two interns who demonstrate the potential for leadership in dietetics as it relates to healthy aging and the nutritional care of the elderly.

At time of application, personal characteristics – evidence of communication skills and self-direction.

Range of in-class activities – Most common: group assignments, presentations, readings, guest speakers
- Other activities: creating blogs, podcasts, infographics

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Designed, Taught, Evaluated

Designed primarily through "Management" and "Professional Practice" courses

Also designed into "Public Health" or "Community" courses, and "Counselling" courses

Occasionally in "Nutrition Care" courses

Evaluation:
Graded in-class activity or assignment by instructor
Feedback and evaluation from preceptor

- Contribute to the learning of others
 - Discussions, presentations, blogs, podcasts, infographics, videos
- Participate in practice-based research
 - Literature review, PEN, research projects
- Develop business or new product plan


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Relation to LEADS domains

Lead Self
Engage Others
Achieve Results
Develop Coalitions
Systems Transformation

- Lead self: creation of portfolio, critical reflection
- Engage others: group projects, client-centred, interprofessional teams
- Achieve results: NCP, learning / project plans
- Less evidence on Develop coalitions and Systems transformation
 - TQM

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Appendix L

Phase II Recruitment Email and Poster

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Phase II - Case Study Interview Email Invitation

January 21, 2020

Hello!

My name is Billie Jane Hermosura and I am a PhD Candidate in the Faculty of Education at the University of Ottawa, working with Dr. Christine Suurtamm and Dr. Ivy Bourgeault.

I would like to invite you to take part in my study titled: *Learning to lead: A multicase study exploration of leadership skills development and use by dietitians*. This three phase project strives to understand the ways in which leadership skills are developed in and used by dietitians. **As a dietitian in practice, you are invited to participate in Phase II.**

Phase I consists of a document analysis of curricula and education program documents. It also includes focus groups of dietetic program directors/educators to validate the findings from the document analysis.

Phase II involves conducting one-to-one semi-structured interviews, which may be virtual or in-person, when feasible. Participating in **Phase II** would involve **one** interview that would last up to 90-minutes. The goal of **Phase II** is to develop greater understanding of leadership experiences of dietitians. Initially, participants will be selected on a first come/first serve basis; then a purposive sample will include dietitians from areas not already represented.

Finally, Phase III will consist of focus groups, again with dietetic program directors/educators, where I will discuss the Phase I and Phase II findings. Please note, the information that is share about Phase II will remain strictly confidential—you and your organization will not be identified. The purpose of Phase III is to utilize recent findings to illicit perspectives from dietetic educators on implications for dietetic education.

The results from this study will contribute to the body of literature strategies for developing leadership skills in health professionals, in particular through health professions education programs.

If you have any additional questions about the study, please contact me. My email address is billie.jane.hermosura@uottawa.ca.

I would appreciate your participation in my project. Thank you for your time!

Sincerely,
Billie Jane

Billie Jane Hermosura, PhD(c), RD
Faculty of Education, University of Ottawa

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Faculty of Education

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Dietitian Participants Needed for Research on Leadership Development



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Faculté d'éducation
Faculty of Education

Are you a registered dietitian in Canada?

Have you developed or considered developing your leadership skills?

If so, I would like to conduct a max. 90-minute interview with you online or over the phone. You will have the opportunity to contribute your thoughts about leadership development of dietitians.

All interviews will be conducted in **English**. Participation is **voluntary** and **confidential**.

For more information or to volunteer to participate in this study, please contact:

**Billie Jane Hermosura, PhD Candidate,
University of Ottawa**

at [REDACTED]

or her supervisors

Dr. Christine Suurtamm
Professor
christine.suurtamm@uottawa.ca

Dr. Ivy Lynn Bourgeault
Professor
ivy.bourgeault@uottawa.ca

Appendix M
Phase II Intake Form

RD Leadership Study Phase II - Intake Form

Thank you for expressing your interest in my research project (Phase II).

As you know, Phase II involves conducting one-to-one semi-structured interviews, which may be virtual or in-person, when feasible. Participating in Phase II would involve one interview that would last up to 90-minutes. The goal of Phase II is to develop a greater understanding of leadership experiences of dietitians.

Initially, participants will be selected on a first come/first serve basis; then a purposive sample will include dietitians from areas not already represented.

Please complete this form at your earliest convenience. It will help me organize the interviews and additional recruitment, if necessary.

* Required

1. Email *

2. What is your first name or how would you like to be addressed?

3. What province or territory do you live in?

Mark only one oval.

- British Columbia
- Alberta
- Saskatchewan
- Manitoba
- Ontario
- Quebec
- New Brunswick
- Nova Scotia
- Prince Edward Island
- Newfoundland and Labrador
- Yukon
- Northwest Territories
- Nunavut

4. What is your area of dietetic practice?

Check all that apply.

- Clinical, Hospital-based
- Community
- Long-term care
- Food service management
- Management, unrelated to nutrition/dietetics
- Policy, government
- Research
- Education
- Private practice
- Other: _____

5. Would you like to complete the interview by phone or virtual (such as Zoom or Skype)?

Check all that apply.

Phone

Virtual (e.g. Zoom or Skype)

Other: _____

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Google Forms

Appendix N

Phase II Consent Form

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Consent Form for Participation in Research Phase II - Case Study Interview

Learning to lead: A multicase study exploration of leadership skills development and use by dietitians

Principal Investigator:

Billie Jane Hermosura
PhD Candidate
Faculty of Education
University of Ottawa
Ottawa, ON

Supervisors:

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Ottawa ON K1N 6N5
Canada

Invitation to Participate: I am invited to participate in the research study entitled *Learning to lead: A multicase study exploration of leadership skills development and use by dietitians* conducted by Billie Jane Hermosura at the University of Ottawa.

Purpose of the Study: I understand that the purpose of this study aims to understand the ways in which leadership skills are developed in and used by dietitians.

Participation: My participation will consist essentially of ONE virtual individual interview that would last up to 90 minutes, during which I will respond to interview questions and engage in discussion about the topic. The interview session has been scheduled for [date, 2019] in [location] or virtually (Skype or Zoom). The session will be audio recorded, then transcribed verbatim. I will have the option to review my transcript and provide feedback or elaborate on my comments within two weeks. The transcript will be password protected and encrypted.

Risks: I understand that my participation in this study may entail that I volunteer some personal information about my work experiences. I have received assurance from the researcher that every effort will be made to minimize these risks by keeping files confidential and maintaining anonymity.

Benefits: My participation in this study will contribute to understanding the topic from a dietitian educator's perspective. It will also contribute to informing subsequent phases of a PhD thesis project. This study may assist in developing a leadership framework for dietetics.

Confidentiality and Anonymity: I have received assurance from the researcher that the information I will share will remain strictly confidential and anonymity will be protected by using file codes and aliases to mask personal identifying information. I understand that the information I provide will be used only for understanding the topic area and may be used as quotes.

Expert Advisory Committee: I understand that this research includes an Expert Advisory Committee which may be informed of the educational programs and some of the demographic details of the participants in order to provide advice on key stages of the project. The Expert Advisory Committee will not have access to participants' codes or pseudonyms and will sign an Expert Advisory Committee Confidentiality Agreement. The researcher will ensure the information is



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anonymized before sharing with the Expert Advisory Committee; however, since the members of this expert committee will be advising or making suggestions on potential participants/organizations to contacts, I understand that there is a chance they might surmise or draw connections between some of the details given.

Conservation of data: The research data will be stored in password protected electronic files, on a password protected computer and hard copies of information will be stored in a secure cabinet in Billie Jane's home office. It will be stored for a period of 5 years after the publication of findings, at which time the data will be securely deleted.

Voluntary Participation: I am under no obligation to participate and if I choose to participate, I may withdraw from the study at any time and/or refuse to answer any questions. If I choose to withdraw after sharing my responses, I also have the option to have my responses/data withdrawn and destroyed.

Acceptance: I, _____ agree to participate in the above research study conducted by Billie Jane Hermosura of the Faculty of Education, University of Ottawa, whose research is under the supervision of Dr. Christine Suurtamm and Dr. Ivy Bourgeault. I understand that by accepting to participate I am in no way waiving my right to withdraw from the study.

If I have any questions about the study, I may contact the student and/or her professor using the contact information listed at the top of this form.

If I have any ethical concerns regarding my participation in this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, 550 Cumberland Street, Room 154, (613) 562-5387 or ethics@uottawa.ca

I will sign and send the consent form to Billie Jane _____. The Principal Investigator will then sign the consent form and send a copy back to me; I will keep this copy for myself.

Participant's signature

Date

Researcher's signature

Date

Appendix O
Phase II Demographic Questionnaire

2. Question 1. What dietetic university program did you graduate from? *

Mark only one oval.

- University of Alberta
- University of British Columbia
- Université de Moncton
- Université d'Ottawa
- McGill University
- Université de Montréal
- Université Laval
- University of Saskatchewan
- Acadia University
- Mount Saint Vincent University
- St. Francis Xavier University
- University of Prince Edward Island
- University of Manitoba
- Brescia University College
- Ryerson University
- University of Guelph
- University of Toronto
- None of the programs listed

3. If you completed a dietetics program not listed, please describe here.

4. Question 2a. Did you earn a previous degree or diploma prior to studying nutrition and/or dietetics?

Mark only one oval.

Yes

No

5. Question 2b. If "Yes", please specify.

6. Question 3a. Did you earn a degree or post-graduate diploma after studying nutrition and/o dietetics?

Mark only one oval.

Yes

No

7. Question 3b. If "Yes", please specify.

8. Question 4. How many years of dietetic practice do you have? *

Mark only one oval.

Less than one year

1 year

2 years

3 years

4 years

5 years

6 years

7 years

8 years

9 years

10 years

11 years

12 years

13 years

14 years

15 years

16 years

17 years

18 years

19 years

20 years

21 years

22 years

23 years

24 years

25 years

26 years

- 27 years
- 28 years
- 29 years
- Over 30 years

9. Question 5. What is your current dietetic practice area(s)? *

Check all that apply.

- Clinical, hospital-based (including inpatient, outpatient, chronic disease management, specialty programs, etc.)
- Community or public health
- Primary care
- Long-term care (including home care, assisted/supported living, nursing homes, etc.)
- Food service management
- Nutrition services management, nutrition professional practice leadership
- Management, unrelated to nutrition or dietetics
- Policy, government
- Research
- Education
- Private practice
- Other: _____

Personal demographic questions

There are six questions in this section

10. 1. What is your gender? *

11. 2. What is your age group? *

Mark only one oval.

- 18-24 years old
- 25-29 years old
- 30-34 years old
- 35-39 years old
- 40-44 years old
- 45-49 years old
- 50-54 years old
- 55-59 years old
- 60+ years old
- Prefer not to specify

12. 3. Please indicate whether you consider yourself to be a member of one or more of the following visible minority groups. Choose all that apply.

Check all that apply.

- Black (e.g. African, African American, African Canadian, Caribbean)
- East Asian (e.g. Chinese, Japanese, Korean, Polynesian)
- South Asian (e.g. Indian, Pakistani, Sri Lankan, Bangladeshi)
- Southeast Asian (e.g. Burmese, Cambodian, Filipino, Laotian, Malaysian, Thai, Vietnamese)
- West Asian (e.g. Arabian, Armenian, Iranian, Israeli, Lebanese, Palestinian, Syrian, Turkish)
- Latin American (e.g. Mexican, Indigenous Central and South American)
- None
- I prefer not to respond

13. 4. Do you self-identify with, or have ancestry as an Aboriginal person (status or non-status Indian, Métis, or Inuit)?

Check all that apply.

- Yes, First Nations
 Yes, Métis
 Yes, Inuit/Inuk
 Yes, other
 No
 I prefer not to respond

14. 5. Do you self-identify with any disability or impairment? *

Check all that apply.

- Yes
 No
 I prefer not to respond

15. 6. What languages do you speak? *

Check all that apply.

- English
 French
 Other

16. If "Other", please specify.
-

Appendix P
Phase II Semi-structured Interview Guide

Phase II Case Study Interview Participants (Dietitians) - Interview Questions

Thesis Research Questions:

- 2a) How do dietitians develop and use leadership skills in practice?
2b) How do the ways in which dietitians use leadership skills align with LEADS?

Introduction:

Hi _____, thank you for agreeing to participate in this interview. **The purpose of this study is to learn about the leadership skills of dietitians and I'm curious to know in what ways dietetic education and/or professional learning experiences contribute to leadership development.**

There are no right or wrong answers to the questions being asked. I will be recording this discussion to ensure I do not miss any of your comments, and I can report your comments accurately. The information that you provide will be grouped into themes, and not identifiable to any other participants, so please feel free to be as open and honest as you wish with your responses. Your comments made during this discussion will be kept confidential.

Do you have any questions? If not, then let's begin.

Questions:

Key Question: these questions will be asked in the interview

Possible Follow-up Question: 1-2 of these questions may follow after the key question

1. To begin, can you please tell me how many years you have been practicing dietetics?

2. Which university did you attend to complete your dietetics education? Was it an integrated internship program?

- a) *Was this the first post-secondary program or degree you completed?*
b) *What attracted you to the dietetic profession?*

3. Where do you currently work as a dietitian?

4. What type of work do you do?

- a) *Do you work with nutrition or food on a day-to-day basis?*
b) *What other type of work (non-nutrition) do you do on a regular basis? How much of your day do you spend doing this type of work?*

5. How long have you practiced in this area?

- a) Have you worked as a dietitian elsewhere? Where else have you worked or practiced dietetics? (could be setting or outside of Canada)*
- b) What type of dietetics did you practice previously or earlier in your career?*

6. I'm curious to know, how would you define "leadership" based on your experience or, more specifically in your area of practice?

- a) In dietetics, do you know anyone you consider a leader? Can you tell me some characteristics you think define this particular leader?*

7. In what ways do you consider yourself a leader at work? Have you previously held or played a "leadership" type position as a dietitian?

8. In your current position _____ (response to Q4), in what ways are your leadership skills used?

- a) What kind of a leadership position would you like to have or play in the future?*

9. In your ____ (response to Q1) years of experience, how often would you say you worked as part of a team? This could be as part of a team of dietitians and an interdisciplinary team.

- a) What types of professions have you worked with as part of this/these team(s)?*

10. In what ways have you developed your leadership skills as a dietitian?

- a) What opportunities would you consider pursuing or have you pursued to further develop your leadership skills?*
- b) What opportunities would you recommend to another dietitian who would like to develop their leadership skills?*

Now we will move into questions that relate to the ways in which leadership skills might be used in practice [LEADS]. Reflecting on your current role as a dietitian...

1. Can you share with me an example of when you've demonstrated resilience or your self-confidence at work? What types of situations at work do you think a dietitian has to be resilient? In what ways has this changed from when you were a dietetic student, over your career, etc.?

- a) In what ways do you see yourself to be "self-motivated" or taking initiative?*
- b) Can you tell me about a time when you have taken responsibility for your own performance at work, or health and wellness?*
- c) What leadership strengths and limitation do you have or do you see in yourself? Again, as a reminder your answers are confidential.*

2. Can you describe an experience when you have mentored, supported or challenged another person to achieve professional or personal goals?

- a) Tell me about a time when you have created an engaging work environment, where others were given the opportunity to contribute in a meaningful way?*
- b) When needed, how do you engage your co-workers to collaborate with you?*

- c) When have you encouraged open exchange of information or ideas? How did you accomplish this? What forms of communication did you use?*
- d) How do you promote collaboration and cooperation to achieve results? What are some key factors to successful collaboration?*

3. Can you describe a time when you set a professional goal and what you did to try and accomplish the goal?

- a) When working with others, have you ever set a direction or inspired a vision to achieve a common goal? If so, how did you do this?*
- b) In what ways do you assess and/or evaluate whether or not tasks are being achieved according to plan? What do you do if tasks are not going according to plan?*
- c) What is your role [as a dietitian] to contribute to client- or public-centred service? How do you enable this?*
- d) When you need to make an organizational decision, what factors do you consider?*

4. In what ways have you created connections or trust with individuals (e.g., a colleague) or a group (e.g., interdisciplinary team)? Who (health discipline or position) do you find yourself collaborating with most often?

- a) In what ways do you facilitate collaboration, cooperation and coalition among diverse groups and perspectives?

 - i. What might be some of the challenges a dietitian faces when facilitating A diverse group of health professionals?**
- b) What is your approach to gather and encourage open exchange of information?*
- c) When there is workplace politics or conflict situations, what do you try to do to work through it?*
- d) How have you “collaborated” with others? From your experience, what have you done to promote or increase collaboration, or what do you do when you want to increase collaboration?*

5. Think of a time when you identified an issue or situation that needed to be changed. What did you do to address the issue or situation? Who (stakeholders) did you involve to accomplish this?

- a) In what ways do you support continuous improvement or creativity?*
- b) Where do you look for ideas, best practices, or trends?*
- c) Can you share an example of when you worked towards changing a process to improve workflow?*

This concludes the one-to-one interview. Thank you again for participating in my research study. Do you have anything else you would like to add at this time?

Closing questions:

1. If I have follow-up questions, would it be OK with you if I contact you at a later date? Could I confirm your contact information?

If you think of anything else after we “sign off” (since the interview may be virtual), please don’t hesitate to get in touch with me. You can send me an email [intentionally blank] or we can schedule another session.

2. Would you like to receive the results of the study?

3. Have you completed the online demographic questionnaire? If not, would you like to complete it now or online?

Name	
Age	
Gender	
Location of work	
Accredited dietetics program / internship	
Number of years in dietetic practice	
Other university or post-graduate degrees, certifications etc.	
Ethnicity/race/background	
Languages spoken	

- a. Clinical, hospital-based (including inpatient, outpatient, chronic disease management, specialty programs, etc.)
- b. Community or public health
- c. Primary care
- d. Long-term care (including home care, assisted/supported living, nursing homes, etc.)
- e. Food service management
- f. Nutrition services management, nutrition professional practice leadership
- g. Management, unrelated to nutrition or dietetics
- h. Policy, government
- i. Research
- j. Education
- k. Private practice

Additional Questions from CEC:

What opportunities in their organization do you have to attend courses, continued learning/development opportunities etc.?

What have you done formally or informally to develop your leadership knowledge and skills?

Appendix Q
Case Study Extraction Tool Template and Example

EXTRACTION for Case Study ID: #-###-### (Name)

PART ONE. To understand how dietitians develop and use leadership skills in practice.

Definition of leadership, essential leadership skills:
Ways considers oneself a leader at work:
Ways leadership skills are used:
Ways one has develop leadership skills or strategies they would recommend:

PART TWO. To use LEADS as an analytical framework to understand its alignment with the leadership in the dietetics profession.

Lead self/self-motivated	
L1	Are self aware <i>In what ways do you see yourself to be “self-motivated” or taking initiative?</i>
L2	Develop themselves <i>Can you tell me about a time when you have taken responsibility for your own performance at work, or health and wellness?</i>
L3	Manage themselves <i>What leadership strengths and limitation do you have or do you see in yourself? Again, as a reminder your answers are confidential.</i>
L4	Demonstrates character <i>Can you share with me an example of when you’ve demonstrated resilience or your self-confidence at work? What types of situations at work do you think a dietitian has to be resilient? In what ways has this changed from when you were a dietetic student, over your career, etc.?</i>

Engaging others	
E1	Foster development of others <i>Can you describe an experience when you have mentored, supported or challenged another person to achieve professional or personal goals?</i>
E2	Communicate effectively <i>When have you encouraged open exchange of information or ideas? How did you accomplish this? What forms of communication did you use?</i>

E3	Contribute to the creation of a healthy environment <i>Tell me about a time when you have created an engaging work environment, where others were given the opportunity to contribute in a meaningful way?</i>
	<i>When needed, how do you engage your co-workers to collaborate with you?</i>
E4	Build teams <i>How do you promote collaboration and cooperation to achieve results? What are some key factors to successful collaboration?</i>

Achieve results	
A1	Set direction <i>Can you describe a time when you set a professional goal and what you did to try and accomplish the goal?</i> <i>When working with others, have you ever set a direction or inspired a vision to achieve a common goal? If so, how did you do this?</i>
A2	Take action to implement decisions <i>What is your role [as a dietitian] to contribute to client- or public-centred service? How do you enable this?</i>
A3	Strategically align decisions with vision value and evidence <i>When you need to make an organizational decision, what factors do you consider?</i>
A4	Assess and evaluate <i>In what ways do you assess and/or evaluate whether or not tasks are being achieved according to plan? What do you do if tasks are not going according to plan?</i>

Develop coalitions	
D1	Purposefully build partnerships and networks to create results <i>In what ways have you created connections or trust with individuals (e.g., a colleague) or a group (e.g., interdisciplinary team)? Who (health discipline or position) do you find yourself collaborating with most often?</i>
D2	Mobilize knowledge <i>What is your approach to gather and encourage open exchange of information?</i>
D3	Demonstrate a commitment to customers and service <i>In what ways do you facilitate collaboration, cooperation and coalition among diverse groups and perspectives?</i> <i>What might be some of the challenges a dietitian faces when facilitating a diverse group of health professionals?</i> <i>How have you “collaborated” with others? From your experience, what have you done to promote or increase collaboration, or what do you do when you want to increase collaboration?</i>
D4	Navigate socio-political environments <i>When there is workplace politics or conflict situations, what do you try to do to work through it?</i>

Systems transformation	
------------------------	--

S1	Demonstrate systems / critical thinking <i>Think of a time when you identified an issue or situation that needed to be changed. What did you do to address the issue or situation? Who (stakeholders) did you involve to accomplish this?</i>
S2	Orient themselves strategically to the future <i>Where do you look for ideas, best practices, or trends?</i>
S3	Encourage and support innovation <i>In what ways do you support continuous improvement or creativity?</i>
S4	Champion and orchestrate change <i>Can you share an example of when you worked towards changing a process to improve workflow?</i>

What else?

Example Extraction for Case Study ID: #-###-### (Caroline)

PART ONE. To understand how dietitians develop and use leadership skills in practice.

<p>Definition of leadership, essential leadership skills:</p> <p>Motivate people to think out of the box. Client-centred - focusing on the individual and engaging them in their meal or dining experience. Able to engage and excite others, help guide others towards achieving a common goal or shared vision. Appreciates that every person has a role. Able to self-reflect and learn from mistakes. Takes risks. Self-confident. Has emotional intelligence and empathy.</p>
<p>Ways considers oneself a leader at work:</p> <p>As a dietitian, the nutrition care process that has 'nutrition diagnosis' requires leadership - to plan and coordinate. In practice (long term care), this includes promoting and supporting a pleasurable dining experiences that meets the needs of each individual resident, the residents are coming in very frail.</p>
<p>Ways leadership skills are used:</p> <p>Collaborates with the physiotherapists, occupational therapist, nursing staff, housekeeping, dietary.</p> <p>Participant loves motivating people to change to make work practices better not just for themselves but for their resident. For example, when it comes to dementia care, the participant is a dementia care specialist and enjoys coaching and motivating other health/care providers to change their behaviours, which will influence a resident's that has dementia's behaviours.</p> <p>Self-reflection and able to identify areas of improvement or that need change. This is regularly done through participation in the annual continuing competency program (regulatory college).</p>
<p>Ways the participant has develop leadership skills or strategies they would recommend:</p> <p>Be a preceptor. It will make your own professional practice better.</p> <p>Get involved in committee work, try to take on a (co-) chair role.</p>

PART TWO. To use LEADS as an analytical framework to understand its alignment with the leadership in the dietetics profession.

<p>Lead self/self-motivated</p>

<i>They actively seek opportunities and challenges for personal learning, character building and growth</i>	Completed additional training in dementia care. "Loves" doing new things, however it takes times to build confidence.
---	---

Engaging others	
<i>They create engaging environments where others have meaningful opportunities to contribute and ensure that resources are available to fulfill their expected responsibilities.</i>	<p>A part of a leader's role is to build up your team and make they realize they are doing a good job.</p> <p>For example, when dealing with the passing away of residents, coach interns to appreciate what they were able to contribute to the resident's day, what they did to help - focus on the good things they do in the run of the day.</p>
<i>They listen well and encourage open exchange of information and ideas using appropriate communication media.</i>	<p>As a leader, you have a team of people working with you, and so debriefing is an important part of communication. In addition, the care plan is an important communication tool. Also, listening to what they're saying.</p> <p>When plans go off course, "opening the communication channels and... letting everybody know, okay we're off the rails" (p. 12). Might meet with people individually, resolve any miscommunication, adjust workload. The key is "no blame, no shame". Things happen and do not take it personally - that's a challenge in the workplace, "maybe it's a lack of confidence" (p. 13)</p>

Achieve results	
<i>They act in a manner consistent with the organizational values to yield effective, efficient public-centred service</i>	Tries to teach people to be more client- or resident-centred. Example, dementia care.

Develop coalitions	
<i>They create connections, trust and shared meaning with individuals and groups</i>	Started a network of long term care dietitians in the province. This group developed education programs and led Heart Smart cooking classes. Aimed to promote the role of the dietitian.
<i>They facilitate collaboration, cooperation and coalitions among diverse groups and</i>	During facility renovation which included major construction to the kitchen - called

<i>perspectives aimed at learning to improve service</i>	upon a few places in the area (fire hall, yacht club etc) that had licensed kitchen facilities and repurposed onsite kitchenettes to be used for food production.
<i>They are politically astute, and can negotiate through conflict and mobilize support</i>	Advocacy. For example, as co-chair of the network, wrote a letter to the Department of Health and Wellness for additional funding for wound care supplements in the formulary. Listening and gathering the facts. Sometimes needs a cooling off period. Nothing will get settled when people are upset or emotional.

Systems transformation	
<i>They think analytically and conceptually, questioning and challenging the status quo, to identify issues, solve problems and design and implement effective processes across systems and stakeholders.</i>	When the dietetic programs [in Nova Scotia] were exploring integrated internships, originally, they did not consider long term care as a clinical setting. Participant and some other long term care dietitians advocated to have long term care recognized as a clinical placement. “I really, I stuck my neck out” (p. 11)- Take risks.
<i>They create a climate of continuous improvement and creativity aimed at systemic change</i>	Regarding the Canadian Malnutrition Task Force - identifying malnutrition. This task force looked at ways to make the most of meal times. Participant conducted the audits and feedback included 1) it’s noisy, 2) it’s rushed. So worked with staff and developed a curriculum for the group around the new “golden rules of dining”, which addressed the feedback. It initially had very good traction but lost momentum.

What else does the participant say about “leadership”?

Limited role of the dietitian in practice (long term care).

Nursing’s role, they are often in change.

Ability to “prescribe” nutrition is missing, physicians do this, but it would require changing the medical act.

Job satisfaction. Participant gets so much satisfaction out of the job.

Early life influence on leadership. Family - parents always supported the participant and siblings to do a “150%”

Having support from others. “It empowers you to ask the question” (p. 12)

Attitude shift “as I get older”. As the participant progressed in career, has more confidence and knows when to let go (“soften”) or stay firm (“not budging”).

Mentors. Learning from others that are leaders throughout career.

Appendix R

Sample Case Report

Case Study Summary Report: Caroline

Caroline (female) is in the age group ‘55-59 years old’, speaks English, and does not self-identify with any minority groups. Caroline has been a registered dietitian for over 30 years. She earned a bachelors degree in “Nutrition and Consumer Studies” with a major in “Food”; this was the only degree she has completed. She successfully obtained and completed a post-graduate dietetic internship 30 years ago which was organized by the national dietetic association. She currently works in long term care as a dietitian; after completing advanced training in dementia care, she is also one of the dementia care specialists at the long term care home.

Caroline sees a leader as someone who is self-confident, takes risks, is self-reflective, and learns from mistakes. In her view, a leader has emotional intelligence and empathy. Leaders can engage and guide others towards achieving a common goal or shared vision. Caroline says a part of a leader’s role is to build up their team and make them realize they are doing a good job. A leader appreciates every person has a role and is able to motivate people to ‘think out of the box’. In dietetics, a leader is client-centred, which means they include clients in their nutrition care planning.

Caroline referred to the nutrition care process as an area that requires leadership because a dietitian’s role is in ‘nutrition diagnosis’ which includes nutrition planning and coordination. In her work, Caroline demonstrates leadership in this area by promoting and supporting pleasurable dining experiences that meet the needs of individual residents, of which many are frail upon admission to the long term care facility.

At work, Caroline described two ways she uses her leadership skills in practice: through self-reflection and collaboration with others. Caroline said that each year, as a requirement of the continuing competency program (mandated by the regulatory college) she reflects and identifies ways she can improve her professional practice. She will write learning goals for the upcoming year related to these areas. Caroline “loves motivating people to change”—she collaborates with the physiotherapists, occupational therapist, nursing staff, housekeeping, dietary staff “to make work practices better not just for themselves but for their residents”. For example, as a dementia care specialist, Caroline coaches and motivates other care providers on ways to adapt how they interact with residents who have dementia to influence their behaviours.

Two ways to develop leadership skills Caroline recommends are to: 1) get involved in committee work. As an active committee member, Caroline suggests taking on a (co-)chair role or lead sub-committee role ; and 2) be a preceptor to dietetic students. Preceptoring will improve your dietetic practice while developing your leadership skills.

In conversation with Caroline, she described a variety of ways in which she demonstrates her leadership capabilities (alignment with LEADS domains).

Lead Self: Caroline “loves doing new things” however recognizes it takes time to build confidence. She actively seeks opportunities to complete additional training in dementia care.

Engage Others: Caroline described a situation where she creates an engaging and supportive environment for dietetic interns to have meaningful opportunities to contribute and ensure quality care for residents at end-of-life while fulfilling their expected responsibilities. When dealing with the passing away of residents, Caroline ‘coaches’ interns to be self-reflective and appreciate the specific ways they were able to contribute to a resident’s nutrition and care on a day-to-day basis. Caroline listens and encourages open exchange of information and ideas. When leading a team, **debriefs** and **care plans** are important communication tools. When plans go off course it is important to communicate this to the whole team. “Opening the communication channels and... letting everybody know, okay we’re off the rails” (p. 12). Caroline might meet with people individually, resolve any miscommunication, and adjust workload. The key to effectively working with others is to recognize issues may arise and a leader must not take it personally nor place blame.

Achieve Results: Caroline achieves results aligned with organizational values by teaching other care providers and dietetic interns on ways to provide better client- or resident-centred care. Her specific area is in providing resident-centred dementia care.

Develop Coalitions: Caroline described an example of when she created connection and shared meaning among other long-term care dietitians by starting a provincial network. The purpose of this network was to promote the role of dietitians in long-term care and their practice. This group developed education programs and led Heart Smart cooking classes. To facilitate collaboration and cooperation among diverse groups to improve food service, Caroline described a situation where she was involved with a facility renovation which included major construction to the kitchen. She contacted local places in the area that had licensed kitchen facilities such as the fire hall and yacht club. She was able to collaborate with these community sites and repurposed onsite kitchenettes to be used for temporary food production. Caroline described an experience when she was co-chair of the provincial long-term care dietitian network where she demonstrated her ability to be politically astute, negotiate through conflict, and mobilize support. In an effort to advocate for additional funding for wound care supplements in the formulary she wrote a letter to the Department of Health and Wellness. She said it is important to listen to different perspectives and gather the facts. When there’s conflict, Caroline advises taking a cooling off period because “nothing will get settled when people are upset or emotional”.

Systems Transformation: When the dietetic programs in the province were exploring integrated internships they did not consider long term care as a clinical setting. Caroline questioned and challenged this notion. Caroline and other long term care dietitians advocated to have long term care recognized as a clinical placement. “I really, I stuck my neck out” (p. 11). This provided more clinical placement options for dietetic interns, thus enabling dietetic programs to expand. The one main area Caroline discussed promoting continuous improvement for systemic change in her long-term care facility was through implementation of the Canadian Malnutrition Task Force call to action. This task force looked at ways to make the most of meal times to mitigate or avoid malnutrition. Caroline conducted the food consumption and tray audits and reviewed feedback from the staff who reported that mealtimes are “noisy” and “rushed”. To address the

feedback, Caroline worked with staff and developed a curriculum which became known as the “Golden Rules of Dining”. It initially had very good traction but lost momentum.

Other ways Caroline discussed “leadership” :

- Dietitians have limited role in long-term care
 - Nurses are often the ones “in charge” of interprofessional teams.
 - Ability to “prescribe” nutrition is missing. Physicians do this, but it would require changing the medical act.

- Attitude or concept of leadership changes over the career span
 - Caroline gets so much satisfaction out of the job.
 - Learning from others (mentors) that are leaders throughout career can help develop one’s leadership skills and confidence. Having support from others. “It empowers you to ask the question” (p. 12)
 - “As I get older” - Caroline has more confidence and knows when to let go (“soften”) or stay firm (“not budging”).

- Early life influences on leadership
 - Family - parents always supported her and her siblings to do “150%”

Appendix S

Example of Deductive and Inductive Coding - Excel

To understand how dietitians develop and use leadership skills in practice.	How do dietitians develop and use leadership skills in practice?	Code	Danielle J-36DW-213	Tenley J-32T-292	Emma J-42EV-293	Alexander J-02A-082	Exemplar Passage(s)
Definition of leadership and Essential leadership skills			provides guidance and advise especially in difficult situations supports/Empowers/Encourages people to achieve their goals and develop skills able to manage other HP confident knowledgeable	Assertive Confident Able to develop trust Can manage others in conflict situations knowledgeable Able to be confident with knowledge with other HP (MD, RN) empowers	Confident Experienced Competent Can manage others to complete tasks/achieve goals open and honest Can interact and work well with other HP Level-headed in conflict situations	demonstrates professionalism is credible not just nutrition, but also has experience in the community e.g. rural/remote cultural safety	
		Confident / Assertive	x	x	x		Danielle: A leader is confident, has many years of experience and is highly knowledgeable, making them a "good resource" (p. 3, line 10)
		Credible	x	x	x	x	
		Professional		x	x	x	In Alexander's experience, cultural safety is key; he had to relate to the experience of living in a rural and remote community and to understand their experience before he could gain credibility and be effective, "until you can do that, you have no credibility and you're not effective" (p. 4 lines 8-9).

To understand how dietitians develop and use leadership skills in practice.	How do dietitians develop and use leadership skills in practice?	Code	Margaret	Norah	Elizabeth	Charlotte	Xeni	Exemplar Passage(s)
			J-10M-222	J-07N-232	J-27E-152	J-210K-193	J-31X-103	
Definition of leadership and Essential leadership skills			not just about position alignment between vision and action Advocate Diplomatic Facilitation skills Inspirational Confidence	Depends on context Communication skills, incl specialization in media innovative Confident in knowledge	Going above and beyond - to do things for the people Collaborative Can be "quiet" has confidence (although Elizabeth does not consider herself to be a leader)	mentors Delegate to a team (leads a team) Builds trust	lead self, confidence lead teams leading through a system also includes formal leadership positions	Xeni defines leadership as inclusive of leading oneself, leading teams, and then leading through a system. Xeni thinks leadership begins as a reflection inwards; in addition, Xeni consider how she can support others in achieving goals, and understands the system to be a "complex web of relationships" (p. 5, line 11).
		Confident / Assertive	x	x	Elizabeth does not consider herself a leader. Although she comes up with ideas, she loses confidence in seeing her ideas through. Part of the issue is that she has her day-to-day clinical work, and the ideas get pushed to the back burner. [There is the perception that doing quality improvement work is above and beyond clinical work].		x	
		Credible						
		Professional		x				

To understand how dietitians develop and use leadership skills in practice.	How do dietitians develop and use leadership skills in practice?	Code	Lucy	Penelope	Hattie	Waverly	Exemplar Passage(s)
			J-05L-222	J-26P-262	J-39HS-243	J-23W-103	
Definition of leadership and Essential leadership skills			Authority, but limited understanding adaptable to different situations Support growth of others Lead by example Inspire/Influence Develop trust Communicate	Can be 'quiet' Facilitate collaboration Goal oriented Self-aware Keeps composure	Lead by example Values team members Develop people Goal oriented Authentic	Coaching, mentoring, teaching Staying up to date Self-aware Authentic	Lucy suggested that a limitation to leadership is that it is understood as a position of authority. (p. 6, mid-p).
		Confident / Assertive		x			In addition, from Penelope’s perspective a leader knows how to ask for help
		Credible		x	x	x	Leadership is also about “staying up-to-date and staying current and making sure that you are knowledgeable as a leader in your industry” (p. 3, lines 13-15). Penelope: When she reflects about people she considers leaders in the profession, then also have “a long background of caring and high-level jobs within the field, and also volunteering within the field” (p. 6, lines 42-44).
		Professional			x	x	Hattie: She also said that a leader is accountable and shows passion in their work. Waverly: it is important for a leader to know how they interact with others, and then be able to use that in their leadership role to gain respect from others.

To understand how dietitians develop and use leadership skills in practice.	How do dietitians develop and use leadership skills in practice?	Code	Gemma	Grace	Kamila	Olivia	Remi	Exemplar Passage(s)
			J-35GT-233	J-22G-192	18K-212	J-37O-232	J-12R 272	
Definition of leadership and Essential leadership skills			Always a leader Confident Trust Approachable Passion about nutri Influencer Motivator Trendsetter Expert knowledge	Effective communicator Support dev of others Sees big picture Listens and honest Confident	Has vision Advocate Mgr vs Leader Some are "loud" others not Ambitious Expert knowledge Confident	Explorer Develop others, mentor Honest, transparent Expert knowledge Confident	Looks for growth Enables others Problem solver Makes decisions Confident	Remi said that the wrong reason to be a leader is for money and the title, and said "to me those things come as a result of being really effective" (p. 4 lines 22-23).
		Confident / Assertive	x	x	x	x	x	Grace sees a leader as someone who is confident. Upon reflecting on herself as a leader, Grace said, "although I've been at this for quite some time I still don't see myself as a very confident person. I am confident in my skills and abilities but there are times when I self-criticize" (p. 11, lines 40-41). Remi is outspoken and able to voice her opinion, even when it is not what others think. She is particularly vocal when she believes something is not right and said, "I'm sorry I can't couch that. It would make me physically ill to sit there and suck it up when I think it's wrong" (p. 5, lines 31-33).
		Credible	x		x	x		Furthermore, Olivia suggests that a leader has expert knowledge, which contributes to their confidence.
		Professional	x	x		x		Reflecting on what others might see in her as a leader, Gemma said that she is approachable, has an outgoing personality, able to develop trust, and has passion about nutrition. She said, "I not only have a strong conviction of what I believe in, but I have a big voice... earlier in my career, I was a trendsetter, motivator, and influencer". In addition, Remi has confidence in her abilities to complete tasks and meet objectives. She said, "I will deliver what I say I'm going to deliver, so you don't need to stay on my case. You may not like how I get there, but I will get there" (p. 4, lines 36-37). When she leads others, she does not micromanage but gives them "a lot of rope" (p. 4, line 33) because she does not like to be micromanaged herself.

Appendix T

Phase III Preliminary Findings from Phases I & II


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Preliminary Findings

- Phase I (Doc Analysis/Focus Group) and Phase II (Interviews)

Presented by: Billie Jane Hemsous PhD candidate

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Purpose of the study

- To better understand leadership in the context of dietetics
- To generate recommendations for how leadership development might be integrated into curriculum and professional learning

Phases



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LEADS Framework


Dickson & Tholl, 2014/2020

Competency: minimum skills and knowledge required

Capability: goes beyond the bare minimum; lifelong journey



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Research question for Phase III

In what ways might leadership be taught in dietetic education in light of current dietetic practice?


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Preliminary
FINDINGS


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How are leadership skills currently taught in dietetic education in Canada?
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Designed, Taught & Evaluated

Curricula and activities:

Other ways?

Ex. Creating blogs, podcasts and videos, designing infographics

Evaluated?

Ex. Individual and group assignments, presentations, readings, guest speakers, developing business or new product plans, research-related activities

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Relation to LEADS domains

Lead Self
Engage Others
Achieve Results
Develop Coalitions
Systems Transformation

- Lead self: creation of portfolio, critical reflection
- Engage others: group projects, client-centred, interprofessional teams
- Achieve results: NCP, learning / project plans
- Less evidence on Develop coalitions and Systems transformation
 - TQM

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Focus Group

- "Reflecting, Thinking, Planning"
- "A skill that can be developed"
- Dietetic educators are:
 - Knowledgeable and highly-skilled
 - Passionate about dietetic education *and* practice
 - Face institutional barriers

"Coaching"

"Leading"

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a) How do dietitians develop and use leadership skills in practice?

b) How do the ways in which dietitians use leadership skills align with LEADS?

PHASE II

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Develop Leadership

- Pursue graduate studies, certification, or other formal training
- Read popular non-fiction books or watch/follow inspirational (social) media
- Mentorship
- Participate on special projects or as part of a committee, network

"Leadership is not something taught in school..."

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Use In Practice

- Nutrition "expert"
- Working with others, interprofessional
- Nutrition care plans, advocacy
- Dealing with challenging situations
- Influencing system change

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Relation to LEADS domains

Lead Self
Engage Others
Achieve Results
Develop Coalitions
Systems Transformation


- **Lead self:** annual learning plans, self-improvement
- **Engage others:** interprofessional work, mentorship
- **Achieve results:** NCP, project plans
- **Develop coalitions:** Community/public health, gov't/policy work
- **Systems transformation:** contribution through special projects

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Questions

- Focus Group

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I'd like to know...

What are your general thoughts about these preliminary findings?

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In what ways might educators integrate or adapt (more) 'leadership' training/experiences into the curricula?

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**ICDEP 2020
"Management and Leadership"**

*Dietitians use management skills and **provide leadership** to advance health through food and nutrition.*

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What other recommendations or considerations do you have related 'leadership' as part of the curricula?

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Thank you!

Any final comments?

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13 Programs

- UBC
- uAlberta
- uSaskatchewan
- uManitoba
- Brescia
- uGuelph
- Ryerson
- UofT
- McGill
- UPEI
- MSVU
- Acadia
- StFX

English programs only
Reviewed information available on websites and selection of program documents

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Types of Program Documents

Available on website:

- Admission requirements e.g. portfolio
- Resources for students
- Promotional materials
- Survey results, technical reports

Select program documents:


- Review of courses: Foundational knowledge content 'map'
- Course outlines or schedules
- Course assignments and rubrics or grading schemes
- Internship education program manuals

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Specific Competencies

Competency Areas	Practice Competencies
Professional Practice	
1.11	Assess and enhance approaches to dietetic practice.
1.12	Contribute to advocacy efforts related to nutrition and health.
1.13	Participate in practice-based research.
Communication and Collaboration	
2.05	Contribute to the learning of others.
Management	
5.01	Assess strengths and needs of programs and services related to dietetics.
5.02	Manage programs and projects.

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Document Analysis Evaluation Tool

Purpose: This Learning to Lead: A multiple case study exploration of leadership skills development and use by dietitians.

University: _____

Program Name: _____

Program Type:

- Fully Integrated
- Partially Integrated
- Not Integrated
- Post Degree
- Master Degree and Practicum

Program Document: _____

Author: _____

Document Name: _____

Competency	Are & this competency addressed in the document?	How is this competency taught?	How is this competency evaluated?
Professional Practice			
1.11 Assess and enhance approaches to dietetic practice			
1.12 Contribute to advocacy efforts related to nutrition and health			
1.13 Participate in practice-based research			
Communication			
2.05 Contribute to the learning of others			
Management			
5.01 Assess strengths and needs of programs and services related to dietetics			
5.02 Manage programs and projects			


How does the document relate to LEAD? (circle)

LEAD Document Evidence in document content

Lead Program Objectives

Address Needs Develop Capabilities

Address Leadership Address Leadership

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Appendix U

Canadian Academy of Health Sciences Framework

Reproduced from Conceptual framework: Scopes of practice that support innovative models of care that better address population health needs and a transformed Health Care System (Nelson et al., 2014, p. 12).

