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How Do Health Care Providers Identify and Address Lifestyle Factors with Community Dwelling Adults Who Have Chronic Wounds?

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Abstract

There is a tension in the literature between the importance of lifestyle factors in the prevention and management of chronic wounds and the lack of specific information about these factors. Wound prevention and management best practice guidelines and literature contain recommendations that treatment plans need to consider the client's lifestyle but offer little guidance about the specific lifestyle factors to be considered, nor how to address these.

A constructivist grounded theory study was used to explore the gap between the stated importance of lifestyle factors and the lack of guidance in the literature. Participants were health care providers with at least 5 years of experience working with community dwelling adults who had chronic wounds. Data were transcripts of two semi structured individual interviews, a reflective journal, relevant documents identified by participants and transcripts of focus groups. An iterative approach to data collection and analysis facilitated member checking and theoretical sampling.

A common understanding of lifestyle factors was not found; however, a substantive theory was co-constructed with the participants that describes how health care providers identify and address lifestyle factors with community dwelling adults who have chronic wounds. This work builds on a concept described by Donald Schon (1987, pg 3) where best practices and research studies are described as occupying a high ground overlooking a swamp, where complex clients are managed with limited resources. In this study, three major themes emerged – the high ground, the swamp and co-occupation. The high ground included how the health care provider entered wound prevention and management, and that their initial task was local wound care. Lifestyle factors were only mentioned as something to consider. Health care providers expected wounds to heal with specific treatments within specific time frames. Practice, however, happens in the "swamp". Participants described the context of the swamp to include ideas such as; the practicality of treatment, client characteristics (such as multiple co-morbidities and limited personal resources), the client's vocation, etc. Co-occupation occurs when the clinician and client are both engaged, working together on the common goal of identifying and addressing lifestyle factors within the context of the swamp.

Keywords

Chronic wounds

Lifestyle Factors

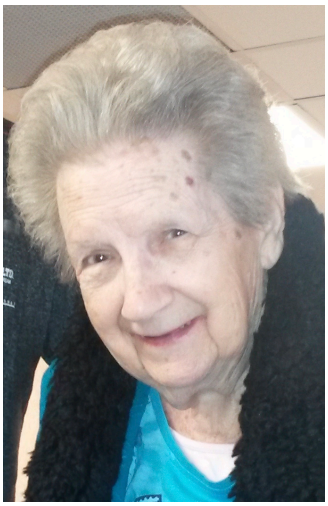
Grounded Theory

Co-occupation

Dedication

I would like to take this opportunity to dedicate this dissertation to my Mom, Patricia Jane Norton. Although she passed away during my PhD journey, she was proud and encouraging. Mom was an innovative, intelligent woman, and was a role model for the woman I am today.

Thanks Mom.



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Chapter 1

1 INTRODUCTION TO THE STUDY

This doctoral dissertation is the result of a constructivist grounded theory study examining how experienced health care providers identify and address lifestyle factors with community dwelling adults living with chronic wounds. Written in a monograph format, this manuscript describes each phase of the research study as a separate chapter.

My interest in the topic of lifestyle factors and how they are identified and addressed with clients who have chronic wounds arose from my clinical experience as an occupational therapist working with clients who had chronic wounds. I had observed that many of the clients with pressure injuries, who came to see me in seating clinic to address their seating and mobility needs, had been given wound prevention or treatment recommendations that negatively impacted their chosen life occupations. Chief amongst the advice, was confining the client to bed, 20 out of 24 hours per day. Bed rest made it difficult, if not impossible for the client to engage in their normal activities of daily living nor engage in their occupations of choice. As a result of this curiosity, I completed a literature search on bed rest, found that there was a lack of empirical evidence to support this practice, and wrote an article (Norton & Sibbald, 2004). This article was quoted in subsequent best practice guidelines that now recommend mobility, rather than bed rest.

Over time, I realized that clients with many different types of chronic wounds were also experiencing similar negative impacts from treatment recommendations; specifically, recommendations that made participation in their normal activities of daily living and occupations difficult or impossible. As I became involved in best practice guideline development in the field of wound prevention and management, it became apparent that health care providers acknowledged the importance of considering the client's chosen occupations, but that these were not framed as "occupations".

To situate this study in the context of wound prevention and management, this chapter begins with an overview of the scope of chronic wounds in Canada including the prevalence and cost of these wounds. Next, the relationship between lifestyle factors and

chronic wound prevention and management is explored. This section includes an introduction to the Wound Bed Preparation paradigm, the concept that underlies wound prevention and management in Canada.

The next section of this introduction explores the Occupational Science perspective on identifying and addressing lifestyle factors for clients with chronic wounds. As an occupational therapist working in the field of chronic wound prevention and management and a novice researcher in the field of occupational science, my approach to research is through an occupational science perspective. This has influenced my interpretations of the scoping review found in chapter 2, and the approach to the research found in chapters 3 and 4. Situating this constructivist grounded theory study in Occupational Science also influenced the generation of the theory and discussion.

Next, the development of the research question and sub questions is described. This includes the rationale behind the choice of interviewing experienced health care providers as well as the focus on clients with chronic wounds living in the community.

Lastly the plan of presentation for the rest of this monograph, including a brief summary of each of the chapters is identified.

1.1 The Scope of Chronic Wounds in Canada

Chronic wounds are defined as "wounds that are persistent (generally lasting more than three months) and are difficult to heal" (Canadian Institute for Health Information, 2013, p. 4). More specifically, chronic wounds include venous leg ulcers, diabetic foot ulcers, arterial ulcers and pressure injuries. Note that the National Pressure Ulcer Advisory Panel changed the term "pressure ulcer" to "pressure injury, to more accurately reflect the idea that pressure injuries can include intact skin damaged from pressure. " (National Pressure Ulcer Advisory Panel, 2016) Both terms are used in this dissertation. Pressure ulcer is used when referring to literature or best practices where this term is used, or when directly quoting a participant who has used this term, otherwise pressure injury is the term used.

In Canada, chronic wounds are estimated to cost the health care system $3.9 million dollars annually or approximately 3% of the total health care expenditures and this figure is expected to increase by 30% in the next ten years (Wound Care Alliance Canada, 2012). This financial cost does not capture the impact chronic wounds have on clients and their families.

Ideally, an interprofessional team is involved in preventing and managing chronic wounds (s.f. Norton et al., 2017; Registered Nurses' Association of Ontario, 2016a). The health care providers on a wound prevention and management interprofessional team include physicians, nurses, dieticians, physical therapists, occupational therapists and chiropodists/podiatrists etc. These health care providers treat clients across the health care system in a variety of settings. Clients who live in the community may access services through homecare with care provided in their own home, community-based clinics, medical offices or in hospitals.

While many chronic wounds can heal, there are other valuable, achievable goals in wound prevention and management. (Sibbald, Goodman, et al., 2011) Other goals such as reducing pain or odour etc. could also be considered appropriate goals of care. Clinicians are encouraged to categorize wounds as healable, non-healable or maintenance to help guide treatment approaches (s.f. Registered Nurses' Association of Ontario, 2016a; Sibbald, Goodman, et al., 2011). A healable wound is one where the client has the physical capacity to heal, and the client and health care system are able to sustain best practice (Sibbald et al., 2012a). A non-healable wound is one where the client does not have the physical capability to heal (Sibbald et al., 2012a). A maintenance wound is one where the client has the physical capacity to heal, but either the client is not following best practice recommendations to treat the cause of the wound (such as a client with a venous leg ulcer refusing to wear prescribed compression garments), or the health care system is unable to support best practice. (Sibbald et al., 2012a). Regardless of whether or not the wound is healable, non-healable or maintenance it is important to consider lifestyle factors. (Registered Nurses' Association of Ontario, 2016a) In some cases, lifestyle factors such as clients deciding to participate in their chosen occupations, may make the difference between a wound being classified as healable or maintenance.

The Wound Bed Preparation Paradigm (Sibbald et al., 2012a; Sibbald, Goodman, et al., 2011) as illustrated in Figure 1 forms the foundation of chronic wound prevention and management in Canada. The wound bed preparation paradigm (Sibbald et al., 2012a; Sibbald, Goodman, et al., 2011) suggests that to heal a wound, three equally important areas need to be optimized; 1) treating the cause, 2) local wound care and 3) patient centered concerns. Treatment of the cause of the wound varies depending on the type of wound. For example, addressing the forces of pressure, friction and shear is part of addressing the cause of pressure injuries. Addressing offloading of the foot, through specialty devices such as air casts and orthotics, in addition to reducing the amount of time a client spends standing, are part of addressing the cause of diabetic foot ulcers.

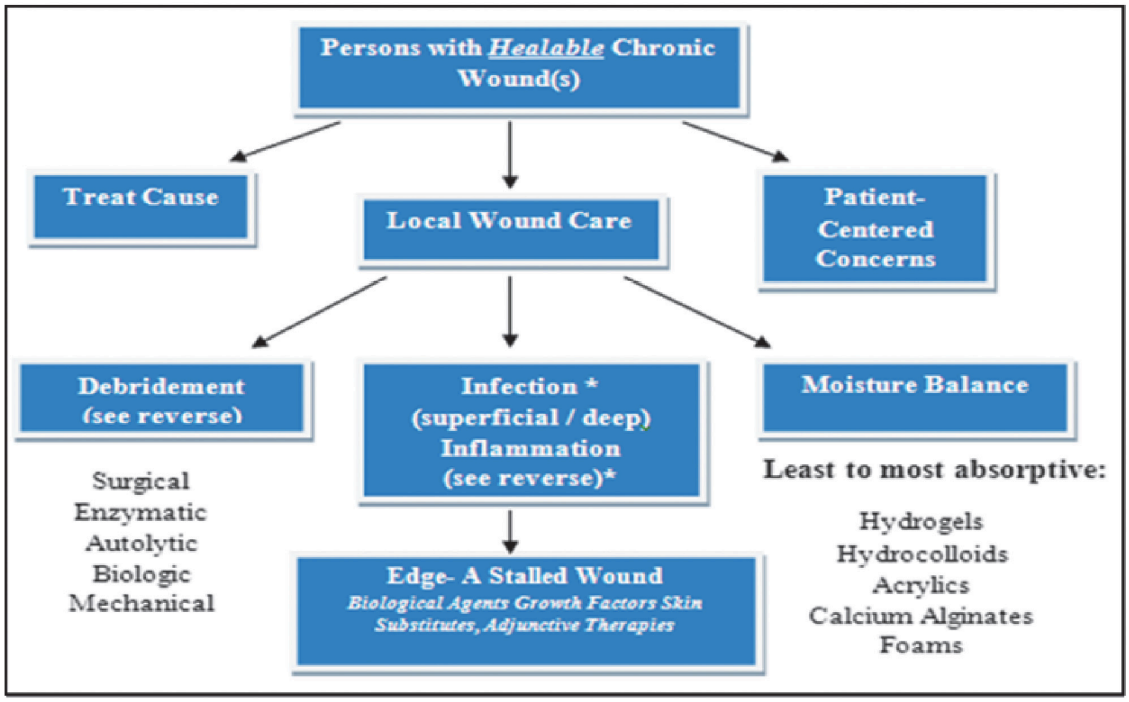

Figure 1:Wound Bed Preparation Paradigm (Sibbald, Goodman, et al., 2011, p. 419)

The next area, local wound care, includes debridement as appropriate, preventing or treating infection, addressing the wound edge and moisture balance (Sibbald et al., 2012a; Sibbald, Goodman, et al., 2011). For example, the choice of an appropriate

dressing, or combination of dressings can reduce bacterial burden, facilitate autolytic debridement and ensure a moisture balance optimal for wound healing.

Of equal importance as treating the cause and local wound care, is addressing patient centered concerns. This area includes addressing pain, client quality of life and addressing lifestyle factors that may influence wound healing (Sibbald et al., 2012a; Sibbald, Goodman, et al., 2011). Addressing patient centered concerns may include adapting treatment recommendations to better fit with the client's lifestyle to promote adherence. For example, if the client has a diabetic foot ulcer, one of the treatment recommendations may be to reduce the amount of time the client spends standing or walking. For a client who likes to bake or cook, this recommendation may need to be adapted with specific advice to sit at the table to prepare the food, rather than standing at the counter. The underlying philosophy of the paradigm is, it is important to treat the "whole" patient and not just the ''hole'' in the patient. (Sibbald et al., 2012a) Despite the equal importance of treating the cause, local wound care and addressing patient centered concerns, local wound care has received the most attention in best practice guidelines and at conferences.

Neither the best researched, most effective treatment plans, nor the most cost-effective dressing protocols can be effective unless the health care provider understands the lifestyle issues that impact a specific client, and the treatment plan is adapted to fit within those considerations.

This perspective becomes even more important considering that people with spinal cord injuries have a 90% lifetime risk of developing a pressure ulcer (Houghton, Campbell, & Panel, 2013). While there are physical issues such as decreased circulation, and changes to the skin below the level of the lesion (Rappl, 2008), these physical issues do not completely explain the high risk of pressure injury development experienced by this population.

1.2 Relating Lifestyle Factors to the Prevention and Management of Chronic Wounds

There is a tension between the importance of addressing lifestyle factors as acknowledged in the best practice guidelines and the lack of specific information for clinicians as to how to identify and address these lifestyle factors. Best practice guidelines for each type of chronic wound, identify that lifestyle factors need to be modified to help close the current wound or help prevent the recurrence of future wounds. For example, many guidelines identify addressing patient modifiable risk factors such as smoking (s.f. Botros et al., 2010; Cathy Burrows et al., 2007; National Pressure Ulcer Advisory Panel & European Pressure Ulcer Advisory Panel, 2009a). As another example, prolonged standing is a risk factor for venous leg ulcer development that should be addressed (Burrows et al., 2007). Prolonged standing may be required in some jobs, forcing the client to choose between their employment or preventing/healing a venous leg ulcer. Other than identifying lifestyle factors as a potential issue for clients, and/or recommending that lifestyle factors be considered when developing treatment plans, best practice guidelines do not expand on this discussion nor offer guidance for clinicians as to how to identify or address lifestyle factors.

Jackson et al (2010), an occupational scientist, has explored the lifestyle issues that may contribute to pressure ulcer development. This work resulted from the "Pressure Ulcer Prevention Study" (PUPS) that used a holistic ethnographic approach to uncover the complex factors that contributed to the development of pressure ulcers in people with spinal cord injuries (Dunn, Carlson, Jackson, & Clark, 2006). During this study, 20 people with spinal cord injuries participated in unstructured interviews and observations by the research team to "gain an in-depth understanding of the influences in daily life context that lead to the development of pressure ulcers (Clark, Sanders, Carlson, Blanche, & Jackson, 2007, p. 95). As a result of this study (Jackson et al., 2010) eight lifestyle factors that influence pressure ulcer development were defined:

- Perpetual danger -- The risk of developing a pressure ulcer is ever present resulting in pressure ulcer development, even with an appropriate prevention routine, when minor disruptions occur.

- Change/disruption of routine -- Changes in routine or the client's circumstances have been linked to pressure ulcer development.
- Decay of prevention behaviors – Clients are often taught techniques such as weight shifting, that tend to deteriorate in frequency and technique over time, increasing the risk of pressure ulcer development.
- Lifestyle risk ratio – This factor relates to the additive contribution of various liabilities and buffers for pressure ulcer development such as frailty, urinary tract infections, poor nutrition etc.
- Individualization -- The combination of liabilities and buffers as described above impact clients differently and can impact the same client differently at different times.
- Simultaneous presence of awareness and motivation – Clients must both be aware of preventing the pressure ulcer and have the motivation to implement prevention techniques in all aspects of their daily life.
- Lifestyle trade-off – Clients are often faced with conflicts between engaging in meaningful activities versus implementing pressure ulcer prevention strategies.
- Access to needed care, services and supports – Clients in this study often had difficulty accessing timely care, equipment, supplies and, at times, health care professionals who were knowledgeable about working with clients with spinal cord injuries. (Jackson et al., 2010)

Although lifestyle factors were described in this article, there is a tension in the chronic wound care literature between the recognized importance of lifestyle factors in the prevention and management of chronic wounds and the lack of specific information about how to identify and address these lifestyle factors. It is this gap in knowledge that stimulated this research.

1.3 An Occupational Science Perspective

As an occupational therapist and novice researcher, I used occupational science as the foundational context for this study. Occupational science is a basic science concerned

with all aspects of human occupation. (Yerxa, 1990) From an occupational science perspective, occupation is defined as "the everyday activities that people do as individuals, in families and with communities to occupy time and bring meaning and purpose to life. Occupations include things people need to, want to do and are expected to do" (World Federation of Occupational Therapy, 2016). Occupation is the primary way human beings organize their time and resources, in other words "to engage in occupation is to take control." (Yerxa, 1990, p. 5) Human beings choose to engage in various occupations throughout their day, and at a time of their choosing.

It is this engagement in occupation that contributes to an individual's quality of life, (Yerxa, 1990) as well as their health (Wilcock, 2007; Yerxa, 1990). Wilcock (2007, p. 3) argued that occupation and health are so closely linked that they are inseparable. Wilcock (2007) supports the idea of health and occupation being inseparable with a variety of arguments including the World Health Organization's approach to policy that "espoused the importance of what people do, how they experience and feel about what they do, that doing should encompass potential and meaning as well as the prerequisites of survival, and that the interactive nature of doing and belonging can be health giving" (Wilcock, 2007, p. 7). The link between occupation and health is also supported by a large population based study (Glass et al., 1999) comparing fitness activities to other activities. In this study (Glass et al., 1999), over 2761 people over the age of 65 were followed annually for 13 years, examining their sociodemographics (e.g. marital status, education, family income, etc.), social, productive and fitness activities (e.g. church attendance, overnight or day trips, gardening, shopping, sports or swimming, walking etc.) and health measures (e.g. self-reported medical conditions, body mass index, etc.). The researchers found that "social and productive activities that involve little or no enhancement of fitness lower the risk of all-cause mortality as much as fitness activities do."(Glass et al., 1999, p. 478) Since occupation and health are so closely linked, it is important to examine the potential interaction between activities such as wound prevention and management and the client's ability to participate in the occupations of their choosing.

Wound prevention and management activities have the potential to disrupt the client's ability to participate in the occupations of their choosing. Wound prevention and

management best practice guidelines and literature (s.f. Botros et al., 2010; Cathy Burrows et al., 2007; National Pressure Ulcer Advisory Panel & European Pressure Ulcer Advisory Panel, 2009a) acknowledge the importance of considering the client's lifestyle when developing wound prevention and management plans, but offer little guidance for health care providers as to how to identify or address these lifestyle factors. Using an occupational science lens to examine lifestyle factors and wound prevention and management has the opportunity to foster discourse within the wound prevention and management community, because it provides a language to describe the client, their context and the activities with which they choose to engage. Two ideas from an occupational science perspective are particularly helpful; viewing addressing lifestyle factors within the context of wound prevention and management as an occupation and transactionalism.

1.3.1 Viewing Addressing Lifestyle Factors as an Occupation

Health care providers in wound prevention and management come from a variety of disciplinary backgrounds, and do not necessarily recognize addressing lifestyle factors within the context of wound prevention and management as an occupation, nor do they necessarily recognize other activities such as self-care, engaging in leisure activities or informal caregiving as "occupations". Yet there is a recognition that it is important to address these very activities or occupations in the wound prevention and management plan as they will influence healing.

Consider the following quote from the Canadian Spinal Cord Injury Pressure Ulcer Prevention and Management Guidelines:

> *"Many people with spinal cord injury perceive a trade-off between performing pressure-redistributing activities and participating in life. Everything takes longer to accomplish for a person with spinal cord injury, and many feel they simply do not have time for both. Participating in life is the choice they often make" (Houghton et al., 2013, pg.33).*

Although the term occupation is not used, this quote describes the occupations in which the client engages, i.e. participating in life, and the fact that pressure redistribution activities interfere with the client's ability to engage in activities of their choosing. Since Occupational science "is the study of the human as an occupational being including the need for and capacity to engage in and orchestrate daily occupations in the environment over the lifespan" (Yerxa, 1990, p. 6), an occupational science frame may be helpful to describe the act of addressing lifestyle factors within the context of wound prevention and management as an occupation.

Reflecting back to the definition of occupation as "the everyday activities that people do as individuals, in families and with communities to occupy time and bring meaning and purpose to life. Occupations include things people need to, want to do and are expected to do" (World Federation of Occupational Therapy, 2016). Using this definition of occupation, addressing lifestyle factors within the context of wound prevention and management could be considered an occupation where addressing lifestyle factors occupy time, bring meaning and purpose, and are things the person needs, wants or are expected to do.

Addressing lifestyle factors, by deciding how to integrate treatment recommendations into the clients lives occupy time. Following some lifestyle change recommendations such as staying off their feet, reducing the amount of time up in their wheelchair etc., also occupy time in the sense that they may take time away from the client's other chosen occupations such as their vocation (if they need to stand to work), or any occupations outside their home such as grocery shopping, visiting with family etc. (if they need to reduce the amount of time in their wheelchair). For example, if a client has been confined to bed 20 out of every 24 hours, 20 hours of the client's time is occupied by bed rest, restricting the time available to participate in occupations where the client needs to be up in their wheelchair (e.g. meal preparation, any activity outside their home, etc.).

Health care providers also expect clients to identify and address their lifestyle factors, by integrating wound prevention and management activities throughout their daily activities.

Whether or not a client wants to participate in modifying their lifestyle may be a function of the priority the client gives these modifications over other occupations in their life.

The same occupation, e.g. identifying and addressing lifestyle factors, may have different meanings for different individuals. The meaning of each occupation is determined by the individual. (Yerxa, 1990) The meaning each individual client may place on the occupation of identifying and addressing lifestyle factors is likely to be different for different individuals based on their daily life, what is important to them, the specific recommendations etc. For example, the meaning of needing to wear offloading devices may be that the client no longer views themselves as fashionable, wearing the latest footwear, thereby changing their self-perception. For another client, wearing an offloading device may mean to them that they are looking after their health and wellbeing.

Occupations do not occur in isolation, but rather within the client's environment or context. The client's environment or context, including their other chosen occupations becomes the broad "lifestyle" that needs to be considered when developing wound prevention and management approaches. This view may assist health care providers to better identify the client's context or lifestyle factors that need to be considered when developing wound prevention and management approaches. Health care providers in wound prevention and management come from a variety of disciplinary backgrounds, and do not necessarily recognize addressing lifestyle factors within the context of wound prevention and management as an occupation, nor do they necessarily recognize other activities such as self-care, engaging in leisure activities or informal caregiving as "occupations". Yet there is a recognition that it is important to address these very activities or occupations in the wound prevention and management plan as they will influence healing.

1.3.2 Transactionalism

Transactionalism is a construct that has been used by occupational scientists, that states that the person cannot be separated from their environment or context when discussing their occupation (Aldrich, 2008). In addition, there is a constant coordination between the

person and their environment or context (M. Cutchin & Dickie, 2012; Dickie, Cutchin, & Humphry, 2006). Transactionalism, has the potential to advance the discourse regarding lifestyle factors and wound prevention and management when identifying and addressing lifestyle factors is viewed as an occupation.

Consider the quote above where performing pressure redistribution activities is a task that the client is expected to integrate into their life. When the client is given the advice to perform pressure redistribution activities, it may be given as general advice, without considering the client and their context. Not considering the client's context means the pressure redistribution activities are additional task. The client is expected to engage in the occupation of identifying when these activities need to occur, and how to integrate them into their life. The quote explicitly indicates that the pressure redistribution activities compete with the client's other occupations, and the client is left to choose between following the recommendations or living their life. Using a transactionalism lens, the health care provider needs to consider the client's context, as well as the way the client constantly co-ordinates with their environment or context. This will change the way the health care provider discusses how to identify and address lifestyle factors impacted by the treatment recommendations, by assisting the client to develop ways to coordinate these activities with the client's other occupations, as well as their environment or context.

From a transactionalism perspective, engaging in the occupation of identifying and addressing lifestyle factors, health care providers are challenged to consider the traditional wound prevention and management recommendations, and how best to assist the client to adapt them to their lifestyle. For example, advice moves from general statements like "incorporate pressure redistribution activities" to a problem-solving approach where the underlying question is "how can this client integrate pressure redistribution activities into each of their occupations?". More specifically, how could this client integrate pressure redistribution activities into the way they participate in their occupation of meal preparation, for example. Transactionalism opens a much broader conversation with the client, helping them to identify and address lifestyle factors, and providing a rich discussion as to the best approaches in various situations.

1.4 The Research Question

The gap between the importance placed on lifestyle factors in the best practice guidelines, and the lack of specific details in the guidelines and literature of how to implement addressing lifestyle factors in practice is of primary interest to me. In this study, the perspective of experienced health care providers working with adult clients in the community to prevent and manage chronic wounds was the focus. Experienced health care providers were chosen because they were likely to have a broader range of experiences and perspectives on the prevention and management of chronic wounds. Experienced health care professionals also had a level of expertise that enabled them to participate in in-depth interviews. The focus on adults in the community was chosen as adults living in the community tended to have more control and choice over their lifestyle decisions than those living in residential care. As a result of these factors the research question was defined as follows: "How do experienced health care providers identify and address lifestyle factors with community dwelling adult clients who have chronic wounds?" Several sub questions are also explored:

- What do experienced health care providers identify as lifestyle issues?
- What resources do experienced health care providers use to give them a perspective on lifestyle issues?
- How do experienced health care professionals integrate lifestyle factors into their practice.?
- What barriers do experienced health care providers face when trying to identify the lifestyle factors with their adult clients?
- What barriers do experienced health care providers face integrating these lifestyle factors into the client's treatment plan?

1.5 Plan of Presentation

This dissertation is written in the form of a monograph with a separate chapter for each phase of the research process. Although each chapter represents a different phase of this research, it is important to recognize that the research process was iterative, yet the plan of presentation is linear. The areas where the path of the plan of presentation diverges

with the path of the research are identified throughout this manuscript to promote transparency for the reader.

Chapter 2, the literature review, initially occurred prior to the development of this study proposal, and was revised with updated articles after the data collection and analysis of the participant interview data. The literature review chapter describes the search strategy used for the scoping review, the inclusion and exclusion criteria, the results and discussion.

Chapter 3, methodology, describes the philosophical foundation underlying this study. I begin by outlining the philosophical choice of constructivism, followed by discussing the fit of this paradigm with the aim of this study. I then go on to discuss the methodological choice of constructivist grounded theory, followed by the fit of this methodological choice with the aim and methodology of this study.

The methods are described in Chapter 4 including the approach used to collect data for this constructivist grounded theory study, recruitment strategies and inclusion and exclusion criteria. The approach used to analyze the data is also described in this chapter because the grounded theory method is iterative and data collection and analysis occur simultaneously.

Next, the results are presented in Chapter 5. This includes a description of the participants and the context in which they work. The evolution of the individual categories and theory are described along with the process of member checking these categories. Finally, the grounded theory itself, categories and subcategories are discussed in detail.

Chapter 6, the discussion focuses on the key outcomes of this study, focused on the key question of how health care providers identify and address lifestyle factors. Although this study did not find that there was a consistent understanding of lifestyle factors, nor how they should be identified and addressed, the need to identify and address lifestyle factors was clear. The discussion section focuses on this tension, and the need for dialogue within the wound prevention and management community regarding lifestyle

factors. An occupational science perspective is offered as a way to move this discourse forward. Limitations of this study are also identified and described.

The last chapter of this manuscript is the conclusion. In this section I provide a summary of the research and its implications for clinical practice and the field of Occupational Science. Lastly, I suggest areas for future research.

Chapter 2

2 BACKGROUND TO THE STUDY

There is a tension in the chronic wound care literature between the recognized importance of lifestyle factors in the prevention and management of chronic wounds and the lack of specific information about these lifestyle factors. Best practice guidelines contain recommendations that treatment plans need to consider the client's lifestyle but offer little guidance for the clinician about the specific lifestyle factors to be considered, nor how to address these within the treatment plan.(s.f. Orsted et al., 2017; Registered Nurses' Association of Ontario, 2013, 2016; Sibbald et al., 2011) Considering the importance of lifestyle factors, it is surprising that there is not more description of the lifestyle factors, and a discussion of the best way to address these factors. The intent of this scoping review was to explore the extent to which lifestyle factors impacting the prevention and management of chronic wounds is discussed in the literature. Unless lifestyle is explored and studied, the prevention and treatment of chronic wounds is incomplete at best.

2.1 Scoping Review: Are We Considering Lifestyle Issues in Chronic Wound Prevention and Management?

Much of the information presented at conferences and published in the wound prevention and management literature is focused on the basic science, i.e. biological and medical aspects of chronic wound prevention. There was one study (Jackson et al., 2010) out of the University of Southern California that described the lifestyle factors experienced by people with spinal cord injuries who had chronic wounds. Table 1 describes the concepts identified in the Jackson et al. (2010) study. A broad review of the wound prevention and management literature was needed to identify any other literature and to synthesize the findings pertaining to lifestyle factors.

Table 1: Lifestyle Factors as Described by Jackson et al (2010)

Lifestyle Factor	Description
Perpetual danger	The risk of developing a pressure ulcer is ever present resulting in pressure ulcer development, even with an appropriate prevention routine, when minor changes occur.
Change/disruption of routine	Changes in routine or the client's circumstances have been linked to pressure ulcer development
Decay of prevention behaviors	Clients are often taught techniques such as weight shifting, that tend to deteriorate in frequency and technique over time, increasing the risk of pressure ulcer development.
Lifestyle risk ratio	This factor relates to the additive contribution of various liabilities and buffers for pressure ulcer development such as frailty, urinary tract infections, poor nutrition etc.
Individualization	The combination of liabilities and buffers impact clients differently and can impact the same client differently at different times
Simultaneous presence of awareness and motivation	Clients must both be aware of preventing the pressure ulcer and have the motivation to implement prevention techniques in all aspects of their daily life.
Lifestyle trade-off	Clients are often faced with conflicts between engaging in meaningful activities versus implementing pressure ulcer prevention strategies
Access to needed care, services and supports	Clients in this study often had difficulty accessing timely care, equipment, supplies and at times health care professionals who were knowledgeable about working with clients with spinal cord injuries

2.1.1 Methods

A scoping review helps to "examine the extent, range and nature of research activity….summarize and disseminate research findings…..[and] identify research gaps in the existing literature…" (Arksey & O'Malley, 2005, p. 21). This paper follows the structure proposed by Levec et al (2010); identifying the research question, identifying relevant studies, study selection, charting the data, collating, summarizing and reporting

the results. Although a consultation component is included in the structure proposed by Levec et al (2010), it is not included in this chapter because this literature review was initially conducted as a prelude to my doctoral research. As expert consultation was part of the research study, a consultation phase was not included at this stage of the work.

2.1.1.1 Identifying the Research Question

The Jackson et al (2010) study focused on clients with spinal cord injuries who had pressure ulcers. Although this is a very specific population, the lifestyle issues identified are not likely limited to clients with a specific diagnosis, nor type of chronic wound. From an occupational science perspective, the experience of identifying and addressing lifestyle factors in the context of preventing and managing chronic wounds, is more important than the underlying diagnosis of the person at risk of developing chronic wounds. As a result, this review was broadened to include clients with chronic wounds or who are at risk of developing a chronic wound. The research question was framed as "what are the lifestyle factors that are involved with the prevention and management of chronic wounds for adults who have, or at risk of developing chronic wounds, living in the community". Inclusion and exclusion criteria are listed in Tables 2 and 3 below.

Table 2: Inclusion Criteria

Inclusion Criteria	Rationale
Focused on chronic wound prevention and/or management	The topic of this scoping review is the prevention and management of chronic wounds
Adults (18 +)	Tend to have more control over the lifestyle choices they make than children
Clients living in the community	Tend to have more control over their lifestyle than those living in a facility
Article is available in English	English is the only language spoken by this author
Discusses lifestyle factors which may include activities of daily living	This is the topic of the scoping review

Table 3: Exclusion Criteria

Exclusion Criteria	Rationale
Article includes clients who are palliative or who have cancerous wounds	Clients who are palliative are at higher risk of wounds, but the factors involved in the development of chronic wounds may be different than those who are not palliative (Sibbald, Krasner, & Lutz, 2011)

2.1.1.2 Identifying the Relevant Studies

For this review, chronic wound prevention and/or management clinical practice guidelines and recommendations (s.f. Orsted et al., 2017; Registered Nurses' Association of Ontario, 2013, 2016; Sibbald et al., 2011), studies and opinion pieces within peer reviewed medical journals were included for consideration.

The literature search of lifestyle factors spans from 2000 to the present time. The year 2000 was chosen as this is the first time the wound bed preparation paradigm (Sibbald et al., 2000) appeared in the wound prevention and management literature, identifying the need to optimize patient centred concerns. To reduce duplication where there were multiple guidelines regarding a specific wound type, e.g. diabetic foot wounds, from a single organization (e.g. Registered Nurses' Association) only the latest guideline was included.

The following databases were searched; PubMed, CINAHL, ProQuest, SCOPUS, EMBASE, Cochrane Library, PsycINFO and Sociological Abstracts. The search strategy used was:

> Chronic wound OR (Pressure Ulcer OR Decubitus Ulcer) OR (Diabetic Foot Ulcer OR Neuropathic Foot Ulcer), OR Venous Leg Ulcer OR Arterial Leg Ulcer,
>
> AND (Activities of Daily Living OR Lifestyle),
>
> AND ((Preventing OR Preventative) OR (Risk OR Risk Reduction Behavior OR Risk-Taking OR Risk Factors)) OR ("Tertiary Prevention"[Mesh] OR "Secondary

Prevention"[Mesh] OR "Primary Prevention"[Mesh])) OR "Development") OR "Prevention")).

The key words from included articles were reviewed, to determine if any additional key words could result in finding additional articles. No additional key words were identified. The reference lists of articles and best practice recommendations that met the inclusion criteria were also examined to look for additional relevant articles. No additional relevant articles were identified from this review.

The articles from the literature search were compiled into a master data table and duplicates were removed. Abstracts for this list of articles were collected and reviewed.

2.1.1.3 Study Selection

A ranking system, described in Table 4 was used to identify the articles that fall within the inclusion criteria for this scoping review. The abstract and key words sections of each article were examined to identify the rank of each article. Where the abstract was unavailable, or the rank could not be determined by reviewing the abstract, the article was read to determine a final ranking. For the purpose of this review, only papers with a ranking of 3 or higher were included in the data chart.

Table 4: Ranking Criteria

Rank	Criteria
5	All identified chronic wound prevention and management guidelines with a rigorous method. (E.g. Registered Nurses Association of Ontario, Wound Ostomy Continence Nurses Society, the Canadian Association of Wound Care, the National Pressure Ulcer Advisory Panel/European Pressure Ulcer Advisory Panel and the Association for the Advancement of Wound Care.) AND Studies where participants meet all of the following criteria: are adults, living in the community, have or are at risk of developing a chronic ulcer. Study specifically explores the relationship between lifestyle factors and chronic wounds.
4	Opinion paper where the population of interest meets all of the following criteria: adults, living in the community, have or are at risk of developing a chronic wound. Specifically explores the relationship between lifestyle factors and chronic wounds.
3	Study or opinion paper where the population in question has or are at risk for developing chronic wounds AND Lifestyle factors are explored OR Lifestyle factors are the focus of the study or opinion paper where the relationship to chronic wounds is discussed along with other chronic conditions.
2	Study or opinion paper where the population is not defined other than being at risk of developing or currently having a chronic wound OR lifestyle factors are identified but not discussed
1	Study or opinion paper relating to other types of wounds OR 'lifestyle" is mentioned but not explored

A total of 2795 articles and guidelines were identified from the search of the seven databases. Results of each search are described in Appendix 1. Duplicates were removed resulting in 2157 unique articles and guidelines. The abstracts of these articles were reviewed in relationship to the inclusion and exclusion criteria. Where a decision could not be made regarding whether or not the article met the inclusion criteria from the abstract, the article itself was reviewed. A total of 2055 articles were excluded. Reasons for exclusion are found in Figure 2. Note that articles may have been excluded for more than one reason.

The articles that met the inclusion criteria were then ranked according to the criteria listed in Table 4. Where abstracts were not available, or the ranking could not be determined

by the abstract review the entire article was reviewed. Results of this process are described in Figure 2.

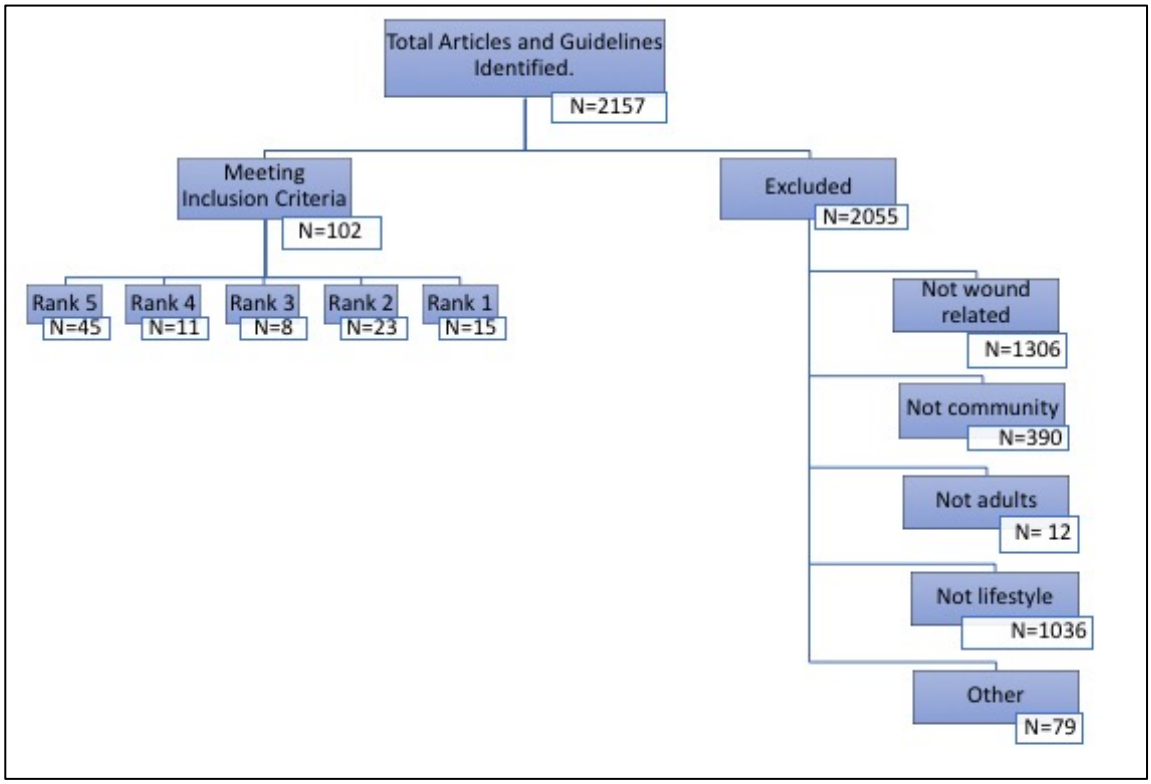

Figure 2:Number of Ranked Articles and Guidelines

2.1.1.4 Charting the Data

To capture the data from the articles, an excel spreadsheet was created with the following headings; Article Identification (title, authors, publication etc.), Type of Article (opinion or research), Ranking, Key Words (if identified by the author), Type of Chronic Wound (pressure ulcer, leg ulcer, neuropathic foot ulcer or other), Method, Lifestyle Factors Identified, Theories used to explain or examine the lifestyle factors (if any) and Frame (the assumptions underlying the article e.g. medical model etc. if available).

2.1.2 Results

There were 102 articles that met the inclusion criteria, 64 with a ranking of 3 or higher. Appendix 2 is a listing of the included articles and guidelines.

2.1.2.1 Collating, Summarizing and Reporting the Results

A total of 190 authors contributed to the guidelines and articles reviewed. Of the 190 authors the vast majority had a nursing background, however physicians, physiotherapists, chiropodists, occupational scientists/occupational therapists have also contributed.

2.1.2.1.1 Characteristics of the Guidelines

A total of 13 guidelines addressing chronic wounds were reviewed. Ten of these guidelines were authored primarily in North America and 3 were from other countries.

Although authors of the guidelines had a variety of backgrounds, 55% of the authors had a nursing background. Only 2% of the authors had an occupational therapy/occupational science background. Only 2 consumers, persons with a wound or patients were identified as being involved in guideline development.

Each of the guidelines were constructed based on a review of the literature and were reviewed by an expert panel. Best practice guidelines tended to focus on quantitative studies and gave less attention to qualitative studies. The International Pressure Ulcer Guideline Methodology Addendum (2014, pg 9) for example states, "Studies using established qualitative methodologies were considered, as appropriate to the research question". The guidelines go on to state that "qualitative studies should be evaluated for guidance on patient consumer preferences" (National Pressure Ulcer Advisory Panel et al., 2014, pg 25). This statement seems to indicate that qualitative studies were not considered in other domains such as identifying lifestyle issues.

In the strength of evidence tables used for guideline development, qualitative studies are not identified as having an impact the strength of evidence rating of specific guideline statements, regardless of the rigor of the study. For example, the strength of evidence table for one set of pressure ulcer guidelines (National Pressure Ulcer Advisory Panel, 2007) is reproduced in Table 5. Due to the method used to develop best practice guidelines for chronic wound prevention and management, even if there was a well-designed, rigorous qualitative study regarding lifestyle factors for any of the various

types of chronic wounds, the results of a qualitative study would not change the level of evidence nor shape the recommendations provided in the guideline other than contributing to expert opinion.

Table 5: Evidence Table (National Pressure Ulcer Advisory Panel, 2007)

Level	Description
Level A	The recommendation is supported by direct scientific evidence from properly designed and implemented controlled trials on pressure ulcers in humans (or humans at risk for pressure ulcers), providing statistical results that consistently support the recommendation (Level 1 studies required).
Level B	The recommendation is supported by direct scientific evidence from properly designed and implemented clinical series on pressure ulcers in humans (or humans at risk for pressure ulcers) providing statistical results that consistently support the recommendation. (Level 2, 3, 4, 5 studies)
Level C	The recommendation is supported by indirect evidence (e.g., studies in healthy humans, humans with other types of chronic wounds, animal models) and/or expert opinion

2.1.2.1.2 Characteristics of the Articles

A total of 64 articles met the inclusion criteria and were ranked 3 or higher. A total of 9 articles reviewed were not North American in origin. Of the 75 authors of articles, 33% were nurses. Occupational therapists/occupational scientists made up 28%. A small number of authors have published multiple articles, often based on the same research. For example, Florence Clark was the author or co-author on 13 of the articles (s.f. Clark, 1993; Clark et al., 2006; Ghaisas, Pyatak, Blanche, Blanchard, & Clark, 2015; Jackson et al., 2010). Of the articles included, 1 was a report on a literature search, 9 were opinion papers, 2 were systematic reviews, 6 were quantitative research studies and 8 were qualitative research studies.

2.1.2.1.3 Lifestyle Factors Identified in the Literature

Many of the "lifestyle factors" identified in the literature were client characteristics. Examples include: extensive paralysis (Cutajar & Roberts, 2005), duration of spinal cord injuries (Cutajar & Roberts, 2005; Krause & Broderick, 2004), cognitive impairment/

dysfunction (Registered Nurses Association of Ontario, 2013; Dunn, Carlson, Jackson, & Clark, 2006), etc.

While charting the data, it was apparent that the lifestyle factors identified in the literature could be grouped into one of three categories; person, occupation and environment. These categories, or domains form the foundation of the Canadian Model of Occupational Performance (CMOP-E) (Polatajko, Townsend, & Craik, 2007). For this reason, the lifestyle factors identified in the literature have been grouped according to this model.

2.1.2.1.3.1 Canadian Model of Occupational Performance

The Canadian Model of Occupational Performance (CMOP-E) identifies the main domains, and sub domains, of interest for the profession of Occupational Therapy which includes the person (cognitive, affective, physical, spiritual), the environment (cultural, institutional, physical, social) and the occupation (self-care, productivity, leisure). (Polatajko, Davis, et al., 2007, pg. 23). Occupational Performance is conceptualized as the dynamic interaction between these three domains. (Polatajko, Davis, et al., 2007, pg. 23).

Occupational performance may be one way to describe the lifestyle factors that are associated with chronic wound development, since it is the interplay of various factors that is emphasized.

> "Because of the wealth of factors that affect life at the everyday level, it is not surprising that the results of our investigation underscored the notion that multiple, complexly interrelated circumstances contribute to the development of pressure ulcers and their recurrence." (Clark et al., 2006, pg. 1523)

As a result, the Canadian Model of Occupational Performance was used as a framework to report the risk factors and lifestyle factors that are associated with chronic wounds as identified in this scoping review.

2.1.2.1.3.1.1 Person

Lifestyle factors that are included in this domain relate to the person's characteristics that they can control. Maintaining a healthy weight in addition to the need to stop smoking received the most attention in the literature (Heinen, Achterberg, Reimer, Kerkhof, & Laat, 2004; Clark et al., 2001; Krause & Broderick, 2004; Registered Nurses Association of Ontario, 2004; Registered Nurses Association of Ontario, 2013; Scottish Intercollegiate Guidelines Network, 2010). The level of knowledge of the individual (Dunn, Carlson, Jackson, & Clark, 2006; Registered Nurses Association of Ontario, 2004; Registered Nurses Association of Ontario, 2013) also was frequently discussed. Cognitive and behavioural factors such as the simultaneous presence of awareness and motivation (Jackson et al., 2010), procrastinating (Dunn et al., 2006), and diverting attention away from the wound or treatment plan (Dunn et al., 2006) were also identified.

2.1.2.1.3.1.2 Occupation

Lifestyle factors in this domain centre on the choices the client makes to balance between the medical recommendations and their other priorities. The overall theme is the "continuity of biography with a focus on living rather than on impairment" (Houghton et al., 2013, p. 30) which was also framed as difficulties with adherence to the plan of care (Registered Nurses Association of Ontario, 2013; Van Hecke et al., 2009; Dunn et al., 2006), a conflict between life goals and the treatment plan (Fogelberg, Atkins, Blanche, & Carlson, 2011; Association for the Advancement of Wound Care, 2010; National Pressure Ulcer Advisory Panel & European Pressure Ulcer Advisory Panel, 2009; Parslow et al., 2011), role disruption (Houghton et al., 2013), disruption of routine (Jackson et al., 2010), lifestyle trade off (Jackson et al., 2010) or lifestyle risk ratio (Jackson et al., 2010).

The second theme in this section is the level of activity (Armstrong et al., 2004; Brown, 2012; Burrows et al., 2006; National Pressure Ulcer Advisory Panel & European Pressure Ulcer Advisory Panel, 2009; Registered Nurses Association of Ontario, 2004) including type of employment or being unemployed (Burrows et al., 2006; Clark et al., 2001), or having limitations in work or leisure activities (Persoon et al., 2004; Hopkins et al.,

2006). The final theme relates to the way individuals adapted to, or coped with living with an ulcer (Flaherty, 2005; Hopkins et al., 2006), including the responsibility they take for skin care (Cutajar & Roberts, 2005), challenges in daily activities or wound care (Heinen et al., 2004; Cutajar & Roberts, 2005; Keast, Parslow, Houghton, Norton, & Fraser, 2006; National Pressure Ulcer Advisory Panel & European Pressure Ulcer Advisory Panel, 2009) and the decay in prevention behaviours over time (Jackson et al., 2010).

2.1.2.1.3.1.3 Environment

The dominant theme relates to institutional barriers including access to care (Persoon et al., 2004; Registered Nurses Association of Ontario, 2013; Sibbald et al., 2011; Jackson et al., 2010; Dunn et al., 2006), the lack of valid lifestyle advice (Van Hecke et al., 2009; Australian and New Zealand, 2011; Scottish Intercollegiate Guidelines Network, 2010), and affordability or costs involved in prevention and treatment (Australian and New Zealand, 2011; Fogelberg et al., 2011; Association for the Advancement of Wound Care, 2010; Association for the Advancement of Wound Care, 2010; National Pressure Ulcer Advisory Panel & European Pressure Ulcer Advisory Panel, 2009; Sibbald et al., 2011; Registered Nurses Association of Ontario, 2013).

The second theme relates to the physical environment, such as access to equipment (Heinen et al., 2004), having the wheelchair act as a living space rather than a method of transportation (Fogelberg et al., 2011), using their wheelchair in unusual ways (Fogelberg et al., 2011), adjusting their own equipment (Fogelberg et al., 2011), spending long periods of time in the wheelchair (Fogelberg et al., 2011) and living in the perpetual danger of developing a pressure ulcer (Jackson et al., 2010).

The third theme is the impact of social support and functioning (Heinen et al., 2004; Persoon et al., 2004; Burrows et al., 2006; Clark et al., 2001; National Pressure Ulcer Advisory Panel & European Pressure Ulcer Advisory Panel, 2009; Registered Nurses Association of Ontario, 2013) including avoiding social discomfort (Dunn et al., 2006). The final theme is, the cultural or personal beliefs of the individual (Registered Nurses' Association of Ontario, 2013).

It is striking, when grouped in this manner, to note that the risk and lifestyle factors identified in the guidelines and articles cover all areas of occupational performance.

2.1.2.1.4 Lifestyle Factor Research

Despite acknowledging the importance of lifestyle factors, none of the guidelines elaborated on the best way to address these issues, nor provided a theoretical perspective on lifestyle factors. It is of particular interest to note that several of the articles and guidelines cited the lack of valid lifestyle advice (Van Hecke et al., 2009; Australian and New Zealand, 2011; Scottish Intercollegiate Guidelines Network, 2010) as an issue with chronic wound prevention and management.

Lifestyle factors are specific to the individual, and there is acknowledgment of the complexity of addressing lifestyle and other human factors**:**

> "Among pressure ulcer risk factors, possibly most critical, but most difficult to quantify, predict, and often influence are a broad range of human factors such as attitudes, beliefs, knowledge, motivation, mood, values, lifestyle issues, and adherence to recommended behaviours, including diet, exercise, and pressure management… Ultimately, human factors determine whether a person works actively to prevent pressure ulcers or not" (Houghton et al., 2013, pg. 25).

Quantitative studies tend to focus on the frequency of an observable behaviour. For example, the average daily activity in people with Diabetes was measured by a high capacity continuous computerized activity monitor (Armstrong et al., 2004), to try and determine the relationship between activity and diabetic foot ulcers. As another example a telephone survey was conducted to explore "whether decreased participation in occupational activities (work, leisure and activities of daily living) was related to pressure sore occurrence in paraplegic men" (Cutajar & Roberts, 2005, pg 307). Although Cutajar is an occupational therapist and comments that "this study was influenced by one of the main theoretical foundations that govern occupational therapy practice, which is the belief that occupation can affect an individual's health" (Cutajar & Roberts, 2005, pg

313), this relationship is not discussed in detail, nor are any specific theoretical perspectives identified.

Qualitative studies focused on the impact of chronic wounds on the individual. For example, A Heideggerian phenomenological approach was used to explore the patient perspective of living with a pressure ulcer. (Hopkins et al., 2006) Although some of the quotes identified in the study appeared to relate to lifestyle choices, such as staying up longer in the wheelchair than recommended, the researchers framed the results into three themes which did not directly identify lifestyle concerns: pressure ulcers produce endless pain; pressure ulcers produce a restricted life; coping with a pressure ulcer. (Hopkins et al., 2006). As with the Hopkins et al study (2006), the majority of authors had either a nursing or physician background, rather than an occupational therapy or occupational science background.

A knowledge deficit was one theory used to explain the recurrence of pressure ulcers, and the lack of preventative behaviours incorporated into the client's lifestyle. "Because most education programs for pressure ulcer prevention are designed for the initial hospitalization and rehabilitation, outpatient educational programs are greatly needed to reinforce pressure ulcer detection and treatment." (Caliri, 2005, pg. 343) Knowledge level was also linked to coping with an ulcer. "Level of knowledge was found to be related to the coping measures demonstrated by participants, which included non-acceptance and normalisation" (Flaherty, 2005, pg. 78).

2.1.3 Discussion

Despite the identified importance of lifestyle factors, this scoping review did not reveal a large body of literature to support health care providers in how to identify and address lifestyle factors. This section explores differentiating between lifestyle factors and risk factors, the paucity of lifestyle factor discourse in the wound prevention and management literature and understanding lifestyle factors from an Occupational Science Perspective.

2.1.3.1 Differentiating between Risk Factors and Lifestyle Factors

The lifestyle factors identified in this chapter are those where the person has control, and do not include risk factors such as ethnic background. These lifestyle factors span all domains of the Canadian Model of Occupational Performance (Polatajko, Townsend, et al., 2007); the person (e.g. maintaining a healthy weight), the occupation (e.g. the focus on living their life rather than focusing on chronic wound prevention and management) and the environment (e.g. barriers to accessing care, and the physical environment).

Considering the frequency "lifestyle issues" are discussed in best practice guidelines and articles, and the acknowledgement of their importance, it is remarkable to note that the term lifestyle is not consistently defined. For example "cost of bandages" (Australian and New Zealand, 2011), "psychological health" (National Pressure Ulcer Advisory Panel & European Pressure Ulcer Advisory Panel, 2009), and "chair bound" (Registered Nurses' Association of Ontario, 2004) have been listed as lifestyle factors, but do not involve the concept of choice. Other guidelines and articles just identify "lifestyle factors" as a general concept (Frykberg et al., 2006; Krause & Broderick, 2004), but do not provide a comprehensive discourse of what lifestyle encompasses. There does not appear to be a common understanding of lifestyle, across the wound prevention and management literature. The term "lifestyle" seems to be used as a general term to capture the characteristics of the individual and the choices they make, that seem to contribute to wound prevention and management.

Since a common definition does not appear in the literature, there is not a clear demarcation between "risk factor" and "lifestyle factor". A number of issues may have influenced the factors identified in the articles and guidelines; and whether these factors were categorized as a risk factor or as a lifestyle factor. These issues include the ability of the participant to describe their experience, the location of the author and the research method.

2.1.3.1.1 Ability of the Participant to Describe Their Experience

Lifestyle issues are complex and may be difficult to describe. Depending on the education level of the participant, their ability to express themselves, their level of trust of

the investigator, their level of insight etc., lifestyle issues may not have been identified and articulated.

2.1.3.1.2 Location of the Author

Each author brings their own perspective to the data and information. For example, the majority of the authors of best practice guidelines were registered nurses. Other disciplines were involved such as physicians and occupational therapists, however in much fewer numbers. Different authors may interpret the same information in different ways depending on their experience. For example, Hopkins et al (2006) conceptualized the following quote as a quality of life issue, "patients were aware that their reduced mobility was not a useful feature and would probably have consequences ['staying longer in my chair than I should do' (Betty)], giving an acknowledgement of their understanding of the importance of repositioning" (Hopkins et al., 2006, pg. 349). This same issue, of staying up in the wheelchair too long was conceptualized as a lifestyle issue by Fogelberg et al (2011). "In the analysis of the individuals' stories, it became apparent that because of the time participants spent in them the wheelchair functioned more as a living space that was occupied day in and day out rather than simply as a means of transportation" (Fogelberg et al., 2011). Hopkins is a clinical nurse specialist and Fogelberg is an occupational scientist. It is not surprising that Hopkins and Fogelberg view a similar behavior differently.

2.1.3.1.3 Method Used in the Research

Some of the research articles used a survey approach to gather data and may not have identified the more complex lifestyle issues as a result. The majority of studies included in guidelines are quantitative in nature, and focused on determining the frequency of a behaviour, such as walking or quantifying the number of people with diabetes who choose to wear normal shoes. While interesting, this research does not begin to address the question of "why" the participants made those choices, the factors surrounding their choices, and how to address them. In addition, these quantitative studies reduce "lifestyle factors" to easily measured, observable behaviours which limits the perspective to

researcher identified factors and does not foster the exploration of other factors identified by the subject.

2.1.3.2 The Paucity of Lifestyle Factors Discourse in the Wound Prevention and Management Literature

Given the acknowledgement in the literature and best practice guidelines of the importance of addressing lifestyle issues, the paucity of discourse is striking. Several factors could be contributing to this phenomenon.

2.1.3.2.1 Research Method

The majority of studies included in the guidelines are quantitative in nature rather than qualitative. As described above, the quantitative studies have focused on quantifying the frequency of a behaviour and reduce "lifestyle factors" to observable behaviours. These types of studies appear to be researcher based rather than participant based. The researcher determines the behaviour or factor to study and designs the study from that perspective. There is little opportunity for the participant to describe the factors they think are important in the prevention and management of the wound, nor why they made a particular lifestyle choice. Given the quantitative approach and documentation of observable phenomenon, a positivist epistemology appears to have been adopted in the area of chronic wound prevention and management research. While quantitative studies have added to the understanding the frequency of various lifestyle factors and identified some of the contributing factors, a quantitative approach assumes that valid knowledge generation comes from scientific studies of observable behaviour. This approach is incomplete and misses the knowledge gained by exploring "why" a patient chooses a specific set of actions.

2.1.3.2.2 Pharmaceutical, Medical Company Interest

Chronic wounds are estimated to cost the health care system $3.9 million dollars per year representing approximately 3% of the total health expenditure (Wound Care Alliance Canada, 2012). Dressings and wound prevention and management products make up a significant portion of this cost. Pharmaceutical and medical companies have a vested interest in encouraging, and funding, bio-physiological studies looking for better

treatment options leading to the development of new products. Studying "lifestyle" is unlikely to lead to a marketable, tangible product, and is therefore not a priority for funding.

2.1.3.2.3 Complexity of Lifestyle Factors

Where lifestyle factors are discussed, the common theme is that they are complex and specific to the individual. In the literature and guidelines however, these complex factors are reduced to the simplest common observable behaviour such as "standing too long", "staying up in the wheelchair too long", "maintaining a healthy weight" etc. These behaviours are generally thought to lead to chronic wounds, and the view may be that these do not need to be further quantified. This perspective limits inquiry and misses the complexity of the client's lifestyle and how to better understand the choices the client makes. Clients may make multiple decisions each day that vary by the day, concerning the length of time they spend in the wheelchair. In addition, they may make other decisions that impact wound prevention and management such as the number and type of transfers. The combination of the choices the client makes, and the diversity of circumstances around each choice makes lifestyle factors complex. This complexity, in addition to the slow rate of change in chronic wounds as they close, makes studying this topic difficult. Designing an appropriate study, in addition to finding sufficient funding could both be potential barriers.

2.1.3.2.4 Theoretical Perspective

Most of the best practice guidelines and articles have a bio-physiological, medical foundation. As a result, there is an individualistic view of the client with a focus on the underlying bio-physiological factors that contribute to chronic wounds. There is an underlying assumption that the use of a medical model perspective is appropriate, however chronic wounds occur in the social context. The medical model assumes a paternalistic perspective where the individual is viewed as a "patient" who needs to adhere to treatment, not as an individual who needs to live their life while managing a chronic wound. By reducing the lifestyle issues to factors such as "spending too much time in the wheelchair" as discussed earlier, the patient is either following this

recommendation or not. A prompt is not included in the guidelines encouraging clinicians to explore the decisions/circumstances leading to staying up in the chair too long. Thus, clinicians may see "staying up in the wheelchair" as a binary issue, or yes/no question. This can lead to the perspective that if the client is staying up in the chair too long, they are not following medical advice, are "non-compliant" and the wound is the client's fault.

2.1.3.2.5 View of the Individual/Participant

As commented above in the discussion of the medical model framework, the individual in most of the guidelines and articles is considered a "patient" and is expected to adhere to medical advice. In the role of "patient" an individual is expected to prioritize "getting better" over any other concerns. During the clinical interview, the health care providers' questions centre on the medical status of the individual, risk factors for developing the chronic wound and factors that may delay wound healing. In best practice guidelines, "occupation" is explored from this perspective. For example an occupation that requires standing for long periods of time is considered a risk factor for the development of venous leg ulcers (Burrows et al., 2007).

Once again, if the patient doesn't follow the advice of the health care provider, they are seen as non-compliant and at fault for the non-healing of their chronic wound. When viewing the individual as a patient, the health care provider may not focus on the other roles of that individual. People living with chronic wounds in the community fulfil more roles than just a "patient"; they could also be a "parent", "employee", "volunteer", "spouse" etc. Each of these roles is associated with specific occupations that the health care provider may not recognize, nor incorporate into the treatment plan. As these occupations are not identified and discussed, the lifestyle advice provided by the health care providers may lead to restrictions in occupation.

The health care providers typically involved in wound prevention and management are nurses and physicians and may not have the perspective of the importance of occupation for individuals that forms the foundation of occupational therapy practice. Funding for occupational therapist interventions in wound prevention and management is often limited to a consultation regarding support surfaces (e.g., mattresses and wheelchair

cushions), and does not afford time to explore the individual's occupations and desires in relationship to the wound prevention and management advice.

Since health care providers are not putting the treatment recommendations in the context of the client's lifestyle, clients are left to choose between the advice, and participation in their normal occupations. Choosing to participate in their normal occupations impacts the chronicity of their wounds. Adapting the treatment recommendations to the context and lifestyle enables the client to adhere to treatment recommendations while engaging in their occupations and may have a positive impact on wound healing.

2.1.3.3 Understanding Lifestyle from an Occupational Science Perspective

Fundamental to the perspective of Occupational Science is occupation, which can be defined as,

> "groups of activities and tasks of everyday life, named, organized and given value and meaning by individuals and a culture; occupation is everything people do to occupy themselves including looking after themselves (self-care), enjoying life (leisure), and contributing to the social and economic fabric of their communities (productivity)" (Canadian Association of Occupational Therapists, 2002, pg 181).

Under this definition of occupation, lifestyle factors could be conceptualized as occupations. What if lifestyle factors were explored from an Occupational Science perspective?

Occupation is thought to be closely tied to health (Wilcock, 2007; Wilcock, 1999). Wilcock (1999, pg 1) comments "a medical science view masks the very strong relationship that exists between occupation and health; that occupation is the natural biological mechanism for health". As reflected earlier in this chapter, the guidelines and many of the articles view lifestyle factors from a medical/biological perspective not surprisingly therefore, lifestyle and occupation have not received focused attention.

Foundational to occupational science is the view that individuals make conscious choices about what they will and will not do. These choices occur within a specific environment

and at a specific time which influences the decisions the individual makes. A different individual in the same environment and time, or the same individual in a different environment, at a different time would make different choices. Yerxa (1990, pg 11) states "Occupational science will study the person's experience of engagement in occupation recognizing that observing behavior is not sufficient for understanding occupation." Given this statement, and the view that many of the studies of lifestyle factors focus on observable behaviours, lifestyle has not been adequately explored from an occupational science perspective.

2.1.3.3.1 Occupational Science Theoretical Perspectives on Lifestyle Factors

Clark, her students and colleagues, (Clark et al., 2006; Clark et al., 2007; Jackson et al., 2010) have taken several different approaches to describe the relationship between pressure ulcer development and lifestyle. These approaches include; balance of liabilities and buffers (Clark et al., 2006), individualized risk profile pie (Clark et al., 2006), individualized risk profile flow chart (Clark et al., 2006), pressure ulcer event sequence (Clark et al., 2006), pressure ulcer event sequence with temporal comprehensiveness (Clark et al., 2006) and habit theory (Clark et al., 2007). Although these approaches are congruent with an Occupational Science perspective, they are not illustrative of a complete understanding, as many of the foundational ideas of Occupational Science are not adequately addressed.

A Habit theory lens has been used in the past (Clark et al., 2007) to frame behaviour and lifestyle issues. For example, Clark et al (2007) reflected on nine categories of habit. Illustrative examples from the Jackson et al (2010) study were provided for each of these nine categories of habit: (a) habit as a tic, (b) habit as neural networks, (c) habit as condition responses, (d) habit as an addition, (e) habit as single, everyday activities, (f) habit as routine, (g) habit as custom, ritual, rite or ceremony (h) habit as character, (i) habit as habitus.

The authors conclude that, "by increasing our understanding of the crucial role that habit can play—both positively and negatively—in life situations and circumstances, we will

be better able to develop rehabilitation approaches and interventions that will enhance participation and lead to more satisfying, healthier lives" (Clark et al., 2007, p. 20S). Habit theory provides an individualistic view of the behaviours and lifestyle issues and implies a dualism between the individual and their environment/context. However, "occupation rarely, if ever, is individual in nature" (Dickie, Cutchin, & Humphry, 2006, pg. 83). Dickie et al. (2006, pg 85) go on to state that "occupation and context should not be separated, and because of this, occupation is larger than what an individual experiences". Habit theory is too narrow to fully explain the lifestyle choices made by individuals and does not acknowledge the complexity of lifestyle issues associated with chronic wound prevention and management.

2.1.3.3.2 Transactionalism and Lifestyle Factors

Whereas Habit theory has been described as individualistic, creating a duality between the individual and their environment/context, transactionalism has the potential to advance the discourse regarding lifestyle factors and pressure ulcer development as "phenomenon do not merely interact as separate forms; they move through one another and transact as co-constituted entities" (Aldrich, 2008, pg 151). Essentially this means that the individual cannot be separated from their context/environment when describing occupation. **"**If people are to function and to maximize function – and occupation is a particularly relevant example—it is not just a person acting independently of an environment; there must be constant coordination of the relationship between the environment and person" (Cutchin & Dickie, 2012, pg 45).

The purpose of a transaction is "to functionally coordinate relations to keep the transactional unit whole and operational, for the benefit of the dimensions that constitute it" (Dickie et al., 2006, pg 88). In other words, an individual is constantly balancing their needs with the demands of their environment and the occupations in which they choose to engage. From a transactionalism perspective, as an individual moves through their life, they are constantly making choices regarding their occupations and how they will carry out those occupations given their location in the environment and in time. Neither the occupations nor how individual preforms them are predetermined, but rather depend on the current context.

"Lifestyle issues" when viewed from a transactionalism perspective become fluid, and rich with detail. Recall the discussion regarding the view of health care professionals seeing lifestyle issues such as "staying up in the wheelchair" as a binary issue, or yes/no question. A transactionalism perspective takes lifestyle factors such as this beyond a binary, yes/no question to consider the complexity of the decisions the individual makes in specific contexts. For example, each time an individual stays up in a wheelchair may become part of a transaction. The quality of the question changes from "is the individual staying up in the wheelchair too long" to a series of questions that may include "under what circumstances does the individual stay up in the wheelchair longer than recommended?", "is there another way of engaging in an occupation that still enables the individual to protect their skin?", "what other solutions are available within the individual's environment?" etc. Once again, this idea of multiple transactions occurring simultaneously also illustrates the complexity of the lifestyle factors involved.

To better understand the potential of transactionalism to illuminate the lifestyle factors associated with chronic wound prevention and management, a case example has been compiled from the "Pressure Ulcer Prevention Study" (PUPS) (Clark et al., 2006), and is provided in Table 6.

Table 6: Case Study -- Robert

Robert
The details of Robert's situation have been compiled from three different sources (Clark et al., 2006; Fogelberg et al., 2011; Jackson et al., 2010)
Robert is a 42-year-old African American man who sustained an incomplete C7 Spinal Cord Injury and uses a tilt in space wheelchair. After his accident he experienced depression, turned to drugs and contemplated suicide. He developed a renewed sense of spirituality, and is now taking computer classes, visiting with friends, going to medical appointments and shopping. He does not perform weight shifting activities in social situations as this maneuver causes urination. Although five pressure ulcers, including two requiring surgery, have developed since his spinal cord injury, this case example will focus on one ulcer that developed when he was stranded at an airport. He was in his wheelchair for 20 hours that day and slept for six or seven hours in one position in his wheelchair

Consider the development of the pressure ulcer from being stranded in the airport. From an individualistic, medical model perspective, the cause of Robert's pressure ulcer is straight forward – spending 20 hours in his wheelchair. From this perspective, Robert's health care professionals could potentially blame Robert for developing the pressure ulcer and assume that there could have been a different choice that would have avoided the pressure ulcer. This view could also lead to "simple" treatment recommendations such as limiting the time spent in his wheelchair. An individualistic view does not recognize the complexity of the transactions occurring.

From a habit theory perspective staying in his wheelchair could be seen as a conditioned response; avoiding weight shifting so he wouldn't automatically urinate. Habit theory is also an individualistic approach that does not consider the broad range of issues and factors impacting the decisions in the moment.

Transactionalism in contrast "holds that changes in a situation disrupt functional coordination, and that the creativity required to re-establish functional coordination involves a change in the relationship of the transactional elements involved" (Aldrich, 2008, pg 153). In other words, when the context changes, or the individual changes such as after an injury, the individual makes different choices, and may harness different resources or approaches to accomplish his chosen occupation in that moment.

For Robert, his decisions regarding staying in his wheelchair for long periods, could be described as transactions. "Robert has become very knowledgeable about pressure ulcer prevention through his own personal experience. However, he often ignores his own rules on how to prevent pressure ulcers in order to maintain his active lifestyle" (Clark et al., 2006, pg 1518). From a transactionalism perspective, Robert's "rules" are shaped in each individual situation, by a multitude of factors and the ever-changing relationship between these factors.

Returning to the episode at the airport, perhaps Robert was well prepared for his trip, and had plans in place for pressure management during his trip. The 'change in the situation' was the flight delay, which disrupted the 'functional coordination' (Aldrich, 2008) of the trip. Many different elements could interact in this transaction. For example, the options

available for pressure ulcer prevention may have been limited by the environment. There may have been few options in the airport where Robert could sit or lie and could have been further limited by his ability to transfer. He may not have had the equipment available to him in the airport to facilitate safe transfers or changes in position. He may not have known the total length of the delay at the beginning, so the choices he made could have been based on a series of what he was told would only be short delays. He could have had other, more pressing issues to address such as emptying his bladder. The number of different habits Robert knows to employ, his experience of employing these habits in different situations, and what he thinks will be the best outcome, also influence this transaction.

Viewing the situation through a transactionalism lens, provides a broader explanation for Robert's lifestyle choices and reveals more options from an intervention perspective, than examining his situation from a Habit theory or medical model perspective. From a transactionalism perspective, interventions could focus on the environment and address the type of equipment and places he needs to access when travelling. In addition, the policies and processes in place at airports when working with passengers with disabilities could be changed to ensure access to a standard set of equipment. Interventions could also focus on the individual – perhaps Robert could have been shown other techniques or ways to prevent pressure ulcers when it was not possible to get out of his chair.

Moving away from Robert's situation, each lifestyle factor identified by the literature or by an individual could be examined from a transactionalism perspective. Since different individuals would make different choices in similar circumstances, transactionalism suggests that the experience of each individual would need to be examined within their specific context. Transactionalism, as a theoretical perspective helps to illuminate the complex elements involved in a specific situation and can lead to a broader perspective. This would provide a significantly more complex, in depth discourse regarding lifestyle factors.

2.2 Potential Gaps/Opportunities for Further Research

The importance of lifestyle factors has been articulated in the literature, but a common definition has not been established. Lifestyle factors that have been identified include maintaining a healthy weight, conflict between life goals and treatment plans, access to care, etc. The positivist epistemology used to date reducing the complex lifestyle factors to convenient labels such as "conflict between life goals and treatment plans" may have limited the research that has been done. Given the paucity of research in this area the opportunities to contribute to the understanding of lifestyle issues in relationship to chronic wounds are endless.

Given the importance of lifestyle factors, and the lack of clarity in the literature, the knowledge around lifestyle factors may be tacit and found within the health care professionals working in chronic wound prevention and management. This tacit knowledge clinicians may have regarding lifestyle issues has not yet been formally documented in the literature and is the gap this grounded theory study starts to address.

2.3 Conclusion

Best practice guidelines acknowledge the importance of lifestyle factors for the prevention and management of chronic wounds, but do not clearly describe these lifestyle factors nor provide a theoretical perspective on the relationship of lifestyle to chronic wound prevention and management. This acknowledged importance of lifestyle factors, but lack of information creates a tension within the chronic wound prevention and management literature. The intent of this scoping review was to explore the extent to which lifestyle factors were discussed in the chronic wound prevention and management literature.

Given both the recognized importance of lifestyle factors and the paucity of discourse in the literature, there is a significant opportunity for research. Clearly there is a lack of attention to lifestyle factors in the literature, however there may be a significant body of tacit knowledge among health care providers. Exploring this tacit knowledge would be a valuable contribution to the chronic wound prevention and management literature.

Chapter 3

3 METHODOLOGICAL AND THEORETICAL APPROACH

The gap between the stated importance of "lifestyle factors" in the wound care literature and the lack of direction for clinicians regarding how to identify and address "lifestyle factors" was the stimulus for this research. Many experienced clinicians have been involved in the development of the wound prevention and management literature. Interviewing these, and other experienced health care providers to access their tacit knowledge was a logical place to seek clarification about identifying and addressing lifestyle factors.

Diane Krasner (2001), a leader in wound prevention and management, encouraged Wound Ostomy Continence Nurses to explore qualitative methodologies, as "the appeal of qualitative research methodologies for the human sciences is that, generally speaking, these methods attempt to describe and interpret complex phenomena". (Krasner, 2001, pg. 70) Despite this perspective, the reliance on the scientific method and a quantitative research approach is well established in the wound prevention and management literature as described in the previous chapter.

There is a growing realization that there are many unanswered questions that underlie the "hard facts" that quantitative research alone cannot answer. (DePoy & Gitlin, 2005, pg 28) The importance of addressing lifestyle factors for clients with chronic wounds, is an area where there are many underlying questions, that have not been addressed in the literature. The question framing this research, "how do experienced health care providers identify and address lifestyle factors with community dwelling adults who have chronic wounds" is one of those unexplored issues underlying the "fact" that it is important to address lifestyle factors.

How health care providers identify and address lifestyle factors is also complex given that health care providers have different backgrounds, work in different aspects of the health care system and work with clients who have their own unique constellation of

resources, living situations, lifestyle factors and choices. Best practice guidelines in wound prevention and management are interdisciplinary and identify the importance of identifying and addressing lifestyle factors when planning the wound prevention and management approaches. Health care providers with different disciplines such as physicians, nurses, dieticians, physical therapists and occupational therapists likely have a different perspective on what constitutes a "lifestyle factor". The setting in which a health care provider works could also influence their perception of "lifestyle" factors. For example, a health care provider working in an affluent region may have less experience with the way lack of finances impact a client's lifestyle. The individual clients the health care provider has seen could also influence the types of lifestyle factors to which they have been exposed. Given the diversity of perspectives on lifestyle factors from discipline backgrounds, work settings and experience coupled with the lack of published literature, a qualitative approach fostered a discovery of the tacit knowledge experienced health care providers had about lifestyle factors. Using a qualitative approach accessed the knowledge of the health care provider without preconceived constructs which may have limited the discourse to these preconceived constructs. Encouraging health care providers to talk about their experiences, and how they address lifestyle factors resulted in themes and ideas emerging from the data, regardless of the discipline background, setting or experience of the participants. From these themes and ideas, specific concepts about lifestyle across disciplines, settings and experiences were constructed to describe how health care providers can identify and address lifestyle factors with their clients.

In qualitative studies, defining the philosophical perspective of the researcher, and locating the researcher within the research is essential. (Charmaz, 2006; Crotty, 1998; Finlay, 2002; Guba & Lincoln, 1989; Hammell & Carpenter, 2004; Lincoln, 2002; Polgar & Thomas, 1988). "What constitutes evidence, and therefore, what justifies it, is the result not only of what questions are posed, but of the framework within which they are posed."(Lincoln, 2002, pg. 4) The philosophical stance of the researcher, and the location of the researcher within the research influences the choice of methods and what is observed in the research process. Different researchers, with different philosophical stances may make different observations and have different study outcomes. (Crotty,

1998) This doesn't make one stance "right" or "wrong" but rather results in different views of the studied phenomenon.

The intent of this chapter is to make the philosophical underpinnings of this study transparent to enable the reader to evaluate the coherence of the study design. I begin by outlining the philosophical choice of constructivism, followed by discussing the fit of this paradigm with the aim of this study. I then go on to discuss the methodological choice of constructivist grounded theory, followed by the fit of this methodological choice with the aim and methodology of this study. Coherence between a constructivist grounded theory methodology and the research methods of this study are discussed in Chapter 4.

3.1 Philosophical Choice: Constructivism

Epistemology, informs the theoretical perspective which informs the methodology, which in turn drives the methods selected. Epistemology is essentially a perspective on what constitutes knowledge. Traditionally in the health sciences, the perspective was that there was a single truth waiting to be discovered (Crotty, 2003). In fact, this perspective still exists in the quantitative studies that dominate the wound prevention and management research literature. Research questions such as 'will dressing A result in a shorter time to wound closure than dressing B' (s.f. Ab, Rodgers, & Walker, 2009; Evans & Land, 2001; Storm-Bersloot, Vos, Ubbink, & Vermeulen, 2010); 'does ultraviolet light therapy reduce the bacterial burden at the wound bed' (Thai, Campbell, Keast, Woodbury, & Houghton, 2005); and 'does an increase in an activity such as walking preceed the development of a neuropathic foot wound' (Armstrong et al., 2004), suggest that there is an objective "truth". For example 'no, dressing A does not result in a faster time to closure than dressing B for a specific wound type'; 'yes, ultraviolet light does signficantly reduce the bacerial burden at the wound bed' or 'yes, the development of a neuropathic foot wound was preceeded by a significant increase in the steps taken'.

In contrast to the idea of an "objective truth", constructionism forms the basis of this research. From a constructivism perspective "there is no objective truth waiting for us to discover it. Truth, or meaning, comes into existence in and out of our engagement with the realities in our world." (Crotty, 1998, pg 8) In other words, knowledge is generated

through interacting in a specific context. As a result, two different people could view the same phenomenon, but have two different experiences, describe the phenomenon in two different ways and interpret it in two different ways. One perspective isn't better than the other, nor more accurate, but rather they are just different views of the same phenomenon. Examining these various perspectives has the potential to broaden our understanding of the observed phenomenon.

Health care providers working in wound prevention and management come from many different disciplines and work in many different parts of the health care system. Since they bring their own discipline experience, experience with different client populations and experience from different settings in which they have worked, they will all likely have a different perception of "lifestyle factors". In other words, there likely was not one "truth" to discover about lifestyle factors. The broad range of perspectives though, provides a richness of description of lifestyle factors.

As the primary researcher in this study, my experience in wound prevention and management influenced the questions I asked, the issues I probed and my interpretations of the data. Discounting this experience is not possible as it is my experience that influenced the choice of research question I pursued. Active reflection on my experience and comparing that to the perspectives of the research participants helped me stay grounded in the data and reduce potential biases.

One theoretical perspective underpinning this research is pragmatism. Pragmatism is consistent with constructivism as pragmatists also do not believe there is one universal truth, but a variety of perspectives (Cherryholmes, 1992, pg 14). Pragmatism adds to the philosophical foundations of constructivism by suggesting that multiple views on a phenomenon should not be judged in terms of which is the "truth" but rather on those that lead to the desired outcome. (Cherryholmes, 1992, pg 14) From a pragmatic perspective literature reviews are helpful to set the course of research initiatives and organizing future observations and experiences. (Cherryholmes, 1992 pg 14). From a pragmatic perspective, context is important in that the object cannot be studied independently of the context. In other words, the pragmatic choice was to interview health care providers who

may have experience with identifying and addressing lifestyle factors to gain a better understanding of this phenomenon.

3.1.1 Fit Between Aim of the Study and Philosophical Paradigm

From the scoping review, the importance of considering lifestyle factors in the prevention and treatment of chronic wounds was clear, however practical guidance for clinicians describing how to incorporate lifestyle factors into prevention and treatment plans was missing. Examining the context where health care providers interact with community dwelling adults with chronic wounds was a practical place to seek data. Engaging health care providers by having them describe their views on lifestyle factors, describe client interactions and reflect on these interactions revealed their tacit knowledge of lifestyle factors.

The aim of the study was consistent with a constructivist, pragmatic approach as health care providers are unlikely to have one view of "lifestyle factors". Health care providers working in wound prevention and management come from a variety of backgrounds, the settings for interventions differ and the clients with chronic wounds all have different goals, resources and experiences. Each of these factors is diverse. For example, health care providers can be physicians, nurses, personal support workers, occupational therapists, physical therapists, dieticians and others, each bringing their own unique discipline perspective. Although this study was limited to health care providers working with clients with chronic wounds living in the community, the treatment settings for these clients vary from in the client's home, community clinics, and hospital settings. The client population is also diverse, each with a unique constellation of resources, living situations, social supports and goals. Given that these factors come together in different ways, the health care providers' perspectives on lifestyle factors, and their tacit knowledge will also be different. There isn't one "objective truth", but rather the lifestyle factors, and how health care providers identify and address them, depended on the context where the treatment occurs, the experience of the health care provider, and the context of the client's life. Given the variability of each of the factors, the approach to identifying and addressing lifestyle factors will be different.

Consistent with a constructionist, pragmatic perspective, the author is not independent from the research study. I have extensive experience as an occupational therapist in the prevention and management of chronic wounds with clients living in the community. It is this clinical practice experience, working to prevent and treat chronic wounds, that is the stimulus for this work. It would be impossible to separate that clinical experience from this research.

It is also important to note that the wound prevention and management community in North America is relatively small. I have been involved in the development of best practice guidelines with the Registered Nurses' Association and Wounds Canada; teaching in the Wound Healing Master's program at the University of Western Ontario and teaching in the International Interprofessional Wound Care Course. As a result, I have either taught with, collaborated with or met most of the leaders in the field of wound prevention and management. As a result, I was situated within the wound prevention and management community and not an independent observer.

Although the clinical experience and the author's location within the wound prevention and management community are consistent with a pragmatic approach, it was important to purposely engage in a reflexive process to examining my perspectives and personal biases to determine how these may have influenced not only what was learned but also how it was learned. (DePoy & Gitlin, 2005, pg. 251). Mechanisms such as reflective memo writing (further described in the methods section) helped to reduce bias in the study.

3.2 Methodological Choice: Grounded Theory

Grounded theory was first developed by Glaser and Strauss (1967). Grounded theory was a way of responding to the positivist tradition, by creating a systematic, analytical approach to qualitative research (Charmaz, 2012, pg. 3). Since that time, a number different approaches to grounded theory have been developed, depending on the philosophical perspective of the author. Grounded theory methodology, as described by Charmaz (2006) is congruent with both constructionism, and pragmatism and has been selected as the methodological choice for this study.

Unlike Glaser and Strauss (1967) who take a positivist view – that there is one "truth", Charmaz believes that "any theoretical rendering offers an interpretive portrayal of the studied world, not an exact picture of it" (Charmaz, 2006, pg 11). In other words, the results reflect one perspective on the phenomenon, rather than discovering a "universal truth". This view is consistent with a constructivist philosophical foundation.

Glaser and Strauss take the stand that the researcher is an observer of the phenomenon, not located within it. Charmaz, in contrast believes "We are part of the world we study and the data we collect. We construct our grounded theories though our past and present involvements and interactions with people's perspectives and research practices." (Charmaz, 2006, pg 11) Charmaz also describes the necessity for purposeful self-awareness, through reflection on the researcher's own perspectives and personal biases to determine how these may influence the research process, the data and theory generation. As discussed previously in this chapter, I am situated within the wound prevention and management community, and my experiences have influenced my choice of research question as well as the data and constructed themes. As a result, integrating purposeful reflection was an important component to integrate into this study.

Grounded theory described by Charmaz (2012) takes a systematic, although not necessarily linear, approach to research design. Figure 3 illustrates the overall flow of a grounded theory study; however, the actual process is iterative. For example, data collection and data analysis happen simultaneously.

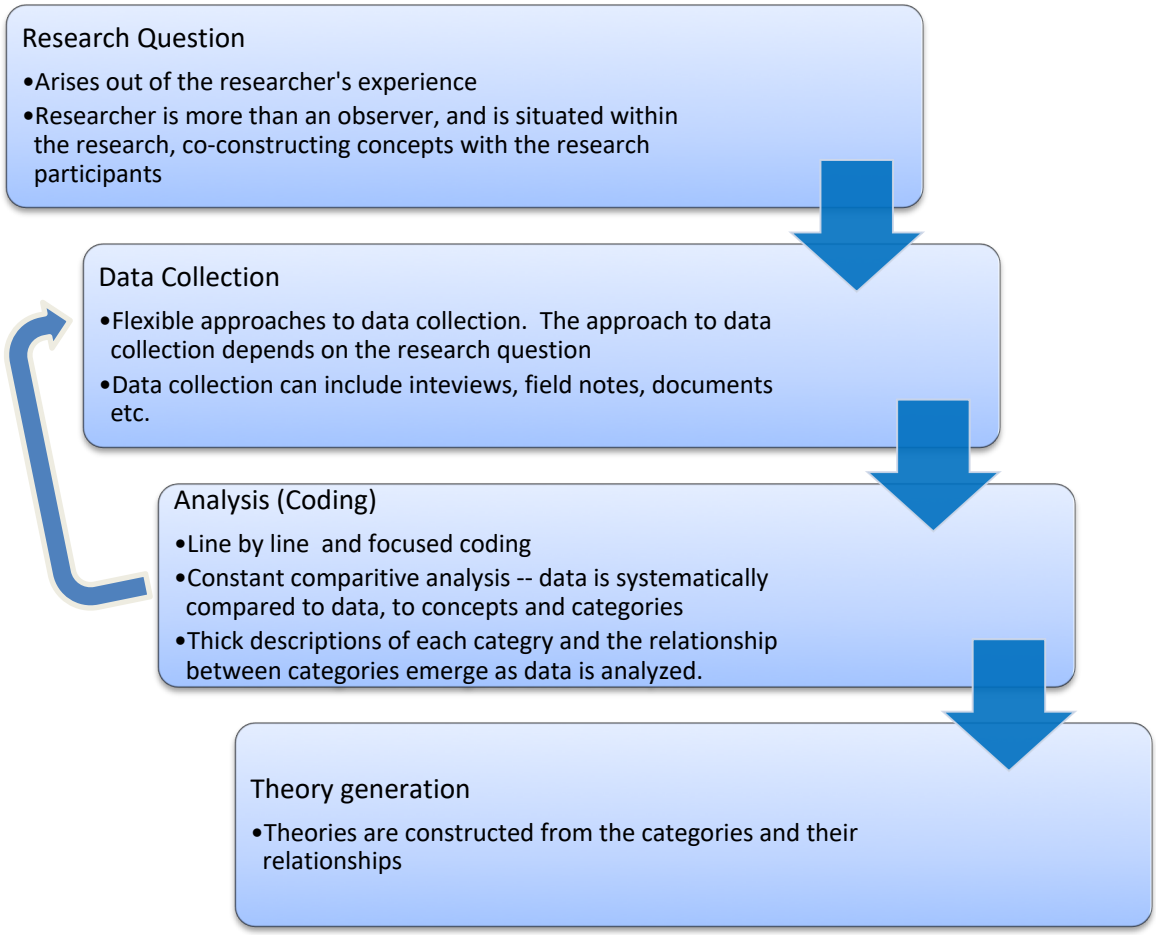

Figure 3: Grounded Theory Overview

The research question often arises out of the researcher's experience, since the researcher is part of the world and the data they study (Charmaz, 2006, pg. 11). The research question drives the characteristics of participants for the study (inclusion and exclusion criteria) as well as the types of data that will be collected. From a data collection standpoint, grounded theory doesn't have a standard approach, but rather a selection of different approaches can be used.

Common approaches to data collection include interviews, field notes, and other documents such as records and reports.

> "the beauty of the method [constructivist grounded theory] lies in its everything-is-data characteristic; that is to say, everything I see, hear, smell, and feel about the target, as well as what I already know from my studies and my life experience, are data. I act as interpreter of the scene I observe, and as such I make it come to life for the reader." (Stern, 2007, pg 115)

Consistent with a constructivist approach, it is important to note the researcher's observations and their perspectives are included in the data set in the form of field notes or memos. As data are collected, they are organized into relevant situational and social contexts. (Charmaz, 2012, pg 11) Accessing many different sources of data helps to create rich descriptions.

Coding is the backbone of the analysis process and includes, line-by-line coding and focused coding. Initially line-by-line coding used to help conceptualize the ideas through a close examination of the data, taking the time to label small segments of data. Through this type of coding, analytic ideas may emerge (Charmaz, 2006, p. 50). These ideas can be pursued further in the data collection. Focused coding is a way of developing categories from the data. One of the keys to coding is constant comparative analysis where data is compared to data, data is compared to codes and categories, and codes and categories are compared to each other.(Charmaz, 2006, p. 186) Since the researcher is naming and labelling the data, they are constructing the codes. Once again, this is consistent with a with a constructivist, pragmatic stance because grounded theory, constructivism and a pragmatic stance are all based on the idea that there isn't one universal "truth", but rather constructed perspectives.

A grounded theory approach is iterative, as data analysis occurs at the same time as data collection. As the researcher analyzes the data, new questions or ideas emerge that can be addressed during data collection (Charmaz, 2006, p. 11). For example, clarifying questions may be added to the interview, or the researcher may make note to observe specific properties of the context etc. To ensure thick descriptions of each category, the researcher may focus on collecting additional data regarding a particular category. This focused data collection is known as theoretical sampling. (Charmaz, 2006) Data

collection occurs until theoretical saturation occurs. Theoretical saturation occurs when the category descriptions are thick, and no new information is found about the category with further data collection. (Charmaz, 2006) The grounded theory is constructed from the thick descriptions of the categories and their relationships.

Memo writing is used in a number of ways in grounded theory (Charmaz, 2006, p. 73). Memos can be part of the data collection process, where the researcher records their observations of the setting, context, participant's body language, reactions to the participant's comments and any other thoughts they have about the interaction with the participant. Memos are also part of the analysis process. The researcher writes memos about the categories and their relationships. These memos may form first drafts of the research write up. Finally, memos are used as part of reflexivity. The researcher writes notes about their reactions, thoughts and perspectives about the data. In this way the researcher's perspective is made visible and helps to reduce bias. The idea of the researcher being embedded in the research is consistent with a constructivist, pragmatic stance as described earlier in this chapter.

The substantive theory is constructed in partnership with the participants in the study and emerges from the data, analysis and theoretical sampling. (Charmaz, 2006) Discussing the emerging ideas, category and theory with the participants is a form of member checking.(Charmaz, 2006) This helps to ensure that the generated theory fits the perspectives of the various participants. The concept of constructing the theory with the participants is again consistent with the idea that there isn't one universal truth, and therefore is also consistent with a constructivist, pragmatic approach.

3.2.1 Fit Between Aim of Study and Methodology

The aim of this research study is to explore how health care providers identify and address lifestyle factors. There are four major grounded theory concepts that directly address the congruence between the aims of this study and a constructivist approach to grounded theory as described by Charmaz (2006, pg 11). These concepts are the view on "truth", the location of the author, the flexibility with data collection and the opportunity for member checking.

Constructivist grounded theory acknowledges that there is not a single "universal truth". The diverse backgrounds and experiences of health care providers is likely to result in different perspectives on lifestyle factors, rather than a single "universal truth". The diversity, however, adds to the richness of description around lifestyle factors and provides a broader perspective. Examining these diverse views however, resulted in common themes, and ideas. These common themes and ideas lead to the construction of a theory of how health care providers identify and address lifestyle factors

In a constructivist grounded theory approach, the author is located within the research and data collected. In fact, the research question comes out of the researcher's experience. In this study, the research question came directly out of my clinical practice as described in Chapter 1. Given that I have worked in the field of wound prevention and management as a clinician, an educator and an author of best practices and other articles, I am clearly embedded in this research. Being embedded in the research, and the research question coming from my experience are both consistent with a constructivist grounded theory approach.

Although constructivist grounded theory follows a rigorous systematic process, there are a variety of approaches to data collection. Taking a broad-based approach to data collection is a practical approach to this research topic, as the medical literature does not provide consistent information or guidance for clinicians on lifestyle factors. Clearly, interviewing health care providers would provide data about how they identify and address lifestyle factors, but they may also know of other sources of information on lifestyle factors. Pursuing these other sources of data such as policies, discipline specific documentation, and other resources may provide more information about lifestyle factors and is consistent with a constructivist, grounded theory approach.

Lastly, grounded theory offers an opportunity to engage in a process called member checking. Member checking is a systematic process where participants have the opportunity to review and participate in the construction of concepts and the grounded theory. As discussed earlier in this chapter, given that individual participants will likely have different perspectives on lifestyle factors, and there is little guidance in the literature

for health care professionals around identifying and addressing lifestyle factors constructing the concepts and theory with the participants will help ensure the theory resonates with them. It will also contribute to the usefulness of this theory to other health care providers.

3.3 Summary

In qualitative studies, the research method emerges from the philosophical foundation of the research as well as the research question. The method of inquiry must be congruent with the philosophical foundation. Grounded theory is congruent with the constructivist, pragmatic perspective held by the researcher. The methods chapter will provide further insight into the design of the study, the specific approaches to data collection and the approach to data analysis.

Chapter 4

4 Methods

As an occupational therapist working in wound prevention and management, I have become attuned to the impact that chronic wounds, and their treatment have on the lifestyle and chosen occupations of the individual client. This interest began with a focus on bed rest, when I heard clients complain that they couldn't adhere to the recommended treatment of bed rest for a pressure injury, due to the impact this treatment had on their life (Norton, Coutts, Fraser, Nicholson, & Sibbald, 2004). My interest in lifestyle factors grew as I heard my students comment that lifestyle factors are important, yet they designed treatment plans that did not address the impact these treatment plans had on their client's lifestyle. As I became involved with best practice recommendation development (s.f. Keast, Parslow, Houghton, Norton, & Fraser, 2007; Norton et al., 2017; Sibbald et al., 2012a, 2012b), I was fascinated by the identified importance of lifestyle factors in best practice guidelines, and the lack of formal guidance for the clinician about identifying and addressing lifestyle factors. It is this fascination that lead to the idea for this research study.

This study used a constructivist grounded theory approach to examine how experienced health care providers identify and address lifestyle factors with clients who have chronic wounds living in the community. The study addressed the following sub questions:

- What do experienced health care providers identify as lifestyle issues?
- What resources do experienced health care providers use to give them a perspective on lifestyle issues?
- How do experienced health care professionals integrate lifestyle factors into their practice?
- What barriers do experienced health care providers face when trying to identify lifestyle factors with their adult clients?
- What barriers do experienced health care providers face integrating these lifestyle factors into the client's treatment plan?

As described in Chapter 3, a constructivist grounded theory approach was an appropriate strategy to access the health care providers' experience regarding identifying and addressing lifestyle factors. Exploring their perceptions of lifestyle factors, reflecting on patient interactions, and co-constructing concepts to generate a grounded theory can help to make their tacit knowledge more visible, and stimulate discourse in this area.

A constructivist grounded theory approach is an iterative process where there are multiple sources of data. In addition, data collection and data analysis often occur simultaneously. This iterative approach strengthens the grounded theory but makes it difficult to describe the method in a linear fashion. For this reason, the method has been divided into smaller subsections, building to an overall illustration of the study method later in this chapter.

This chapter begins with the ethics approval, followed by participant selection and recruitment. The next section is the description of the method. For clarity and ease of presentation, the method is presented in 4 sections – individual participant process, constant comparative analysis, memos and theoretical sampling, and finally the overall illustration of the method. Recognizing that there is overlap between sections, fewer details are provided in later sections where concepts overlap. The reader can assume that the same process occurred unless otherwise specified. This chapter ends with a discussion of rigor.

4.1 Ethics

The research proposal was submitted and approved by the study advisory committee prior to its submission to the Health Sciences Research Ethics Board of Western University. Ethics approval (Appendix 3) was received on October 11, 2016 prior to beginning this study.

4.2 Participants

This study focused on one group of participants – experienced health care providers. This decision was based on my clinical experience, and was a pragmatic choice, in that the most practical way to determine how health care providers do something, was to ask them.

4.2.1 Participant Selection

The aim of this study was to describe how health care providers identify and assess lifestyle factors, therefore, experienced health care providers who work in the area of chronic wound prevention and management with community dwelling adults, formed the targeted participant group. There were three specific inclusion criteria.

First, the potential participant was a Health Care Provider (MD, RN, OT, PSW etc.) with at least 3 years of experience treating clients with chronic wounds. Health care providers of any discipline were included as, in the experience of the researcher, health care providers working with clients with chronic wounds tend to work in a transdisciplinary fashion, and often overlap with roles traditionally played by another discipline. Working in the area of chronic wounds for at least 3 years ensures they had experiences with clients where lifestyle factors have influenced the treatment plan.

Second, the potential participant had, on average, at least 5 appointments per week with adult clients with chronic wounds who live in the community. This ensured that the clinician had current experience and saw several clients during the time they were completing the reflective journal. They must have seen clients who reside in the community because clients who live in the community, in comparison to those living in long term care or other facilities, have more choices and options in their daily care routines, occupations and lifestyle.

Lastly, the potential participant must practice in Canada. This research study focused on the Canadian experience. Wound care practices, health care systems, and value systems may be very different in different countries.

Potential participants were excluded if they were non-English speaking as English is the only language spoken by the researcher.

4.2.2 Recruitment

The community of health care professionals across Canada who work with clients with chronic wounds is small, and the researcher is a well-known member of this community. For this reason, a gatekeeper was used as part of the recruitment strategy. This put

distance between the researcher and potential participant to reduce any sense of pressure to participate.

Initially, purposive sampling occurred. A list of 100 health care providers who had participated in chronic wound best practice guideline development, participated in conferences or authored key articles was created. Of these 100 health care providers, 40 were known not to see clients in the community. Publicly available contact information was found for the other 60. These health care providers were contacted by the gatekeeper and asked if they would consent to receive the study information to see if they were interested in participating. Of the 60, 14 did not respond to the initial contact, but information on the study (See Appendix 4) was sent to the remaining 46 individuals. One individual declined because she did not work with clients who lived in the community, 10 agreed to participate, and the rest did not respond to the email.

Snowball sampling was also employed. Participants were asked to consider whether they knew anyone else who they thought would be interested in participating in this study. If so, they were provided with a recruitment ad (See Appendix 5) with the researcher's contact information. They were asked to provide this ad to the potential participant. I did not reach out to potential participants identified through this process. If an individual was interested, they contacted the research assistant or myself directly. Three additional research participants were identified through snowball sampling.

Signed consent forms were received from the participants prior to scheduling their first interview.

The wound prevention and management health care professional community is small. As a result, identifying participants by more than one descriptor such as discipline and Province would risk revealing the identity of the participant to readers who work within this community. As a result, participants are identified by participant number to preserve anonymity. This type of identification illustrates the perspectives of different participants within each constructed category without jeopardizing anonymity.

4.2.3 Number of participants

Data collection proceeded until theoretical saturation occurred. Theoretical saturation occurred when the category descriptions were thick, and no new information was found about the category with further data collection. In this study saturation was reached with 13 participants.

4.3 Study Methods

This constructivist grounded theory study used multiple sources of data including interviews, focus groups, field notes, memos, and relevant documents to gain a broad perspective and understanding of the issues identified in this study. The reader is reminded that the study design is iterative, and as a result is difficult to describe in a linear fashion in a manuscript. For clarity the method is presented starting with a single participant interaction, describing both the data elements and analysis elements. This single participant interaction view, provides the foundation for the remaining three parts to the study design; constant comparative analysis, memos and theoretical sampling, and finally the overall illustration of the method.

4.3.1 Data Collection and Generation

Figure 4 illustrates the individual participant involvement in this research study, including how the data from the individual was analyzed. Data collection elements are highlighted in blue, while data analysis elements are highlighted in green. Elements containing both data collection and analysis components are shaded half in blue and half in green. Activities involving the participant are on the left, and those involving the researcher are on the right. Each of these data and analytical elements are described in the following subsections. The last subsection describes the overall approach to data coding and data analysis. It is important to note that this study accessed multiple sources of data to help ensure different perspectives are included in the constructed concepts, and that the resulting category and theory descriptions are thick. These thick descriptions contribute to the rigor of this research study.

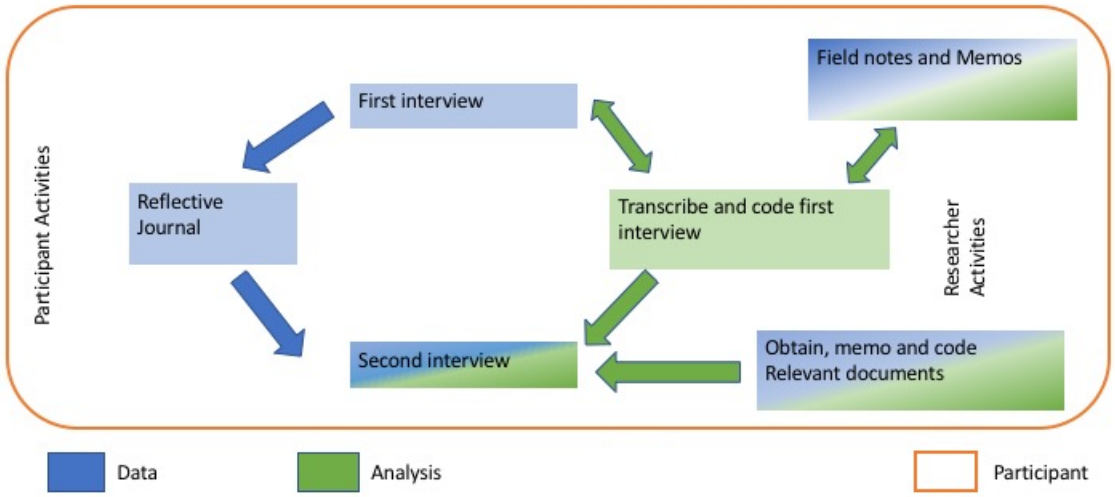

Figure 4: Individual Participant Interaction

Although participants were asked to participate in two interviews, the burden was reduced for participants through flexible scheduling (any time of day). Both in person and online interviews occurred as part of this study given that participants were from across Canada. Hosting the interviews in person in the participant's work setting embedded them in the context of wound prevention and management. In person interviews enabled me to observe body language and cued me to ask more probing questions. Those who were interviewed online, were not necessarily in their work setting, and may not have been as embedded in wound prevention and management at the time of the interview.

4.3.1.1 First Interview

A constructivist approach was used to design the interview questions. "A constructivist would emphasize eliciting the participant's definitions of terms, situations, and events and try to tap his or her assumptions, implicit meanings, and tacit rules." (Charmaz, 2006 pg. 32) Interviewing experienced health care providers about their views of lifestyle factors and how they identify and address them, is the most direct way to access their tacit knowledge of this topic. As established in the literature review, there isn't a consensus published on how to identify and address these factors. Given the stated importance of lifestyle factors in the best practice guidelines, it is likely that each health

care provider has come to their own perspective on lifestyle factors through different experiences, working with different clients, and through different educational experiences.

Interviews were semi-structured and recorded via Blackboard Collaborate, an online conferencing program. Semi structured interviews allowed for flexibility to explore the identified concepts in depth. The recordings were transcribed for analysis.

4.3.1.1.1 First Interview Content

The first interview, lasting between 60 and 90 minutes, was divided into seven parts: background including general practice setting, and health care provider background; exploration of the participant's definition of both "risk factors" and "lifestyle" including examples from their experience; identifying and addressing "lifestyle factors" in practice; barriers to addressing lifestyle factors; their perceptions as to how they learned about lifestyle, identification of any policies, documents and guidelines that influence addressing lifestyle factors (e.g. time restrictions, standard protocols/pathways etc.) and instructions for the reflective journal portion of the study. (See Appendix 6 for the interview guide).

The background of the health care provider was explored as part of the first interview, as in my experience many health care providers working in wound prevention and management "fell" into this area, rather than having chosen it as a career. It is likely that the prior experience of the health care provider, and their entry into wound prevention and management influenced their view of lifestyle factors.

The next several sections, the health care provider's definition of "risk factor", their definition of "lifestyle factors" and identifying and addressing "lifestyle factors" were designed to get a broad view of their perspective. In my experience, health care providers often collapsed the concepts of "risk factor" and "lifestyle factor". Exploring the health care provider's perspective of the difference in these two concepts helped to clarify their perspective.

Identifying the barriers health care providers face is one of the sub questions of this study, so a barriers section was included in the interview. In my experience, some health care providers are able to discuss the lifestyle factors in relationship to the client situation, but other barriers such as time constraints, or funding constraints are cited as reasons these lifestyle factors are not addressed.

The next section discussing how they learned about lifestyle, relevant documents and policies is designed to help the health care provider identify other documents that could contribute to this research. In my experience, health care providers gain knowledge in many different ways, and from different sources depending on their discipline background. It is possible these documents could contribute to the understanding of lifestyle factors and how they are identified and addressed.

The interview ends with an explanation of the reflective journal, and instructions on how to complete the journal. The appointment for the second interview was booked at this time. The second interview was booked for approximately 2 weeks later, however in some cases the second interview was delayed related to scheduling issues such as participant vacations. The intent of the interval between the first and second interviews was to give the health care provider time to complete the reflective journal.

4.3.1.2 Participant Reflective Journal

Between the first and second interview, the participant was asked to complete a reflective journal, for a maximum of 10 clients (See Appendix 7). This journal encouraged the participant to list the clients they saw after the first interview, describe their wound, the lifestyle factors and how they were addressed, if they were addressed. The intent of this journal was to assist the health care provider to capture any other lifestyle factors they identified and addressed. Within the journal they also had the opportunity to list any barriers to addressing lifestyle factors. The participant then reviewed this journal with me during the second interview to stimulate the identification of other lifestyle issues or barriers and to foster discussion. From the information the participant provided in the journal I was able to probe further into the lifestyle factors and barriers.

4.3.1.3 Field Notes and Memos

After each interview, I wrote a specific memo, also known as a field note, about my observations regarding the first interview. These memos included my thoughts and reactions prompted by the first interview, as well as any insights I gained. For example, during one of the interviews there was a strong theme that the participant preferred the "good old days" when they could just tell the client what to do, rather than the new approach of engaging the client, which they found more difficult. I wrote a memo about this topic area, because this perspective of preferring to tell the client what to do, rather than engaging them was opposite to my approach to clinical practice. These memos helped to make my perspectives and potential biases visible. These memos were loaded into NVivo and analyzed.

4.3.1.4 Obtain, Memo and Code Relevant Documents

At any point of the research process, participants could identify documents that influenced their view of, or how they address lifestyle factors. The types of documents identified included best practice guidelines and recommendations, articles, discipline scope of practice documents, policy statements, assessment forms, patient handouts etc. Where possible, copies of these documents were obtained from the participant or via an internet search. These documents were reviewed and analyzed. If they contained information about lifestyle factors, they were included directly in NVivo and analyzed alongside the other sources of data such as the interview transcripts. If the document didn't contain information about lifestyle factors, I wrote a memo including a discussion of how the document may contribute to how lifestyle issues are or are not addressed. These memos were then included in NVivo for analysis. For example, I wrote a memo about the Care Pathways from the Community Care Access Centre. These pathways indicate the types of assessments and treatments that need to occur for clients with different types of chronic wounds but didn't specifically indicate ways of identifying or addressing lifestyle factors.

4.3.1.5 Transcription and Coding of the First Interview

The first interview was transcribed and loaded into NVivo. I then read the transcript prior to beginning the analysis. This helped to ensure I stayed close to the data. I then proceeded to analyze the transcript. The approach to analysis is described in section 4.3.1.7.

4.3.1.6 Second Interview

Once again, second interviews occurred either in person or via Blackboard Collaborate. Upon completion, the interview was transcribed, read and loaded into NVivo and analyzed. Second interviews lasted between 30 to 60 minutes. As a form of member checking the researcher discussed the themes identified from the first interview, with the participant. The participant had the opportunity to elaborate on these themes and provide any comments. Next, using the reflective journal to stimulate their memory, the participant reviewed each client that was seen, any lifestyle factors identified, and how they were addressed, if at all. A maximum of 10 clients per participant were reviewed. The researcher asked probing questions to encourage the participant to elaborate on their view of the lifestyle factors and any barriers to addressing lifestyle factors. Theoretical sampling, also occurred in the second interview to ensure rich descriptions of each category, and that they resonated with the participant. Member checking and theoretical sampling are discussed in more detail later in this chapter.

Finally, participants were asked whether or not they would be willing to be contacted to participate in a focus group. The guide for the second interview is found in Appendix 8.

4.3.1.7 Data Analysis

All of the data elements were analyzed and coded by the primary researcher. The researcher coded each segment of each data element using NVivo. The coding process resulted in a sorting and consolidation of the data. Several approaches to coding occurred including initial coding, focused coding, axial coding, and theoretical coding.

4.3.1.7.1 Initial Coding

Initial coding was a line-by-line and incident by incident coding of the data with an open mind to all possible theoretical directions (Charmaz, 2006, p. 47). Wherever possible, data were coded as actions, as this "helps to curb tendencies to make conceptual leaps and to adopt extant theories before we have done the necessary analytic work" (Charmaz, 2006, p. 48). As an example, one of the initial codes was "identifying lifestyle factors through discussion". All sources of data except the literature review including first interviews, relevant documents, second interviews, and memos were coded using this process until there was saturation of the initial codes. Saturation occurred at 13 participants, when no new categories were identified.

4.3.1.7.2 Focused Coding

Focused coding involved identifying and developing the most salient categories in the data collected. (Charmaz, 2006, p. 56) At this point some of the initial codes were combined into larger categories. As data collection progressed with the addition of new participants, or the creation of new memos, these items were analyzed using focused coding. The researcher remained vigilant to data that didn't fit into established codes to identify if new categories were needed.

4.3.1.7.3 Axial Coding

Axial Coding was the process used to bring the data back together. Each category and subcategory was compared looking for commonalities (Charmaz, 2006, p. 60). From these categories I gained insights into when, how, and by whom activities within each category occurred. Memos were written about each of the categories as part of the analysis process. These memos formed the foundation for the descriptions provided in the results section of this manuscript.

For example, I compared the way health care providers entered the field of wound prevention and management. Some of the participants entered the field of wound care because they were filling a vacancy for another health care provider. Others entered because they applied for a new job or job promotion, such as a wound, ostomy and

continence nurse that had wound prevention and management as a component along with what they actually wanted to do. Another subset of health care providers entered the field because their client population changed, to one with more chronic wounds. This lead to a consolidation of these categories into an overall category "fell into wound prevention and management' to describe the idea that many health care providers entered wound prevention and management as a result of other circumstances, rather than a direct choice to focus in this field. A memo was written about this process.

4.3.1.7.4 Theoretical Coding

Theoretical coding helps to "specify possible relationships between categories you have developed in your focused coding." (Charmaz, 2006, p. 63) Each of the categories developed were compared to each other to look for relationships between the codes. Memos were also written describing these relationships. These memos in turn were used in the construction of the grounded theory.

For example, several participants identified focusing on the wound, and what dressing to put on the wound. I explored this concept along with the concept that many health care providers "fell into wound prevention and management". Several of the participants who "fell into wound care" commented on focusing on the task that they were asked to perform. The task in this case was to dress the wound. Their priority was to seek out education and information related to the use of various dressings, and determining which dressings were appropriate for which types of chronic wounds. A memo was written about this relationship and contributed to the development of the initial theory.

4.3.2 Constant Comparative Analysis

As participants were recruited into this study, their participation in the study followed the same pattern described in section 1.3.1. Figure 5 illustrates that there was overlap in recruitment. New participants joined the study, prior to earlier participants completing their section interview. Recruitment continued until saturation of the categories occurred. Theoretical saturation occurred with 13 participants -- the category descriptions were thick, and no new information was found about the categories with further data collection.

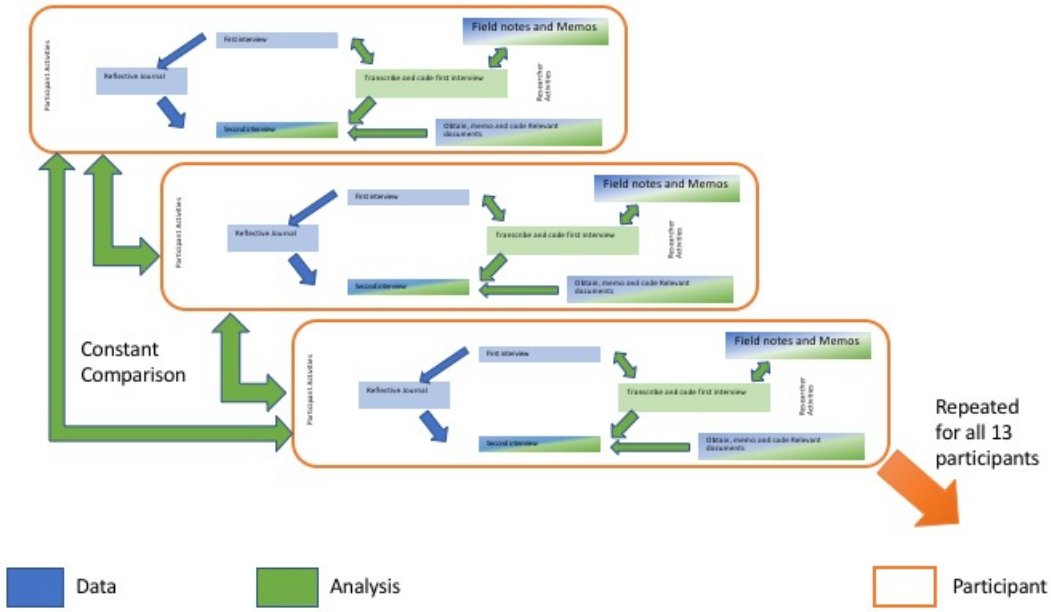

Figure 5: Between Participant Comparison

The green arrows on the left side of Figure 5 represent the concept of constant comparative analysis. Data were constantly compared within each participant and between participants. Constant comparison continued at the macro level, comparing data within categories and comparing categories to each other. Constant comparative analysis helped me identify similarities and differences within the data for each participant as well as between participants. This in turn enabled me to provide detailed, thick descriptions of each code. (Charmaz, 2006, p. 53)

4.3.3 Memos and Theoretical Sampling

Memos and theoretical sampling played an important role in the method as illustrated in Figure 6. "Memos chart, record, and detail a major analytic phase of our journey." (Charmaz, 2006, p. 72) At this stage memo writing moved beyond writing memos about individual participants and included comparisons across and between participants. The memos were analytical in nature and helped to identify similarities and differences between the responses of the participants. This memo writing process is illustrated by the long blue arrow in Figure 6.

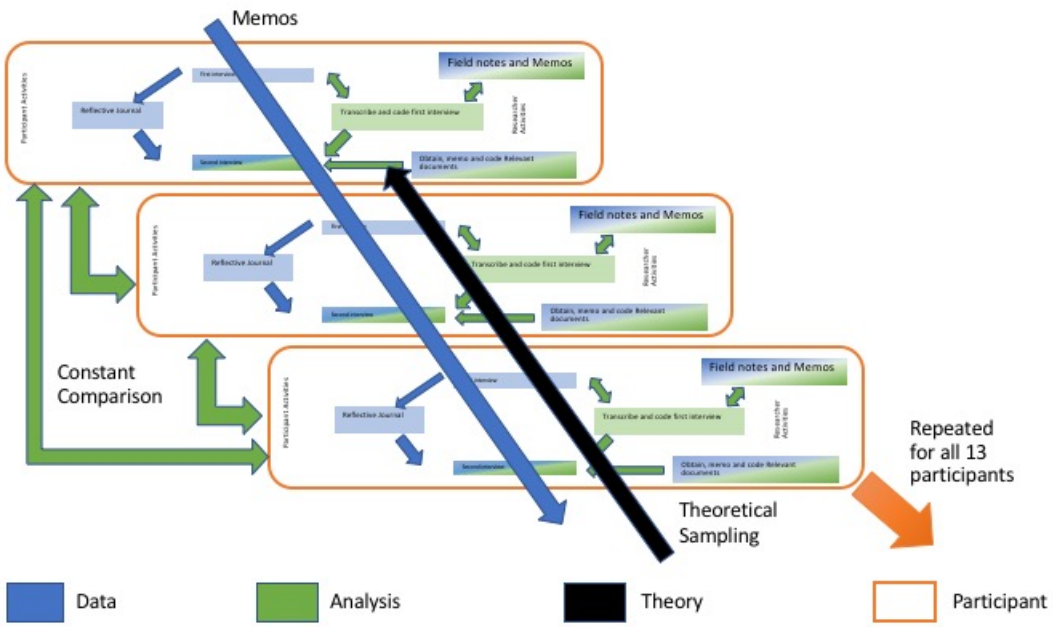

Figure 6: Memos and Theoretical Sampling

Theoretical sampling, was used to further develop the categories, to ensure rich descriptions. "Theoretical sampling involves starting with data, constructing tentative ideas about the data, and then examining these ideas through further empirical inquiry." (Charmaz, 2006, p. 102). Specifically, the ideas developed during theoretical coding described in Section 4.3.1.7.4 lead to additional probing questions during the first and second interviews of participants. For example, when a participant discussed "falling into the field of wound prevention and management", I probed this idea further with questions about how this related to the way they approached wound prevention and management and pursued educational opportunities.

Through this process, gaps in the data were identified, that lead to asking probing questions during the interviews with participants. Theoretical sampling, and the idea that the themes and ideas fed back into the probing questions asked of participants is represented by the long black arrow in Figure 6. Data collection continued until theoretical saturation occurred, i.e. when the category descriptions were thick, and no new information was found about the category with further data collection. This

occurred at 13 participants. Thick descriptions helped to ensure the categories contained a broad range of perspectives and provided more detail. (Charmaz, 2006, p. 14).

4.3.4 Overall Illustration of the Method

Building on Figures 4, 5, and 6 above, Figure 7 is an illustration of the overall method. Notice that the Participant Involvement (Figure 4), Between Participant Comparison (Figure 5), Memos and Theoretical Sampling (Figure 6) are all contained within a shaded green area in Figure 7 to illustrate the idea that analysis and data collection are occurring simultaneously.

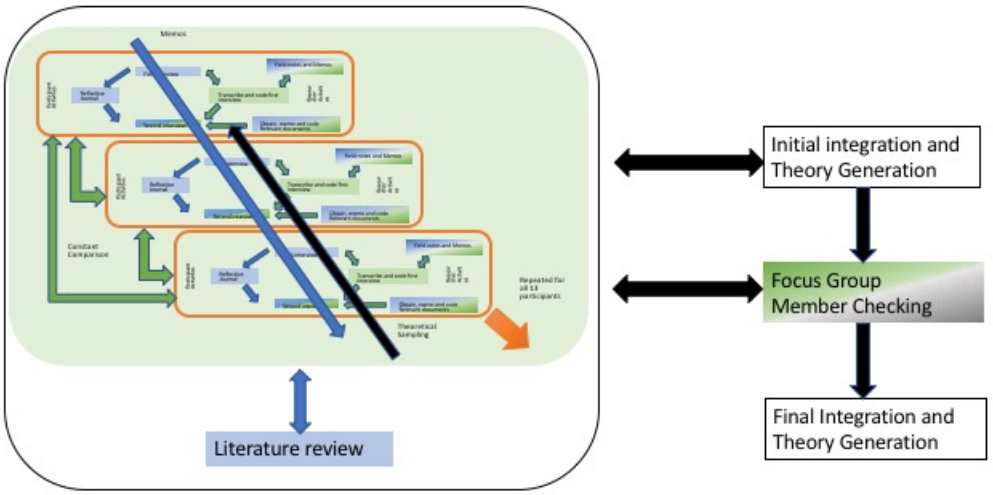

Figure 7: Overall Illustration of the Method Used

4.3.4.1 Literature Review

Added in Figure 7 is the literature review. As an occupational therapist working in the field of chronic wound prevention and management, I had a familiarity with the key literature as part of my day to day practice. A scoping literature review was completed prior to starting this study. This scoping review was updated after the participant data were collected and analyzed. Only if a participant identified an article did I include it in the analysis, otherwise it was not included. Specific articles from the literature review were not part of the data analysis, unless they had been identified by the participants as a relevant document for them. I wrote a memo reflecting on the literature review, the lack

of guidance for clinicians around lifestyle factors, and my thoughts on why this may be lacking in the literature. This memo was considered in relation to the categories already established in the analysis.

4.3.4.2 Initial Integration and Theory Generation

Theoretical sorting, diagramming and integrating were used to foster the theoretical development of the analysis. It is through these techniques that construction of the theory emerged.

4.3.4.2.1 Integration of Memos

Integrating memos is a process where a logical progression of memos is created in relationship to specific categories, rather than in a chronological order. (Charmaz, 2006, pp. 116–117) The memos written about each category, the relationships of the categories, and insights were all reviewed as part of the process of integration and theory generation. I leaned heavily on theoretical sorting and diagramming to generate the initial theory.

4.3.4.2.2 Theoretical Sorting, and Diagramming

Theoretical sorting, "gives you a logic for organizing your analysis and a way of creating and refining theoretical links that prompts you to make comparisons between categories." (Charmaz, 2006, pg 115). Theoretical sorting was accomplished through the integration of memos and diagraming. Diagraming was used as a way of creating a visual representation of the categories and their relationships. Each of the minor themes were written on an individual sticky note. After reviewing all the memos, this researcher used the sticky notes to organize the categories with a view to describe the relationships visually. This process was repeated with my PhD supervisor as well as the focus group participants. Examining the diagrams created by the focus group participants, jointly with my PhD supervisor and the ones created on my own, helped to solidify the relationships and overall theory.

4.3.4.3 Member Checking

Going back into the field to check that the categories and concepts resonate with the participants is an important part of grounded theory. (Charmaz, 2006, p. 84, 2012, p. 9) Participants who consented to be contacted to participate were given the opportunity to attend the focus group at the Wounds Canada Conference or at a wound clinic and were reminded that participating in the focus groups would reveal their identity to the other focus group members. Both of the settings, the Wounds Canada Conference and the wound clinic are embedded in wound care where participants were immersed in wound prevention and management. This helped to prime the participants for the focus group discussion.

The focus groups lasted between 60 and 90 minutes. In both focus groups, participants were given a small stack of sticky notes with each of the minor themes labeled on an individual sticky note. The focus group began with the researcher describing each of the minor themes, giving the participants time to make notes and ask questions. Once all of the minor themes were described and clarified, the participants were asked to work individually and arrange the sticky notes to show which concepts fit together to make larger themes, as well as to show the relationships between the themes. Once all the participants completed this task, they came back together as a group. Each individual participant then presented their arrangement of sticky notes to the group including the researcher and research assistant. This gave the participants the opportunity to hear each other's perspectives. Finally, the group was given one more set of sticky notes with the minor themes. They were then asked to work as a group to complete the same exercise of arranging the sticky notes into larger themes and showing the relationships. Once complete, the participants presented their sticky note diagram to the researcher and research assistant. The researcher asked probing questions to clarify the concepts and to foster discussion. I reflected on the way the participants and group combined the sticky notes and the conversation that occurred and generated a memo about this interaction. These ideas and reflections from the first focus group were integrated into the substantive theory.

The second focus group had one additional activity. The researcher presented the substantive theory that was developed with the input of the first focus group. The substantive theory also included the major and minor themes and their relationships. The researcher than facilitated a discussion of the theory. A memo was written reflecting on this discussion and the resulting insights.

4.3.4.4 Final integration and theory generation

Reflections from the first and second focus groups, reviewing the analytical memos, category descriptions and discussions with my PhD supervisor consolidated the theory. A memo was written on the final theory, which forms the basis of the presentation of the theory in chapter 5 of this manuscript.

4.4 Review of techniques to promote rigor

Rigor in a qualitative study comes from a transparent discussion of the congruence between the philosophical stance, study methodology and study method. The approach as described by Charmaz (2006, pg. 181 - 183), relies on the concepts of credibility, originality, resonance and usefulness to establish rigor.

4.4.1 Credibility

The first criteria, credibility relates to the amount, breadth and relevance of data collected, the systematic comparisons between categories, achieving intimate familiarity with the topic, and whether enough evidence has been provided to substantiate the claims of the study (Charmaz, 2006, pg 182). In this study, the participants had at least 3 years of experience working with clients with chronic wounds and saw at least 5 patients with chronic wounds each week. In addition, the researcher was intimately familiar with the context of this study having worked and taught in the area of wound prevention and management for over 20 years.

Thick descriptions were generated through the use of multiple sources of data – first and second interviews, reflective journal, participant identified documents, literature search and the focus groups. The multitude of data sources provided depth to the observations. Systematic constant comparison within the data from each participant and between

participants, as well as various coding techniques as described in this chapter also added to the credibility.

Participants were recruited until saturation occurred, resulting in participants with various backgrounds in various settings working with different types of chronic wounds, adding richness and diverse perspectives to the descriptions. These thick descriptions are presented as part of the results and provide sufficient depth to convey the meanings of the categories and concepts and demonstrate that the analysis is grounded in the data.

4.4.2 Originality

The second criteria, originality refers to whether the study offers new insights or "how does your grounded theory challenge, extend, or refine current ideas, concepts, and practices?" (Charmaz, 2006, pg 182) How health care providers identify and address lifestyle factors has not been addressed in the literature. This study aims to describe the tacit knowledge and clinical approach health care providers use regarding lifestyle factors. Interviewing health care providers, seeking clinical examples, identifying relevant documents and reviewing their reflective journal, contributes unique data that have been analyzed to develop a substantive theory to help close this knowledge gap.

4.4.3 Resonance

The third criteria, resonance refers to the fullness of the descriptions of the studied phenomenon and whether the grounded theory makes sense to the participants and people with similar experiences (Charmaz, 2006, pg 183). In this study, during the second interview, I discussed the codes and ideas I found in the transcript of the first interview with the participant. During this process, I confirmed the experience of the participants and ensured the findings made sense to them. A similar process occurred during the focus groups. The researcher presented the findings as well as the theory developed to the focus group participants to ensure these were congruent with their experience and made sense to them. I provided the opportunity for the participants to discuss the theory, to identify any gaps and suggest any revisions to the theory.

4.4.4 Usefulness

The fourth, and last criteria, usefulness refers to the usefulness of the grounded theory in day to day practice, and how it contributes to knowledge of the topic area (Charmaz, 2006, pg. 183) Current direction for clinicians from best practice guidelines and the available research suggest that the clinician consider lifestyle factors in the assessment and management of patients with chronic wounds. Statements found in the literature about lifestyle factors and how to address them are vague and do not offer substantive guidance for clinicians to use in practice. The aim of this study is to describe the current practice of health care providers and stimulate discourse within the wound prevention and management community about how to identify and address lifestyle factors. Through this discourse clinicians have the opportunity to change their practice, suggest future directions of research and ultimately to better address the lifestyle factors with their community dwelling clients with chronic wounds.

4.5 Summary of Methods

The link between constructivist grounded theory and the research method has been discussed throughout this chapter. As a review, several specific constructivist grounded theory approaches have been incorporated in this study. These approaches include multiple sources of data, constant comparison, field notes and memos, member checking and theoretical sampling. All of these approaches have been described within this chapter.

Chapter 5

5 Study Results

5.1 Plan of Presentation of the Results

The presentation of the research results of this constructionist grounded theory study begins with a description of the context for this research. A clear description of the context of this study situates this research within the field of wound prevention and management and enables the reader to judge the applicability of the study to their area of practice in addition to judging the study's quality.

The next section describes how the theory was generated. This includes approaches to the initial coding; and organizing the codes into categories and sub-categories. Rationale for revising the organization of the codes is also discussed. When and how member checking contributed to the development of the categories, subcategories and theory are identified.

The third section presents an overview of the substantive theory, with a brief description of the two core concepts, as well as the major categories within each of the core concepts. The relationships between the categories and concepts are outlined. This overview of the theory and description of the core concepts provides the context for the detailed discussion of the concepts in the next section.

The forth section describes each of the constructed concepts. As the description of the development of a grounded theory "moves back and forth between theoretical interpretation and empirical evidence"(Charmaz, 2006, pg152-153), specific participant quotes illustrating each concept are intermingled with descriptions of the concepts, categories and sub-categories.

The last section explores three types of clinical reasoning; procedural reasoning, interactive reasoning and conditional reasoning. Each type of reasoning is related to a specific component of the substantive theory. Exploring the types of clinical reasoning is

used as a way of describing the iterative nature of the theory and illustrating the interaction between the components of the substantive theory.

5.2 Context of the study

Chronic wounds, including venous leg ulcers, diabetic foot ulcers, arterial ulcers and pressure ulcers, are treated by a variety of health care providers including physicians, nurses, dieticians, chiropodists/podiatrists, physical therapists, and occupational therapists. Treatment for clients living in the community with chronic wounds occurs in a variety of settings including community clinics, doctors' offices, hospitals as well as in the clients' homes.

Canadian health care providers have been involved in the development of best practice guidelines and recommendations that are not only used in Canada but across the world. These include guidelines from the National Pressure Ulcer Advisory Panel (National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel, & Pan Pacific Pressure Injury Alliance, 2014a), the Registered Nurses Association (s.f. Parslow et al., 2011; Registered Nurses' Association of Ontario, 2016) and Wounds Canada (s.f Harris et al., 2017; Norton et al., 2017; Orsted et al., 2017).

The Wound Bed Preparation paradigm (Sibbald et al., 2012a, 2012b; Sibbald, Goodman, et al., 2011), also developed in Canada, forms the foundation of chronic wound prevention and management in many countries across the world, including Canada. This paradigm (Sibbald et al., 2012a, 2012b; Sibbald, Goodman, et al., 2011) has included patient centred concerns as one of the three primary components of the model since 2000 (Dolynchuk et al., 2000; Sibbald et al., 2000). "It is important to treat the whole patient and not just the ''hole'' in the patient" (Sibbald et al., 2012a, 2012b; Sibbald, Goodman, et al., 2011).

5.3 Participants

The health care providers who participated in this study, used many of the best practice documents described above as the foundation for their practice. Many of the participants were involved in the development of these documents.

All of the participants had at least 3 years of experience and saw at least 5 chronic wound clients per week. They worked in a variety of settings including in the client's home, clinics, hospitals and long-term care settings. Where participants worked in more than one setting, they were asked to focus on the clients they saw living in the community when they participated in this study.

There was a total of 13 participants, 12 of whom completed first and second interviews as well as the journal. All 12 agreed to be notified to be invited to the focus groups, and a total of 7 participated in the focus groups. One participant only completed the first interview, as we were unable to coordinate a time for the second interview despite repeated attempts.

Participants came from a variety of disciplines including physician (2), dietician (1), nursing (6), physiotherapy (1) and chiropody/podiatry (3). They practiced in different regions of Canada including British Columbia (2), Alberta (1), and Ontario (10) in both urban (11) and rural (2) settings.

Descriptors of the participants were not analyzed for the influence of gender, discipline or region on the data. The descriptors were provided for transparency so the reader can determine if the context of this study is similar to their own setting. Recall that the descriptors were not combined i.e. region with discipline as this may lead to the identification of specific health care providers by other readers of this dissertation from the wound prevention and management community.

5.4 Development of the Substantive Theory

Initially when coding the interviews, I focused on trying to directly answer one of my research questions – "what do experienced health care providers identify as lifestyle factors?". I had made the unconscious assumption that experienced health care providers would be able to clearly define the term "lifestyle factor" and that they would be able to clearly describe a series of specific factors. This lead me to try categorizing data based on identifying individual lifestyle factors. I soon became frustrated and dissatisfied with this approach for two main reasons. First, individual health care providers were not

consistent with the factors they identified as a lifestyle factor. Within the same interview, and often within minutes one factor would be called a risk factor, and then the same factor would be called a lifestyle factor. There was also inconsistency between providers, such that there was not a factor that I could point to that was always considered a lifestyle factor. Despite these inconsistencies most of the participants thought it was important to differentiate between lifestyle factors and risk factors. Secondly, the participants passionately described how they adapted treatment to the client's needs, and the complex context in which treatment occurred. My first approach to coding did not adequately capture this data, nor its meaning. I was trying to force a structure on the data, rather than letting the codes and categories emerge from the data. I realized that since I had structured the interviews and data gathering around identifying and addressing lifestyle factors, all of the data from the interviews could be relevant to my research questions.

Next, I took a step back, and grouped like things together. As an example, in the first interview, I asked all the participants to identify the barriers that impacted their ability to address lifestyle factors. All of the barriers identified and coded in the interviews such as lack of time, financial barriers etc., were grouped together under the category "barriers". Another example was grouping all of the different approaches to assessment that were coded, such as "lifestyle factors identified through discussion", "lifestyle is identified through observation" and "l would rather choose factors from a list" together under "assessment". Comparing this data, I realized that regardless of how lifestyle factors were identified in practice, the common idea expressed by the participants was that the approach to assessment needed to be more systematic. As a result of this comparison I changed the category label from "assessment" to "identification of lifestyle factors needs to be more systematic". Member checking of the categories occurred through discussion with participants in their interviews.

As I started to compare data within each category, as well as comparing categories to each other, I noted overlap in ideas, which resulted in collapsing some categories together. For example, initially I had separate codes for "Health Care Provider Feels Helpless", "Health Care Provider Feels Guilty" and "Health Care Provider Feels Frustrated". Within each of these categories, there was often overlap and blending of

these feelings as the participants discussed these feelings at the same time, and often in combination with each other. I collapsed these individual ideas into one code "Health Care Provider Feelings". This code later became part of the "Health Care Provider Context and Experience" category. As categories were collapsed and renamed, member checking also occurred.

Next, I thought it might be helpful to group the categories into those that relate to the client, those that relate to the health care professional, and those that relate more to the system. By looking at the data in this way, I hoped it would help me understand how health care providers identify and address lifestyle factors. The health care provider group contained categories such as "lack of time", "fell into wound prevention and management", "focused on the wound leading to task-based care", etc. The client group contained categories such as, "client's vocation", "finances", "client resistance", etc. The health care system group contained categories such as "policies", "access or coordination of care", "patient needs vs social responsibility" etc. It was interesting to note, that participants in the focus groups also tended to sort the categories into "health care provider", "client" and "health care system" groups. Examining the data in this configuration and exploring relationships didn't illuminate how health care providers identify and address lifestyle factors.

Once gain I took a step back. Working with my PhD supervisor, I began thinking about Schon's conceptualization of a high ground overlooking a swamp (Schon, 1987, pg 3). Best practice guidelines and research studies that guide clinical practice were conceptualized as "a high, hard ground overlooking a swamp" (Schon, 1987, pg 3). The high ground was described as a place where "manageable problems lend themselves to solution through the application of research-based theory and technique" (Schon, 1987, pg. 3). The "high ground" was contrasted with the concept of the swamp as a place where "messy confusing problems defy technical solutions" (Schon, 1987, pg 3). These problems of the swamp are the ones of the greatest human concern (Schon, 1987, pg 3).

The core concepts of "The High Ground" and "The Swamp" resonated with me and made me reflect on the data and categories I had previously constructed. Together we

rearranged the categories under the core concepts of "The High Ground" and "The Swamp". Within "The High Ground" two subcategories emerged; the way the health care provider entered and learned about wound prevention and management; and the health care provider's expectations about the practice of wound prevention and management.

Comparing the categories within the swamp, three major subcategories emerged; Characteristics of the Swamp, Tension Between the Medical Model and the Swamp, and Co-occupation. The idea of clinical reasoning types; Procedural Reasoning, Inductive Reasoning and Narrative Reasoning as a way of describing the relationship between the categories emerged when looking at the data organized in this way. The substantive theory emerged from this analysis of the data. The substantive theory was presented to the focus group and discussed as part of member checking. The substantive theory resonated with the focus group and is presented in the following sections.

5.5 Overview of the Substantive Theory

The overall substantive theory is represented by Figure 8. The focus is the health care provider's experience of treating clients with chronic wounds, however, these health care providers have commented on their perception of the client's experience. As a result, the health care provider's perception of the client experience is included.

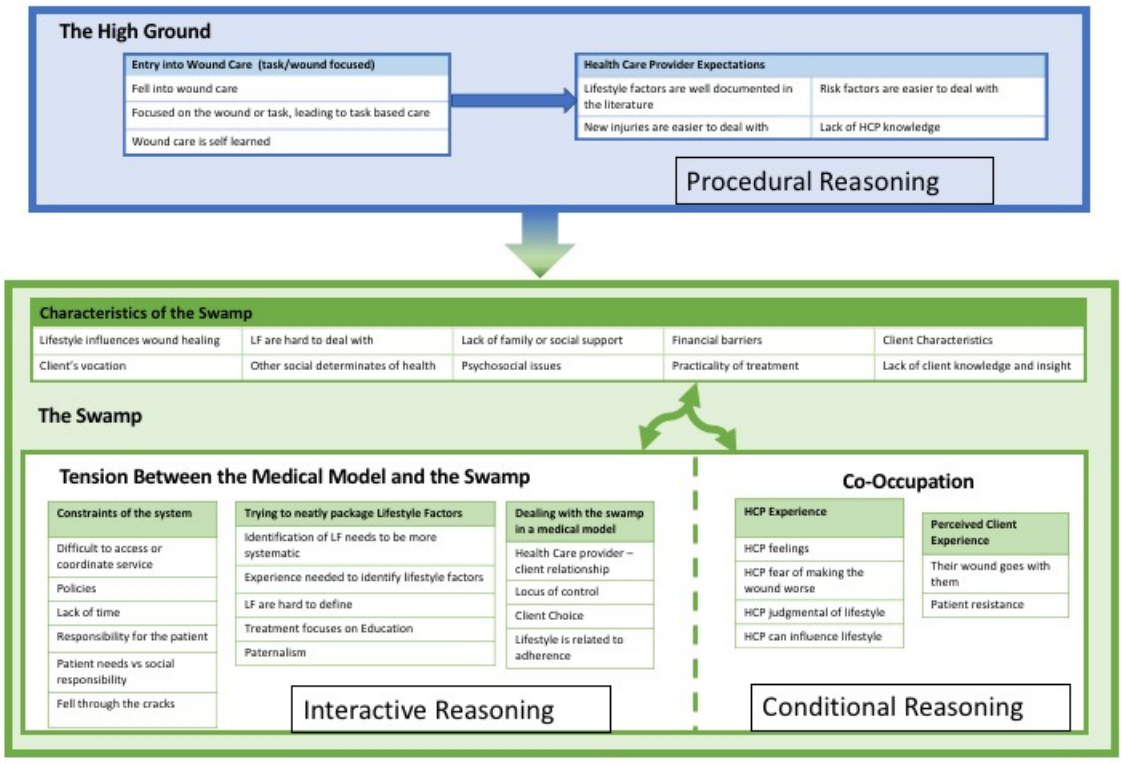

Figure 8: Substantive Theory -- How Health Care Providers Identify and Address Lifestyle Factors

Health care providers enter the field of wound prevention and management through the high ground and are focused on local wound care. Through reading the best practice guidelines and seeking out education focused on local wound care they come to expect that chronic wounds will close with the application of best practice local wound care. Health care providers come to recognize that wound prevention and management is more than best practice local wound care. The practice of wound prevention and management actually occurs in the swamp and is more complex than best practice local wound care, or the high ground, would suggest. Characteristics of the swamp, such as financial barriers, lack of social support etc. all contribute to the complexity of implementing wound prevention and management practices. Identifying and addressing lifestyle factors is influenced by the constraints of the system such as lack of time, policies and access to care. Health care providers try to neatly package lifestyle factors so that they can be addressed within the constraints of the health care system. To deal with lifestyle factors in the swamp they use their relationship with the patient to help foster adherence to

treatment, but they recognize that ultimately it is the client's choice whether or not the they adhere to treatment plans.

5.5.1 The High Ground

The "high ground" is represented by the large blue box in Figure 8. Recall that the high ground is where best practice guidelines and research studies guide practices related to wound prevention and management, and that wounds are expected to heal with the application of these best practices. This concept of the "high ground" applies to various professions and is not unique to health care. It is important to note that the high ground doesn't denote superiority, but rather conceptualized as the place where the health care professional focuses on the problem issue that may be addressed by the thoughtful application of best practices. In this case, wound prevention and management.

Health care providers enter the practice of wound prevention and management in the high ground. These novice health care providers expect that the selection of appropriate local wound care, including the appropriate dressing will result in wound healing. Their understanding and actions are based on guidelines and what they have been taught. These novice health care providers do not have the experience and knowledge to deal with the messy elements of the client's situation that are not necessarily discussed in guidelines. In other words, since they do not have a lot of experience, it is difficult for them to step outside of the best practice guideline when wounds are not healing and reflect on why that may be the case.

Since the immediate need for the health care provider is to determine the local wound care (e.g. what dressing to use) and complete that task, health care providers seek education specifically related to local wound care. This education focuses on indications for use of specific products, contraindications, and expected outcomes. If addressed at all, lifestyle and risk factors are mentioned as issues that need to be addressed, but they are not the focus of the education. Health care providers continue to expect that with the application of the correct local wound care, the wound will heal. These two concepts together, "Entry into Wound Care" and "Health Care Provider Expectations" form "The High Ground".

Novices are not the only health care providers who apply best practices. Experienced health care providers draw on practices from "high ground" and apply them to the client's situation when practicing in the swamp. In this case health care providers bring best practices and research and apply them to the client's individual situation, either because they believe the client is similar to the participants in the research that forms best practice or local wound care is their focus at that particular time.

A number of factors exerting pressure on the health care professional may limit their ability to practice beyond the high ground. In some community clinics, there may be a lack of consistency of health care providers. Clients may see a different clinician at each appointment for the task of completing local wound care. As an individual health care provider doesn't have the opportunity to build a relationship with the client over time, they may not identify nor address lifestyle factors. Time constraints may also prevent the health care provider from discovering issues beyond the high ground because they are focused on the task of local wound care.

Between the high ground and the swamp there is an arrow that transitions from blue to green. This arrow is meant to depict the health care provider's discovery, through reflection, that there is more to wound prevention and management than the high ground, and that in actuality they are practicing in the swamp.

5.5.2 The Swamp

In actuality, clinical practice occurs in the swamp depicted as the large green box in Figure 8. The swamp is characterized as a place where the complex client situations makes best practice wound care difficult, if not impossible to implement. In the swamp, treatment of chronic wounds is complicated by a unique set of factors ("Characteristics of the Swamp") surrounding each client. Some of these factors relate directly to the individual client (e.g. multiple co-morbidities, financial situation), some to the client's social network (e.g. degree of social support), some to the health care provider or system (e.g. policies, lack of time) as well as other factors such as social determinates of health (e.g. access to clean water). Not all of these factors are within the sphere of influence of

the health care provider, yet they still have an impact on wound prevention and management.

Consider, as an example of the complexity of "the swamp", the client's vocation. The client may need to continue working while receiving treatment for a chronic wound, to pay for the necessities of life including food and shelter. The client may also need this source of income to pay for wound prevention and management treatment, or devices to support wound prevention or healing such as offloading footwear or therapeutic support surfaces. This same occupation, may require the client to participate in activities, such as prolonged standing that has a detrimental impact on their wound.

In the swamp, there is a tension between the medical model and care of the complex client with chronic wounds. Access to, and coordination of, health care services is difficult in the community at times, with some clients placed on long waiting lists to be seen by a specialist. Even though a health care provider currently seeing the client may know the best practice treatment is a referral to physiotherapist or dietician, they may not be able to facilitate timely access to these specialists. Funding for the provision of health care services is another example. Funding is often based on the wound care task – local wound care -- and doesn't allow for the time to complete a comprehensive assessment of the factors beyond the local wound that impact healing, nor the time to address these issues. As another example, within the medical model, health care policies have been established to balance individual patient needs with social responsibility, essentially constraining the time health providers may have to address the needs of each individual patient.

To deal with lifestyle factors in the medical model, health care providers rely on their relationship with the client. Health care providers know that clients make choices about their health, such as whether or not to reduce smoking. Health care providers believe they can influence the choices the client makes by establishing a therapeutic rapport. One approach described by a participant involved educating the client regarding best practice, and then working with the client to determine what was possible for them, within the client's context. For example, the client may not be willing nor able to quit

smoking, but perhaps they are willing to reduce their smoking by a specific number of cigarettes per day. Although this isn't best practice, the client is still reducing their smoking which may have a positive impact on their health. Once they achieve this goal of fewer cigarettes, it may be possible to negotiate a further reduction in cigarettes per day.

Some health care providers enter into the co-occupation of wound prevention and management with their client. The health care provider and the client work together towards joint goals, such adapting best practice to foster the client's ability to participate in their life. The focus is on ensuring the client can participate in their life occupations, as a priority over wound healing. The approach becomes creatively moving the client towards best practice, while focusing on their daily occupations. As an example, the focus may be how to increase offloading and circulation in the client's foot when they are on their feet, participating in other occupations such as baking, working, or engaging walking longer distances.

5.5.3 Clinical Reasoning

Fleming (1994) describes three different types of clinical reasoning, procedural, interactive and conditional, with each type of reasoning including different perspectives. Each type of clinical reasoning will be discussed with the portion of the model where that type of reasoning is dominant.

Practicing from the perspective of the high ground, clinicians are thinking about the disease or disability, in this case chronic wound prevention and management and deciding on the procedure or treatment plan to address that disease or disability. This type of clinical reasoning is called procedural reasoning. (Fleming, 1994, p. 121). Procedural reasoning isn't exclusive to the "high ground" perspective, however since the focus is applying best practices to wound prevention and management, procedural reasoning is the primary form of clinical reasoning used.

In the swamp, interactive reasoning helps the clinician identify how a specific approach will impact the client. It is often helpful when trying to fit the client's situation into the

medical model. Interactive reasoning occurs when the health care provider wants to better understand the client, and choose a treatment directed to that client as an individual (Fleming, 1994, pp. 121–122). This type of reasoning was also used to better understand the impact of a disease or disability on the specific individual. While there was a recognition of the client, and their individual situation, the focus was still on promoting wound healing, over other aspects of the client's life.

Conditional reasoning is a combination of procedural reasoning and individual reasoning. Using conditional reasoning, health care providers "think about the whole condition: this includes the person, the illness, the meanings the illness has for the person, the family, and the social and physical contexts in which the person lives" (Fleming, 1994, p. 133) Participants in this study demonstrated this type of clinical reasoning when they considered how to adapt best practices to the realities of the client's situation, while still enabling them to engage in their chosen occupations. Conditional reasoning is used when engaged in the co-occupation of wound prevention and management working together with the client to incorporate best practices into their life.

Details regarding the core concepts and categories and quotes from the data are provided in the next section.

5.6 Core Concepts, Categories and Sub-Categories

The intent of this grounded theory study was to identify how health care providers identify and address lifestyle factors. The core concepts, categories and subcategories are grounded in the data, and were constructed from the data as illustrated by the quotes provided. Core concepts are the overarching ideas from the study and were constructed from grouping together similar categories. Categories are the large themes within each core concept and are constructed from grouping together like sub-categories. Sub-categories were constructed from the data, by gathering like ideas together. The remainder of this section describes the core concepts ("the High Ground" and "the Swamp") with the associated categories and sub-categories. Illustrative quotes are provided to demonstrate their grounding in the data, and to promote transparency for the reader.

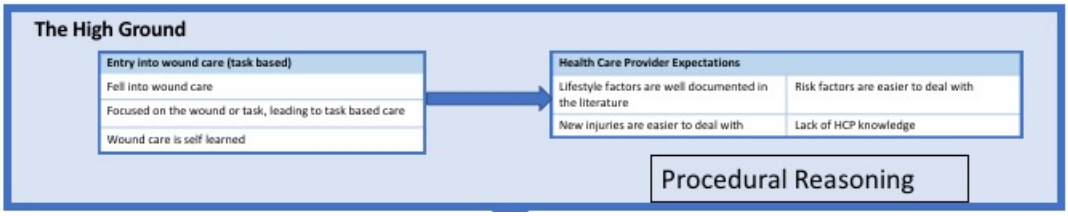

Figure 9: The High Ground

5.6.1 Core Concept: The High Ground

The first core concept is "The High Ground" represented by Figure 9. The "High Ground" core concept is made up of the categories "Entry into Wound Care (task/wound focused)" and "Health Care Provider Expectations". Each of these categories is described in the subsections below.

5.6.1.1 Category: Entry into Wound Care (task/wound focused)

Many of the participants interviewed "fell" into wound prevention and management, either by taking a job where wound care was an additional role or having their caseload shift to wound care through a number of external forces. These health care providers may not have had much prior knowledge of wound prevention and management nor did they necessarily seek out an opportunity to move into this area.

> *"So, I really took it [new job]to really focus more on the stoma patients. But, because one of the things that happens whenever [homecare] has to cut their budget…one thing they did do about a year after I started, they cut the funding to the specialists. So, they cut down our flexibility. So, I had to pick up more of a variety of patients and that's where I picked up more wounds and that was about 2011. And I have been doing chronic ever since….." (Participant #6)*

Another participant described a shift in her caseload because of triaging the highest priority clients. As she got busy, she didn't have time to see less urgent clients. As a result, her practice became focused on wound prevention and management, rather than actively choosing wound prevention and management as an area of interest and a focus.

"I didn't exactly. [laughs] It [wound prevention and management] kind of found me. Because I started in a hospital-based practice, I had a lot of referrals of persons who have diabetes. And over time as I got busier and busier, they are the only clients I could actually fit in for new patient appointments. So, because you start triaging. Just the way you might if you were attending an emergency department ..... In relevance to foot care a person with diabetes, who has an ulcer, is going to be my most high-risk person, therefore they are the ones who get appointment times." (Participant #1)

Through a variety of circumstances, these health care providers found themselves in a situation where they needed to learn more about wound care to be able to fulfil their job responsibility of providing local wound care. Participants sought information from the literature, educational programs and conferences. One participant commented, "there really was nobody else, there really wasn't an educational process to guide this. We had to learn, if you like, by the seat of our pants" (Participant #6). Another participant commented that they make time to attend any educational programs that are offered, especially since there always seems to be more to learn.

"If they are doing an education I will go. If they are doing an education afternoon I'll go. I am doing what I can to keep my knowledge current within the boundaries of my time schedule, working full time, and having a family as well of course. So, I have what I have, but like I said, there is always the feeling like I wish I knew a little bit more. Wish I had a little more time to figure out more." (Participant #8)

Since the participant was trying to become comfortable and competent with their primary job task of providing local wound care, they sought education about local wound care. Education was often focused on products, indicators and expected outcomes. Participants also read relevant articles and best practice guidelines to gain additional information. Regardless of whether the education came from a course or an article, lifestyle factors

either were not mentioned, or identified as issues that the health care provider need to address.

> *"I often find the article will be all about things about the wound, and then there is this paragraph that says…oh and don't forget – lifestyle factors…. don't forget to look at those….and it is an added-on thing…and it shouldn't be. It should be up front…number one." (Participant #4)*

Since the focus of the job is local wound care, and the education has the same focus, the focus of wound prevention and management from the high ground perspective is on the task of local wound care. Local wound care can be complicated, where many different local factors contribute to the approach to local wound care such as moisture balance, measurements of the wound, bacterial burden etc. Clinicians may focus on the more concrete aspects of wound prevention and management, rather than messy, complex issues such as lifestyle.

> *"Because there is so much stuff and I didn't have a person [mentor]; I was put in a role ….. So, what happens is you cling to the things that are very tangible and concrete. The wound, the measurement, the assessment factors. Is there lots of moisture, less moisture? What is the bacterial load? You lean on the definitive items and less so on things that sometimes you are not able to modify." (Participant #4)*

The focus on local wound care is further reinforced by the compensation model for health care providers. Compensation is often task based, related to local wound care such as dressing change, cleansing, callus removal etc. Compensation effectively drives the amount of time the health care provider has with each client. To be compensated, the health care provider needs to concentrate on the treatments that are covered. If the client would benefit from a team conference for example, it may not be offered as the health care provider may then effectively be working for free.

> *"I think there also has to be something about sessional fees for wound care, where these complex cases are going nowhere. It may take a lot*

of time, but it may still save the system money. We had a patient that took us 3.5 hours to do an assessment, but she had cost the system over 11 years 200,000 dollars. Now if somebody wants to pay you $75.00 for that, can you really do that? It wouldn't even pay the nurses, let alone two nurses and a doctor. But if you had a sessional fee, if you look at it in terms of a system or the societal perspective, it makes a big difference." [Participant #6]

Health Care Providers learn about lifestyle factors over time, and through experience, rather than education sessions and articles. It is though listening to the client's story, the challenges they face and how the client adapts to living with a chronic wound that they gain insight into various lifestyle factors and how they may be addressed. "I think listening to patients, and always having that ear, that makes me more receptive realizing that these lifestyle factors here are influencing why it is not healing or why it has healed." (Participant #4) This same participant went on to comment, "I guess through hands on or interaction with 30 years of clients. Not through reading literature or studies. It's more laying the eyes on different environments that I have seen with clients. What they live in. How they live" (Participant #4)

Identifying lifestyle factors is not enough to prompt the health care provider to address them, because they are complex. "Sometimes it is just easier and quicker to pop in and do the dressing change and pop out, and not think about anything else" (Participant 12).

5.6.1.2 Category: Health Care Provider Expectations

Health care providers practicing from "the High Ground" perspective seek information about local wound care, apply that information in the task of providing local wound care, which in turn drives them to seek more information about local wound care. This leads them to have additional expectations: new injuries are easier to deal with; risk factors are easier to deal with; and that lifestyle factors are well documented in the literature.

The first expectation was new injuries are easier to deal with. This is supported in the chronic wound prevention and management literature, in that the longer a wound has

been present, the more difficult it is to heal (Sibbald et al., 2012a, 2012b). The implication is that with the provision of appropriate local wound care, the wound will heal. The other implication is that chronic wounds, those that have been around longer, are more difficult to heal.

> *"Sometimes we get lucky, and a family physician will refer a patient relatively quickly when they have a wound. I always love those patients because they are the easy ones to deal with. You get the diagnosis right, right from the beginning, and they tend to heal really quickly. Or it is a bit easier – it's a straight forward diabetic foot ulcer, or a venous ulcer….and you put in best practice and it gets better." (Participant #7)*

The second expectation was risk factors are easier to deal with than lifestyle factors. Although not specifically identified as "easier" in the literature, health care providers may perceive risk factors as easier because they are "simply" providing a prescription for a medication or referring the client to another health care professional.

> *"If I think someone has poor circulation, I just need to get them to see a vascular surgeon…If they have an infection, just need to prescribe them either topical antiseptic or oral antibiotic…and um….and so that is for me to manage. I just need to tell the patient to please take their antibiotics because…try to take a probiotic…try to take them on time….but that to me is easy advice." (Participant #1)*

The third expectation is that lifestyle factors are well documented in the literature. This may stem from the fact that health care providers do not have a common understanding of the term "lifestyle factor" so they collapse the concepts of "risk factors" and "lifestyle factors" together. It may also relate to the stated importance of lifestyle factors in the literature, leading to the assumption that they must have been studied and documented. When challenged, participants in this study had difficulty identifying studies or articles that talked specifically about how to identify and address lifestyle factors.

"So, I think with lower leg wounds and applying compression I think there has been a lot of work there, and I think [clinician name] would be a good person as I think about this, I think she would say let's look at the person's lifestyle, why isn't this wound healing?" (Participant #4)

Even when articles or best practice documents were identified, I could not find guidance on how to identify and address lifestyle factors in these articles. If lifestyle factors were addressed, it was usually just a list of factors to consider, with little information as to how to identify and address these factors. The assumption by the authors of these articles and best practice guidelines may be that health care providers already have an understanding of these factors, or at least a common perspective. Health care providers seem to take the same approach, just listing potential lifestyle factors in their chart notes, without necessarily addressing them.

"In many of the journal articles that I have read they have rhymed off a bunch of them, and normally there are commas in between them. Any time I write about them [in the client's chart] I simply rhyme them off with commas in-between them too….." (Participant #1)

The last concept in the "health care provider expectations" category is health care providers who focus on local wound care are perceived to lack knowledge. Expert clinicians who receive referrals from these clinicians see the lack of knowledge in the questions that are asked, generally focusing on the dressing and local wound care. The expert clinician however, sees factors impeding wound healing well beyond just the local wound care and dressing.

"It is not just changing from silver to Inodine…which is what tends to be seen as wound care. If we just change the product we will get wounds to heal. No, no, no, no, no. It's over and over again, even in the notes we get from key nurses in the clinic. All they want to do is to change the outer dressing or the contact layer in the dressing, because they think that that is going to make the difference." (Participant #5)

The perceived lack of health care provider knowledge creates problems because these other, less knowledgeable, clinicians may give contrary advice to that provided by the expert clinician. This conflicting advice results in confusion for the client and potentially additional expense incurred by the client. Ultimately this results in sub-optimal care, and less likelihood that the wound will close in a timely manner.

> *"Unfortunately, just before I saw him, the vascular surgeon told him it was all healed up. Because of the callous covering it, she couldn't see the hole. She told him it was all healed up. He now needs to buy good shoes and orthotics, and you just wait because [Participant #1] is coming over and she will tell you where to get good shoes and orthotics. I asked the doctor if it was okay if I debrided, usually they are not going to say no, but I have to ask. She says, yes that would be great….you are going to find an ulcer aren't you? Yes, I think so. If she was thinking that, why did you tell the poor man he was healed? I think that lead to….because I ended up being a really bad person, because…and this has happened many times, this is just one example of this…the nurse through homecare says it is healed, and I am the one who debrides it and finds that there is still an ulcer underneath. I am not making the opening, I am simply uncovering the opening that is already there. That is hard for patients to comprehend, and even sometimes for the nurses to comprehend." (Participant #1)*

Experienced health care providers are also frustrated that inexperienced clinicians believe they can take a weekend course and become an expert on wound prevention and management. This may reflect the idea that much of the education available focuses on local wound care, or that experienced health care providers believe that the way to learn about lifestyle factors is through experience. It may also reflect the idea that experts in wound prevention and management may not feel that their expertise is valued. "So, what happens in the community……the nurses in the community a lot of them….and this is sad to say…..a lot of them will take a weekend course, and then decide they are a wound care expert" (Participant #7). Another participant commented "there are a couple of

doctors who we will never see change, but with the majority of the doctors they do recognize the extra education and extra experience and they do respond." (Participant #8)

5.6.2 Core Concept: The Swamp

The second core concept is "The Swamp" represented by Figure 10. This is where clinical practice actually occurs, with complicated clients, with often limited resources and in a complex system. Individual clients are surrounded by a constellation of issues (e.g. financial constraints, lack of social support etc.) and make choices (e.g. standing to bake with their grandchildren) that are not necessarily in line with the best practices for local wound care. The specific constellation of factors is different for each individual client but does result in the wound not healing at the expected trajectory, or not progressing to healing at all.

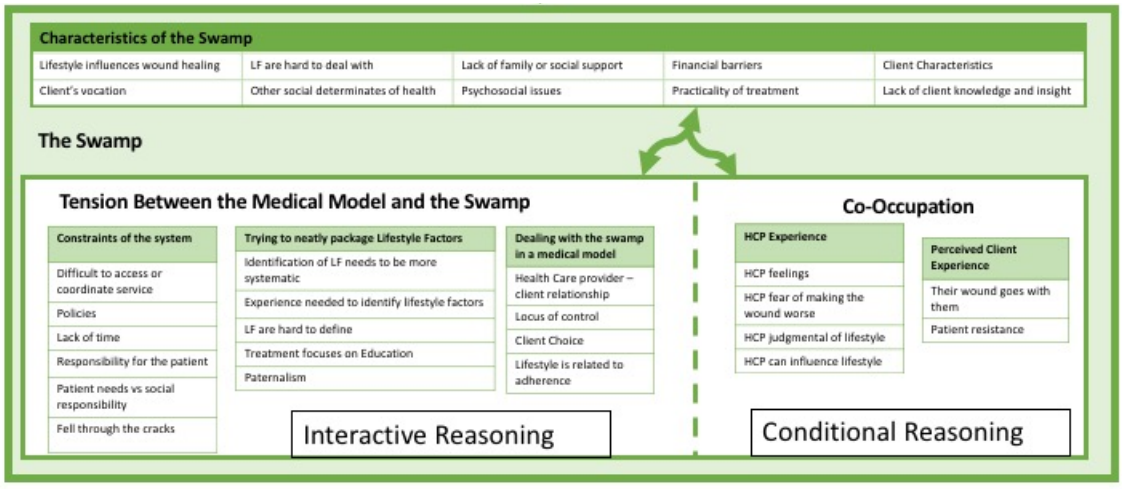

Figure 10: Core Concept: "The Swamp"

There are three major categories in this concept; "Characteristics of the Swamp", "Tensions Between the Medical Model and the Swamp" and "Co-occupation." The arrows moving between these three categories represent the idea that not all of the subcategories described in this section are exclusive to one of the three categories. It is less important to definitively categorize these ideas, but rather to understand their contribution to the context of care provision. The arrows also represent the idea that each area of the swamp influences the others.

5.6.2.1 Characteristics of "The Swamp"

The Swamp is where wound prevention and management actually occurs and extends beyond looking at the wound and local wound care, to the client as a whole and the context in which they live, work and receive treatment. The characteristics of the swamp are not discussed in any particular order. The importance and influence of each characteristic varies with each individual client and may vary with time. The characteristics of the swamp include the following ideas: 'lifestyle influences wound healing", "client's vocation", "lifestyle factors are hard to deal with", "other social determinates of health", "lack of family or social support", "psychosocial issues", "financial barriers", "practicality of treatment", "patient characteristics", and "lack of patient knowledge and insight".

5.6.2.1.1 Characteristic of the Swamp: Lifestyle Choices

The lifestyle choices that clients make influence wound healing and can have either a positive or negative influence. Health Care Providers, while unable to reach a common definition of "lifestyle factor" discussed the fact that the client has an ability to make choices about their lifestyle, and potentially choose options that would result in faster wound healing. From the client's perspective the benefit of wound healing may be outweighed by the perceived benefit of the lifestyle choice that they are making.

> *"I was going to stay that, the other thing that I don't know where it would fall under is something we used to call "non-compliance" but we don't call it that anymore…we tend to lean towards "non-adherence". I have a patient who has chronic pressure ulcers. Part of the reason we cannot get it even close to heal is that he will not offload….because to offload for him would be to stay in bed. And he insists that he gets up every day and sits in his wheelchair."*
> *(Participant #8)*

5.6.2.1.2 Characteristic of the Swamp: Client's Vocation

The client's vocation has an impact on whether the wound will heal, because some jobs make it impossible to follow treatment advice. Consider the warehouse worker who has

a diabetic foot ulcer. He may have been told to stay off his feet as much as possible, yet for his job, he needs to be on his feet all day in the warehouse. He may not have access to modified duties, nor have the option to take time off. An additional pressure for the client is they may need to work to have enough money to purchase the necessities of life, in addition to any non-funded treatment or equipment needed for wound healing. Depending on how old the client is, they may not want to take time off as that could impact not just their current income, but also their retirement income. "His job is standing for 8-10 hours a day so he has an issue where he can't take breaks, to rest his foot. He is one year away from his retirement so he doesn't want to stop working." (Participant #10) Another participant put it this way:

> *"The other ones that have that issue are the diabetic foot ulcers who work…and for them to offload – and they work in a situation where they cannot wear an offloading boot or shoe to work because they work in a factory and they have to wear safety shoes. And their companies are not set up for them to be off for a month, because that's what it would be to heal it. And you know the guys sit there and say that they can't stay home any longer, I have to go to work." (Participant #8)*

5.6.2.1.3 Characteristic of the Swamp: Lifestyle Factors are hard to deal with

There is a perception that lifestyle factors are hard to deal with. This could be related to how complex the lifestyle factors are, but in addition, the issues may be outside the scope of influence of the health care provider. Consider finances for example. If the client doesn't have money to pay to access services, there may not be anything that health care provider can do for that individual client to provide them with the resources to access the needed care. Lifestyle factors can also be emotionally charged for the client. Clients may feel that they are being asked to give up something important to them to foster wound healing. "I've spoken to them at length many times about it [sitting in a lift chair] and they've come back with, his emotional status and independence is more important to them than getting the wounds healed" (Participant #8)

Another health care provider described the impact on the client with this client story:

"She literally said, while crying to me, that she would prefer to die than to wear the shoes that I recommended to her. And that I have to figure out a way for her to wear dress shoes. Kind of one of those threats. And her pure raw emotion that came out, I actually said to her, "Oh my gosh, I wish I had a video camera on her at the moment because I think you are the kind of person that would be willing to share that with the world and for people to see what the effect is of diabetic foot ulcers on people." (Participant #1)

5.6.2.1.4 Characteristics of the Swamp: Other Social Determinates of Health

Other social determinates of health such as access to clean water, literacy and education level have an impact on wound management. Although important to health, the health care provider has little influence to address some of the most basic needs for that individual. Participants indicated that these other social determinates of health were a barrier to addressing lifestyle factors, especially related to lack of basics like access to clean water.

Participant #3: We see people who are living on reserve, who don't have access to even the everyday stuff. I think that puts them at risk inherently because how do you focus on a wound when you have all of these other things going on.

Researcher: Okay, just for clarity, when you say they don't have the basic stuff, what do you mean by that?

Participant #3 Ah, water.

Researcher: Really basic

Participant #3: Yes

5.6.2.1.5 Characteristics of the Swamp: Lack of Family or Social Support

Lack of Family or Social support is the next characteristic of the swamp. The client's support system is a critical component of the successful treatment of chronic wounds. Support networks do not just include family members and friends, but often include others such as neighbors. There is an expectation among some of the participants that family members or other people in the client's social network will help to support and provide care for the client. "One may rely on family, another may rely on friends and others it might be acquaintances like a neighbour, who is acting as a good Samaritan. But without a social network, it is very difficult for people with chronic wounds to get better." (Participant #6)

The type of support the client needs varies by individual. Transportation to and from medical appointments so the client can access the care they need is only one component. There may also be a need for assistance with meal preparation or other activities. Clients are left to organize this support on their own.

> *"she only comes to see us when she can get a ride. She gets a ride with her sister and part of that is she doesn't have her own transportation, doesn't have her own car. And I don't know what the family dynamics are like, because sometimes she comes fairly regular, we treat her and then sometimes she doesn't come in for a few weeks or so and calls and says I can't come in." (Participant #8)*

There is even an expectation that members of the client's family or social network will become informal caregivers and assist or provide dressing changes for clients. This adds to the burden of care for the informal caregiver, but also impacts the relationship between the client and the informal caregiver. The health care profession may move away from best practice (such as turning the client every 2 hours at night when they are at risk of a pressure injury) to a treatment protocol that is more reasonable for the informal caregiver. "They are living with a spouse, the spouse has to sleep…you can't ask a spouse to get up

in the middle of the night every night to turn them…they are the partner, right?" (Participant #8)

Informal caregivers do not usually have formal health care provider education, and although they receive training on how to do a specific procedure (e.g. dressing change), factors such as fear of hurting their loved one may impact the quality of how that procedure is done.

> *"Husband and wife teams, I think it works sometimes. We are finding more and more, if the wife is doing dressings she starts to feel guilty that she might be hurting her husband. We have to do a lot of reinforcement for education for the family. I find in some cases it works well, in other cases it doesn't, and [homecare] is a better route to assist us" (Participant #10)*

Some clients prefer not to have professional help within the home. In these cases, when planning treatment, health care providers may move away from best practice based on the physical abilities of the care provider. For example, one of the standard treatments for a venous leg ulcer is high compression, assuming that the arterial system is not compromised. (Registered Nurses' Association of Ontario, 2007) High compression bandages are difficult to apply and require skill, training and practice to apply correctly. If the caregiver has physical limitations, this treatment may not be possible, and thereby impact the healing of the client's wound. Treatment is adapted or changed to a type of compression that the caregiver can apply, even if this is not the best option for wound healing for the client. "She doesn't like anything to wrap, she wants one straight thing because when she has to remove it because it is hard for her husband who is also diabetic. They live alone and won't have any help in their home." (Participant #13)

If the client is part of a family or social network, there may be others in that network who require care or assistance. It may be the client with the chronic wound who provides care or assistance to another member of that network. Caregiving responsibilities may require modifications to the client's treatment plan. Given that chronic wounds can be present

for an extended period of time, it is unrealistic to expect the client to give up all of their caregiving responsibilities.

> *"he's the caregiver for his wife and that's how he injured his foot in the first place because he's trying to do everything for her. She is now in hospital and so the family have agreed to step up and they have been very supportive and the grandson is now living in the home. So, this is turned out to be a plus. He has the support and now he has someone to help him with the care when his wife comes home" (Participant #10)*

5.6.2.1.6 Characteristics of the Swamp: Psychosocial issues

Mental health and other psychosocial issues also add to the complexity of the treatment plan. Depression was identified as a barrier to addressing lifestyle factors by several of the participants. Depression is a common complication of chronic disease (Registered Nurses' Association of Ontario, 2010, p. 28). Depression has the potential to negatively impact the management of chronic wounds in several ways. The client may experience increased disability, they may exercise less and may be resistant to following treatment plans (Registered Nurses' Association of Ontario, 2010, p. 28). One participant expressed it this way: "Sometimes people who may be depressed really don't want to fight, they don't really want to follow advice. They almost behave in a self-destructive manor. So, trying to inspire and give them hope or excite them about getting better is a challenge." (Participant #9)

Health care providers need to routinely screen for depression in their clients with chronic wounds, and then ensure the depression is addressed. The role of the health care provider may shift to becoming an advocate with other health care providers to recognize and address the depression. Until the depression is addressed, it is unlikely that the health care provider will be able to influence the client to modify their lifestyle.

> *"The other aspect is the mental illness. I am finding more and more I am recognizing it with periods of depression through the winter months especially. Where the client is not getting out and they don't feel like they can talk to their doctor about it. So, it becomes….you end up*

becoming an advocate for them to try and work with their family doctors to see what they will be willing to do." (Participant #10)

5.6.2.1.7 Characteristics of the Swamp: Financial Barriers

Finances were often cited as a barrier to care, as well as a barrier to addressing lifestyle factors. Some wound prevention and management treatments that are part of best practices, such as access to Chiropody services in Ontario, are not covered by the Provincial health care system. This means that if the client doesn't have insurance, or the resources to purchase these services, they may miss out receiving best practice care such as offloading, professional nail care and regular debridement. Even when a service is covered, the equipment and dressings that the client needs may not be covered such as custom orthotics, and therapeutic support surfaces.

"So, one of the lifestyle factors we have discussed before is someone with a diabetic foot ulcer needing to offload their foot. A huge problem is there is no funding from the government for that and patients can't afford it. Or we need someone to be in compression therapy and they can't afford the compression stockings, then we have a problem. Or someone has a bariatric issue and they can't get into or there is a wait list for our bariatric clinic, then to see the dietician you need to pay for that….and I am not a dietician, so it becomes a problem (Participant #7)

Where clients cannot afford to purchase the required devices, the health care provider may try and repair their current device or recommend a less expensive option that may also not be effective. In this case financial barriers are preventing the client from accessing best practice wound prevention and management, because they cannot afford to purchase a device. The effectiveness of the less expensive option may not have been explored, so the care may be sub-optimal.

"And then because he has no money and he still needed his removable cast walker, I tried to repair his removable cast walker as best I could with tape and suggested to him he might get some contact cement to

glue certain parts together because the parts that were coming undone as long as you fixed what I was recommending, they're not going to do him any harm and it is still offloading him." (Participant #1)

Where clients are unable to pay for needed services, the treatment plan may be modified to reduce the number of required visits. Reducing the number of visits may address the financial concern but may have a negative impact on wound healing. Visits are usually set based on the progression of the wound, stretching out the time between visits may mean that there is a period of time where the local wound care is not optimal. For example, the need for a different dressing protocol may not be recognized in a timely manner or debridement may not occur as often as needed.

"We try and minimize how many times they come to see me because one of the barriers is it is a private clinic so they do pay for services. So, we try and use resources around them to do the dressings when they don't need more offloading or surgical debridement." (Participant #9)

Even clients with health insurance may struggle with finances for treatment or purchasing devices due to caps on funding amounts. It is not unusual for insurance companies to pay for one device in the client's lifetime such as a wheelchair or therapeutic mattress or base their funding on the wording the health care provider uses. For example, an insurance company may pay for a therapeutic support surface, but not a bed mattress, or an orthotic but not an insole. To some degree this means that even though a client may have insurance, they are dependent on the clinician to understand the nuances of policies from various insurance companies or other funding agencies. Clients may also struggle to find insurance because the nature of work is changing such that there are fewer full time jobs.

"One of the things that comes up now like never before is people have a good job, they are working well, and they have a drug plan…but there is a lifetime limit. That limit of $150,00, if I put somebody on biologicals, and they are 30 or 40 years old, I could use up their entire drug plan in 3 or 4 years. Then they have to get from 44 to 65, without

any coverage whatsoever, even though they are working and have a good job." (Participant #6)

Lastly, funding is not just needed to access care or pay for needed devices and other treatments, clients may also need to purchase other non-medical services to support wound healing. For example, the client may need to pay for transportation to and from medical appointments. They may need help with meal preparation to help facilitate nutritious meals or reduce the need to stand. Clients also may need housekeeping services to reduce the chance of infection, or again limit the need to stand if offloading the foot or elevating the legs is part of the ideal treatment plan.

"Money, money, money. As I've said there's no money to pay somebody to do the activities of daily living that need to be done. How do you not cook? How do you not clean your house and how do you not do these things? That's the problem." (Participant #1)

5.6.2.1.8 Characteristics of the Swamp: Practicality of Treatment

To be successfully implemented, treatment plans need to be practical for the client and their caregivers. One barrier may be the client's physical ability to follow through on the treatment. For example, limited hand function or strength may limit the client's ability to lace up shoes or apply compression bandages. The health care professional needs to adapt the treatment to be physically possible for the client, yet still accomplish the treatment goals. For example, there may be a different type of compression that the client could don independently but may provide less pressure. Although some compression is better than no compression, wound healing may still be delayed for these clients with venous leg ulcers.

"And when I did give her the advice about getting laced shoes, she reminded me that she has neuropathy in her fingers and can't do laces. This is where we need to keep patient centred concerns in mind too, and you can't always get what you want. Of course, you have to consider that. How is she going to do up her laces?" (Participant #1)

Some recommendations that could be made for a client e.g. use a wheelchair instead of walking to offload a diabetic foot, require a large change in the client's activities of daily living and their lifestyle. This type of change is not sustainable in the long term for the client. Even if the client is compliant with the treatment plan in the short term and the wound heals, the wound will reoccur when the client returns to their normal routine. The better approach may be to foster sustainable changes to the client's lifestyle that help to heal the wound.

> *"I can heal a wound on a wheelchair, on crutches, on air cast boots, on total contact casts, but that is not what I want, because it is not a long-term solution, and it is not practical, and it is not patient centred. Nobody wants to wear an air-cast boot for life, nobody wants to wear a crow [walker] for life. It is not a life. Getting them into normal "ish" kind of shoe, getting them back to work full time, and getting them to do fun things. That is what heals wounds permanently." (Participant #9)*

5.6.2.1.9 Characteristics of the Swamp: Lack of Client Knowledge or Insight

The last idea describing the swamp is the lack of client knowledge or insight, even when education has been provided. Education is often provided to the client as part of the treatment process, however the treatment advice is general, rather than specific to that client's daily activities. Clients listen to the advice while considering their experience from the past. Most acute wounds heal with very little intervention. When clients are told they have a wound, they may not appreciate the difference between a chronic wound and an acute wound they would have gotten at some point in their life. Since they may not understand the implications of having a chronic wound, they may not take the recommendations seriously because they think the wound would heal on its own. The wound not healing may the trigger that makes the client listen to the health care provider's advice.

> *"If we could get them….sometimes patients don't take wounds seriously enough. When I explain lifestyle changes to them, I try to*

liken it to…say offloading for instance…..if you broke your leg, and a doctor said to you "no weight bearing for 6 weeks", 95% of the patients will do that if the doctor said, don't weight bear or it won't heal. They sit in the clinic with me and I say you cannot weight bear, or this will not heal or the wound trajectory, the size of it and so on…but then they go out and walk on their feet. I say, in a trip to the bathroom you lose an entire day of healing when you walk to the bathroom in the middle of the night without your offloading. Those three, four, five steps…you have lost your entire day of healing. I try and explain it to them, and I still think they don't consider it serious enough. Often with a wound, they think it will just get better like it did…you know in your 20's when you get a sore, you know if you don't do very much with it, before you know it there is a scab, and then you turn around again and pull of the scab and you are healed. People can't adjust to the fact that they get older, that things happen that they are diabetic, or become less mobile…" (participant #8)

5.6.2.1.10 Characteristics of the Swamp: Client Characteristics

Clients with chronic wounds often tend to have many other co-morbidities such as diabetes, high blood pressure, coronary artery disease, hypothyroidism etc. Self-management is promoted as a strategy to promote health, and best practice guidelines have been published supporting this approach. (Registered Nurses' Association of Ontario, 2010) For clients with multiple co-morbidities, self-management is more difficult and complicated. For example, one strategy to prevent neuropathic foot ulcers is for clients with neuropathy to visually check their feet. Some of the co-morbidities a client has, limits their ability to follow through e.g. poor vision related to diabetes, obesity etc. Although there may be a number of health care providers involved, each addressing one of the co-morbidities, there may not be anyone monitoring the client who can identify other health issues.

"But when they get old like that, like she was 90, there is no odour in many cases, because their skin is so dry. But the whole living room

was covered in this white sheen on the floors, and it was skin. So, I walk into these situations and I go "Oh my God." And no one has clicked in; no family member, nothing." (Participant #10)

In addition to multiple diagnoses, they may have pain that limits function, or experience odour from the wound. As these clients are complex, they can fall through the cracks in the health care system and may have less social support.

"Because wounds often smell, they are unpleasant, they often interfere with function, these people are often the modern social lepers. I mean nobody wants to sit at the dinner table with somebody who smells like pseudomonas. I think sometimes, sometimes they need to take their meals by themselves, they have to put up with pain. Everybody can live with pain that might be a 3 or a 4 out of 10, but once it is a 5, 6 or 7 or higher, those individuals can't really function and hold a job down and be able to be useful and productive in society." (Participant #6)

5.6.2.2 Category: Tension between the Swamp and the Medical Model

The characteristics of "the swamp" create a tension between addressing the lifestyle factors with the client and practicing within the medical model of health care. One of the participants in the focus group recommended that the term "medical model" be replaced with "health care system" as the system is the context for care. The term "medical model" was retained for clarity because, in Canada, our health care system is built on a medical model of care, focusing more on diagnosis and treatment.

This category is comprised of three subcategories:

- constraints of the system (e.g. difficulty accessing or coordinating care, policies, lack of time, etc.),
- trying to neatly package lifestyle factors (e.g. experience needed to identify lifestyle factors, paternalism, identification of lifestyle factors needs to be more systematic etc.)

- dealing with the swamp in the medical model. (e.g. client choice, lifestyle is related to adherence, health care provider – client relationship)

5.6.2.2.1 Sub category: Constraints of the System

This category describes the medical model system constraints that make dealing with lifestyle factors difficult. There are a number of related ideas in this sub-category. Each of the ideas that comprise this sub category; access or coordination of care, client need vs. social responsibility, clients fall through the cracks, lack of time, policies and responsibility for the patient are discussed in the subsequent sections.

5.6.2.2.1.1 Constraints of the System: Client Needs vs Social Responsibility

In Canada, health care services are funded through a combination of public and private funding. The public system generally pays for family physician visits, hospital stays, surgery, and diagnostic tests. Clients or private insurance often pay privately for visits to chiropody, occupational therapy, medication and physiotherapy. There is a limited budget in the health care system to pay for all of the various services required by the population. Effectively this means that there is a finite set of resources, and that the public health care system may not be able to provide all the care required for an individual client. From a wound prevention and management perspective, funding for health services varies by province, but in each province, there are services and equipment that the client is required to purchase privately. Participants described the challenge of using health care resources to meet the needs of the client population, rather than using all of the resources focusing on a single patient.

> *"Healthcare is more a privilege than a right…..but I think doing and getting all, you can from the system, without looking that there is a social responsibility, there has to be some health care left for everybody. I think it is an important concept that not everybody gets."*
> *[Participant #6]*

5.6.2.2.1.2 Constraints of the System: Policies

Policies guide how wound care is provided and can vary by discipline and location. There were four main types of policies identified by participants as constraints of the system; scope of practice, government policies, agency policies and reimbursement policies. All of these policies interact creating a unique context of practice for each health provider in each setting.

The first type of policy identified by participants is the scope of practice of specific disciplines. Each discipline has a specific scope of practice for their profession(College of Chiropodists of Ontario, n.d.; s.f. College of Nurses of Ontario, 2018). For example, chiropodists in Ontario are limited to addressing issues of the ankle or below. Regardless of the specific details of each discipline's scope of practice in a given Province, the health care provider may be limited in the services they provide for a client based on the scope of practice statement.

Wound prevention and management is multifaceted. Nutrition for example impacts whether or not a wound will heal, so it is important to investigate, but recommending nutritional interventions may be outside the health care professional's scope of practice. This then may lead to an unmet need for the client or a referral to yet another health care provider.

> *"Every profession has their….scope of practice, defined scope of practice. So as a podiatrist, or chiropodist your scope of practice includes foot and ankle, and what I am allowed to do to the ankle….it's like shades of grey. By ankle, do they literally mean I can treat the ankle, or below the ankle. So, if my scope of practice is just the foot, what business do I have asking people what they are eating? Or some of the other factors that are not really part of my job." [Participant #1]*

Beyond scope of practice policies, governmental policies can influence practice. In Ontario, as an example, the public hospital act sets out specific policies regarding access to treatment, and the roles of some health care providers. These policies can be different than those in the community for the same health care professional. As an example, a

chiropodist can take extra training in medication prescription, and be authorized to prescribe medication within a limited scope. This same chiropodist practicing with the same client population in a hospital setting is not allowed to prescribe medication and must work with a physician who will prescribe the medication. This can become a source of frustration for the health care provider, especially if the physician they work with in hospital does not have an expertise in wound prevention and management and is reluctant to prescribe the medication that the chiropodist would normally prescribe in the community. Ultimately this could result in a reduced quality of care for the client.

> *"the public hospital's act. It is archaic. If I am not mistaken, it's from 1944. Even if the Ministry of Health and the RHPA says I can prescribe medications, because the public hospital act doesn't, at some point I had written a prescription for somebody in the hospital, and then one my colleagues said "you can't do that". Sometimes you need to be aware of where you are working. If you are in a hospital, you have to adhere to hospital policies and procedures as well, and it might be different from what you might do if you were in your office for example." [Participant #1]*

Each individual agency sets policies to help manage their own budgets. Policies may guide what dressings or equipment are available, how long equipment may be loaned, or how often a type of treatment may be provided. It is unclear whether these policies are based on best practice, but they are not individualized to a specific patient. For example, for the first week, a client with a venous leg ulcer may need compression bandaging every day until the swelling is more under control. Unfortunately, some community agencies set a maximum number of visits per week and will not provide additional visits. If the agency policies do not allow for the best practice treatment of the individual, wound healing may not occur at the expected rate. Ultimately this may mean the client requires community services for much longer, and in the end may cost the health care system more money.

> *"There are certain wounds in the early onset need Monday Wednesday Friday and they need compression application and well as well as they*

got a dressing underneath but the community won't do three times a week [compression bandage brand name] because they say it is too expensive. They will only do it twice a week." [Participant #4]

Reimbursement policies may also limit the type of care provided. For example, physicians may be funded for the tasks they perform. Addressing lifestyle factors may not be a task listed in the funding structure, even though they may impact wound healing. Additionally, there may not be funding for case conferences and working as a team of professionals, even though a team approach may be in the best interests of the client. Once again, the policy may prevent the client from getting best practice care.

"Yes, I think very much the social history is not factored into the fee schedules of making care cost effective. It becomes a difficult piece to become the prime mover of the interaction or the clinical visit, and even though it may be the most important one, it is still focused on the wound". [Participant #6]

5.6.2.2.1.3 Constraints of the System: Lack of Time

Reimbursement policies as described in the previous section may effectively limit the amount of time the health care provider has to address the needs of clients with chronic wounds. Participants often cited lack of time as a barrier to addressing lifestyle factors. It was of particular interest to note that health care providers cited their frustration with the lack of time, regardless of the length of time the provider had with the client. Health care providers feel that they can't adequately address lifestyle factors on top of the treatments they are already required to provide.

"There is only so much time with each appointment so that is another frustration. That even though I have a longer appointment than most of my colleagues. Even then, it is not enough to go through all of the factors, all of the time. You do run out of time because somebody else is waiting for you. I have time constraints. I am sure everybody does." [Participant #1]

When health care providers are stretched for time, it is difficult for them to complete all of the tasks and activities involved with wound prevention and management. The health care professional may start to prioritize the list of tasks they need to complete. Typically, the task of local wound care – debridement, dressing changes, cleaning the wound etc., get priority over building the relationship and identifying and addressing lifestyle factors. Addressing the lifestyle factors becomes the "add on" or "nice to have" rather than recognizing that addressing lifestyle factors is important for wound prevention and healing. Addressing lifestyle factors, may never get addressed, simply because they are not the priority for that health care provider.

> *"Well this is still a task, looking at social determinates of health, and looking at psychosocial, but it is kind of considered an add on, an extra. I hate to say the word, but an "expendable" piece. It is a piece, if you are time limited, if the treatment clinics in the community, the wound clinics, have to see a patient every 6 minutes or some ridiculous thing, it just doesn't happen. Or if it [looking at lifestyle factors] does happen, you get lousy wound care." [Participant #6]*

Where there is a recognition that lifestyle factors are important, and are made a priority, health care providers are left to find a creative way to make time to address these issues. For example, where there is a clinic where multiple clients will be seen in a day, a longer time may be spent with some clients to address lifestyle factors, while a shorter time is spent with another client, even though all the appointments are scheduled for a fixed amount of time. Essentially this means that the funding for the group of clients is being used to enable the health care provider to spend the time with another client addressing lifestyle factors. This is not a transparent practice, and as a result, funding agencies do not realize their gap in funding to address lifestyle factors, nor the importance of addressing them. In other words, the client sees the benefit of addressing lifestyle factors but the funders do not realize that addressing lifestyle factors played an important role in the healing of that client's wound.

> *"I do[have time] in my clinic because of the way we have it set up. The way we have the clinic set up is I have a half hour per patient. So that*

actually provides me with a lot of time, so what normally happens is I have two patient rooms going at one time. I go in with one patient and get them set up and ready to go, then we bring the physician in and figure out what we are going to do….but while we are waiting for him, I normally have a good 10 minutes to spend with the patient and really talk with them. And if need be…..sometimes we will schedule them in to see me, and not the physician. So, the way we have it set up we are pretty lucky. Part of it is, our clinic doesn't really make any money. We are not funded by a hospital, we are a stand-alone clinic. We run through the doctor's Medicare billings. We both do this because it is something we firmly believe in, and we make it up by the other derm patients that he sees at the same time." [participant #7]

5.6.2.2.1.4 Constraints of the System: Difficult to access or coordinate service

Difficulty with access or coordination of care was a common idea expressed by participants regardless of their setting, discipline or Province. Often there are long waits for the client to see a wound specialist, then if that specialist needs to involve other disciplines, there can be a long wait for those health care professionals as well. The impact to the client is they wait a long time without optimal care. The longer they wait for optimal care, the more difficult the wound becomes to heal. (Sibbald, Goodman, et al., 2011)

"No [laughs] there are never enough resources. I think for example, if I wanted to refer them on there are lengthy waiting lists. There are lengthy waiting lists for people to come and see me." (Participant #3)

There is also a sense that there is a frustration or helplessness among health care providers associated with the lack of access or coordination of services. The expert clinician may know what best practice is, and can practice that within their scope, but if they can't coordinate the other aspects of best practice care, their efforts may not result in a good outcome for the client. One again, the lack of timely access to various specialists,

results in the client having the wound for a longer period of time. The longer a client has had a wound, the more difficult it is to heal that wound. (Sibbald, Goodman, et al., 2011)

> *"I am challenged against the other disciplines, who sometimes, they too feel a helplessness, and there is maybe a lack of coordination of a formal team of people who could help potentially salvage this foot. The resources and the way it should work, we just don't have it, and there is a sense of futileness, and helplessness and why bother" [Participant #4]*

5.6.2.2.1.5 Constraints of the System: Responsibility for the Patient

Health care providers working in wound prevention and management often act as consultants and work in collaboration with other health care providers and teams. Referring health care providers have different expectations of the consultant. In the consultation role, it may, or may not be clear whether or not the consultant is responsible for the local wound care. In some cases, the referring health care provider wants to receive an opinion only, but in other cases wants the consultant to assume responsibility for the treatment of the wound until it heals. Even less clear is who is accountable for issues, such as lifestyle that may have a more global impact on health. The consultant and referring health care provider may not have the time nor opportunity to discuss the expectations regarding roles and responsibilities for the clients that they share.

> *"What's the role of the family doctor vs. the interprofessional team. The holistic thing. Some family doctors are glad if you intervene, other family doctors feel that you are stepping on their territory. So, a little bit is you have to know the referring physicians. Some family doctors will send a consult for a diagnosis. Others will send for diagnosis and treatment. Somebody else may say "wound. Please assess" and you have no idea what they are expecting" [Participant #6]*

To make matters more confusing, different health care providers take on different degrees of responsibility. For example, one family physician may be very involved in wound

prevention and management and work with the client on a smoking cessation program. Another family physician, with the same type of client, may leave it to the consultant to address smoking. The individual health care providers involved are left to negotiate who is responsible for what aspects of care. This has the potential to leave important lifestyle factors unaddressed, because each health care professional believes another team member is addressing the issue with the client. "I think wound patients are often shall we say, because they don't belong to any one discipline or any one specialty, they kind of get pushed aside and they often get lost within the cracks or within the seams of the health care system" [Participant #6]

5.6.2.2.1.6 Constraints of the System: Clients fall through the cracks

In addition to clients "falling through the cracks" as a result of lack of clarity regarding which health care provider is responsible for certain aspects of treatment, clients also fall through the cracks when basic care or monitoring are not available to an individual client. If a client becomes isolated, they may not book an appointment with a family physician for example. If there isn't a family member monitoring the client, health issues may go undetected until there are serious consequences for the client. The health care provider that sees the client at that point, may be in a situation where they need to go outside their funded role, and address the basic needs of a client. Health care providers who see these clients in need and take the time to address those needs may burn out over time, especially if they cannot help the client access basic services such as bathing assistance.

> *"I saw a lady just this past week that actually put me into tears because a family friend paid for me to go out to see her. I went to her door and she was confused and she invited me in which was really not safe, but she did invite me in and I said, "You know, I'm here to help you with your feet." And she said, "Well, my six toes hurt. She sat down and when she took her nylons off it was white silvery flakes all over her legs. It was because she hadn't washed in over 6 months. And the debris was between her toes right down to the ends of the toes. And the fifth toes were curled right around to the toe webbing*

underneath. And it took an hour [to clean her feet and get rid of the dead skin] and it was painful, but afterwards she could walk on her toes without pain. And I only reduced them 50%. I had to send a nice letter to the family doctor who actually does home visits and he never looked at her feet" [Participant #10]

5.6.2.2.2 Sub Category: Trying to Neatly Package Lifestyle Factors

When health care providers recognize that lifestyle factors are impacting wound prevention and management, they try to look for ways to neatly package the lifestyle factor. Five ideas make up this sub-category, each of which will be described in the following subsections: "Paternalism", "lifestyle factors are hard to define", "experience is needed to identify lifestyle factors", "identification of lifestyle factors needs to be more systematic', and treatment focuses on education. The subcategories in this section are; "Difficult to define", "Experience is Needed to Identify and Address Lifestyle", "Focus on Education" and "Addressing Lifestyle Needs to be More Systematic".

5.6.2.2.2.1 Trying to Neatly Package Lifestyle Factors: Paternalism

There was a perspective identified where participants missed the "good old days" when the participant gave a treatment recommendation and the patient was expected to follow that recommendation. This approach was easier because the health care provider could provide standard general advice such as "stay off your feet" and expected the client to interpret that advice and implement it in their life. Considering lifestyle factors, and then trying to provide recommendations within that context was more complicated, because the health care provider now needed to help the client adapt the advice to their individual circumstance.

"There are still patients who do what you say. If I say "oh, your heals are kind of dry, you should moisturize them so they don't crack". My goodness they moisturize like….they become the new, best ever moisturizers on the face of the earth, because they actually do

everything that you ask them to…and …you know…it…it's easier when it becomes my duty and I am expected to do it, and that is how it is. As opposed to, this kind of more taking the patient, patient centred concerns, and taking their concerns into consideration and not having this crazy old dictatorship. Where you are supposed to work with somebody to adapt to their lifestyle, some kind of management plan that you can agree upon together that works. I actually find that more difficult, because that's when my compassion…all of that comes more into play than in the old days, where I just could regard it as just my job [to just tell them what to do]." [Participant #1]

5.6.2.2.2.2 Trying to Neatly Package Lifestyle Factors: Difficult to Define

Participants in this study had difficulty defining lifestyle factors. Many would regularly talk about a client factors such as their vocation, nutrition, smoking habits etc. as risk factors, then within the same interview, these same factors would be listed as lifestyle factors. When best practice guidelines indicate that it is important to address lifestyle factors, there is an implicit assumption that health care providers know what i.e. meant by the term "lifestyle factor". Clearly this assumption is not grounded. It is important to recognize that identification of lifestyle factors cannot occur, unless the health care provider has a concept of what they are.

"you have to look at Diabetes as a risk factor for foot ulcer, but the fact that you have had an option to try and keep your diabetes in better control, by making certain food choices is…it is hard to separate the two. But still in my mind if I had to really, had to sort it out, it would be things that have to do with health vs things to do with choices."[Participant #1]

Participants recognized that lifestyle factors and risk factors are related. Lifestyle factors could have a positive or negative impact on the client's health or wound healing. For example, the client's diet or food choices was identified as a lifestyle factor; eating

healthy food has a positive impact on wound healing, but poor nutrition has a negative impact on wound healing. It was only when the lifestyle choices a client made were detrimental to wound healing, did participants identify those lifestyle factors as risk factors. At the same time, participants did indicate that it was important to differentiate between lifestyle factors and risk factors, because lifestyle factors involve client choice, and therefore may be more modifiable.

> *"I guess in my mind, risk factors is more of a broader term. Lifestyle factors would fit into there, so that risk factors could be lifestyle choices, whereas some of the other things that you can't change wouldn't fall under lifestyle factors." (Participant #3)*

5.6.2.2.2.3 Trying to Neatly Package Lifestyle Factors: Experience is Needed to Identify and Address Lifestyle

Participants believe that the ability to identify and address lifestyle factors comes with experience. This experience could come from other areas of practice, such as working in an ICU, or from time practicing in the area of wound prevention and management. Listening to the client's story, hearing their experience of living with a chronic wound and the impact that wound has on their life, or the difficulties adhering to treatment sensitizes the health care professional to possible lifestyle factors. As they hear a client's story, they can reflect back to the clients they have seen in the past and look for lifestyle factors they have seen in the past, that might be impacting the current client. Seeing the way each client lives with their wound contributes to the knowledge that health care provider has about lifestyle factors.

> *"just experience, just seeing it. It is one thing to read it in a list, but it is another thing….the home environment is unique, in that you actually see how people live. So, you actually see things that you hear about in other places that affect people. You actually see people coping with it in their home." (Participant #8)*

5.6.2.2.2.4 Trying to Neatly Package Lifestyle Factors Addressing Lifestyle Needs to be More Systematic

Participants believed that the identification of lifestyle factors needs to be more systematic so that these issues are at least consistently addressed. It was common not to have a formal assessment to identify lifestyle factors. Participants identified lifestyle factors through questions from the participant's regular intake process or assessment and discussion. The lifestyle factors come up in conversation and discussion, but formal lifestyle questions are not necessarily embedded in the assessment. This leads to inconsistences between client interactions, where some lifestyle factors are identified and addressed with some clients, but not others. The identification of lifestyle factors is dependent on the client discussing their life with the health care professional, without them necessarily having an understanding of what factors might be important.

> *"When I am doing my assessment, when I am taking the bandage off, I am talking with them and building that relationship. Just in conversation things will come up about lifestyle, their values. You will want to know as much as you can, so you can clue in to what might be helpful for this particular patient….or what is holding them back. When you bring up, "have you ever worn compression before", that can open up a whole floodgate of emotions and criticism about compression hosiery and how nurses put the compression bandages in the past …..etc…so it just…yup. Developing that relationship, asking a few open-ended questions can glean you a whole lot of information"*
> *(Participant #5)*

Participants also identified lifestyle factors from observing the client initially and over time. Observation of the client may reveal issues with hygiene, nutrition, social support, adherence to use of offloading devices etc. Relying on observation makes the assumption that the client's presentation in clinic is the same as the way they live their life day to day. Unfortunately, just because a client is wearing their air cast for an appointment, doesn't necessarily mean they are always wearing their air cast. The health care provider may make assumptions about the client and their lifestyle from observation and miss

asking about lifestyle factors that may actually be impacting the client and wound healing.

> *"I think it is a little about assessing the person as they go into the room. Are they disheveled? What do their shoes look like? What type of clothing have they come in? Do they have a list of their medications? What are their questions? What is their social interaction?" [Participant #6]*

A patient completed questionnaire was suggested by several participants as a way to screen for lifestyle factors. A similar questionnaire was used by two participants. This questionnaire covered many different issues that might impact wound healing. Embedded in this form were questions that might identify possible lifestyle issues. The answers to the questions, prompted the health care provider to follow up with more specific questions. This approach relies on the client understanding the question and providing information that prompts the health care provider to probe more into lifestyle factors.

> *"We have a questionnaire we do with every patient that is admitted into our clinic that they fill out with their basic demographics. Do they live alone, how many children do they have, if they have children, do they smoke, do they drink do they .....take drugs like marijuana, or that kind of thing, what's their height, what's their weight…all that is in the questionnaire. Then I sit down with them about the diagnosis, then we talk about what factors in their life are absolutely impacting their wound. Then we talk about what they think is realistic for them to work on." [Participant #7]*

Participating in this study, and completing the reflective journal identified a potential gap in practice for some participants. The reflective journal prompted health care providers to identify the lifestyle factors impacting wound prevention and management for the clients that they saw. This process caused some participants to identify issues that had previously been unaddressed, even though some of the clients were long term clients.

This may suggest that providing health care providers with some kind of prompt about lifestyle may support their wound prevention and management practice by assisting them to at least identify potential lifestyle factors that they may be able to address.

> *"Well I just realized how little I was asking my patients. Some of these I've had for up to 10-12 years. And I know a bit about their families but then I started thinking about lifestyle and I said "You know what, I kind of take it for granted when I see the pack of cigarettes, you know, can I change them?" I don't always think I can. Maybe I need to address those factors more and see if we can't improve further in those areas." [participant #10]*

There was also concern that addressing lifestyle factors at the initial visit, or all at once may be overwhelming for clients. Participants felt that addressing them over time, could make it difficult for them to keep track of what factors have been addressed with each client. From the perspective of keeping track of what lifestyle factors have been identified or discussed a checklist of lifestyle factors may be a helpful tool. The danger of a checklist, is it becoming just a task to complete rather than a way of stimulating discussion.

> *"I actually just use the same intake form that I do for the rest of my patients. I rely purely on my memory to ask these things. Quite honestly, when I am taking a new patient in for the first time, I am afraid that they could be overwhelmed with the number of questions that we are already asking them. So honestly if I had a form, I probably think it would be a good idea to use it at a subsequent visit because you are already asking them so much" (Participant #1)*

5.6.2.2.2.5 Trying to Neatly Package Lifestyle Factors: Treatment Focuses on Education

Addressing lifestyle factors usually involved providing education for the client. The education provided may be via a pamphlet or discussion but is often general education and advice. This education is repeated, even when it has been provided in the past. The

education is not tailored to the client's individual situation or adapted to the client's context. Since it is not specific to the client's context, it may be difficult for the client to implement in their life. For example, the health care provider may educate the client as to the importance of staying off their feet in order to offload a neuropathic foot wound, but the advice may not include specifics like try doing meal preparation sitting at the table, rather than standing etc.

> *"I try and spend a few minutes actually educating them on why they should be wearing compression rather than just beating them up for not wearing the compression or trying to convince them to wear it. Once I do the education piece about the arterial vs the venous system, and it is not a long spiel, because I don't have a lot of time, and I do it in my way, I find there is a bit more buy in" (participant #5)*

Participants commented that clients do not always take their advice seriously. It is unclear as to why this seems to occur. It may be that the client lacks sensation and doesn't understand the seriousness of the wound. It may be that the advice was not specific to the client, so they didn't understand the importance of the advice. Regardless of the underlying cause, if clients do not take the advice seriously and following it, and the wound may not close.

> *"I've have the odd patient tell they didn't think I was serious when I told them they had to offload. So maybe I don't yell enough. We try to let them know how very serious it is about the offloading. And they always say, "We know, we know, we know" and they always agree with you. And even the men with the spouses, I'll lay it all out with the spouse there for the reinforcement cause the spouse will go home and say "That's not what [she] said" really try to lay it on the line with them. And I've done that with this man as well" (Participant #8)*

5.6.2.2.3 Sub Category: Dealing with the Swamp in the Medical Model

When participants recognized lifestyle factors that may impact the prevention and management of wounds, health care providers tried to address them within the constraints of the medical model. Health care providers relate lifestyle factors to adherence, in that the client's lifestyle influences whether or not the client will adhere to treatment. Participants used the concept of client choice in an effort to distinguish lifestyle factors from risk factors; lifestyle factors were things where the client had some degree of choice, but risk factors were more outside the client's control. The locus of control was not always agreed upon between the client and the health care provider. In some cases, the client wanted the health care provider to "fix" the wound, without acknowledging that they, the client, had control over some aspects of wound prevention and management. Ultimately it was the relationship between the health care provider and the client that was used to help to foster lifestyle changes to promote wound healing.

5.6.2.2.3.1 Dealing with the Swamp in the Medical Model: Lifestyle is related to adherence

Participants linked the idea of lifestyle factors to the client's ability to adhere to treatment. Lifestyle factors could either promote adherence to treatment, or act as a barrier to adherence. Lifestyle factors were usually identified as a detriment to wound healing. In some cases, health care providers saw clients giving priority to other aspects of their life over wound prevention and management.

> *"So, I look at it, not that he doesn't want to heal but the importance for him to be up in the wheelchair and be a little more independent is more important to him than healing. I have a number of patients where that is…the lifestyle changes they have to make to assist them, is not something they are prepared to do." (Participant #8]*

5.6.2.2.3.2 Dealing with the Swamp in the Medical Model: Client Choice

Health care providers used the concept of choice to differentiate between lifestyle factors and risk factors. They believed that clients had some degree of control, or choice, over lifestyle factors.

> *"I will say "oh [patient name] what happened to the stockings", and they'll reply, well it was the summer and it got really hot and one day, I just didn't wear them anymore. I would say to them "[patient name], well you've got to go back". So sometimes it is the patient's choices that are the impediment." [participant 4]*

Participants felt it was their role to educate the client as to how to prevent and manage the wound, but then ultimately the responsibility for whether or not the wound healed was up to the client. In some cases, if the wound didn't heal or progress as expected, the health care provider did not feel they were responsible for the health outcome because the client chose not to follow their advice. This enabled the health care provider to distance themselves from the outcome when the wound didn't heal.

> *"I can go in and tell people, but when I leave, people are individuals and have patient rights. All I can do is the education, chart that you did the education and then it is still up to the patient. So, our policy, would be, we follow College of Nurses so we do education, but beyond that I don't know. We are not ultimately responsible if patients choose not to follow what we ask them to do" (Participant #8)*

5.6.2.2.3.3 Dealing with the Swamp in the Medical Model: Locus of Control

Participants in this study reported disagreeing with their clients as to where the locus of control lies for wound prevention and management. Health care providers reported having clients who thought that the health care provider was responsible for healing the wound, and if the wound didn't heal, they would blame the health care provider.

"he is looking at me…you need to heal this. What else can you offer me, because this hyperbaric chamber stuff is not working. So what else are you going to do next? What else are YOU going to do?" [Participant #1]

Participants believed that the client was ultimately responsible for their health, and that the locus of control for healing rested with the client. Since the locus of control rested with the client, if the wound didn't progress as expected it was the responsibility of the client.

"so many things are influencing the way they are living right now, that they are the only ones, I believe, that can change their lifestyle. I can make suggestions as to how something can help a particular wound, but definitely that patient, or client needs to be accountable for their own health" [Participant #2]

Perceived locus of control and perceived responsibility for wound outcomes were related. If the healthcare provider was believed to be in control they were then perceived to be responsible for wound outcomes, however participants in this study did not explicitly comment that they discussed locus of control with the client. One approach health care providers took to negotiate the locus of control was setting joint goals with the client.

"Some patients tell me right off the bat that they are not quitting smoking. To which we say, okay we are not here to make you quit smoking, our job is to make sure you understand the risks, and then let's work together to see what else we can work on together". [Participant #7]

Another approach was fostering client empowerment. Empowerment included jointly setting goals, but also equipping them with the information they needed to make decisions. Participants felt that by empowering the client, the client would make decisions that were more in line with the treatment recommendations resulting in greater

adherence to the plan of care. Better adherence would ultimately lead to improved wound outcomes.

> *"I think this whole aspect of patient empowerment needs to be facilitated. We need to put more responsibility on the patient than there is now. If they take more responsibility, my sense is they are more likely to be adherent to treatment. Being more likely to be adherent to treatment, is going to improve the outcomes and it is also going to give a greater personal responsibility for health" [participant #6]*

5.6.2.2.3.4 Dealing with the Swamp in the Medical Model: Health Care Provider – Client Relationship

The participants identified establishing rapport as critical to both identifying lifestyle factors and addressing them. Discussing the client's daily routine, and the activities in which they engage gives the health care provider an understanding of that client's life, but also builds the relationship with the client.

> *"I think the very first thing is to take the time to ask people about their everyday life. I think you get a lot of information, and it helps to build trust with the client and show that you are interested in their life. It will help you set common goals with them. That is another piece, making sure you are taking the time to sit down and develop some goals together" [Participant #3]*

Establishing rapport with the client helped the health care provider negotiate the treatment plan. Rather than just getting the client to agree to the treatment and not follow through, the health care provider looks for options to give the client that helps move the client closer to best practice. This plan may not have been the textbook ideal but was aimed at moving the client towards best practice.

> *"the patient is more…works with you better if you work with them on that kind of issue. So, you may convince them to wear the compression bandage at your visit, but then they will take It off. So, then you are not*

getting anywhere, which can delay the healing outcome anyway. So, you might as well work with them, have them wear their hosiery, and go for a walk and look after a number of factors in their lifestyle that would help the healing. So, which is better? Which heals faster? Which delays healing? I am not sure, I don't have stats on that" [Participant #5]

There are barriers in the health care system that make building a therapeutic rapport difficult. Health care professionals feel they do not have the time to build the relationship because they are pressured to complete their assigned task. Consistency of health care provider is also a barrier. In community clinics as well as in the home, the health care provider the client sees may be different at each visit. This lack of consistency makes building rapport much more difficult.

"So, I guess that is why I do believe in the relationship, you are going to get me on a side bar now but, my frustration in the community is you are sent hither and yawn, and you don't develop that relationship. It was harder to develop a relationship and to know the whole patient situation, family situation, to help them move forward with some of these chronic wounds….and you only had 10 minutes to do the care and move on. You can't do collaborative work at all that way" [Participant #5]

The skill the health care provider has negotiating interpersonal relationships and dealing with sensitive issues can also impact the quality of the rapport and whether or not the health care provider can influence the lifestyle choices the client makes. Some health care providers may be overbearing and giving orders that may not engage the client to make changes in their lives. Other health care providers may be hesitant to address issues, so the client may not be aware of the changes they could make to improve wound healing.

"I think it depends on the nurse's relationship with the person. Whether or not they feel comfortable talking to them and disclosing things.

Versus the nurse that comes in that is the sergeant major. Not all nurses are equal. I think you have to look at who has the social atlas that can interact with people in a meaningful way, to look at social determinants of health or look at issues within a person's life. Sometimes things are soft signs rather than hard clinical signs. They also require that the patient reveal personal details which they may or may not be able to display depending on the situation." [Participant #6]

Sometimes participants were reluctant to address lifestyle factors because it may impact their relationship with the client. Even though they had the ability to build a therapeutic rapport with the client, they felt addressing lifestyle factors could endanger this rapport. In some cases, the participant was afraid that the client would not come back for their next appointment if they address lifestyle factors. This would mean that the client was not accessing the service they provided (e.g. debridement) because the health care provider attempted to address a lifestyle factor.

"Sometimes, not that I am afraid to open the can of worms, but sometimes I feel it would be more destructive to the relationship rather than constructive. I may not be able to change them from smoking, but I could say – you can help yourself by not smoking. Whereas to somebody else I could, who I felt was on the change wagon already, say do you want to give me the cigarettes that are in your pocket? That I think is a much more threatening statement, but maybe it is appropriate for some people and not for everybody." [Participant #6]

5.6.2.3 Category: Co-Occupation

The last category was co-occupation. Recall that in the introduction to this research, I discussed the idea that wound prevention and management was an occupation. When identifying and addressing lifestyle factors together with the client, health care providers are engaged with the client in this occupation. Together they are determining the best ways to integrate wound prevention and management into the context of the client's life.

Working together in this way is an example of co-occupation. Co-occupations occur "when people perform an occupation in a mutually responsive, inter- connected manner that requires aspects of shared physicality, shared emotionality, and shared intentionality." (Pickens & Pizur-Banekow, 2009, p. 151) The first aspect of the definition of co-occupation is shared physicality. When the health care provider interacts with the client, they are interacting in the same physical space, and are engaged in the physical activity of local wound care potentially involving dressing changes, applying compression etc.

The second aspect of co-occupation is shared emotionality. Health care providers who engage clients in the occupation of wound prevention and management experience, alongside the client, the joy of seeing a wound close, as well as the frustration of seeing the wound not progressing as expected. Other emotions are also experienced by the provider such as helplessness and vulnerability.(van Rijswijk, 2001, p. 22).

The last aspect of co-occupation is a shared intentionality. When health care providers set goals together with the client, there is a shared intentionality. In wound prevention and management, the goals may relate to healing or closing the wound, but they could relate to other aspects of care such as reducing odour so the client feels able to participate in social activities.

> *"Usually most patients really want to please their care providers I believe. Especially if the care provider bonds with them, and they believe that the care provider is there in their corner, kind of thing. We are all in the same side of the battle. We all are trying to do the best for them. We all want them to keep walking and staying independent, living as normal a life as possible, having fun. So once the client understands that, they will be more open." [participant #9]*

The co-occupation shared by the client and health care provider was working together for optimal outcomes. The optimal outcome for the client may not be wound healing, but rather the ability to participate in other life occupations without making the wound worse.

Several participants directly commented on the interconnected relationship and shared intentionality.

> *For that patient the best thing might be an air cast but they don't want to go anywhere near that, but they might do a med-shoe. That's the best you can do, but still work with them on something else. So, it is a give and take, almost like a relationship…it is a give and take. It may not be exactly what you want or what the book says, but overall there is cooperation. [Participant #5]*

The co-occupation category is made up of two sub-categories; "Health Care Provider Experience" and "Perceived Client Experience" as well as the idea of conditional reasoning.

5.6.2.3.1 Sub Category: Health Care Provider Experience

Participants in this study expressed that when first entering the field of wound prevention and management they didn't want to move outside of the best practices for fear of making things worse. Through working with the client, health care providers come to realize that they need to adapt the treatment to the client's experience. Health care providers experience other feelings working with clients to prevention and manage chronic wounds. These feelings include guilt at not being able to make the wound better or frustration at the system, or at the client for not following the recommendations. Frustration had the potential to make health care providers judgmental of the client's lifestyle. Ultimately though, engaging with the client in the co-occupation of wound prevention and management with an intention of achieving the best outcomes, the health care provider was able to influence the client's lifestyle choices.

5.6.2.3.1.1 Health Care Provider Experience: Fear of Making the Wound Worse

Participants described their fear of making the wound worse, which made them afraid of being creative with their recommendations to better meet the client's lifestyle. As they started to realize that the client may give priority to other occupations over wound

prevention and management, health care providers came to realize that the client would not follow the best practice recommendations made by the clinician. Experience working with clients lead health care providers to look for ways to adapt the principles of the best practice (e.g. offloading) so that the client was moving towards the ideal treatment, rather than being expected to implement the "ideal" treatment.

Participant #3: I think at the beginning when I started out in wound care, even though I was a physical therapist, I was thinking "oh my God, these people have these wounds, I don't want to make them worse

Researcher: Do you have any insight as to how you overcame your fear?

Participant #3: I think it was probably a patient who taught me. A patient who was a younger man who ended up having half of his foot amputated actually. He was just adamant that he needed to do the thing that he loved which was being on the trap line. Obviously, that is not the best thing for your foot. But he actually had some mental health issues, and not being able to do that was actually worse for him. Worse for his overall health than not doing it. We worked together to find ways that he was able to do it to some extent. So, I just…so I think it was a patient who helped me get over it more than anything.

5.6.2.3.1.2 Health Care Provider Experience: Health Care Provider Feelings

Participants were emotionally invested in their clients. These feelings varied between participants. Although health care providers felt confident in providing general recommendations such as asking the client to stay off their feet, or wear offloading devices, they felt guilty making this advice more specific to the client. They also felt guilty giving feedback to clients on situations where the feedback was directed to times when the client was not implementing the advice given previously. This was especially true if they felt the advice/feedback could have a negative impact on the client's quality of life.

"when I have to turn on the "well that's not okay because"..... it's not okay for the patient not to give them a little bit of a hard time about this, but I feel, I also feel guilt. I feel guilt inside to have to say, "stop baking for your grandkids", "please stop taking care of your poor sick wife who you don't have any other caregivers for her". Of course, it is not appropriate advice, but I am just....sometimes I feel bad for them. I feel empathy for the situation that they are in. I don't want to give them advice to stop smoking or to change their diet or to....or to...you know... try to find chair exercises instead of their favorite, swimming. I think I feel really bad for them, that I am asking them to change their lifestyle in a way that I know they are not going to like hearing it. Even though I think it is my job. I know I have to, it's just the frequency with which I am going to do it, it's just affected by my personality type. And I can't be the only one". [participant #1]

Similarly, health care professionals share in the joy when a wound improves or heals. Participants expressed feelings of joy and happiness when wounds improved. This particular feeling for the health care provider extends into interactions with other clients. They remember the success with past clients and this motivates them to help the next client progress towards healing. The experience the health care provider has had with a wound progressing or healing, enables them to give hope to new clients.

"What's amazing to me is I have had a number of times where there have been some really exciting limb salvage stories. I now, when I see this wound, in some ways I want to come along side that patient, in such a way that I say, "gosh, this is such an opportunity, we are going to save this foot" [participant #4]

Participants also expressed feelings of frustration and upset, often in relationship to clients not getting the care they needed in a timely manner. The health care provider is left facing that unmet need and having to decide whether or not they can help. The health care provider may not have the resources nor ability to meet the need but leaving

the person with basic unmet needs could create an ethical tension for the health care provider. Recall the quote from section 1.5.2.1.10 where the participant was describing the home visit for the client with the sore feet. She spent two hours washing the client's feet because it looked like they hadn't been washed in 6 months, and that was the actual source of the client's foot pain, not that she needed her nails trimmed. I asked her about how she is compensated for home visits. She responded;

Participant #10: Yes, I charge $15.00 to travel so that covers my gas. But not your time. And this didn't cover my time.

Researcher: No clearly.

Participant #10 But in some cases, you do things because it's right.

Researcher: Yep. I hear that.

Participant #10 So, you just, it's a gift.

Researcher: You're a good person.

Participant #10: Yeah, it upset me all weekend.

5.6.2.3.1.3 Health Care Provider Experience: HCP Judgmental of Lifestyle

Participants described needing to overcome a judgmental attitude of other health care providers. At times, they needed to convince other health care providers to stop judging the client and assist the client to identify small lifestyle changes they could make. The need to co-ordinate care between a number of care providers with different experience and expertise has already been discusses as an issue earlier in this chapter. Adding the dimension of health care providers being judgement of lifestyle makes it even more difficult to engage them in the care of clients with chronic wounds.

"The biggest advice that I really try to reinforce with the nurses or residents who rotate through our clinic is the whole concept that you can't be judgmental, and you have to realize if you don't appear supportive they are going to go through that door and not do anything

you are recommending. So, you really need to…..everyone has a life story….everybody has things going on in their lives that none of us know anything about. So, to try and be supportive, and not be judgmental…..work with what you've got…is what I always try to tell them" [participant #7]

5.6.2.3.1.4 Health Care Provider Experience: HCP can Influence Lifestyle

Participants identified that they can work with the client to influence their lifestyle. Over time, and with a good rapport, the health care provider engages the client in a discussion of their life and follows up on any progress. Small successes, such as reducing smoking by 1 cigarette per day are celebrated, because clients can build on these successes to make further change. Following up with the client on a regular basis can help the health care provider determine when that client is ready to make another change towards best practice. "You can help the patient make the changes they need to make as well as on the medical side changes that can be done to help. To change the status of that wound from chronic [to acute] perhaps." [Participant #5]

5.6.2.3.2 Sub Category: Perceived Client Experience

Although clients with chronic wounds were not interviewed as part of this study, participants commented on their perceptions of the client experience. Two general ideas made up this sub-category; "client resistance" and "their wound goes with them".

5.6.2.3.2.1 Perceived Client Experience: Client Resistance

Participants commented that resistance to change was a barrier to wound healing. The perception was that a client has developed a particular way of doing an activity and would be unlikely to change. The focus was on getting the client to change, rather than understanding why the client completes an activity in a specific way. A deeper understanding may have resulted in less resistance.

"He was using a knife to cut his toenails and we really encouraged him and asked the daughter about taking the knife away so he just would

not be able to access it and she said he would just go out and buy another one. So that was probably not the strategy that would work." [participant #6]

When health care providers talk about client resistance, they may actually be mislabeling the behaviour they see. Client resistance could actually be an expression of autonomy and independence. As an example, a client refusing the offer of assistance with a particular task may come from a place where the client wants to demonstrate their ability to be self-sufficient. An alternative approach may be to engage the client and find ways they can participate in their care.

"His wife is the caregiver and she is wonderful. The only problem that comes in is that he won't let her do it all the time. He wants to do it himself and that's how he got the injury because he used gorilla glue to put his toe prop back together." [participant #10]

Participants reported that resistance could be overtly expressed by the client. When resistance was overtly expressed, the health care provider had the opportunity to address the issue, re-educate the client and assess the client's willingness to change.

"He asked me if he still had time to go downstairs for a cigarette, because I was still with another patient, and I said NO! [laughs], and he said "why?" and I said "because it is bad for you, and it is bad for your circulation". He laughed and still went downstairs for his cigarette. So, while that wasn't exactly advice, when he came back I did say, I wasn't joking right. It is bad for you and it does decrease your circulation" [Participant #1]

Examples of a more passive resistance were also provided by participants. Although health care providers identified that the client had not followed up on the recommended course of action, such as purchasing a device, the health care provider did not identify exploring the reason, beyond the initial excuse. The passive resistance might have been an opportunity to discuss the treatment plan with the client and potentially modify the

recommendations to make it easier for the client to follow through. For example, modifying the recommendations could be suggesting a less expensive device.

> *"One of the common ones, and more than once last week was a lack of adequate footwear. "yes, I need to get around to going and getting them", "yes, I know it is important, I just haven't had time" or "I've had so many other things I've had to do" or 'work has been really busy" or "I have had some family commitments". So, we see that footwear was ordered previously but the patient still hasn't got it."*
> *[participant #6]*

Participants also wondered if client resistance was related to the client not taking the wound seriously, especially if the client lacked sensation in that area of their body. Pain is one of the ways the body signals a physical injury, without pain, the client may not recognize the severity of the wound. Health care providers try an equate chronic wounds with other, more familiar conditions to help them understand how important it is to follow the treatment recommendations.

> *"He thought I was kidding. I lectured him for 20 minutes. He thought I was kidding but anyway. And I think that's part of the attitude, especially with the diabetics; they don't take is serious. They don't think that it will have the potential to seriously affect their lives."*
> *[Participant #8]*

5.6.2.3.2.2 Perceived Client Experience: Their Wound Goes with Them

Health care providers engaged in the co-occupation of wound prevention and management recognize that the wound goes with the client, through all of their activities of daily living. If the client were going to choose to follow the treatment recommendations, they would need to modify or give up other occupations. The client can never take a "vacation" from the occupation of wound prevention and management, because wounds can deteriorate quickly.

"She went to the [exhibit name] at the [museum name] and did a lot of walking, cuz she went with some other people, and said it was beautiful, walking this and walking that. And I asked her "don't you think you did too much walking which is why your toe…[laughs]…blew up again", because I can see from how it looked that it had actually sealed over, so it was possibly healed…" [participant #1]

There was also a recognition that the wound may have an impact on the client's family and family relationships as well as other people in their clients' lives. In other words, the client's occupation of wound prevention and management has the potential to impact the occupations of the client's family and support network. Tension can also arise in a relationship when the client is not able to follow through on roles as they have in the past, or when they need more assistance than they have in the past.

"He wants to go on vacation really, really bad. The trouble is, he insists that he has to swim in the water. There is no way he is going on vacation if he can't swim in the water. I tried to be comforting. I tried to say that when I go on vacation, I like to read and sit in my shady spot under an umbrella or a gazebo. Just enjoy being there, just enjoy being with people who are enjoying being there. His wife really wants to go, really bad. She is being kind of….she is being….she is not being very supportive in a way. She is thinking more of herself. Then on the other hand she wants to go alone….which I understand…but it is not nice for him knowing that she would be going alone. On the other hand, he is holding her back to some extent. He doesn't really want her to go without him. He really wants to be able to go. He is very frustrated….and very emotional about it. He is very…..I just hope at this point he is okay. He just keeps extending his arms in the air, and putting his hands on his face and shaking his head. It's like he just doesn't know what to do. "what do I need to do to heal this"" [Participant #1]

The need for a client to consider leaving a job or changing their job has been discussed earlier in this chapter in relationship to the client's job interfering with their ability to follow the treatment plan. This occurs when there are recommendations where the client is expected to stay off their feet, but their job requires them to stand or walk such as being a warehouse worker or a mechanic. The wound goes with the client to their work setting and may cause issues with their co-workers where odour has not been adequately addressed. The client's goal in this situation may be to reduce odour as the priority over wound prevention and management.

> *"but he can't be sent home from work because he smells so bad that they can't work around him, so that when you do things that are probably not evidence based but evidence aware and you have to be that support network and almost let him decide when he needs the antibiotics because he is not feeling well. He can't function, others have noticed when they are around him that he smells, and you also have to address the pain factor and out of control infection often leads to severe pain. When the pain gets much worse, he really kind of heaps into the path. So that I know there are extenuating circumstances that we really need to look at and rethink the actions." [Participant 6]*

Health care providers need to ask questions about the client's life in a non-judgemental way so that the health care provider can identify the stresses on the wound, but also to help the client find the best way to integrate wound prevention and management activities into their daily life. By discussing the client's lifestyle and possible options for wound prevention and management activities, the client and health care provider can jointly form a treatment plan that is manageable for the client and preserves the client's ability to participate in their chosen occupations.

> *"It is part of my central thinking all the time. I want to make sure that patients can participate in their lives, I want to make sure that it is in a safe way. We may need to modify things a bit, but I think it is really important that people continue to be able to engage in their life….and be as healthy and active as they can". [Participant 3]*

5.6.3 Clinical Reasoning

Different styles of clinical reasoning occur throughout the substantive theory presented in this chapter, and vary between the high ground, and different sections of the swamp. The three types of clinical reasoning, procedural, interactive and conditional will each be explored. This will be followed by a section contrasting clinical reasoning styles in the swamp.

5.6.3.1 Clinical Reasoning Style: Procedural Reasoning

Procedural reasoning is used when clinicians are thinking about the disease or disability, in this case chronic wound prevention and management and deciding on the procedure or treatment plan to address that disease or disability (Fleming, 1994, p. 121). Procedural reasoning is most associated with the concepts in the high ground, and where clinicians are focused on the local wound care and concerned with applying the best practice local wound intervention to the wound. Experienced health care providers see this type of focus in the consult requests, where the clinician requesting the consultation doesn't appear to see beyond the local wound.

> *It is not just changing from silver to Inodine…which is what tends to be seen as wound care. If we just change the product we will get wounds to heal. No, no, no, no, no. It's over and over again, even in the notes we get from key nurses in the clinic. All they want to do is to change the outer dressing or the contact layer in the dressing, because they think that that is going to make the difference. (Participant #5)*

Procedural reasoning is used to determine the best local wound care for an individual client. Experienced health care providers find this type of reasoning simpler as it avoids the complexities of the client's circumstance. "Sometimes it is just easier and quicker to pop in and do the dressing change and pop out, and not think about anything else" (Participant 12)

5.6.3.2 Clinical Reasoning: Interactive Reasoning

Interactive reasoning occurs when the health care provider wants to better understand the client, and choose a treatment directed to that client as an individual (Fleming, 1994, pp. 121–122). This type of reasoning was also used to better understand the impact of a disease or disability on the specific client. While there was a recognition of the client, and their individual situation, the focus was still on promoting wound healing, over other aspects of the client's life.

> *I have a patient who has chronic pressure ulcers. Part of the reason we cannot get it even close to heal is that he will not offload….because to offload for him would be to stay in bed. And he insists that he gets up every day and sits in his wheelchair. Even though he has a Roho cushion and he shifts a little bit every day, he is never going to heal (Participant #8)*

5.6.3.3 Clinical Reasoning: Conditional Reasoning

Conditional reasoning is a combination of procedural reasoning and individual reasoning. Using conditional reasoning, health care providers "think about the whole condition: this includes the person, the illness, the meanings the illness has for the person, the family, and the social and physical contexts in which the person lives" (Fleming, 1994, p. 133). Participants in this study demonstrated this type of clinical reasoning when they drew on their previous experiences and considered how to adapt best practices to the realities of the client's situation, while still enabling them to engage in their chosen occupations.

> *"he is going to go and pick mushrooms in his back yard. He may have a nasty wound on his foot and he is wearing these nasty horrible little boots. So, I have to think about that in terms of how we are going to get the wound to heal when he is still going to pick mushrooms." [Participant 4]*

5.6.3.4 Contrasting Clinical Reasoning Styles in the Swamp

Clinicians move between different styles of clinical reasoning dynamically, but the types of clinical reasoning employed, influenced the clinician's approach to lifestyle. Consider the occupation of baking. Two of the participants had clients with diabetic foot ulcers. Each of the clients was spending more time on their feet than was ideal, because they wanted to spend time in the kitchen baking. Each of the two research participants viewed this activity in different ways and had different approaches to treatment.

> *"I feel guilt inside to have to say, "stop baking for your grandkids", "please stop taking care of your poor sick wife who you don't have any other caregivers for her". Of course, it is not appropriate advice, but I am just….sometimes I feel bad for them. I feel empathy for the situation that they are in. I don't want to give them advice to stop smoking or to change their diet or to….or to…you know… try to find chair exercises instead of their favorite, swimming. I think I feel really bad for them, that I am asking them to change their lifestyle in a way that I know they are not going to like hearing it. Even though I think it is my job". (Participant #1)*

This is an example of interactive reasoning, where the health care provider understands the impact their advice has on the client but does not adapt their advice to enable the client to still pursue their occupation. Participant #3 takes a different approach.

> *"Sure, the first one would be calf muscle pump exercises to help blood flow and gait training to ensure…because this particular patient is on her feet a lot, and she likes to be on her feet a lot. She finds that that is important to her because her husband has dementia and it is good for her to keep busy. So, it is really focusing on doing calf muscle pump exercises while she is standing doing her baking. Making sure she is focusing on walking properly so she is engaging her calf muscle pump, to try and help with the edema a little bit. She wears compression as*

well, which is great, but it is just to give her a little bit extra."

[participant 3]

This is an example of conditional reasoning where the clinician is putting the client's lifestyle choice, baking, ahead of the traditional advice of staying off her feet. The clinician could see multiple different possibilities for the client. By applying the principles of fostering circulation, and improving gait, the health care provider is able to provide recommendations that foster wound healing, that fit with the client's lifestyle choices, and consider the individual as a whole.

Both of the clients had the same type of wounds, and the same chosen leisure occupations, yet the health care providers took different approaches. Using interactive reasoning Participant #1 is able to understand the impact of their treatment recommendations and feels guilty for telling the client that they can't participate in a leisure occupation because they need to stay off their feet. Participant #3, engaged in the co-occupation of wound prevention and healing with their client looked for treatment alternatives that would enable the client to continue to engage in their leisure occupation, while still implementing wound prevention and management strategies that promote wound healing.

5.7 Theory Application to Clinical Practice

On the surface, conceptualization of clinical practice as a high ground of best practice guidelines and research overlooking a swamp (Schon, 1987, p. 3) seems simplistic, but it does provide a mechanism to frame the discourse around identifying and addressing lifestyle factors within the wound prevention and management community. As discussed in the literature review, although there is an acknowledgement within the wound prevention and management literature that lifestyle factors are important, there isn't a common definition of "lifestyle factors" nor guidance for the clinician as to how to identify and address these factors. The concept of the high ground and swamp may enable the wound care community to explore the swamp in an effort to help clinicians identify the issues. The concept of a high ground and swamp may help clinicians to look

for, and identify the factors beyond the wound, including lifestyle factors that are influencing that client.

Using the concepts of high ground and swamp, clinicians can also enter into the discourse regarding lifestyle factors though looking what characteristics of the swamp are influencing their client's situation. Creating a dialogue about lifestyle factors is the first step to create change in the practice of wound prevention and management.

5.8 Summary

This chapter presented the results of this constructivist grounded theory study. The two major categories "the high ground" and "the swamp" were described along with the subcategories. The relationship between the categories and overall theory were explored, including the types of clinical reasoning and how they relate to "the high ground" and "the swamp".

Chapter 6

6 Discussion

This constructionist grounded theory study has advanced the knowledge of how health care providers identify and address lifestyle factors with community dwelling adults living with chronic wounds. At the same time, it has confirmed the existence of a gap between the identified importance of addressing lifestyle factors within the prevention and treatment of chronic wounds, and the understanding of health care professionals of how to identify and address lifestyle factors. Participants were from different disciplines, different regions across Canada, and worked in different settings including community, clinics and hospital-based programs. Bringing these diverse experiences together and analyzing them fostered the development of broad concepts that related to how health care providers identify and address lifestyle factors. Examining the concepts and their relationship to each other led to the development of a substantive theory of how health care providers identify and address lifestyle factors.

To set the context for the rest of the discussion, this chapter begins by addressing the question of what health care providers identify as lifestyle factors. Not surprisingly, there wasn't agreement on what constitutes a lifestyle factor, but there was agreement that lifestyle factors are important. The second section focuses on how health care providers identify and address lifestyle factors. Despite the acknowledgement that lifestyle factors are important, there wasn't a consistent way of approaching them. Lifestyle factors were identified as part of the standard assessment, through observation or discussion. Participants did believe that a more systematic way of approaching lifestyle factors would be helpful. The third section is focused on how occupational science could provide a framework for moving the understanding of lifestyle factors forward within the wound prevention and management community. The concepts of transactionalism and co-occupation in particular may help to move the discourse forward and are discussed in this section. Next the limitations of this study are explored, followed by opportunities for future research.

6.1 What do Experienced Health Care Providers Identify as Lifestyle Factors?

A common perspective on lifestyle factors, what they are, and how to define the concept of lifestyle factors was not found in the scoping review nor the data provided by participants. Participants in the interviews would start the interview, confidently discussing lifestyle factors, but as they talked their descriptions became muddy and they struggled to define the term "lifestyle factor". Others would identify something as a lifestyle factor, and then a few minutes later identify the same thing as a risk factor. Some participants framed lifestyle factors as something that was modifiable or something over which the client had some choice. Moments later they would identify a lifestyle factor over which the client didn't have control. This inconsistency was captured in the substantive theory by the idea "lifestyle factors are hard to define" and is part of the category of "tension between the medical model and the swamp". The idea that lifestyle factors are hard to define was part of the category of "tension between the medical model and the swamp" because the medical model is more concrete, task based, and "find it, fix it". Addressing lifestyle factors does not fit well in the medical model because they are less concrete, messy and vary dramatically related to the client's situation.

The challenge may be that health care providers do not have a language to adequately describe lifestyle factors. Not having a language regarding lifestyle factors, health care providers may only be able to describe specific examples in specific situations, such as the client is spending too much time standing, whether for their job or a leisure activity. This reduces the complex context of the client's life, to a simple, more superficial, binary question of "is the client standing too much". The lack of a commonly understood language also underscores the difficulty of defining the essence of what lifestyle actually encompasses.

The constraints of the medical model were a barrier to address lifestyle factors as explored in the idea of "constraints of the system" within the "tension between the medical model and the swamp" portion of the substantive theory. The medical model in Canada tends to be reductionist, where health care providers look for the problem, and then apply a solution. As one participant described it, "we are a find it, fix it kind of

doctor or team vs. looking at wellness and a holistic type of approach" (Participant #6). The complexities of the client context do not fit well with this "find it, fix it" approach, because there isn't a simple answer that is within the scope of practice of the health care provider. For example, if the client doesn't have the financial resources to purchase services or devices required for optimal wound prevention and management, there may be little that the health care provider can do within their role to address this issue, even though they recognize the issue. Reducing lifestyle factors to simple statements such as "the client is standing too much" fits better within the medical model. It seems this medical model does not encourage the health care provider to explore the complexities of the client's context beyond the simple problem and applying the simple solution.

As discussed in the case study "Robert" in chapter 2, the literature review, simplifying the lifestyle issue to a statement such as "the client is standing too much" is a more individualistic, medical model approach, and can lead to simple treatment recommendations, such recommending the client stand less. Reducing the complex context of the client's life to simple behaviours or questions, makes it difficult to discuss the complexities with other health care providers, nor explore complex lifestyle issues. The lack of a language to describe and discuss lifestyle factors may also contribute to the lack of discourse about lifestyle factors in the wound prevention and management literature.

Despite the difficulty of defining the term, health care providers did agree that lifestyle factors were important. This was also reflected in the literature where lifestyle factors are identified as important to address. (s.f. Botros et al., 2010; Cathy Burrows et al., 2007; National Pressure Ulcer Advisory Panel & European Pressure Ulcer Advisory Panel, 2009a) The health care providers felt that lifestyle factors were important because they influenced adherence. Lifestyle factors were often described as factors that limited the client's adherence to treatment. The relationship between lifestyle factors and adherence is captured in the substantive theory by the idea "lifestyle factors are related to adherence" and is part of the category "dealing with the swamp in a medical model". The relationship between "lifestyle factors" and adherence has not been specifically

discussed in the wound prevention and management literature, despite health care providers framing lifestyle factors in this way.

6.2 How Do Health Care Providers Identify and Address Lifestyle Factors?

Regardless of why there is a lack of discourse in the wound prevention and management literature regarding lifestyle factors, there isn't guidance for health care providers as to how to identify and address lifestyle factors. Given the lack of guidance, it wasn't surprising that different health care providers described different approaches to identifying lifestyle factors with their clients. Three different approaches were described; having the client complete a questionnaire, observation of the client, and through discussion either during the initial assessment or during an appointment. Having the client complete a questionnaire once again reduces lifestyle factors to simple statements and may not adequately explore the complex context of the client's life. It is up to the health care provider to review the questionnaire and engage the client in discussion to gain a more in-depth perspective. The same is true for identifying lifestyle factors based on observation of the client at an appointment either in their home or clinic setting, in that the health care provider needs to engage the client through discussion to gain a more in-depth understanding. All lifestyle factors may not be things that could be observed in this way, so some lifestyle factors could be missed. The last approach was discussion either as part of the initial assessment or during an appointment. The skill of the health care provider in engaging the client in a discussion and probing appropriately is of paramount importance in the identification of lifestyle factors.

When a lifestyle factor was identified that was an activity that conflicted with the wound management plan, health care providers took one of two approaches. They either told the client to avoid the activity or they looked for ways to adapt the treatment to better accommodate the activity in question. Health care providers who ask the client to avoid activities that are not in line with the wound management plan, commented that they would educate the client on why they should avoid the activity. The impact of participating in that activity on wound healing was the focus of the education. Health care providers who adapted treatments looked for ways to encourage the client to follow

best practices but added other approaches to treatment. For example, for clients with diabetic foot wounds who were still going to stand for longer periods would be encouraged to elevate their feet when they could and do calf muscle pump exercises while standing to help with circulation. The literature is silent on whether addressing lifestyle factors means asking clients to avoid certain activities or adapting treatment to fit within the client's life. There is also no research on the impact on wound healing or client quality of life with either approach.

Where the lifestyle factor was a financial barrier, health care providers tried to recommend less expensive equipment, or tried to fix the client's current equipment. When the financial barrier impacted how often the client could afford to pay for an appointment, appointments were spread further apart. Once again these ways of addressing financial barriers have not been studied in terms of their impact on wound healing.

Other lifestyle factors, like lack of access to clean water were not addressed. This may be related to these factors being outside the traditional role of the health care provider our outside of their perceived control.

6.2.1 Experience and Professional Artistry in the Swamp

Regardless of the approach used, health care providers commented that experience is required to identify and address lifestyle factors. Experience may lead to professional artistry. Schon (Schon, 1987, p. 22) uses the term "*professional artistry* to refer to the kinds of competence practitioners sometimes display in unique, uncertain and conflicted situations of practice". This professional artistry enables the professional to quickly take in various factors, and reflect while performing a task, adjusting the approach to the task based on all of the factors discovered. Lifestyle factors are complex and unique to each individual client. Professional artistry that comes from experience, may be the skill that health care providers need to address lifestyle factors

This artistry is difficult for health care providers to specifically describe and identify. The frustration of not being able to adequately describe this skill has been captured in the

literature. “Yet, they [professionals and educators] are disturbed because they have no satisfactory way of describing or accounting for the artful competence which practitioners sometimes reveal in what they do.” (Kinsella, 2009, pg 9) The lack of an ability to describe the professional artistry of addressing lifestyle factors within the context of wound prevention and management echoes the idea described earlier in this chapter that health care providers may not have the language to adequately describe lifestyle factors.

Both Kinsella (2010), and Flaming (2002) explore the difference between episteme (scientific knowledge), techne (practical knowledge) and phronesis (practical wisdom). Phronesis or practical wisdom may be a term that can be used when discussing how to identify and address lifestyle factors, as this term appears to have more of a foundation in knowledge than the term artistry. Flaming (2002, pg 151) states “that many nurses realize at a pre-reflective level that non-techne-ical issues (e.g., respect, attitude) are important, but these issues are forced into a knowledge-based approach.” Best practice guidelines in wound prevention and management also focus on quantitative research and the knowledge base in the area. The entry point to discourse regarding lifestyle factors and the prevention and management of chronic wounds may be the phronesis or practical wisdom required to navigate the high ground and swamp as described in the substantive theory from this study.

Experienced health care providers know that there is more to treating a client’s chronic wound, than simply providing good local wound care. The “high ground” as described in this study may provide experienced health care providers a way of conceptualizing practice that is focused on the local wound care and may be missing consideration of the client’s context. Practical wisdom, or phronesis is required to take the information from the high ground and adapt it to the client’s situation in the swamp where practice occurs. If experienced health care providers strived to make this practical wisdom visible by describing their thought process, this might give novice health care providers insight as to how to identify and address lifestyle factors.

6.2.2 What Are the Barriers to Identifying and Addressing Lifestyle Factors?

Health care providers could easily identify the barriers to addressing lifestyle factors. The barriers became the "characteristics of the swamp" and "constraints of the system" in the substantive theory. The characteristics of the swamp included lack of client insight and judgement, other social determinates of health, psychosocial issues and client characteristics.

The barriers labelled as 'characteristics of the swamp" in the substantive theory, tended to be more concrete than lifestyle factors and were easier for health care providers to identify. Consider client characteristics for example. Client characteristics were described as things making the client complex, including the idea that clients had multiple diagnoses (e.g. diabetes, hypertension, etc.), may be elderly, and isolated related to odour from the wound. Each of these characteristics has been discussed in the literature. Each of these characteristics has a label that is recognized and has a shared meaning with other health care providers. If health care providers do not know or understand the meaning of these characteristics, they can find information in the literature.

The other barriers that health care providers were readily able to identify were the "constraints of the system". These constraints of the system included lack of time, policies, difficult to access or coordinate service, responsibility for the patient etc. Again, each of these concepts is concrete. In addition, each of these constraints may impact the way the health care professional is able to practice, beyond the way they deal with lifestyle factors, making them top of mind for health care providers. For example, the pressure of the lack of time may not just affect if lifestyle factors are addressed, but the health care professional may also feel pressured when trying to complete another task within their role such as a complex dressing change.

In contrast to lifestyle factors, barriers may have been easier to identify than lifestyle factors because of the common language among health care professionals, the more

concrete nature of these concepts and the potential of these barriers to influence more areas of practice than just the way lifestyle factors are identified and addressed.

6.2.3 What Resources do Health Care Providers Use?

Wound prevention and management was reported by health care providers to be largely self-learned. As described in the substantive theory, health care providers often fall into wound prevention and management by taking on a role that included wound prevention and management, and there was not necessarily a more experienced clinician to act as a mentor. Health care providers sought out information on their own, often from best practice guidelines, policy statements, care pathways and the scope of practice documents from their individual disciplines. Participants also sought out workshops and education sessions, however they acknowledged that these sessions usually focused on local wound care, and lifestyle factors were only mentioned in a general way as something else that needed to be addressed.

6.2.4 What Approaches do Health Care Providers Use to Address Lifestyle Factors?

As described earlier in this chapter, experienced health care providers identified two general approaches to addressing lifestyle factors: recommending a client avoid specific activities or modifying their recommendations to fit within the client's activities or lifestyle. Recall the example from the Chapter 5, of the two clients, seen by two different health professional participants in this study who wanted to continue to participate in the leisure activity of cooking or baking. One health care provider took the approach of recommending the client avoid that activity, the other looked-for ways to incorporate wound prevention and management approaches into the activity of baking and encouraged the client to implement these approaches when cooking or baking.

The study participant who told the client to avoid baking, was aware of the impact the advice of "having the client stay off their feet" would have on the client's life and reported feeling guilty always having to say "no you can't/shouldn't do that activity" and having a negative impact on the client's quality of life. In discussion of their reflective journal the health care provider reported that they had addressed the lifestyle factor

because they reinforced the recommendation with the client that they needed to stay off their feet and avoid baking while the wound was healing. Based on their experience, this clinician may be focused on wound healing, and not know how to promote wound healing without limiting the time the client spends on their feet baking.

The second health care provider also reported in their reflective journal that they had addressed the lifestyle factor because they had helped the client integrate wound prevention and management activities into their daily activities. They recommended other treatments such as doing calf muscle pump exercises while standing to help reduce the detrimental impact on the wound from standing. Based on their experience, this health care provider recognized the importance of baking for their client, and drew on a repertoire of approaches to promote wound healing, rather than just relying on restricting activities.

Even though both health care providers reported addressing the lifestyle factor identified (i.e. baking causing the client to spend too long on their feet), the experience for the client was very different depending on the health care professional providing treatment. As best practice guidelines and the literature do not provide guidance for the health care provider, it is unclear whether the recommendation should be to avoid participation in certain activities, to adapt the recommendations to enable the client to continue to participate in activities of their choice, or another approach entirely. It may be that limiting or avoiding certain activities may be the best approach in some circumstances where the client is willing and able to follow that advice. In other circumstances, where the client wants to participate in an activity, the best approach may be to adapt the recommendations so the client can continue with the activity.

Experienced health care providers also recognize that ultimately whether the client follows recommendations for wound prevention and management is the client's choice. This was captured in the substantive theory with the ideas of "client choice" and "locus of control" under the category of "dealing with the swamp in the medical model". Some clients believed that whether the wound healed depended on the treatment the health care

provider implemented such as the type of dressing and didn't recognize or place much importance on their own ability to follow the health care provider's advice.

Health care providers, in contrast, saw that the locus of control rested with the client, and the client ultimately chose whether to follow their recommendations. When discussing the concept of client choice, it was usually in relationship to whether a client was going to follow the advice to avoid a specific activity. Once again this is a binary approach to lifestyle factors: did they reduce the amount of standing or not; did they reduce the amount they smoked, etc. It would be interesting to examine whether clients would be more likely to follow advice aimed at adapting wound prevention and management activities to fit within their activities or lifestyle, rather than following advice to avoid certain activities.

6.3 Using an Occupational Science Lens to Move the Lifestyle Factor Discourse Forward

As discussed in this chapter, one of the reasons lifestyle factors may not be identified and addressed, nor appear in the literature may relate to the fact that health care providers do not have a language that adequately describes lifestyle factors. Occupational science, the study of human occupation, could provide a language in which to frame lifestyle and discuss lifestyle factors in relationship to wound prevention and management. As discussed in the introduction, occupational science is concerned with all aspects of human occupation. (Yerxa, 1990) Occupation has been defined as "the everyday activities that people do as individuals, in families and with communities to occupy time and bring meaning and purpose to life. Occupations include things people need to, want to and are expected to do" (World Federation of Occupational Therapy, 2016). Occupation doesn't occur in isolation, but rather it occurs within the client's environment or context.

Although occupational therapists work in the area of wound prevention and management, there were not any occupational therapists who participated in this study. As a result, the approach an occupational therapist may take to address wound prevention and management is not included in the data. As an occupational therapist, when I was

working as part of an interprofessional wound prevention and management team, I would often include a discussion relating the client's life choices to the concepts of wound healing. I would begin by engaging the client in a discussion of their activities of daily living and their other occupations. Not just what they were able to do currently, but also what they would like to be able to do. From an Occupational Science perspective, the client interview is not just about getting a laundry list of tasks and occupations in which the client engages, but to get a sense of the meaning of these occupations for the individual client.

Once I had a sense of the client's current and desired occupations including their meaning for the client, I would help the client view these with wound prevention and management in mind. Recall the discussion of healable wounds and maintenance wounds from the introductory chapter of this dissertation. A healable wound is one where the client has the physical capacity to heal, the client was making choices consistent with wound healing and the system was able to provide optimum best practice care (Sibbald, Goodman, et al., 2011). A maintenance wound is one where the client has the physical capacity to heal, but either the client was not making choices consistent with wound healing or the system was unable to provide optimum best practice care. (Sibbald, Goodman, et al., 2011). Although maintenance wounds may progress toward closure, they do so at a slower rate than a healable wound. If the client had the physical capacity to heal, I would discuss their occupational priorities and help them choose whether they wanted to have a healable wound or a maintenance wound.

Together with the client we would explore each of their occupations that may be detrimental to wound healing, in relationship to the idea of choosing a maintenance wound or a healable wound. In other words, clients had the opportunity to make other occupations the priority over healing their wound. In this way we made the discussion of their lifestyle choices tangible and something that was within their control. Having this open, non-judgmental discussion helped bring the interprofessional team in line with the client's goals, recognizing that wound healing was not always the priority for the client.

There are three specific concepts described by occupational scientists that may be particularly useful to promote discourse in the wound prevention and management community about lifestyle factors: transactionalism, co-occupation and transactionalism in relationship to co-occupations.

6.3.1 Transactionalism

As described in the introduction, transactionalism is a theoretical perspective where the person cannot be separated from their environment nor their context when discussing their occupation (Aldrich, 2008). In addition, there is a constant coordination between the person and their environment or context (Cutchin & Dickie, 2012; Dickie, Cutchin, & Humphry, 2006). Each client with a chronic wound engages in various occupations all within the context of their lives. They are actively coordinating the activities along with their context or environment. The client and their environment are constantly changing, each being influenced by the other. "Functional coordination as such is viewed as a 'transaction' via the dynamic coordinated restructuring of relationships of the person and situations" (M. P. Cutchin & Dickie, 2012, p. 18)

From a transactionalism perspective, the recommendation that treatment plans need to consider the client's lifestyle would mean that the health care provider would need to consider their wound prevention and management recommendations from the perspective of the functional, constant coordination of this occupation alongside the client's other occupations and within the client's context. In other words, considering the client's lifestyle is really considering the transactions or functional coordination that the client would need to do to follow the health care provider's recommendations. Transactionalism speaks to the complexity of integrating wound prevention and management activities into the client's life and lifestyle, because the underlying assumption is the requirement to constantly coordinate the wound prevention and management recommendations as the client moves through their life.

As an example, consider the occupation of identifying and addressing lifestyle factors for wound prevention and management within the context of the client's life when baking with their grandchildren. The client valued this time with her grandchildren as a way to

connect with them and spend time with them. Participating in this activity was a priority for the client. The general advice this client was given was to stay off her feet as much as possible. To engage in the activity of baking cookies, she would need to choose a recipe that would enable her to sit with the grandchildren to do the preparation, to avoid standing. This may be difficult because part of the meaning for the client of baking cookies may be to bake the traditional family recipes, that have always been done in a particular, traditional way. Next, she would need to get the ingredients and tools she needs collected. Depending on the age of the grandchildren, she may be able to ask them to help with this task. Even if the grandchildren were able to help with the gathering of the ingredients and tools, asking for help may change the meaning of the occupation for the client. For example, the client may want her grandchildren to see her as a strong, independent woman, and asking for help may not fit with this self-image. Making the batter and rolling out the cookies may be able to be done while sitting at a table, but this depends on having access to a power outlet, if an electric mixer is required for the recipe, and whether or not the client has an appropriate table surface on which to work. If her grandchildren normally help with this step, and they need hand over hand assistance, the client may not be able to provide this assistance from a seated position, and may choose to stand as a result.

Clearly, simple advice such as "you need to stay off your feet more" does not address the client's context, their other occupations nor the constant coordination with their environment nor context. To consider the client's lifestyle when implementing a wound prevention and management plan, from a transactionalism perspective, the health care provider would need to work with the client to help them identify their other occupations and contexts where they do stand and walk. The clinician would then need to help the client work through the options and decisions, similar to the example above, where they may be able to make choices that promote wound healing. These interactions need to be specific to the individual client, because the meanings they have for each occupation, their context and their capacity to change the way the occupation is done is specific to that individual client. To add to the complexity, the choices the client makes within each situation can also change depending on the circumstances at the time.

One of the ideas described in the substantive theory under the client's experience was client resistance. From a transactionalism perspective, client resistance, is no longer a binary "yes they are following the recommendations" or "no they are not following the recommendations" but is much more complex and can be investigated further. Is the health care provider seeing the client as "resistant" because the client is happy with their current occupations and the functional coordination of those activities within their environment and context? Is the health care provider seeing "resistance" because the client does not know how to functionally coordinate the wound prevention and management recommendations with their other occupations or within the context of their life? What specific occupations or contexts are challenging for the client to functionally coordinate with wound prevention and management activities? Each of these lines of inquiry opens the opportunity to consider the client's lifestyle when considering the approach to wound prevention and management. "Lifestyle issues" when viewed from a transactionalism perspective become fluid, and rich with detail.

6.3.2 Co-occupation

Whereas transactionalism may provide a language for identifying and addressing lifestyle factors, co-occupation may be a way to provide a language around how healthcare providers interact with the client to identify and address lifestyle factors. Co-occupation occurs within the appointment where the client and health care provider are working together to integrate wound prevention and management into the client's life.

Recall from the results chapter that co-occupation occurs when "when people perform an occupation in a mutually responsive, inter-connected manner that requires aspects of shared physicality, shared emotionality, and shared intentionality" (Pickens & Pizur-Banekow, 2009, p. 151). The co-occupation of addressing the client's lifestyle factors within the appointment with the health care provider, has all elements: the health care provider is in the same physical location as the client, is emotionally invested in the success of the client reaching their goal and intends to provide advice that the client can integrate into their life. It is important to recognize that the client's goal may not necessarily to heal the wound, it may be related to reducing pain, odour control, participating in activities without the wound getting worse, etc.

Within the appointment with the health care provider, a discussion occurs about what the client needs to do to prevent and manage the wound. An open discussion of how the best practice recommendations fit within the client's lifestyle, provides an opportunity to uncover the challenges the client has implementing this advice in the context of their life. The health care provider gains an understanding of the transactions and assists the client to develop a repertoire of possible approaches.

Co-occupation may foster a more equitable balance of power between the health care provider and the client, in contrast to a more paternalistic approach as was described in the substantive theory as "paternalism" under "trying to neatly package lifestyle factors". The view in this part of the substantive theory was that it was easier when the health care provider was the authority and provided advice and was expected to follow it, rather than trying to deal with the complexities of the client's life. A co-occupational lens recognizes that all the individuals participating in the co-occupation contribute to that occupation. In this sense, the health care provider may be an expert in wound prevention and management, but the client is an expert in their own life. Working together, bringing each expertise to the issue of wound prevention and management, would ensure that the recommendations are appropriate for the individual considering their lifestyle, and that the client has the repertoire of approaches to use in their life.

6.3.3 Transactionalism in Relation to Co-occupation

The health care professional, and the client are both is engaged in functionally coordinating their participation in identifying and addressing lifestyle factors in the wound care appointment. The client responds to the health care provider's questions based on their experience adapting their lifestyle to follow the treatment recommendations. Based on the client's response, the health care provider may change their approach, or discuss other ways that the client can integrate the clinician's recommendations into their lifestyle. Both the clinician's and client's responses and approaches change based on the other's responses. At the same time, participants are also coordinating how they interact with this specific client regarding lifestyle factors, with the context of their setting, their experience, etc.

The participants in this study identified lack of time as one of the barriers to addressing lifestyle factors. Occupations are defined in part as activities that occupy time. The idea that health care providers are lacking time may relate to the other occupations that that health care provider needs to coordinate within their working day. Consider as an example working with the client who wants to continue to bake cookies with her grandchildren. As described earlier, working through the possible ways to adapt the wound prevention and management approach to that particular activity is multifaceted and complex. Having this discussion with the client requires the health care provider to invest time in this discussion. At the same time, they need to consider the total appointment time they have with the client, and whether or not they would be able to flex any other part of their day to accommodate a longer appointment with the client. They need to consider how long the local wound care will take, as this was likely the original reason for the appointment and needs to be completed. The health care provider needs to consider whether the discussion about lifestyle factors can effectively occur while the local wound care is happening, or if the local wound care can happen more quickly.

If they can coordinate the time issues, then they may need to determine if they are competent in identifying and addressing each lifestyle factor, and whether or not this fits within their scope of practice. They also may need to reflect on their previous experience to determine if they have a repertoire of approaches that may be helpful in this situation.

The way the health care provider deals with each of these contextual issues (transactions); time, their perceived competency, their scope of practice etc., will dramatically influence how the health care provider will engage in the co-occupation of addressing lifestyle factors with a specific client on a specific day. This in turn will influence how the client responds.

6.4 Implications for Occupational Science

Through this study, new ideas regarding co-occupation and transactionalism have been explored. Co-occupation is an emerging concept in Occupational Science that requires more discourse and research. Co-occupation has been studied in relationship to parents and children (Price & Miner Stephenson, 2009), between spouses (Nes, Jonsson,

Hirschler, Abma, & Deeg, 2012), between elderly patients with dementia and their families (Ono, Kanayama, Iwata, & Yabuwaki, 2014), staff and clients with developmental disabilities (Mahoney & Roberts, 2009) etc. Examining the clinical appointment from a co-occupation perspective may add to this body of research and have implications for how health care providers identify and address lifestyle factors.

Transactionalism has been a useful lens to study the complex interactions an individual has with their various environments. The idea of transactionalism as a component of co-occupation has not yet been discussed in the literature, but it is reasonable to consider the relationship of these concepts. This concept of transactionalism as a component of co-occupation may provide a useful frame for discourse regarding the complexities of identifying and addressing lifestyle factors. It may be possible to consider the transactions occurring for the health care professional and client, and add to the understanding of co-occupation in this context. In this way we may be able to engage in a discussion of how health care providers can develop skills to identify and address lifestyle factors.

6.5 Limitations

There are several limitations of this constructivist grounded theory study. The first is this study looks at lifestyle factors from the perspective of the health care provider rather than the client. Clients with chronic wounds may view lifestyle factors differently than the health care professionals. I did decide to focus on health care providers to uncover their tacit knowledge of lifestyle factors, as the chronic wound guidelines are geared towards health care providers to implement. Studying their perceptions did advance the knowledge of how health care providers identify and address lifestyle factors.

The second limitation is this study only considers the Canadian experience and did not include the perspective of health care providers from other countries. Health care providers from other countries may be more developed in the way they identify and address lifestyle factors, which could inform the Canadian practice. In addition, other countries may have different supports in their system that foster the opportunity for health care providers to identify and address lifestyle factors.

Lastly this study did not examine if health care providers of different disciplines had different perspectives on lifestyle factors. It is possible that different disciplines have different perspectives, and approaches. Not differentiating between different disciplines could also be a strength, because this diversity added to the depth and complexity of the findings. Finding commonalities across disciplines make the common ideas stronger. Where different disciplines have the same perspective, it may suggest that these ideas are more ingrained across the interprofessional team.

6.6 Future Research

Underlying this study and scoping review is the finding that lifestyle factors are important to identify and address within the context of wound prevention and management, however guidance for clinicians as to how to identify and address these lifestyle factors is missing. Clearly there are many opportunities for further research. The first is to investigate the client's perspective of lifestyle factors. The other avenue of investigation would be to determine from the client's perspective what activities are impacted by wound prevention and management activities. To add to the depth of this type of study it would be interesting to see if the client's perception of the activities impacted by wound prevention and management recommendations are the same as those identified by their health care providers.

Another area of enquiry could be to investigate whether addressing lifestyle factors by adapting them to fit within the client's lifestyle improves the buy-in of the client to the treatment plan and makes it more likely for the client to implement the plan. The impact of addressing lifestyle factors in this way could also be evaluated in terms of goal attainment. It would be important in this type of study to recognize that wound healing is important, but not the only goal of interest.

The last area of research would be to further investigate the idea of co-occupation between the health care provider and client. How health care providers enter co-occupation with clients, and the characteristics of this type of interaction.

Chapter 7

7 Conclusion

There continues to be a tension between the identified importance of addressing lifestyle factors in the prevention and management of chronic wounds, and the literature available to assist health care providers to identify and address lifestyle factors. This grounded theory study explored the tacit knowledge of how experienced health care providers identify and address lifestyle factors. While a common perspective on lifestyle factors was not found, the substantive theory constructed from this research does provide insight into how lifestyle factors are identified and addressed, as well as the barriers to identifying and addressing lifestyle factors.

In 2000 the wound bed preparation paradigm (Sibbald et al., 2000) was published for the first time. This paradigm promoted the idea that to heal a wound, three equally important factors needed to be addressed: treat the cause, optimize local wound care and address patient centered concerns. Identifying and addressing lifestyle factors was part of addressing patient centered concerns. Despite the equal importance of treating the cause, optimizing local wound care and addressing patient centered concerns, little has been published providing guidance to health care providers as to how to identify and address lifestyle factors.

In this grounded theory study, there was not a common definition or list of lifestyle factors that was generated by the experienced health care providers who participated. The approach to identifying lifestyle factors was also inconsistent. A substantive theory did emerge from the data. The high ground is the entry point for health care providers, where the focus is on the local wound care, both in the care they provide as well as the education they seek. These health care providers expect the clients' wounds to heal with the application of the appropriate local wound care.

As health care providers reflect on their practice, particularly reflecting on the care of clients whose wounds did not heal with the application of appropriate local wound care, they become aware of the swamp. The swamp is the context in which practice actually

occurs. Characteristics of the swamp such as financial resources, the client's job, finances, lack of social support all influence whether or not the wound will progress towards healing. There is a tension between the swamp and the medical model, because of some of the constraints of the medical model such as policies, lack of time, lack of clarity regarding responsibility for the client etc. Health care providers may try to neatly package lifestyle factors to be able to address them within the medical model. Other health care providers enter into the co-occupation of wound prevention and management with the client. Working together the health care provider and client find unique ways of incorporating the occupation of wound prevention and management into the client's daily life and their other chosen occupations.

The remainder of this chapter focuses on the clinical implications of this study, the clinical implications and finally the suggested future directions.

7.1 Clinical Implications

Health care providers do not have a common understanding of the term "lifestyle factors" nor do they consistently identify and address them. This results in a very different experience for the client. In some cases, they are told to avoid their chosen occupation(s), in favor of wound prevention and management activities. In other cases, the health care provider works alongside the client to incorporate the wound prevention and management activities into their daily life. Since there is a lack of discourse in the literature regarding identifying and addressing lifestyle factors, individual clinicians may not see that there are different ways of dealing with lifestyle factors other than by limiting activities that may be detrimental to wound prevention and management.

Identifying and addressing lifestyle factors as described in "the swamp" is messy and complex. The occupation of wound prevention and management needs to be integrated into the swamp, where each client comes with their own context and chosen occupations. The best way to integrate wound prevention and management into the client's daily activities is different for each client, requiring creativity from the health care provider and excellent conditional reasoning skills.

This grounded theory study examining how healthcare providers identify and address lifestyle factors is important because through its publication there is an opportunity to stimulate discourse among health care providers working in wound prevention and management. Publishing the substantive theory with the core concepts of "the high ground" and "the swamp" provides a framework for this discourse and an opportunity for health care providers to reflect on the clients they have seen. In addition, hearing different ways that wound prevention and management can be integrated into the client's life will also stimulate reflection.

7.2 Future Directions

The first step in fostering a change in practice is creating an awareness that lifestyle factors are not well understood, yet they are important. They have an impact on the feasibility of wound prevention and management interventions, the client's quality of life and the client's ability to participate in their chosen occupations. Publishing this study and the substantive theory is a beginning to create an awareness of lifestyle factors and the complexity involved in identifying and addressing them. Beyond the publication of this study, we need to stimulate the discourse within the wound prevention and management community. It is through discourse and sharing stories of our clients, that health care providers will have the opportunity to identify different approaches.

Health care providers need to be encouraged to publish case studies that discuss the client's lifestyle factors, how they were identified and how they were addressed. This allows other health care providers to learn from their experience, and perhaps share their own case studies. This in turn will help to increase the body of literature around the topic of identifying and addressing lifestyle factors.

Lastly, the substantive theory needs to be integrated into the wound prevention and management training to increase the awareness of novice health care providers to the issues in the swamp, but also to provide an opportunity for discussion amongst experienced health care providers. Mentioning lifestyle factors as something to consider is not enough. We need to start building the repertoire of possible ways to integrate wound prevention and management into the client's activities of daily living by including

this information in the education provided. Discussing lifestyle factors and how to integrate wound prevention and management tasks into the client's activities of daily living will help to increase the repertoire of options health care providers can discuss with their own clients. Ultimately creating an awareness and discussing how to identity and address lifestyle factors within the context of wound prevention and management can help to increase client satisfaction and their participation in the wound prevention and management treatment plan leading to better outcomes.

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Appendices

Appendix 1: Database Search Results

No.	Search Term *	CINAHL	ProQuest (nursing and allied health source)	PubMed (OVID)	Scopus	Embase (OVID)	PsychINFO (OVID)	Sociological Abstracts (ProQuest)	Cochrane Database
1	Chronic Wound	2134	1440	726	14295	2387	10	0	1121
2	leg ulcer OR venous leg ulcer OR venous Leg wound, OR leg wound	2692	1787	4157	12229	14474	17	1	807
3	diabetic foot ulcer OR diabetic foot wound OR neuropathic foot ulcer OR neuropathic foot wound	4236	930	420	1458	855	12	0	1375
4	pressure ulcer OR decubitus ulcer	6108	4641	4410	10418	8842	166	3	1371
5	arterial leg ulcer OR arterial leg wound OR arterial foot ulcer OR arterial foot ```wound	18	13	5	1596	6	1	0	281
6	**1 OR 2 OR 3 OR 4 OR 5 OR 6**	**13781**	**8048**	9287	**33951**	**25186**	**204**	**4**	**3544**
7	Lifestyle	22057	113024	62314	95788	92636	11619	3143	5207
8	Activities of Daily Living	15224	31832	35707	40797	42645	7490	564	6040

No.	Search Term *	CINAHL	ProQuest (nursing and allied health source)	PubMed (OVID)	Scopus	Embase (OVID)	PsychINFO (OVID)	Sociological Abstracts (ProQuest)	Cochrane Database
9	**7 OR 8**	36917	**139502**	96466	**135020**	**133718**	**19005**	**3694**	**10830**
10	Preventing OR preventative OR prevention	275932	576885	261685	491860	424569	62464	10626	85451
11	Risk OR risk reduction behaviour OR risk taking OR risk factors	279395	1033589	1051026	1775315	1621036	158310	26696	82492
12	Tertiary Prevention OR Secondary Prevention OR development OR primary prevention	194056	1140005	907038	2616731	1485336	284129	85017	49136
13	**10 OR 11 OR 12**	**622731**	**1882593**	**1950859**	**4365405**	**3065286**	**439993**	**112415**	**150046**
14	**6 AND 9 AND 13**	**141**	**1013**	**146**	**401**	**335**	**9**	**0**	**271**

Appendix 2: List of Included Articles

Article	Rank	wound type
Al-Hariri, M. T., Al-Enazi, A. S., Alshammari, D. M., Bahamdan, A. S., Al-Khtani, S. M., & Al-Abdulwahab, A. A. (2017). Descriptive study on the knowledge, attitudes and practices regarding the diabetic foot. Journal of Taibah University Medical Sciences, 12(6):492-496.	2	DFU
Almobarak AO, Awadalla H, Osman M, Ahmed MH. (2017). Prevalence of diabetic foot ulceration and associated risk factors: an old and still major public health problem in Khartoum, Sudan? Ann Transl Med. 5(17):340.	2	DFU
Anderson, I. (2015). Optimising concordance with compression hosiery in the community setting. British Journal of Community Nursing, 20(2): 67-72.	2	VLU
Araujo, D. N., Ribeiro, C. T., Maciel, A. C., Bruno, S. S., Fregonezi, G. A., & Dias, F. A. (2016). Physical exercise for the treatment of non-ulcerated chronic venous insufficiency. Cochrane Database of Systematic Reviews, 12.	3	VLU
Armstrong, D. G., Lavery, L. A., Holtz-Neiderer, K., Mohler, M. J., Wendel, C. S., Nixon, B. P., & Boulton, A. J. (2004). Variability in activity may precede diabetic foot ulceration. *Diabetes Care, 27*(8), 1980-1984.	5	DFU
Australian Wound Management Association. (2011). *Pan Pacific Clinical Practice Guideline for the Prevention and Management of Venous Leg Ulcers*. Cambridge Media Osborne Park, WA: 2011.	5	PI
Bale, S., & Harding, K. G. (2003). Managing patients unable to tolerate therapeutic compression. *British Journal of Nursing,12*(19), S4,S6,S8,S10,S12-S13.	3	VLU
Basit A, Riaz M, Fawwad A. (2015). Improving diabetes care in developing countries: the example of Pakistan. *Diabetes Res Clin Pract.* 107(2):224-32.	1	DFU
Beitz, J. M., & Goldberg, E. (2005). The Lived Experience of Having a Chronic Wound: A Phenomenologic Study. *Dermatology Nursing, 17*(4), 272-281, 305.	3	chronic
Bentley, J. (2006). Improving quality of life in venous leg ulceration: a case study. *British Journal of Nursing, 15*(11), Tissue Viability Supplement: S4, S6-8.	3	VLU

Botros DCh CDE IIWCC Janet Kuhnke BA BScN, M. R., Embil FRCPC FACP Kyle Goettl BScN MEd IIWCC Christina Morin DPM Laurie Parsons FRCP Brian Scharfstein C Ped MS, J. R., & Ranjani Somayaji BScPT MPH FRCPC Robyn Evans CCFP, I. (n.d.). Foundations of Best Practice for Skin and Wound Management BEST PRACTICE RECOMMENDATIONS FOR THE Prevention and Management of Diabetic Foot Ulcers. Retrieved from https://www.woundscanada.ca/docman/public/health-care-professional/bpr-workshop/895-wc-bpr-prevention-and-management-of-diabetic-foot-ulcers-1573r1e-final/file	5	DFU
Botros, M., Goett, K., Parson, L., Menzildzic, S., Morin, C., Smith, T.,...McGrath, S. (2010). Best Practice Recommendations for the Prevention, Diagnosis and Treatment of Diabetic Foot Ulcers: Update 2010. *Wound Care Canada, 8*(4), 1-70.	5	DFU
Boyko EJ, Seelig AD, Ahroni JH. (2018). Limb- and Person-Level Risk Factors for Lower-Limb Amputation in the Prospective Seattle Diabetic Foot Study. Diabetes Care.	3	DFU
BPG, S. tears. (2018). Prevention and Management of Skin Tears. *Wounds Canada*, *22*(7), 325–332. http://doi.org/10.1097/01.ASW.0000305484.60616.e8	5	chronic
Brown, A. (2012). Life-style advice and self-care strategies for venous leg ulcer patients: what is the evidence? *Journal of Wound Care, 21*(7), 342-8.	5	VLU
Burrows, C., Miller, R., Townsend, D., Bellefontaine, R., MacKean, G., Orsted, H., & Keast, D. H. (2006). Best Practice Recommendations for the Prevention and Treatment of Venous Leg Ulcers: Update 2006. *Wound Care Canada, 4*(1), 45-55.	5	VLU
Caliri, M. H. (2005). Spinal cord injury and pressure ulcers. *Nurs Clin North Am., 40*(2), 337-47. Retrieved from http://www .ncbi.nlm.nih.gov/PubMed/15924898	5	PI
Canada, W. (2018). BPG on Wound Care, *23*(V).	5	chronic
Carlesso G.P., Goncalves M.H.B. & Junior D.M. (2017). Evaluation of diabetic patients' knowledge about preventive care of the diabetic foot, in Maringa, PR, Brazil. *Jornal Vascular Brasileiro*, 16:113-118.	2	DFU

Carlson M, Vigen CL, Rubayi S, Blanche EI, Blanchard J, Atkins M,...Clark F. (2017). Lifestyle intervention for adults with spinal cord injury: Results of the USC-RLANRC Pressure Ulcer Prevention Study. J Spinal Cord Med. 1-18.	5	PI
Centre for Chronic Disease Prevention, Public Health Agency of Canada. (2016). Chronic Disease and Injury Indicator Framework: Quick Stats, 2016. Health Promot Chronic Dis Prev Can. 36(8):171-2. Edition.	1	chronic
Chu YJ, Li XW, Wang PH, Xu J, Sun HJ, Ding M,...Feng SH. (2016). Clinical outcomes of toe amputation in patients with type 2 diabetes in Tianjin, China. *Int Wound J.* 13(2):175-81.	2	DFU
Clark, F. A., Jackson, J. M., Scott, M. D., Carlson, M. E., Atkins, M. S., Uhles-Tanaka, D. (1987). Data-based models of how pressure ulcers develop in daily-living contexts of adults with spinal cord injury. *Archives of Physical Medicine & Rehabilitation, Nov*(11), 1516-25.	5	PI
Clark, F., Pyatak, E. A., Carlson, M., Blanche, E .I., Vigen, C., & Azen, S. P. (2014). Implementing trials of complex interventions in community settings: The USC-Rancho Los Amigos Pressure Ulcer Prevention Study (PUPS). *Clinical Trials, 11*(2), 218-29.	5	PI
Clark, F., Rubayi, S., Jackson, J., Uhles-Tanaka, D., Scott, M., Atkins, M., & Gross, K.,...Carlson, M. (2001). Guest editorial. The role of daily activities in pressure ulcer development. *Advances in Skin & Wound Care, 14*(2), 52, 54.	5	PI
Clark, F., Sanders, K., Carlson, M., Blanche, E., & Jackson, J. (2007). Synthesis of habit theory. OTJR: *Occupation, Participation & Health, 27*(Supplement 1), 7S-23S.	5	PI
Coppola A., Sasso L., Bagnasco A., Giustina A. & Gazzaruso C. (2016). The role of patient education in the prevention and management of type 2 diabetes: an overview. *Endocrine*, 53:18-27.	2	DFU
Crews RT, Schneider KL, Yalla SV, Reeves ND, Vileikyte L. (2016). Physiological and psychological challenges of increasing physical activity and exercise in patients at risk of diabetic foot ulcers: a critical review. Diabetes Metab Res Rev. 32(8):791-804.	4	DFU
Cutajar, R., & Roberts, A. (2005). The Relationship between Engagement in Occupations and Pressure Sore Development in Saudi Men with Paraplegia. *British Journal of Occupational Therapy, 68*(7), 307-14.	5	PI

D'Souza M.S., Ruppert S.D., Parahoo K., Karkada S.N., Amirtharaj A., Jacob D., et al (2016). Foot care behaviors among adults with type 2 diabetes. *Primary Care Diabetes*, 10:442-451.	4	DFU
Dijkstra A, Kazimier H, Halfens RJ. (2015). Using the Care Dependency Scale for identifying patients at risk for pressure ulcer. J Adv Nurs. 71(11):2529-39.	2	PI
Dunn, C. A., Carlson, M., Jackson, J. M., & Clark, F. A. (2009). Response factors surrounding progression of pressure ulcers in community-residing adults with spinal cord injury. *American Journal of Occupational Therapy, 63*(3), 301-309.	5	PI
Edward KL, Ousey K. (2016). The role of resilience in rebuilding lives of injured veterans. J Wound Care. 25(10):571-575.	4	chronic
European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel. (2009). *Prevention and treatment of pressure ulcers: quick reference guide.* Washington DC: National Pressure Ulcer Advisory Panel.	5	PI
Fernando ME, Seneviratne RM, Tan YM, Lazzarini PA, Sangla KS, Cunningham M,...Golledge J. (2016). Intensive versus conventional glycemic control for treating diabetic foot ulcers. Cochrane Database Syst Rev. (1):CD010764.	1	DFU
Finlayson, K., Wu, M., & Edwards, H. E. (2015). Identifying risk factors and protective factors for venous leg ulcer recurrence using a theoretical approach: A longitudinal study. International Journal of Nursing Studies, 52(6), 1042-1051.	1	VLU
Flaherty, E. (2005). *The views of patients living with healed venous leg ulcers.* Nursing standard (Royal College of Nursing (Great Britain) : 1987), 19(45), 78, 80, 82-83 passim. Retrieved from http://www .scopus.com/inward/record.url?eid=2-s2.0-27144468693&partnerID=40&md5=61db16375779792c80da91fb5c4898bc	5	VLU
Fogelberg, D., Atkins, M., Blanche, E. I., Carlson, M., & Clark, F. (2009). Decisions and dilemmas in everyday life: daily use of wheelchairs by individuals with spinal cord injury and the impact on pressure ulcer risk. *Topics in Spinal Cord Injury Rehabilitation, 15*(2), 16-32.	5	PI

Franks, P. J., & Morgan, P. A. (2003). *Health-related quality of life with chronic leg ulceration.* Expert Review of Pharmacoeconomics and Outcomes Research, 3(5), 611-622. Retrieved from http://www.scopus.com/inward/record.url?eid=2-s2.0-0142186139&partnerID=40&md5=6cf5ebd62a06555f3b7ef40edcd5059c	5	VLU
Frykberg, R. G., Zgonis, T., Armstrong, D. G., Driver, V. R., Giurini, J. M., Kravitz, S. R., Landsman, A. S.,...Vanore, J. V. (2006). *Diabetic Foot Disorders: A Clinical Practice Guideline* (2006 Revision). *Journal of Foot and Ankle Surgery, 45*(5 SUPPL.), S1-S66.	5	DFU
García-Inzunza, J. A., Valles-Medina, A. M., Muñoz, F. A., Delgadillo-Ramos, G., & Compean-Ortiz, L. (2015). Validity of the Mexican version of the combined Foot Care Confidence / Foot-Care Behavior scale for diabetes. *Revista Panamericana De Salud Publica, 38*(1):35-42.	2	DFU
Ghaisas S, Pyatak EA, Blanche E, Blanchard J, Clark F; PUPS II Study Group. (2015). Lifestyle changes and pressure ulcer prevention in adults with spinal cord injury in the pressure ulcer prevention study lifestyle intervention. Am J Occup Ther. 69(1):6901290020p1-10.	4	PI
Girolam, S., Bolton, L., & AAWC Guideline Department. (2011). *AAWC Pressure Ulcer Guideline A Quick Reference Guide for Pressure Ulcer Prevention and Treatment.* Association for the Advancement of Wound Care 2011, 1.	5	PI
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Houghton, P. E., Campbell, K. E., & CPG Panel. (2013). *Canadian Best Practice Guidelines for the Prevention and Management of Pressure Ulcers in People with Spinal Cord Injury.* A Resource Handbook for Clinicians. A Resource Handbook for Clinicians, 1-295.	5	PI
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Kapp, S., Miller, C. Santamaria, N. (2017). The quality of life of people who have chronic wounds and who self-treat. Journal of Clinical Nursing	1	chronic

Keast, D. H., Parslow, N., Houghton, P. E., Norton, L., & Fraser, C. (2006). Best Practice Recommendations for the Prevention and Treatment of Pressure Ulcers: Update 2006. *Wound Care Canada, 4*(1), 31-43.	5	PI
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Krause, J. S., & Broderick, L. (2004). Patterns of recurrent pressure ulcers after spinal cord injury: identification of risk and protective factors 5 or more years after onset. *Archives of Physical Medicine & Rehabilitation, 85*(8), 1257-64.	5	PI
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Management, W. (n.d.). Skin :	5	chronic
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Mccoll, M., Gupta, S., Smith, K., & Mccoll, A. (2017). Promoting Long-Term Health among People with Spinal Cord Injury: What's New? International Journal of Environmental Research and Public Health, 14(12):1520.	2	PI
Miller L.E. & Herbert W.G. (2016). Health and economic benefits of physical activity for patients with spinal cord injury. *ClinicoEconomics and Outcomes Research*, 8:551-558.	1	PI
Moore, Z., & Etten, M. (2015). Preventing pressure damage when seated. *Wounds UK, 11*(3):18-24.	2	PI
Morita T, Yamada T, Watanabe T, Nagahori E. (2015). Lifestyle risk factors for pressure ulcers in community-based patients with spinal cord injuries in Japan. *Spinal Cord.* 53(6):476-81.	5	PI
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National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel, & Pan Pacific Pressure Injury Alliance. (2014). *Prevention and Treatment of Pressure Ulcers: Clinical Practice Guideline*. (E. Haesler, Ed.). Osborne Park, Western Australia: Cambridge Media.	5	PI
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Parker CN, Finlayson KJ, Shuter P, Edwards HE. (2015). Risk factors for delayed healing in venous leg ulcers: a review of the literature. Int J Clin Pract. 69(9):967-77.	2	VLU
Parslow, N., Campbell, K. E., Fraser, C., Harris, C., Kozel, K., Kuchnker, J., … Berman, D. (2011). *Risk Assessment & Prevention of Pressure Ulcers Best Practice Guideline SUPPLEMENT ONLY. RNAO* (Vol. 2013). Toronto, Ontario, Canada.	5	PI
Parslow, N., Campbell, K., Fraser, C., Harris, C., Kozell, K., Kihnke, J.,...Fok, E. (2011). *RNAO Risk Assessment and Prevention of Pressure Ulcers Best Practice Guideline,* 1-48.	5	PI
Pascarella L, Shortell CK. (2015). Medical management of venous ulcers. Semin Vasc Surg. 28(1):21-8.	2	VLU
Persoon, A., Heinen, M. M., van der Vleuten, C. J., de Rooi, J M., van de Kerkhof, P.C., & van Achterberg, T (2004). Leg ulcers: a review of their impact on daily life. *Journal of Clinical Nursing, 13*(3), 341-54. doi:10.1046/j.1365-2702.2003.00859.x	4	VLU
Price, P. (2016). How can we improve adherence? Diabetes/Metabolism Research and Reviews. 32:201-205.	3	DFU
R.N.A.O. (2004). *Nursing Best Practice Guideline Assessment and Management of Venous Leg Ulcers.* 1-115.	5	VLU

Registered Nurses Association of Ontario. (2007). Assessment and management of venous leg ulcers. *Nursing Best Practice Guideline*, (March), 1–136. Retrieved from http://www.guideline.gov/content.aspx?id=11508	5	VLU
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Rossaneis MA, Haddad Mdo C, Mathias TA, Marcon SS. (2016). Differences in foot self-care and lifestyle between men and women with diabetes mellitus. Rev Lat Am Enfermagem. 24:e2761.	4	DFU
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Sibbald, R. G., Goodman, L., Woo, K. Y., Krasner, D. L., Smart, H., Tariq, G., … Salcido, R. S. (2011). Special considerations in wound bed preparation 2011: an update. *Advances in Skin & Wound Care*, *24*(9), 415–36; quiz 437–8.	5	chronic
Sibbald, R. G., Goodman, L., Woo, K. Y., Krasner, D. L., Smart, H., Tariq, G., … Salcido, R. S. (2012). Special Considerations In Wound Bed Preparation 2011 An Update PART TWO. *Wound Care Canada*, *10*(3). Retrieved from http://www.bluetoad.com/publication/?i=119363	5	Chronic

Sibbald, R. G., Goodman, L., Woo, K. Y., Krasner, D. L., Smart, H., Tariq, G., … Salcido, R. S. (2012). Special Considerations In Wound Bed Preparation 2011: An Update – PART ONE. *Wound Care Canada*, *10*(2). Retrieved from http://bluetoad.com/publication/?i=108883	5	Chronic
Sleight A., Hill V., Cogan A., Pyatak E., Diaz J. & Clark F. (2016). Factors protecting against medically serious pressure ulcers in adults with spinal cord injury: A qualitative study. *Archives of Physical Medicine and Rehabilitation*, 97(10), e38. Retrieved from http://ovidsp.ovid.com.proxy1.lib.uwo.ca/ovidweb.cgi?T=JS&PAGE=reference&D=emed18&NEWS=N&AN=612944857.	2	PI
Stanton, J., Hickman, A., Rouncivell, D., Collins, F., & Gray, D. (2016). Promoting patient concordance to support rapid leg ulcer healing. *Journal of Community Nursing, 30*(6):28-34.	2	VLU
Stewart A, Edwards H, Finlayson K. (2017). Reflection on the cause and avoidance of recurrent venous leg ulcers: An interpretive descriptive approach. J Clin Nurs.	4	VLU
Tapiwa Chamanga E. (2018). Clinical management of non-healing wounds. Nurs Stand. 32(29):48-63.	2	chronic
Trento M., Charrier L., Salassa M., Merlo S., Passera P., Cavallo F., et al (2015). Depression, anxiety and cognitive function in patients with type 2 diabetes: an 8-year prospective observational study. *Acta Diabetologica,* 52:1157-1166.	1	DFU
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van de Glind, I., Heinen, Maud, M.H. van Achterberg, T., (2015). Goal setting and lifestyle changes in a nurse-led counselling programme for leg ulcer patients: An explorative analysis of nursing records. Journal of Clinical Nursing. 24(23-24):3576-3583.	2	VLU
Van Hecke, A., Grypdonck, M., & Defloor, T. (2009). A review of why patients with leg ulcers do not adhere to treatment. *Journal Of Clinical Nursing, 18*(3), 337-349. doi:10.1111/j.1365-2702.2008.02575.x	4	VLU

Van Netten, J. J., Price, P. E., Lavery, L. A., Monteiro-Soares, M., Rasmussen, A., Jubiz, Y., & Bus, S. A. (2016). Prevention of foot ulcers in the at-risk patient with diabetes: A systematic review. *Diabetes/Metabolism Research and Reviews. 32:*84-98.	1	DFU
Wang J., Mo Y.Z., He Y.R., Li Y.Y., Shen X.X. & Chu J. (2016). Relationship between cognitive impairment and comprehensive geriatric assessment components in the elderly patients. *Journal of the American Geriatrics Society*, 64(Supplement 2), S340. Retrieved from http://ovidsp.ovid.com.proxy1.lib.uwo.ca/ovidweb.cgi?T=JS&PAGE=reference&D=emed18&NEWS=N&AN=611887679.	1	chronic
Watanabe A., Noguchi H., Oe M., Sanada H. & Mori T. (2017). Development of a Plantar Load Estimation Algorithm for Evaluation of Forefoot Load of Diabetic Patients during Daily Walks Using a Foot Motion Sensor. *Journal of Diabetes Research*, 2017, no pagination	4	DFU
Weller, C., Buchbinder, R., & Johnston, R. V. (2010). Interventions for helping people adhere to compression treatments for venous leg ulceration. *Cochrane Database of Systematic Reviews. 2016*(3).	1	VLU
Weller, C., Buchbinder, R., & Johnston, R. V. (2016). Interventions for helping people adhere to compression treatments for venous leg ulceration. *Cochrane Database of Systematic Reviews*, 3. doi:10.	1	VLU
Young K, Ng Chok H, Wilkes L. (2017). Treatment in the home setting with intermittent pneumatic compression for a woman with chronic leg ulcers: a case report. BMC Nurs. 16:56.	2	VLU
Zhu X. (2017). Of reduced risk and associated complications of pressure ulcers. challenge beyond therapeutic compression-time to bridge the gap: A case study of venous leg ulcer management. *Wound Repair and Regeneration,* 25, A30-A31.	1	PI

Appendix 3: Notice of Ethics Approval

Western Research

Research Ethics

Western University Health Science Research Ethics Board
HSREB Delegated Initial Approval Notice

Principal Investigator: Dr. Jan Polgar
Department & Institution: Health Sciences\Faculty of Health Sciences, Western University

Review Type: Delegated
HSREB File Number: 108235
Study Title: How Do Health Care Providers Address Lifestyle Factors in the Prevention and Treatment of Chronic Wounds in Community Dwelling Adults

HSREB Initial Approval Date: October 11, 2016
HSREB Expiry Date: October 11, 2017

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Western University Protocol	Received October 8, 2016	
Recruitment Items	Website Advertisement - Received September 22, 2016	
Recruitment Items	Verbal Recruitment Guide	2016/09/22
Recruitment Items	Recruitment Email - Received September 22, 2016	
Advertisement	Received September 6, 2016	
Letter of Information & Consent		2016/09/22
Instruments	First Interview Guide - Received July 4, 2016	
Instruments	Second Interview Guide - Received July 4, 2016	
Data Collection Form/Case Report Form	Reflective Journal	2016/10/08
Instruments	Focus Group Guide - Received July 4, 2016	

The Western University Health Science Research Ethics Board (HSREB) has reviewed and approved the above named study, as of the HSREB Initial Approval Date noted above.

HSREB approval for this study remains valid until the HSREB Expiry Date noted above, conditional to timely submission and acceptance of HSREB Continuing Ethics Review.

The Western University HSREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use Guideline for Good Clinical Practice Practices (ICH E6 R1), the Ontario Personal Health Information Protection Act (PHIPA, 2004), Part 4 of the Natural Health Product Regulations, Health Canada Medical Device Regulations and Part C, Division 5, of the Food and Drug Regulations of Health Canada.

Members of the HSREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

[redacted]
Ethics Officer, on behalf of Dr. Marcelo Kremenchutzky, HSREB Vice Chair

Ethics Officer: Erika Basile ___ Nicole Kaniki ___ Grace Kelly ___ Katelyn Harris ✓ Vikki Tran ___ Karen Gopaul ___

Western University, Research, Support Services Bldg., Rm. 5150
London, ON, Canada N6G 1G9 t. 519.661.3036 f. 519.850.2466 www.uwo.ca/research/ethics

Appendix 4: Participant Letter of Information and Consent

Western

LETTER OF INFORMATION AND CONSENT

Study Title: How Do Health Care Providers Address Lifestyle Factors in the Prevention and Treatment of Chronic Wounds in Community Dwelling Adults

Name of Principal Investigator:
Dr. Jan Polgar PhD, Professor, School of Occupational Therapy
[redacted]

Co-Investigators: Linda Norton OT Reg.(ONT), MScCH, PhD Candidate

Contact Information: Linda Norton, [redacted]

Introduction:
You are being invited to participate in this research study about the way Health Care Providers address lifestyle factors with their clients who have pressure ulcers because you are an experienced Health Care Provider working with clients who have chronic wounds and who live in the community, have 3 or more years' experience and currently see 5 or more wound patients per week.

Background/Purpose: Many best practice guidelines indicate that lifestyle factors are important and need to be addressed as part of the treatment and management plan of clients with chronic wounds. There is very little in the literature that describes these lifestyle factors nor how to address them in clinical practice. The purpose of this study is to understand what experienced health care providers consider as lifestyle factors, and how they address lifestyle factors as part of the treatment and management plans of clients with chronic wounds living in the community.

Study Design: If you decide to participate you will be asked to participate in two interviews, provide any documents that help or hinder your ability to address lifestyle factors and record your insights on how you manage lifestyle issues for the clients you see between the first and second interviews. You will also be given the opportunity to participate in a focus group to discuss the themes and theories identified during the analysis phase of the study. It is expected that 15 – 20 people will be recruited for this study

The first interview will be 60 – 90 minutes and will be conducted either in person or over the web via a program called BlackBoard Collaborate. Blackboard collaborate is an online collaboration and conferencing tool used as a platform at University of Western Ontario. If you are being interviewed via BlackBoard Collborate You will need a computer with access to the internet to participate. During the first interview, you will be asked to answer a series of questions, designed to gain an understanding of your perspective of the lifestyle factors that impact clients living in the community with chronic wounds, and how you address these factors. You will also be asked to identify and share any documents that influence the way you identify, assess and manage these factors. This could include assessment tools, policy statements, funding

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statements etc. You will also be oriented to a reflective journal that you will be asked to complete between the first and second interviews. This chart provides space for you to record the lifestyle factors you identify with patients you see between the first and second interviews, and how you addressed these. You will also have an opportunity to record the barriers you experienced addressing these factors. This chart needs to be handed in to the researcher at the second interview.

The second interview will occur approximately 2 weeks after the first interview (or as quickly thereafter as possible) and will be approximately 60 minutes. During this interview you will have an opportunity to review the analysis and themes that came from the first interview and identify any additional factors or other pieces of information that have come to mind or you have documented on the chart. At the second interview, you will also be given the option of attending a focus group to review the study themes and theories that result from the data analysis. The focus group will have a maximum of 5 participants and occur via video conference and will be recorded. Participants will be reminded not to reveal identifying patient information, nor discuss the focus group with others after its completion.

Procedures:

- Participate in the first interview
- Provide copies of documents that help or hinder your ability to identify and address the lifestyle factors that impact your clients
- Complete the chart of lifestyle factors between the first and second interviews
- Participate in the second interview
- Optional: participate in a focus group to review the results

Voluntary Participation: Your participation in this study is voluntary. You may decide not to be in this study, or to be in the study now and then change your mind later. You may leave the study at any time without consequence. You may refuse to answer any question you do not want to answer, or not answer an interview question by saying "pass".

Withdrawal from Study: If you decide to withdraw from the study, the information that was collected before you leave the study will still be used in order to help answer the research question. In this type of study, the data have already been analyzed and thus is no longer retrievable No new information will be collected without your permission

Risks: There are no risks to participating in this study

Benefits: You may not receive direct benefit from being in this study. Information learned from this study may help lead to improved treatment of people living with chronic wounds in the community in the future.

Confidentiality: Any identifying information you provide (such as your name, facility name etc.) in the interviews, lifestyle chart and other documents will be removed. Should you choose to participate in the focus group, the other members of the focus group will know who you are and that you participated in this study. Please be advised that although the researchers will take

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every precaution to maintain confidentiality of the data, the nature of focus groups prevents the researchers from guaranteeing confidentiality. The researchers will remind participants to respect the privacy of your fellow participants and not repeat what is said in the focus group to others

All electronic data will be stored on BlackBoard Collaborate for the duration of the study. The BlackBoard Collaborate site is in Calgary, and an agreement has been signed with the University of Western Ontario to ensure the privacy of the data. The BlackBoard site is only accessible by the researcher and access must be specifically provided by the researcher. The section of the site housing the recordings will be hidden from all others on the site except the researcher, and research supervisor. The laptop that will be used to access BlackBoard is encrypted with BitLocker

A back up of the data will be kept on the encrypted computer.

Representatives of the University of Western Ontario Health Sciences Research Ethics Board may require access to their study-related documents to oversee the ethical conduct of this study..

Costs: You will not have to pay for any of the technology involved with this study. (i.e. participating via BlackBoard Collaborate.)

Compensation: None

Rights as a Participant: You do not waive any legal right by signing this consent form

Questions about the Study: If you have questions about participation in this study and the activities associated with this study, please contact Linda Norton at [redacted]
If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Research Ethics [redacted]

This letter is yours to keep for future reference

Western

Study Title: How Do Health Care Providers Address Lifestyle Factors in the Prevention and Treatment of Chronic Wounds in Community Dwelling Adults

Name of Principal Investigator:
Dr. Jan Polgar PhD, Professor, School of Occupational Therapy
[redacted]

Co-Investigators: Linda Norton OT Reg.(ONT), MScCH, PhD Candidate

Contact Information: Linda Norton, [redacted]

Consent

This study has been explained to me and any questions I had have been answered.
I know that I may leave the study at any time. I agree to take part in this study.

Print Study Participant's Name	Signature	Date *(DD-MMM-YYYY)*

My signature means that I have explained the study to the participant named above. I have answered all questions.

Print Name of Person Obtaining Consent	Signature	Date *(DD-MMM-YYYY)*

Appendix 5: Recruitment Ad Text

The format requested by the Canadian Association of Wound Care, the Ontario Wound Interest Group and the Wound Care Specialist Facebook group may be different, however the content will be as follows:

We are recruiting Health Care Providers with 3 or more years of experience in assessing and managing clients with chronic wounds to participate in a study looking at the lifestyle factors that influence the treatment and management of these patients. As part of this study you would be asked to:

- Participate in an initial interview in person or via video conference
- Provide copies of documents that they use to identify and address the lifestyle factors that impact your clients
- Complete a chart of lifestyle factors impacting your patients between the first and second interviews
- Participate in a second interview (in person or videoconference) to review the chart and discuss the analysis of your first interview
- Optional: participate in a focus group (video conference) to review the results and emerging theory

To participate you need to:

- Have at least 3 years of experience with clients living with chronic wounds in the community
- See at least 5 chronic wound patients per week
- Practice in Canada

If you are interested, and for further information, please contact Linda Norton, [redacted]

Appendix 6: Guide for the First Interview

Preamble: Best practice guidelines stress the importance of considering lifestyle factors when treating clients with chronic wounds. The intent of this interview is to understand your interpretation of the term "lifestyle factor" and how and when you integrate lifestyle factors into the treatment and management of clients with chronic wounds.

Background: I'd like to begin this interview with a discussion of your practice setting.

Describe your practice setting?

Do you see clients in a clinic setting or in their home?

How often do you see the client?

Do you have primary responsibility for the treatment plan? If not, please describe how you influence the treatment plan)

Describe your client population?

What is the age range of your client population?

What type of chronic wounds do your clients have?

What co-morbidities/other diagnoses do your clients have?

On average, how long have your clients had their wound before you see them?

How many clients with wounds do you see per week?

Describe your clinical background

What is your discipline (physician, registered nurse, occupational therapist, etc.)?

What wound prevention education/courses have you completed?

How many years of experience do you have working with people with chronic wounds?

How did you become interested in working with clients with chronic wounds?

Definition of Lifestyle: I'd like to understand your perspective on lifestyle factors, what you identify as a lifestyle factor, whether these are different from risk factors, and how you address lifestyle factors with your clients. There are no right or wrong answers, I am just interested in your perspective

How would you define the term "risk factor"?

Can you give me an example?

How would you define the term "lifestyle factor"?

Can you give me an example?

Do you think it is important to distinguish between "risk factors" and "lifestyle factors" Why or why not?

If it is important to distinguish these terms, what do you see as the key difference between a "lifestyle factor" or "risk factor"?

Can you give me some examples?

Do you think there is overlap in the terms "lifestyle factor" and "risk factor"?

Can you tell me more about that?

Do you think it is important to differentiate between these "lifestyle factor" and "risk factor"?

Why? Or why not?

Can you tell me more about that?

What do you think are they key lifestyle factors for your patient population?

Why do you think these are the key factors?

What do you think is the extent to which lifestyle factors influence treatment and management of their chronic wounds?

Can you tell me more about that?

Identifying and addressing "lifestyle factors" in practice. I'd like to understand how you identify the client's lifestyle factors that are influencing the treatment and management of chronic wounds.

How do you identify your client's lifestyle factors?

Is there an assessment form that you use? (obtain a copy if possible?)

What questions do you ask your client?

How else do you identify lifestyle factors?

Can you tell me more about that?

How do you address lifestyle factors with your clients?

Is there a standard approach you use?

How do you ensure the client is satisfied with the way the lifestyle factor has been addressed?

Do you think addressing the lifestyle factors make a difference for your clients in terms of adherence, treatment outcomes, costs etc?

Can you tell me more about that?

Think back over the past week. Please provide me with at least 3 examples of lifestyle factors that were identified and how you addressed them with the client.

How did you come to recognize this lifestyle issue for the client?

How did you decide the best way to address this lifestyle factor?

What advice would you give a novice clinician about identifying and addressing lifestyle factors for their clients?

Barriers to addressing lifestyle factors. I'd like to understand

What barriers do you face that influence your ability to address lifestyle factors?

Do you feel you have enough time to address lifestyle factors in your practice?

Do you feel you have the needed knowledge to address lifestyle factors?

Do you feel there are enough resources (funding, access to services etc) to address lifestyle factors?

What policies may influence whether you are able to address lifestyle factors and how you address them? (ask for a copy)

Can you provide examples?

Learning about Lifestyle. Now I'd like to understand how you have developed your perspectives on lifestyle factors. This perspective may have come from school, clinical experience, other aspects of your life etc.

How do you think you developed your perspective on lifestyle factors?

Can you tell me more about that?

Were there specific courses you took that helped you form your perspective on lifestyle factors?

Were there any articles or other documents you read that helped you form your perspective on lifestyle factors?

Was there a mentor or colleague who helped you form your perspective on lifestyle factors?

Documents, Policies and Guidelines: I'm interested to learn more about the policies, documents and guidelines that influence your practice.

What if any are the policies/practice documents that influence your ability to address lifestyle factors? (get a copy)

Facility/ practice policies?

Reimbursement policies?

What best practice guidelines/recommendations do you follow related to chronic wound prevention and management?

Registered Nurses Association?

Canadian Association of Wound Care?

Others?

If you were to participate in the next revision of best practice guidelines, what would you like to see included about lifestyle factors?

Instructions for the journaling portion of the study

Over the next two weeks please keep this reflective journal (Appendix B). It is available in a paper format, or electronic, whatever is easiest for you. The intent of this journal is to capture any other lifestyle factors that you identify in your patient population. Please record a patent identifier (not their name) that you will remember that is not identifiable to others. List the lifestyle factor, how you addressed it (if you did), and if you didn't address it, the reason you didn't address it.

Also, you may find that thoughts about lifestyle factors occur to you after this interview. Please take a moment to record these thoughts as well, so that we can discuss them at our next interview, as well as reviewing the reflective journal.

I'll send you an email next week, as a friendly reminder about these documents as well as a reminder of our next interview. At our next interview we will review this reflective journal as well as the analysis of the first interview.

Thank you so much for your help.

Appendix 7: Participant Reflective Journal

Reflective Health Care Provider Journal

Client Identifier	Wound Diagnosis	Lifestyle factors identified	Addressed? Yes/No	Addressed in treatment plan by: (Describe)	Did not address (Why?)

Version: October 8, 2016

Appendix 8: Guide for the Second Interview

Second Semi-Structured Interview Guide

Reflective Journal Review: The first thing I would like to do is go through the journal you have been keeping with you.

1. What thoughts have come to your mind regarding lifestyle factors since our interview?
    - What notes did you take?
    - Can you tell me more about your thoughts?
    - What do you think is most important about these reflections?
    - Did you identify more lifestyle issues for your clients than you have in the past?
2. Can you walk me through the list of clients you recorded?
    - Were these newly identified issues, or have they been long standing?
    - How did you arrive at the plan to address these factors?
    - How did you get the client's agreement to the plan of care?
    - If the lifestyle factor was not addressed, why not?
    - Is there something you could do differently next time?

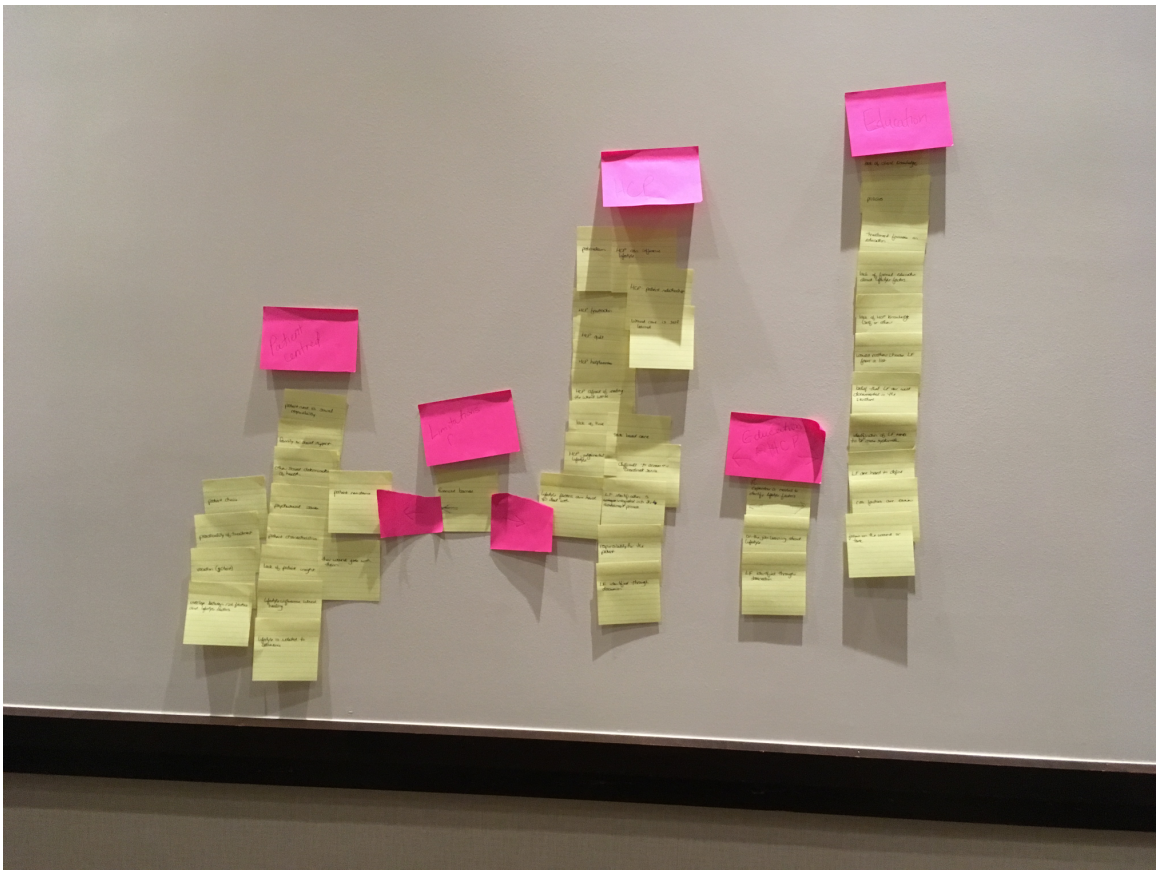
Analysis: Since our first interview, I have transcribed the interview and looked for themes. I would like to get your thoughts on the themes that have been identified.

1. Review each theme with the participant.
    - Does this theme accurately reflect your perspective?
    - Can you tell me more about that?
    - Is there another label you would use for this theme?

2. Do you think there are any themes that we have missed?
    - Can you tell me more?

Thank you for your participation. Would you be willing to be contacted again after I have collected more data to provide input into the consolidated themes and theories that emerge?

Appendix 9: Example of Sticky Note Diagram



Curriculum Vitae

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Post-secondary Education and Degrees:	University of Toronto Toronto, Ontario, Canada 1991 – B.Sc.OT
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Publications:

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