

PROGRAM EVALUATION OF THE CHRONIC PAIN SELF-MANAGEMENT
PROGRAM IN THE WORKPLACE

By

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Under the supervision of Dr. Manon Lemonde

Abstract

Chronic pain conditions can be extremely challenging to deal with in the workplace. The implications of these conditions extend far beyond the employees themselves and can create significant organizational impacts. The Chronic Pain Self-Management Program was developed by Dr. Sandra LeFort, and was originally based on the generic Stanford model of self-management. The six-week program, delivered weekly, is designed to explore and instruct those with chronic pain on different aspects of their condition. This pilot study used a mixed method design to evaluate the effectiveness of Chronic Pain Self-Management Program in the workplace. The quantitative measures for this study were unable to demonstrate the effectiveness of the workshop due to a lack of statistical significance. Through the qualitative measures it was possible to delve into how the chronic pain condition manifests itself in the workplace and what support systems are available for those with chronic pain. There are definitely some positive implications from this pilot research, but through further research it is possible to truly understand how people live with chronic pain in the workplace and how their conditions can be made more manageable.

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List of Abbreviations

ASMP – Arthritis Self-Management Program

CBR – Community Based Research

CBPR – Community Based Participatory Research

CCAC – Community Care Access Centre

CECCAC – Central East Community Care Access Centre

CELHIN – Central East Local Health Integration Network

CDSMP – Chronic Disease Self-Management Program

CPSMP – Chronic Pain Self-Management Program

OHS – Occupational Health and Safety

Chapter One: Introduction

Chronic pain is a health issue that many face on a daily basis. There are serious implications when dealing with chronic pain conditions. On both personal and medical levels the chronic pain condition adds challenges for someone to regularly manage. The families of patients living with chronic pain need to provide additional support to help patients manage their lives and as a result, often need to make sacrifices to support their loved ones. To meet the current needs of people with chronic pain, the health care system must allocate significant time and resources to help those with chronic pain manage their conditions. This management is mostly done through the standard medical approach to chronic conditions, often relying heavily on pharmaceuticals and other standard interventions (eg., physiotherapy, exercise and surgical approaches) which in themselves do not provide enough relief. As the standard interventions alone do not provide enough relief, this poses many significant challenges for someone who lives with a chronic pain condition. By having such significant implications, not only on the patient and on their families as well, it is clear that chronic pain must be managed in a more effective manner.

The area of chronic conditions, particularly those involving chronic pain, is an understudied area in health research. While there has been some research already completed in the area of chronic pain management, including evaluations of self-management interventions in a general population, there is still a gap in the current literature regarding the ways in which we can help people living with chronic pain in the workplace, as will be discussed in the next chapter. This study focused on the workplace based population to fill this gap with the paucity of research completed on workplace based interventions for chronic pain conditions. It is imperative that more research be

done to explore the many facets of chronic pain, especially those examining the impacts of new, non-medical interventions in this field particularly in the workplace environment.

Context

Chronic pain in Canada is well documented and has its own set of background information and statistics that must be reviewed and discussed. For patients with chronic pain, wait times for care in publicly funded pain clinics in Canada are greater than one year. Large portions of Canadians do not even have access to these pain clinics (Lynch, 2011).

The estimates for the health care costs of chronic pain on the Canadian Health Care system are more than six billion dollars per year (Lynch, 2011). Estimates expect costs related to chronic pain to rise to over \$10 billion dollars by the year 2025 (Lynch, Schopflocher, Taenzer, & Sinclair, 2009). Patients waiting to access pain clinics spent a median of \$17,544 per year in indirect expenditures including lost work time and private health care treatment options (Lynch, 2011).

Chronic pain affects a great number of Canadians. More than 1.5 million Canadians, aged 12 to 44, reported having chronic pain in 2007 and 2008 (Ramage-Morin, & Gilmour, 2010). This number accounts for 9% of males and 12% of females of the Canadian population (Ramage-Morin, & Gilmour, 2010). Chronic pain can have a devastating effect on the Canadian workforce as well. Approximately 60% of people with chronic pain will eventually lose their jobs and income, or will experience a reduction of responsibilities due to their chronic pain condition. According to the Canadian Pain Strategy (2010), there is an average number of 28.5 lost-work days due to

chronic pain conditions for employees in Canadian workplaces. Productivity costs related to job loss and sick days are at \$37 billion dollars per year (Lynch, 2011). The type of job in the workplace can be directly correlated with the type of chronic pain condition that develops. Workers who have a large amount of heavy manual labour are more likely to develop conditions with low back pain. Three occupations are at highest risk for a compensable back injury: truck drivers, material handlers, and nursing aides (Teasell, & Merskey, 1997). The inclusion of nursing aides can be directly associated with this research project, as it is likely that our target population will include at least one nursing aide or a comparable occupation. The age of this source also indicates the paucity of research in the area of chronic pain in the workplace, as no newer sources were available for high risk of pain due to specific occupations. This can be linked with the lack of research in the area of chronic pain, which will be discussed immediately.

There is a significant lack of research being completed on the general area of pain in Canada. There are 79 active researchers in the field; only 65 of these have received funding in the past five years, which totals \$80.9 million (Lynch, 2011). This amounts to less than one percent of the funding provided by the Canadian Institutes of Health Research (CIHR) and only 0.25% of the total funding for all health related research (Lynch, 2011). This funding amount may not seem small, but as previously indicated the research funding does not match the need for more evidence in the area of chronic pain.

The general statistics related to this target population, define two major aspects of chronic pain as related to this program evaluation. The first is that chronic pain is a prevalent and serious health issue afflicting Canadians. The second is that the ramifications of chronic pain in the workforce are not necessarily limited to the

employees with chronic pain, but are also extended to employers who must manage the workloads of the employees, as well as finding suitable replacements during the time that they will need to take off work. While this point is not meant to diminish what chronic pain sufferers must go through in the workplace, it is still important to demonstrate further impact of chronic pain on the workforce as a whole. Interventions, such as self-management training, can limit the impact that chronic pain has on the Canadian workforce. The fact remains that we must explore how these chronic pain self-management interventions can be implemented in the workplace, in order to start reversing some of these trends.

This context behind the issue of chronic pain helps define the need for more research in the area of chronic pain in the workplace. This health care issue is consuming a great deal of health resources, but at the same time is not being studied adequately to reduce this consumption and to manage chronic pain effectively. It is also clear from the statistics that chronic pain as an issue is not isolated to the health care system; it is a serious issue for the workforce and the labour system. From this it can be concluded that chronic pain must be investigated further in Canada, particularly its impact on the Canadian workforce. It is this gap that this study attempted to bridge.

Intervention for Chronic Pain

Medical, pharmacological and surgical interventions only provide a moderate amount of relief for chronic pain conditions, while they also drastically increase the risk of complications and side effects for those involved (Ersek et al., 2007). The medical,

pharmacological and surgical interventions often provide additional challenges for workers as they would need to take significant time off work for different elements of treatment. These challenges could include additional time off work attending doctors' appointments, having procedures done or recovery time from more serious interventions. One of the more recent interventions developed to help people deal with chronic pain is self-management training. Self-management training offers a somewhat new approach, moving away from the standard medical model of treatment to a peer support and patient engagement type of approach. By involving the patient with chronic pain in a more active role in the health care process, it is believed that better day-to-day management of the pain symptoms can be achieved. By providing chronic pain sufferers with more information about the different elements of their chronic pain conditions, it is possible for them to become more involved in the disease process and not simply rely on physicians and medications to deal with their chronic pain condition (Alvarez, 2009). Self-management training has also been found to be more cost-effective than individual therapy, which makes it more likely for people to take advantage of self-management training (Buenaver et al., 2006). The Chronic Pain Self Management Program (CPSMP) was developed by Dr. Sandra LeFort (1998) at Stanford University; this program is supported by a theoretical framework which is the Self-Regulation Theory (Serlachius & Sutton, 2009); this theory explains why self-management is effective in helping people live with chronic pain on a day-to-day basis.

The CPSMP is based completely on the Stanford Model of Self-Management (Alvarez, 2009) and has demonstrated its impact on dealing with chronic pain (Lefort et al., 1998). This model, starting with the Arthritis Self-Management Program, as

developed by Dr. Kate Lorig, is designed primarily to increase overall function and comfort. These programs will be discussed in the following chapter.

Through the understanding of the context behind chronic pain in Canada and in the workplace, it is clear that there needs to be a greater amount of research completed in the area of chronic pain management in the workplace. Chronic pain self-management is a proven effective intervention which should be effective in helping those with chronic pain in the workplace. The CPSMP must be evaluated in the workplace to see if additional modifications need to be made to maximize its efficiency in this setting.

This research project evaluated the effectiveness of the CPSMP as implemented through hospital staff in a community based hospital. By implementing an evaluation component in this setting, it was feasible to determine if this program was applicable in this setting, in addition to gaining a better understanding of chronic pain in the workplace. The literature review chapter that follows, situates this research in what has been previously completed and identifies the research gaps that have been alluded to in this chapter.

Chapter Two: Literature Review

The literature search and review process will provide the necessary background to situate this project within the available evidence. The literature selected provides the necessary context and has helped gain insight in how to proceed with a new program evaluation in this field. The following sections will be included in this chapter:

1. Literature Search Parameters – A justification of which articles were chosen and on what basis these decisions were made
2. Chronic Pain Definitions – A definition of what is included with a chronic pain condition
3. Theoretical Framework – An overview of the different theories mentioned throughout the literature
4. Evolution of the Stanford Model of Self-Management of Chronic Diseases – A review of the development of the Stanford Model of Self-Management up to and including the Chronic Pain Self-Management Program (CPSMP)
5. Chronic Pain Self-Management Program Evaluations – A review of the previously completed evaluations in the field of chronic pain self-management by design

Literature Search Parameters

This literature review includes all articles that would focus on patient based interventions and which involved human participants. The databases selected include: CINAHL, Medline, Ovid, ProQuest Nursing Journals, PubMed, Health Source and Scopus. The search parameters were not limited by date, however the majority of the articles found in this area were published since 2000; with some of the earliest research being completed in the 1980s. The keywords chosen for the different databases included “Chronic Pain”, “Self Management” or “Self Care”, and “Program Evaluation”. The differences between self-management and self-care are the variances that exist in the terminologies used between the different databases. All of the various combinations were attempted on each database in order to maximize the number of total possible results.

Within each of the key articles chosen, the bibliography was reviewed to extract any additional useful sources that may be directly related to this literature review. The final element to note is that of the grey literature. The grey literature in a given subject area can be of key importance as it provides necessary context within the field. Some key reports may be found in the government’s reports on chronic pain. These were retrieved from Statistics Canada, The Canadian Institute for Health Information (CIHI), The Government of Ontario, as well as documentation from other organizations that deal with chronic pain self-management, including the Community Care Access Centres (CCAC) that offer the Chronic Pain Self-Management Program (CPSMP).

The databases have many variations in the results that were provided, as such a series of screening criteria were implemented throughout all databases to ensure a proper basis of comparison between all articles. All of the articles selected for this literature review came from peer-reviewed journals. This was a major criterion as it allowed for a level of scientific rigour in this review. Another inclusion criterion is that the articles selected are written in English.

Chronic Pain Definitions

In order to discuss the management of chronic pain, it would be pertinent to first define what chronic pain is. Mosby's Medical Dictionary (2009) defines chronic pain as a recurring pain over an extended period of time that can be caused by a variety of different diseases or conditions. Those with chronic pain conditions often do not show the usual autonomic responses to pain, including increased pulse and rapid respiration. This definition from Mosby's medical dictionary can be linked with a definition of chronic pain that appears in the scholarly literature which expands upon the initial definition. Chronic pain is often associated with other chronic diseases and illnesses and in many cases continues beyond the course of the initial illness (Lynch, 2011). Chronic pain is conceptualized as a neural response to a tissue injury (Lynch, 2011). The traditional perception of chronic pain is that it is a symptom of a disease or injury and if the disease or injury is healed so too would the pain.

Theoretical Framework

The theoretical frameworks were quite valuable to this research as they provided a conceptual foundation for the research completed in the area of chronic pain self-

management. These frameworks appear throughout the literature and have provided a basis of understanding to inform the design and assessment of the CPSMP.

Two primary theoretical frameworks dominate the scholarly literature in the area of chronic pain self management: Bandura's self-efficacy theory (made up of the social cognitive theory and the theory of planned behaviour) and the self-regulation theory (Serlachius, & Sutton, 2009).

The social cognitive theory and theory of planned behaviour can both be tied into Bandura's self-efficacy theory. The social cognitive theory views behaviour as directly manipulated by self-efficacy expectations, such as the mastery of tasks, and goals that are indirectly influenced by outcome expectations and sociostructural factors (Serlachius, & Sutton, 2009). This theory separates the outcome expectations as either self-defined or defined by others. The theory of planned behaviour states that behaviour is directly associated with intent and the control someone has in performing a behaviour (Serlachius, & Sutton, 2009). The person's intention can be separated into three factors: attitude, subjective norm and perceived behavioural control. Attitude is an evaluation of the execution of a behaviour, whereas subjective norm is how the person believes others would want them to perform a behaviour (Serlachius, & Sutton, 2009).

Bandura's self-efficacy theory is the synthesis of both of these theories and can be summarized simply by stating that if a participant believes that they can achieve something, they will likely be able to accomplish it (Lorig, 1996). By managing the outcome expectations of the social cognitive theory and by developing the intent and

control over a behaviour as seen in the theory of planned behaviour, it is possible to use self-management in dealing with chronic illnesses and chronic pain.

Bandura's self-efficacy theory is built into the CPSMP in multiple ways. Each of the Stanford self-management programs incorporates Bandura's self-efficacy theory into the overall design and by doing so, allows participants to maximize the benefits of the CPSMP. Participants of the Stanford self-management programs are: assisted in mastering the necessary new skills, provided encouragement from others with similar conditions, helped to reinterpret the nature of their symptoms to develop new solutions and are directed to make minor changes along the way using positive reinforcement (Lorig, 1996). The combination of the social cognitive theory, the theory of planned behaviour and Bandura's self-efficacy theory helped to explain and develop the self-management approach to chronic pain control and were necessary to the analysis of its effectiveness.

The self-regulation theory, while not being explicitly discussed in research studies exploring self-management, is another theory that helps to explain chronic pain self-management (Kanfer, Ackerman, & Heggstad, 1996). This theory defines the patient as an 'active problem solver' and solidifies the role of both cognitive and emotional processes in managing the various elements of an illness (Serlachius, & Sutton, 2009). There are three primary phases in this model: representation, coping and appraisal. The first phase, representation, consists of the person developing an appropriate mental representation of their illness from a variety of different sources and experiences (Serlachius, & Sutton, 2009). The second phase, coping, involves the development of coping strategies and problem solving techniques in order to manage their chronic illness

(Serlachius, & Sutton, 2009). The final phase, appraisal, encompasses an evaluation of the coping strategies that were adopted to determine whether or not one should continue with that particular strategy or attempt another that may be more successful (Serlachius, & Sutton, 2009).

The self-regulation theory along with Bandura's self-efficacy theory provide a foundation for the CPSMP and this research project. By allowing the participants of this research project to be involved in the CPSMP it is possible for them to go through the three phases of the self-regulation model. The appraisal phase is the involvement in this research project, and is fundamentally a formalized process of this phase.

These theories provide a foundation of understanding of the self-management concept and associated interventions. By understanding self-management on a theoretical level, it is possible to improve it to a point where it will be most effective for the target population. These theories can all be used in some way to add depth and provide some explanations as to why self-management programs are effective in some cases and not as effective in others. In this research study, Bandura's self efficacy theory and the self-regulation theory have been included in the research study and will help to provide insight to the results that will be acquired.

Evolution of the Stanford Model of Self-Management of Chronic Diseases

The Stanford self-management programs are all based on a public health model of chronic diseases and conditions and each program incorporates peer-led small groups. This allows for greater understanding of the chronic conditions and provides an effective

environment for discussion of common issues. Additional studies including other interventions dealing with chronic pain will be discussed later in this chapter.

The Stanford model of self-management was initiated by Dr. Kate Lorig and her work with Arthritis Self-Management. In 1985, Dr. Lorig completed a study evaluating the effectiveness of the Arthritis Self Management Program (ASMP). Lorig, Lubeck, Kraines, Seleznick and Holman (1985) found highly significant increases in knowledge and a strong adoption of the behaviours taught in the arthritis self-management program. The self-management education programs all consist of five fundamental skills. These skills include, problem solving, decision making, resource utilization, healthcare provider partnerships and action planning (Lorig, & Holman, 2003). It was postulated by Lorig that by taking these skills and tailoring them to each individual proper arthritis self-management could be achieved. There was an average of fifteen to twenty percent reduction of pain from the baseline (Lorig et al., 2005). This significant reduction demonstrates that the ASMP was a successful approach to arthritis self-management. Following this evaluation, there were additional reports on different aspects of this program, including discussion of longitudinal effects and implementation in different community settings with minor modifications (Lorig, & Holman, 2003). A longitudinal study on the ASMP found that there was a sustained nineteen percent reduction in pain, a reduction in physician visits of 43 percent and the level of perceived self efficacy was approximately seventeen percent higher in patients with arthritis (Lorig, Mazonson, & Holman, 1993). These studies found that not only were the Arthritis Self-Management Programs effective, but they had long lasting positive impacts on the participants.

The initial ASMP studies led to the creation of the Chronic Disease Self-Management Program (CDSMP), which was a generalized approach to utilizing self-management techniques to deal with a variety of different chronic conditions. Lorig, Ritter and Plant (2005) then completed a comparative evaluation between the generalized and specific programs to determine which was more effective in developing self-management techniques in arthritis patients. At the four-month point, the ASMP participants showed significant improvements in health distress, activity limitation, fatigue, pain, stretching and strength exercise, aerobic exercise and self-efficacy (Lorig, Ritter, & Plant, 2005). The CDSMP in comparison only had significant reductions in activity limitation, including role function, and range of motion exercise, with mild improvements in self-efficacy, mental stress management, and aerobic exercise (Lorig, et al, 2005). At the one year point, the same trends followed for both groups. While there were positive improvements in both groups, it was found that the specialized ASMP group was more effective than the general CDSMP group in the positive outcomes for the participants. This study led to the creation of a series of new self-management programs, all based on the ASMP and CDSMP, which were designed to deal with specific aspects of each individual chronic condition. Among these self-management programs was the Chronic Pain Self-Management program, which is the program being evaluated in this study.

Chronic Pain Self-Management Program

The Chronic Pain Self-Management Program (CPSMP) consists of two and a half hour programs each week for six weeks. These programs involve content related to symptom management, exercise, nutrition, problem solving, communications and

advanced directives (Alvarez, 2009). The process is designed to incorporate self-efficacy, action planning, as well as problem solving and sharing (Alvarez, 2009).

Chronic pain self-management training is usually led by a trained facilitator. These facilitators are considered to be peer leaders as they also have chronic pain conditions. It is not a prerequisite for the facilitators to be nurses or any other type of health care professionals. The facilitators are trained by Master Trainers at CCAC who have been taught by trainers from Stanford University. The role of the facilitator is to teach and discuss the various elements of living with a chronic pain condition. These elements can include: exercise, diet, depression, medication, communication and many other important elements necessary to manage chronic pain on a daily basis.

The direct outcome of the Self-Management Program, as per the chronic pain self-management program creators, is that people will have a more effective time managing their chronic pain on a day-to-day basis (LeFort et al., 1998). There are, however, several other outcomes that are important in regards to chronic pain self-management. The main outcome is a decreased reliance on the health care system and on physicians specifically (Alvarez, 2009). As people learn to manage their own chronic pain condition they will be using fewer resources from the medical system. This reduces time taken off work to attend appointments or for emergency visits. Another secondary outcome is that the chronic pain patients will be less reliant on medications to control their chronic conditions (Alvarez, 2009). Many of the prescribed medications used to control chronic pain conditions can be easily over used and can have significant side effects. As such it is important to know how to properly manage medication usage with a chronic pain condition. The abuse of medications used to control chronic pain are similar

to other substance abuse issues and may cause emotional distress which can impact the work environment.

There is one important element to take note of in the historical context of the Stanford self-management programs. In studying the initial ASMP, Lorig et al. (1985) had modified the program slightly to evaluate it in different communities. This was particularly seen in an implementation and evaluation of a modified version of the ASMP in a Hispanic community (Lorig, 2003). While the core elements of the program remained the same, there were still some cultural and linguistic changes that needed to be made to maintain the same level of effectiveness of the program. This is a fundamental gap in the research completed. Most of the research evaluating chronic pain self-management programs is undertaken with a non-specific population sample, with only a few studies exploring the issue with specific population parameters, such as an elderly population. It is therefore quite important to develop an evaluation model to see the effectiveness of the program in different target populations. The need for chronic pain self-management in the workplace in Canada will be defined clearly in the next section of this chapter.

Chronic Pain Self-Management Program Evaluations

Quantitative Design

The predominant methodological approach in the area of chronic pain self-management is a quantitative design. Within the quantitative research completed there are a number of research foci which help to identify the research gap in this field. These

research foci include: specified population age, cognitive behavioural therapeutic approaches, educational interventions and rehabilitation approaches.

LeFort et al. (1998) completed a randomized controlled trial in Newfoundland to assess the effectiveness of the CPSMP. One hundred and ten participants with chronic pain conditions were split into an intervention group or three month wait list control group. The outcome variables in this study included: perceived severity of illness, dependency, uncertainty, enabling skill, self-help, life satisfaction and health related quality of life. These variables were explored using a series of pre-existing scales and measures (LeFort et al., 1998). The participants completed all scales and measures, at baseline and at six week follow up after completion of the program. The intervention and control groups were compared at baseline using a chi-square analysis as well as independent t-tests. The results were that those in the treatment group had a statistically significant improvement in six of the outcome variables including: less dependency on others, reduced severity of pain, higher levels of self-efficacy, greater involvement in activities and greater overall life satisfaction, as found in comparison to the control group (LeFort et al., 1998). One of the limitations of this study is that it used a very non-specific population, with few exclusion criteria to examine the effectiveness of the CPSMP. While this is an interesting initial study, there could be a great amount of information gathered in how effective the program is in a specific environment, with a more exclusive population. This is in large part why this research study is isolating the population to hospital workers in their employment setting. The hope is that with some modifications to the research methodology that more detailed information can be ascertained about the program's effectiveness within this specific setting.

Chronic pain self-management has been studied in an elderly population, and the following studies explore this research focus. Haas et al. (2005) evaluated the CPSMP by LeFort as implemented with an elderly population of 109 seniors aged 60 and older. Measures examining pain and disability levels were collected pre-intervention and at a six-month follow up period by mailed questionnaires. The main statistically significant difference for the groups was on the Medical Outcomes Short Form 36 (SF-36) health survey on the emotional well being scale (Haas et al., 2005). The CPSMP was not found as having significant impacts on the primary outcome of pain levels; however there were differences on a few of the secondary outcomes including, functional disability, days with disability, emotional well-being and fatigue (Haas et al., 2005). This study helped to demonstrate the general effectiveness of the self-management program as implemented in a specific population group. A similar approach was used in this study.

Ersek, Turner, Cain and Kemp (2008) completed a comparison evaluation between a chronic pain self-management training group intervention and an education only control condition among 218 older adults, aged 65 and older. The participants were randomized into either the self-management or education only arms of the study. The self-management intervention consisted of seven weekly meetings of ninety minute sessions. The discussion of self management techniques included: relaxation, range of motion, exercises, application of heat and cold, pacing, medication and complementary therapies (Ersek et al., 2008). The education only group received a copy of *The Chronic Pain Workbook* or *Managing Your Pain Before It Manages You* (Ersek et al., 2008). These workbooks contained similar topics to the self-management group sessions. The study found no major differences between the two groups, except in the area of relaxation

use to cope with pain. The self-management group was more inclined to use relaxation as a coping strategy as compared to the education only group. Due to the lack of significant differences between the groups, it was determined that more research needs to be completed in this area to identify what are the most effective delivery methods for chronic pain self-management therapies in the older adult population.

While these two studies explored the effectiveness of chronic pain self-management programs, they had also selected a specific target demographic with an elderly population. This research identifies the need for the evaluation of chronic pain self-management programs in different selected target populations and demographics. These studies focused on elderly target demographics, whereas this research study will focus on chronic pain self-management in the workplace environment.

The next grouping of studies did not evaluate the CPSMP necessarily, but rather similar cognitive behavioural interventions designed to help people with chronic pain conditions. These cognitive behavioural interventions were designed to help people with chronic pain manage their condition in a similar way to how the self-management program works. Turner-Stokes et al. (2003) completed a randomized comparative trial between a group based therapeutic interventions as compared to an individual therapy approach to managing chronic pain conditions. This comparative trial consisted of 113 adults with chronic pain who participated in a cognitive behavioural therapy, which included education, relaxation, coping strategies, pacing and exercise (Turner-Stokes et al., 2003). There were no significant differences between the group and individual treatment conditions in any of the measures taken (Turner-Stokes et al., 2003). All participants were shown to have improved significantly on their depression scores and

medication consumption (Turner-Stokes et al., 2003). The group based intervention made more significant gains in control over pain during treatment, however there was somewhat of a regression after the intervention (Turner-Stokes et al., 2003). This study identified some minimal benefits to utilizing a group based therapeutic approach to help manage chronic pain, which supported the group based approach of the self-management programs.

Dysvik, Kvaloy, Stokkeland and Natvig (2009) examined the effectiveness of a cognitive behavioural therapy approach in treating chronic pain conditions. The eight week pain management program was completed by 113 chronic pain patients (Dysvik et al., 2009). Variables were measured that explored pain levels, overall health and the participant's readiness to accept a new self-management approach, as seen through the Stages of Change Theory. The intervention consisted of action planning, therapeutic training and exercise. The findings of the study determined that this program has a potential to improve health related quality of life, reduce pain levels and add to the patient's readiness to change (Dysvik et al., 2009). This study showed that the cognitive behavioural therapy approach to pain management can be an effective method of self-management.

These studies both utilized similar sample sizes to explore the cognitive behavioural therapy approach to chronic pain management, however they utilized a more randomized target demographic, as compared to the prior studies that looked at the more selected elderly demographic. From these studies the nature of the self-management program is clearly rooted in a cognitive behavioural therapy framework; however the research completed was quite general in the target population selected. These studies

provide additional understanding of the CPSMP through different, but still somewhat similar approaches of the chronic pain management programs.

One of the studies reviewed examined a chronic pain education program, designed to teach chronic pain patients more about their condition to better manage it. Meeus et al. (2010) used a randomized controlled trial technique to evaluate a pain physiology education program to manage pain thresholds in patients with either chronic fatigue syndrome or chronic widespread pain. At the completion of the intervention it was found that the experimental group had a much greater understanding of their pain condition and had a reduction on their pain scores as compared to the control group (Meeus et al., 2010). From this study, it can be determined that an increase in knowledge of the physiology of a chronic pain condition can help someone with chronic pain manage their condition. This educational element is one of the key components of the CPSMP.

The final two quantitative studies examined evaluations of different rehabilitation approaches for chronic pain patients. Martensson, Marklund and Fridlund (1999) undertook a longitudinal evaluation of a biopsychosocial rehabilitation program for chronic pain patients. Martensson et al. (1999) found in their evaluation of this program, that participants had a significant increase in their overall well being and a significant decrease in perceived complaints about their chronic pain condition.

Jensen, Hensen, Christiansen and Nielsen (2011) evaluated a brief clinical intervention on chronic pain, as compared to a multidisciplinary intervention for sick listed employees and the effectiveness on the Return to Work process. While this

research does not necessarily contain a self-management approach, it is still quite important in the discussion of chronic pain in the workplace. The study participants were employees sick-listed three to sixteen weeks due to chronic low back pain (Jensen et al., 2011). The brief clinical intervention group consisted of an examination and advice offered by a rehabilitation physician and a physiotherapist. The multidisciplinary intervention had the initial intervention supplemented with a case manager and support team, along with an individualized rehabilitation plan (Jensen et al., 2011). The study measures explored pain and disability levels to determine, which was the best approach in achieving the best Return to Work protocols among the employees. Proper Return to Work protocols were achieved by 71% of the multidisciplinary group and 76% of the brief intervention group (Jensen et al., 2011).

While these two studies both explored rehabilitation approaches for chronic pain, they were different from each other on many levels. The first study mentioned was the only study found thus far that utilized a longitudinal design, whereas the second one was the only study that has taken place so far in the workplace environment. These are two research gaps that exist in the field of chronic pain self-management. Due to the nature of this research project, it was not feasible to complete a longitudinal research project, however this research was able to continue filling in the gaps of workplace based chronic pain interventions.

Qualitative Design

Qualitative studies were also completed in the area of chronic pain self-management. Three overall themes were identified including: facilitator roles, the

importance of the self-management approach and barriers and aids to achieving self-management.

Ryan, Hassel, Thwaites, Manley and Home (2007) evaluated the impact of the nurse consultant's role on chronic musculoskeletal pain using a semi structured interview approach. The sixty participants were not asked directly about the nurse consultant's role, but rather what has changed as a result from the approach. A primary result of this study is that the majority of the patients participating were using fewer hospital resources as a result of their interaction with a nurse consultant on their chronic pain conditions. This study demonstrated the effectiveness of a nurse consultant facilitator to implement a chronic pain management intervention. This was somewhat different than the peer facilitators used in the CPSMP, but has still identified the overall need for a facilitator in the process.

The following three studies provided a background of why self-management is a useful approach to managing a chronic pain condition. Cooper, Smith and Hancock (2009) used semi-structured interviews to assess the various aspects of physiotherapy management of chronic low back pain. The interviews found that self-management strategies were not consistently utilized in this particular group of twenty-five participants. The interview participants saw the need for self-management support following completion of a physiotherapy program, as they believed that the additional support for the self-management process would enable them to continue their efforts over a longer period of time. This study demonstrated that the standard medical model alone, is not as sufficient as incorporating a self-management approach as well. This result was found through increased adoption of exercise routines. While this study did not achieve

complete utilization of self-management, it did situate this approach as a viable tool to manage chronic pain.

Shariff et al. (2009) analyzed interviews completed with forty-six individuals with both rheumatoid arthritis and chronic pain in order to develop an overview of the management strategies that patients with these conditions applied on a frequent basis. It was found that participants achieved well-being through three main strategies: body management, mind management and mind-body management (Shariff et al., 2009). This research also identified a self-management approach as a necessary addition to the standard medical model to manage chronic pain conditions.

Crowe, Whitehead, Gagan, Baxter and Panckhurst (2010) explored the self-management strategies of people with chronic low back pain through semi-structured interviews of both the patients and their healthcare professionals. Through this study, it was found that the sixty-four participants mostly used medication, exercise and the application of heat to control and manage their chronic pain conditions. This study identified that chronic pain patients were able to develop their own self-management strategies to control and reduce exacerbation of their chronic pain condition. The health care professionals reported similar information through their measures. While this study explored the nature of self-management and its effectiveness, it did not demonstrate its effectiveness as a learned skill.

Bair et al. (2009) examined the barriers and aids to chronic pain self-management with eighteen participants who had co-morbid musculoskeletal pain and depression using a focus group methodology. Some of the barriers found by the participants included: a

lack of support from friends and family, limited financial resources, depression, ineffective pain relief strategies, life priorities, avoiding pain exacerbation, lack of personalized strategies and poor patient-physician interactions (Bair et al., 2009). The participants of the focus group recommended encouragement from nurse care managers and improvement of depression and mental health management skills in order to increase the effectiveness of self-management of chronic pain (Bair et al., 2009). Not only did this research utilize a focus group methodology, but also examined the different challenges and issues in implementing a chronic pain self-management program. This study was one of the most relevant research studies to the current project; with the main gap not being fulfilled is that it is missing the workplace component.

Mixed Methods Design

Kristjandottir et al. (2011) evaluated a cognitive behavioural therapeutic intervention designed to deliver self-management support of chronic pain through a Web-enabled mobile phone. This evaluation involved six participants. The intervention itself consisted of cognitive behavioural therapy exercises designed for people with chronic pain. The participants initially met with a nurse who assessed their condition and then afterwards were asked to complete online diaries and were sent online written situational feedback from a health care professional about their diary entries (Kristjandottir et al., 2011). A feasibility evaluation was completed by using a mixed methods approach, incorporating both questionnaires and semi-structured interviews. The questionnaires were filled out pre and post intervention and included the Chronic Pain Acceptance Questionnaire and the Pain Catastrophizing Scale (Kristjandottir et al., 2011). The semi-structured interviews were completed to discuss the experiences with the intervention and

to provide feedback. The evaluation found that most participants had discovered new insights into their symptoms and had developed new methods different than before, including focussed breathing and exercise to cope with their pain (Kristjandottir et al., 2011). This feedback approach had many similar elements to the chronic pain self-management facilitation. The nurses, like the program facilitators in the chronic pain self-management programs, were able to provide support and encouragement for the involvement of new management techniques.

From these interventions there can be a few important implications on future research in this area. One interesting element that can be taken from this literature review is that there are a few different self-management interventions that are designed to manage chronic pain. This is an important element, as in the burgeoning field of self-management many researchers are developing their own approaches on appropriate interventions and are constantly evaluating their effectiveness.

There are a few patterns that can be seen within these studies. The predominant methodological approach, in the quantitative studies, was a randomized controlled trial. This is quite logical as the researchers are mostly trying to determine the effectiveness of their intervention and this can be achieved through a baseline/follow up comparison. Another pattern that was found in the research is that of the use of standardized, valid and reliable tools in the development of the questionnaires. There are some measures that are quite common through many of the studies, including the Medical Outcomes Short Form 36. These measures provide both a general overview of the medical status of chronic pain patients, along with a specific focus on depression, which is common among chronic pain patients. As was seen earlier in this chapter, quantitative methodologies are utilized

over qualitative methodologies. Only some of the studies mentioned showed significant impact found through the intervention implemented. The lack of significant improvement as a result of chronic pain interventions could, in some cases, determine that the interventions are ineffective as they are not demonstrating statistically significant results. This is not the conclusion that should be gathered from these quantitative studies, but rather what this does indicate is that more research needs to be completed in this area to determine how these interventions can be adapted to become effective.

The qualitative methodologies also showed patterns in the research. The first pattern was that most used semi-structured interviews to explore the participant's experience with chronic pain or a chronic pain program, whereas only one study used a focus group methodology, which can be seen as a gap in the research. Qualitative methodology in the area of chronic pain allows researchers to delve deeper into different dimensions of chronic pain and chronic pain self-management. The instruments utilized in the quantitative studies are not able to tap into these dimensions of a chronic pain condition. This was a key gap in the literature that exists thus far. The majority of the qualitative research studies completed were explorations of self-management in general; however the studies did not explore the implementation of the chronic pain self-management program, in exploring the opinions and perceptions on each of the program elements. It was this gap that this research study attempted to fill. One distinctive lack of consistent pattern was in the sample sizes of the different qualitative studies, as these studies mostly appeared to have varying sample sizes. While quantitative methodological approaches alone can acquire some of this information, they cannot achieve nearly the depth of information that a mixed methods approach of quantitative and qualitative

studies can. The lack of qualitative or mixed method approach to research is definitely a significant gap in the current research.

This study condensed these research gaps into two overall research questions. The first research question was: what is the effectiveness of the Chronic Pain Self-Management Program as implemented at a community based hospital? The second research question was: what are the overall experiences and opinions of the participants in the Chronic Pain Self-Management Program at a community based hospital and what is it like to live with chronic pain in the workplace? The methodological approach of how these research questions were explored will be discussed in the upcoming chapter.

Chapter Three: Methodology

This chapter will outline the methodological process employed by this research project. Included is the reasoning and justification behind each step in the research process. The following sections will be presented:

1. Study purpose and study design: a general overview of the methodological approach as matched with the research questions.
2. Research setting and stakeholders: discussion of where the study took place, where participants were recruited from and which internal and external stakeholders were involved.
3. Study participants: describes the sample population, inclusion/exclusion criteria by which they were chosen and attrition.
4. Recruitment strategy: outlines the steps taken to recruit participants for the study.
5. Research paradigm: overview of the research paradigm in which this study is situated.
6. Ethics and research approval: describes the process by which this research study went through to obtain ethics approval to conduct research with human subjects.
7. Intervention: describes in detail what is included in the intervention and how it is delivered
8. Measuring outcomes: clarifies details about the measures chosen for this study.
9. Data analysis: explains the techniques used to analyze the study measures.

Study Purpose and Study Design

The primary purpose of the study was to determine the effectiveness of the Chronic Pain Self-Management Program (CPSMP), as described in the literature review. This was determined by assessing if participants in this program are able to better manage their chronic pain symptoms following participation in this program, as compared to their initial chronic pain management routine. The secondary purpose of this evaluation was to determine the satisfaction of the participants with the various elements of the CPSMP and to ascertain how the participants dealt with chronic pain in the workplace. This was determined by exploring which elements of the program the participants found useful or enjoyed; which elements the participants did not find as useful or did not enjoy; and the overall experience that the participants had with the program.

This research project evaluated the effectiveness of the CPSMP as implemented in the workplace through the staff and their families of a community based hospital. The effectiveness of this program has been demonstrated by LeFort et al. (1998) in her initial randomized controlled trial. By investigating the program's effectiveness in a work-based environment it will be possible to utilize the results to modify the program to make it as effective for the workplace population as possible.

The original plan for this research consisted of an evaluation of two offerings of the CPSMP for staff at the community-based hospital. The initial design was to have a morning and an afternoon offering, in order to offset some of the challenges associated with shift work in the hospital. Through filling two workshops to near capacity, it was the belief that a target population of 25-40 participants would be achieved. The end

result of recruitment and the study population will be discussed later in this chapter. The study process entailed the researcher being present at the beginning of week one of the program to consent participants and to administer the pre-workshop questionnaire. The participants were assigned participant numbers by an unblinded member of the research team. On the final week of the program, the unblinded member of the research team administered the questionnaire, matching the participants from week one and left the room as the questionnaires were filled out and put into a sealed envelope for the blinded researcher. The unblinded researcher kept the participant registry in a secure location in case of study withdrawal or any adverse reactions. Approximately six weeks after the completion of the program, participants joined the researcher to contribute to the focus group. Upon completion of the focus group, the audio was transcribed and the analysis of all of the data was concluded.

The first research question was explored using a quantitative methodology approach, specifically a questionnaire that was designed by the program creator and consists of pre-designed and validated tools (see Appendix A). The questionnaire was administered prior to beginning the program on week one and on week six upon completing the program. The methodological approach of data collection, at baseline and study completion, should allow for a definitive comparison of the variables collected. The dependent variables for this study included: pain severity, physical activity levels, physical abilities, daily activity levels, coping strategies, feelings, health care utilization and quality of life. These variables were compared along the independent variable, the intervention, to explore the differences in the dependent variables as a result of the

CPSMP. Through the comparison of the variables collected, it was possible to assess which elements of the program were effective and which ones were not.

The second research question was explored using a focus group methodology. A follow up focus group was completed six weeks after completion of the program. This focus group allowed for an in depth discussion of the opinions of the different elements of the program. Participants of the focus group were able to go into greater detail about the elements of the program that were effective and those that were not. The participants were also able to discuss how they manage their chronic pain on a day-to-day basis in the workplace. By utilizing a mixed method approach for this research study, it was possible to examine a more complete picture of the effectiveness of the CPSMP as implemented in the workplace environment.

Research Setting and Stakeholders

The study took place in its entirety at a community based hospital in Oshawa. As it is a community- based research project, it was deemed important that the research take place at the local hospital affiliated with the university (Israel, Schultz, Parker, & Becker, 1998). It was quite advantageous that this hospital was a relatively large regional hospital, which allowed for a large number of potential programs and study participants. The Occupational Health and Safety (OHS) office was brought in as an on -site stakeholder and provided assistance in booking meeting rooms and administering online intranet based recruitment material. In addition to the community based hospital, the Central East Community Care Access Centre (CECCAC) was brought in as a stakeholder to provide the CPSMP. The CECCAC is funded by the Central East Local Health

Integration Network (CELHIN), which is a government funded organization. The CECCAC provides these programs in community based settings and found the nature of this project to be important as a starting point in implementing a regular evaluation protocol and applying these programs in a workplace environment. All program related costs were covered directly by the CECCAC as part of their mandate to offer these self-management interventions in their catchment area. Both of these organizations had agreed to be full research partners to make certain the program would be successful in its implementation in this environment.

Study Participants

It was initially the hope to have two full programs at 20 people per program, however recruitment was a challenge and only 8 and 14 people initially signed up for each of the programs. It was taken into consideration that not all participants of the program would participate in the study, this combined with attrition led to a small sample size of study participants.

The nature of the inclusion/exclusion criteria is one element that makes this research study unique. The main criterion, by which participants are being chosen for this research study, was their employment at a community based hospital as staff or family members of hospital staff and also to have a basic understanding of English. There have not been any other research studies previously conducted that have looked at chronic pain programs as implemented in the workplace, let alone with hospital staff. In order to participate in this program and research study, potential participants were

required to have an existing chronic pain condition and to be currently employed at the community based hospital.

There are two separate types of attrition in this research study. The first occurs throughout participation in the program. The design of the program requires participants to attend at least four out of the six program sessions for them to receive certification and be deemed to have completed the program. In not completing the program, these participants would be ineligible to participate in the research study, as it would not be an accurate representation of the effectiveness of the program.

The second type of attrition is in the participation of the research study. Attrition in research participation would occur in two situations. The first situation is in people who had agreed to fill out the pre and post questionnaires and then either did not attend on week six or did not agree to fill out the post-program questionnaire. This circumstance of attrition was dealt with by removing the data from the paired t-test analysis. The second situation occurs when participants initially agreed to attend the focus group, but later declined or were unable to participate in those sessions. This circumstance of attrition was managed by first trying to reschedule the participants and if that was unsuccessful, not gathering qualitative data from them.

Recruitment Strategies

There were multiple approaches to recruitment, initially set out in the study design. The OHS office at the community based hospital agreed to post a one page version of the program poster to be placed on elevators and units throughout the institution. The OHS sent out e-mail messages through their internal e-mail system along

with a posting on their intranet. These e-mails mostly contained the program flyer and brief guidelines on how to sign up (see Appendix B).

When the initial recruitment processes were deemed as unsuccessful, it was decided that the principal investigator and a program coordinator from the CECCAC would go to the community based-hospital to do onsite recruitment. During these six onsite recruitment sessions, the program flyers were available and both recruiters were able to answer any questions that potential participants may have had. The on-site recruitment, while significantly more effective in recruiting participants for the community based hospital's programs than initial efforts, was also effective in promoting the community-based programs that CECCAC was offering. On-site recruitment allowed for further discussion and alleviation of any potential concerns that participants may have had in signing up for these programs. While the recruitment materials that CECCAC had created were well designed and quite informative, the personal touch in conveying information was invaluable in communicating the message and convincing chronic pain sufferers of the benefits self-management for controlling their chronic pain. These onsite recruitment sessions in addition to the initial recruitment strategy allowed for two programs to be held, although each of these programs was run at only half of capacity.

Research Paradigm

The research paradigm which supports this research project is community based participatory research (CBPR). CBPR values the stakeholder's input in the research design and heavily relies on their support in the implementation of the research (Israel, Schultz, Parker and Becker, 1998). As mentioned, CECCAC and the community based

hospital were both instrumental in implementing the program and were part of the planning phase of this research project. In this case, the research and the intervention were often intertwined and the stakeholders worked together to make certain that both were successful.

CBPR attempts to explore some of the underlying causes and social influences behind an illness or disease and as such values qualitative research methods to delve deeper into how sufferers make sense of and manage their condition (Israel et al., 1998). Through a qualitative approach it is possible to understand chronic pain in the workplace, including management techniques and existing support systems. From this knowledge we might be able to improve and adapt programs that already exist to be effective in the workplace. By having these discussions in addition to the quantitative methodologies of questionnaires it is possible to analyse these elements at a much deeper level.

One major aspect of CBPR is the application of knowledge into policy changes and tangible actions (Israel et al., 1998). By understanding the details and the overall experience of an employee with chronic pain, it is possible to make suggestions for improvements and to find a way for employees to have a better environment for them to work with their condition.

Ethics and Research Approval

Ethics approval has been sought from both the UOIT and the community based hospital research ethics boards. UOIT had undergone an expedited review, based on a full review from the community based hospital research ethics board. Approval has been

received from both institutions (UOIT File Number 10-105 and Community Based Hospital File Number 2011-020) (Appendix C).

Intervention

The following table (Table 1: Chronic Pain Self Management Program Overview) includes a week by week overview of the contents of the CPSMP. The CPSMP content is delivered by two trained facilitators in an interactive approach allowing participants to discuss their chronic pain condition in a warm and welcoming environment.

Session	Chronic Pain Topic
1	<ul style="list-style-type: none"> • Overview of self-management • Debunking myths • What is chronic pain? • Making an action plan
2	<ul style="list-style-type: none"> • Making an action plan • Feedback/Problem solving • Fitness/Exercise • Pacing activity and rest • Using your mind to manage symptoms
3	<ul style="list-style-type: none"> • Making an action plan • Feedback/Problem solving • Fitness/Exercise • Using your mind to manage symptoms • Difficult emotions • Fatigue/sleep
4	<ul style="list-style-type: none"> • Making an action plan • Feedback/Problem solving • Fitness/Exercise • Communication and Healthy eating
5	<ul style="list-style-type: none"> • Making an action plan • Feedback/Problem solving • Fitness/Exercise • Using your mind to manage symptoms • Medication • Depression
6	<ul style="list-style-type: none"> • Making an action plan • Feedback/Problem solving • Fitness/Exercise • Using your mind to manage symptoms • Communication • Making treatment decisions • Working with your health care professional • Future plans

Table 1: Chronic Pain Self-Management Program Overview

Measuring Outcomes

The quantitative component of the study, the questionnaire, was designed using a mixed methods research approach. The questionnaire consisted of a few sets of items

designed to explore various facets of a chronic pain condition and that provided a necessary and complete comparison from baseline to post program data collection. This includes, for instance, background questions, symptoms, the nature and severity of pain, weekly physical activities and coping mechanisms (see Appendix A). These tools were compiled into one questionnaire by LeFort et al. (1998) and were used in their entirety as they explore all of the different facets of the program and chronic pain. Each of these tools has been tested for validity and reliability, with alpha scores ranging from 0.81 to 0.94 in the different scales used in the initial evaluation study of the Chronic Pain Self-Management Program (LeFort et al., 1998). This questionnaire was pre-tested with three individuals prior to being administered in the program to time it. Permission was sought from the CECCAC to use this questionnaire for evaluating the CPSMP. A letter documenting approval to use these measures appears in Appendix A immediately preceding the questionnaire.

The first measure in the questionnaire was a demographic overview of the participant and their chronic pain history. Following this section was a single question on general health status and a review of the effects of the chronic pain symptoms on health status and energy level. The pain section of the questionnaire followed, with a review of pain levels in the past week. The Physical Activities section of the questionnaire discussed the total time spent in the past week exercising using different techniques. The Coping with Symptoms section of the questionnaire explored how often the participants were feeling low or having unpleasant symptoms. The Physical Abilities section of the questionnaire reviewed the level of difficulty participants could perform a list of tasks at a given moment. The Pain and Illness Interference section discussed how much pain and

illness has interfered with specific life choices in the past week. The Confidence section of the questionnaire asked the participants how confident they are in minimizing interference of the different aspects of their chronic pain condition. The Feelings section of the questionnaire discussed how often the participants were bothered in the past two weeks by specific emotional problems. The Daily Activities section of the questionnaire explored during the past four weeks how much health has interfered with social activities, hobbies, household chores and errands. The Quality of Life scale is a scale from zero to ten on how the participants describe their quality of life in the past two weeks. The Medical Care section of the questionnaire outlined the tasks that the participant does in preparation for their visit with their doctor. The final section of the questionnaire was an Improvement scale handed out with the post program questionnaires. The details of the questions posed in each of these sections can be seen in a copy of the questionnaire provided in Appendix A.

The qualitative methodology consisted of a follow up focus group with the program participants six weeks following the conclusion of the program. The research team, of this workplace study, had designed a focus group guide, which was based on a follow-up questionnaire created by the program developers. This guide explored the various components of the program and asked the participants for their opinions about how the program was delivered in the workplace environment (Appendix D).

A focus group methodology enables the focus group facilitator to obtain a more complete perspective of chronic pain and its management from the participants. Further, the focus group context enables chronic pain sufferers to feed off of the other participants' responses. The focus group initially discussed the overall opinion of the

Chronic Pain Self-Management Program. This acted as a bit of an ice breaker, which allowed for the participants to open up and feel more comfortable in their discussion with the researcher. The researcher then delved into the participants' opinion on each of the individual elements of the program. This allowed for an in depth perspective of what was effective and what was ineffective and why. The researcher was then able to follow up with which elements had more lasting impacts and if there was any decrease in improvement as time went on. The focus group guide concluded with any suggestions on improvement of the program for future iterations. Throughout this focus group, the researcher was able to explore the answers in a more workplace based focus. This provided more perspective to how chronic pain is impacting employees in this workplace and in workplaces in general, but also provided some knowledge about how to proceed in modifying the current program or developing new programs to be implemented in this environment.

Data Analysis

The quantitative data analysis for this research project used the Statistics Package for Social Sciences Version 20 (SPSS). The first result was the descriptive statistics of both the demographic variables as well as each of the pre and post program sections. This allowed for an overview of the sample as well as providing a snapshot of how the participants responded in each section. Following this a paired t-test analysis technique was used to compare the variables of pain severity, physical activity levels, physical abilities, daily activity levels, coping strategies, feelings, health care utilization and quality of life from the pre program questionnaires to the post program questionnaires.

The qualitative data was analysed from the focus group transcriptions. From these transcriptions, a hermeneutic analysis was performed (Honey, 1987). This analysis isolated common themes that appeared throughout the discussion. Hermeneutic analysis also often includes the analysis of non-verbal communication cues in the participants' responses, however due to the nature of this research it is unlikely that participants will have such responses to the questions being asked. In the case of this particular focus group, which elements of the program the participants enjoyed and which elements the participants found to be ineffective were identified. The thematic analysis explored how the participants manage their chronic pain in the workplace.

Chapter Four: Results

This chapter will review the results from the program evaluation of the Chronic Pain Self-Management Program (CPSMP) as implemented in the workplace at a community base hospital. The quantitative data collected includes socio-demographic data along with the questionnaire results. The qualitative data was collected using one focus group and one semi-structured interview. This chapter consists of the following sections:

Quantitative Results

Descriptive Statistics – An overview of the characteristics of the participants

Inferential Statistics – A discussion of the statistical significance of the quantitative results.

Qualitative Results

Opinions and Perceptions of the Program – A general discussion about the participants' experience with the CPSMP

Facilitators – A review of the effectiveness of the facilitators who delivered the CPSMP

Action Planning – A review of the action planning component of the program

Feedback and Support – A review of the feedback and support element of the program

Relaxation and Pacing – A review of the relaxation and pacing topic of the program

Diet, Nutrition and Exercise – A review of the diet, nutrition and exercise coverage in the program

Medication – A review of the medication component in the program

Depression – A review of the depression topic as covered in the program

Chronic Pain in the Workplace – A discussion of what it is like to live with chronic pain in a community based hospital workplace environment

Implementation of the Program in the Workplace – An overview of how the program was implemented in the workplace environment

Quantitative Results

Descriptive Statistics

The sample size of this program consisted of six participants in total. This includes participants who completed both the pre and post questionnaires of the program. The average age of participants was 66.5 years old with an age range of 46 to 85 years old. The reason for such a large age range in the workplace is that community based hospitals employ some older adults for their volunteer contingent. Some of the staff members who participated in the program were nearing retirement age. The mother tongue of five out of the six participants was English. The education of the participants was mostly at a high school level, with only two of the participants having completed university education. The employment level of the participants was not discussed on this questionnaire, however this is an area that should be expanded upon in future research in the field. Five out of the six participants identified themselves as being married, with one identifying as separated. The participants mostly self-identified their primary pain condition as Chronic Musculoskeletal Pain on the questionnaire, with five out of six participants having selected it. Four out of six participants identified themselves as

having arthritis and one participant identified with pelvic pain and ankylosing spondylitis. Co-morbid illnesses included high blood pressure, angina, diabetes and hyperthyroidism. A table of the above descriptive statistics appears in Appendix E.

Inferential statistics

In analyzing the results using the Statistical Package for Social Sciences (SPSS, V.20), it was clear that few of the relationships showed any level of statistical significance. Unfortunately, with the small sample size it was impossible to show any level of significance of the effectiveness of the CPSMP in the workplace. Power sampling was considered to try to achieve a level of significance; however this was not possible given a sample size lower than ten participants. The lack of quantitative data is informative for future workplace participation in the CPSMP and will be presented in the next chapter.

In this section of the results chapter a table will be created for each section of the questionnaire. This table will identify for each question, the mean of the pre responses, the mean of the post responses, the two tallied significance and whether the difference was significant or non significant. The first table for the quantitative results consists of the results of the General Health Status of the questionnaire (Table 2: General Health Status T-Test).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	3.17	3.00	0.363	Non-Significant

Table 2: General Health Status T-Test

As can be seen in the above table there is very little difference in this general health status of the participants. In fact, they seemed to feel as though their general health status was at a good level both before and after the workshop.

The second section of the questionnaire is an overview of the symptoms felt by the participants in the past month. The scale for this section of the questionnaire is zero for feeling the symptom none of the time and five feeling the symptom all of the time (Table 3: Symptoms T-Tests).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	2.83	2.83	1.000	Non-Significant
2	2.83	3.00	0.793	Non-Significant
3	1.50	2.00	0.296	Non-Significant
4	3.33	2.83	0.076	Non-Significant
5	3.83	3.33	0.363	Non-Significant
6	2.50	2.17	0.363	Non-Significant
7	1.83	1.33	0.580	Non-Significant
8	3.00	2.50	0.456	Non-Significant
9	2.33	2.17	0.793	Non-Significant

Table 3: Symptoms T-Tests

From this table it was clear that there were no significant reductions in symptoms as a result of the workshop. A fascinating distinction in this table is in question four, which discussed whether the participant was fearful about their future health. For this

question alone, there was a close to significant decrease from feeling fearful a good bit of the time to only some of the time.

The following section of the questionnaire is a review of how much pain the participants had in the last week and overall (Table 4: Pain T-Tests).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	6.67	5.50	0.302	Non-Significant
2	3.33	2.67	0.286	Non-Significant
3	4.17	4.67	0.296	Non-Significant
4	3.83	4.67	0.517	Non-Significant

Table 4: Pain T-Tests

For these scales, trends identified minor reductions in pain at its worst and at its least in the past week. There was a small increase however in the average pain most of the time and at the moment of filling out the questionnaires.

The Physical Activities section of the questionnaire reviews the amount of time spent per week doing various physical activities (Table 5: Physical Activities T-Tests).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	0.50	2.00	0.030	Significant
2	2.17	3.33	0.058	Non-Significant
3	0.33	0.83	0.363	Non-Significant
4	0.00	0.17	0.363	Non-Significant
5	0.00	0.67	0.363	Non-Significant
6	0.33	1.17	0.185	Non-Significant

Table 5: Physical Activities T-Tests

This section of the questionnaire showed one of the few significant responses to a question in the questionnaire. There was a significant increase in stretching and strengthening exercises with participants completing thirty to sixty minutes per week. Participants also seemed to spend more time than they were pre workshop walking for exercise. It is an interesting trend that participants seemed to spend a fair amount of time before the self-management program exercising through walking and this increased over the course of the workshop.

The Coping With Symptoms section of the questionnaire reviews how the participants manage their pain (Table 6: Coping With Symptoms T-Tests).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	2.00	2.17	0.771	Non-Significant
2	1.33	1.33	1.000	Non-Significant
3	0.50	2.00	0.017	Significant
4	1.00	1.50	0.456	Non-Significant
5	1.17	2.17	0.144	Non-Significant
6	1.17	2.67	0.060	Non-Significant

Table 6: Coping With Symptoms T-Tests

The statistics from this section of the questionnaire identified that participants started using mental games or singing songs in order to keep their minds off of the discomfort. This was a statistically significant trend shifting from never utilizing that coping strategy to using it sometimes. Also interesting in this section was a near significant shift of the participants using positive self-talk in order to cope with their symptoms. While this result was not statistically significant like the mental games coping strategy, it is still an interesting trend.

The Physical Abilities section of the questionnaire identified the level of difficulty in which the participants were able to perform certain activities at the moment of completing the questionnaire (Table 7: Physical Abilities T-Tests).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	1.50	1.33	0.611	Non-Significant
2	1.67	1.50	0.611	Non-Significant
3	1.00	1.17	0.363	Non-Significant
4	1.67	1.50	0.363	Non-Significant
5	1.17	1.33	0.363	Non-Significant
6	1.83	1.50	0.175	Non-Significant
7	1.33	1.00	0.175	Non-Significant
8	1.67	1.50	0.363	Non-Significant

Table 7: Physical Abilities T-Tests

In this section of the questionnaire there seemed to be very minor reductions from pre to post workshop responses. Most of the participants seemed to be able to complete all of the activities in this section with only some difficulty.

The next section of the questionnaire reviews how pain and illness affects the life of someone with a chronic pain condition (Table 8: How Pain and Illness Affects Your Life – T-Tests).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	4.33	3.67	0.286	Non-Significant
2	4.33	3.50	0.341	Non-Significant
3	3.83	3.17	0.025	Significant
4	4.67	4.50	0.842	Non-Significant
5	3.33	2.50	0.224	Non-Significant
6	5.33	3.50	0.069	Non-Significant
7	5.00	2.50	0.053	Non-Significant
8	3.50	3.33	0.822	Non-Significant
9	1.67	2.00	0.638	Non-Significant
10	4.00	3.50	0.076	Non-Significant
11	4.00	3.67	0.576	Non-Significant
12	2.50	2.17	0.741	Non-Significant
13	1.67	2.83	0.058	Non-Significant
14	2.17	2.33	0.741	Non-Significant
15	3.17	1.17	0.102	Non-Significant
16	3.17	1.83	0.043	Significant
17	3.00	2.00	0.111	Non-Significant
18	0.67	0.83	0.695	Non-Significant
19	2.83	1.33	0.203	Non-Significant
20	2.00	1.67	0.530	Non-Significant

Table 8: How Pain and Illness Affects Your Life T-Tests

As can be seen above, most of the results in this section were non significant. There were however two statistically significant reductions on pain interference, seen in the walking and family questions. There were some questions in this section that yielded near significant responses, including sleep, life enjoyment and financial interferences. Given a larger sample size, it would be fascinating to see whether these patterns would manifest in statistically significant results.

The Confidence section of the questionnaire discusses the participants' confidence in performing different activities (Table 9: Confidence About Doing Things T-Tests).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	4.00	4.67	0.675	Non-Significant
2	4.50	4.33	0.911	Non-Significant
3	4.83	4.83	1.000	Non-Significant
4	5.33	5.00	0.765	Non-Significant
5	6.00	4.83	0.220	Non-Significant
6	5.00	6.33	0.355	Non-Significant

Table 9: Confidence About Doing Things T-Tests

As is identified in the above table, there were no significant results in this section. Most of the responses were only slightly different between the pre and post measures.

The Feelings section of the questionnaire examines the emotional issues that participants are having as a result of their chronic pain (Table 10: Feelings T-Tests).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	0.67	0.83	0.611	Non-Significant
2	0.83	0.50	0.363	Non-Significant
3	2.00	1.33	0.328	Non-Significant
4	2.33	1.67	0.235	Non-Significant
5	0.33	0.17	0.363	Non-Significant
6	0.83	0.33	0.203	Non-Significant
7	0.83	0.50	0.175	Non-Significant
8	0.50	0.17	0.175	Non-Significant
9	0.50	0.00	0.076	Non-Significant

Table 10: Feelings T-Tests

The Feelings section of the questionnaire did not yield any significant results throughout the responses. The only near significant response was a complete reduction in thoughts of self-harm.

The Daily Activities section of the questionnaire reviews interference on specific daily roles (Table 11: Daily Activities T-Tests).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	1.50	1.00	0.296	Non-Significant
2	2.50	1.17	0.010	Significant
3	2.33	1.83	0.296	Non-Significant
4	2.50	1.67	0.042	Significant

Table 11: Daily Activities T-Tests

The Daily Activities section of the questionnaire had two statistically significant results on the interference of chronic pain on recreation and running errands. These results show that there was a small reduction in the impact of chronic pain on daily activities.

The Quality of Life section consisted of a single question reviewing the quality of life before and after the workshop (Table 12: Quality of Life T-Test).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	5.50	6.33	0.224	Non-Significant

Table 12: Quality of Life T-Test

The result of the quality of life measure did not show significance from pre to post workshop measures.

The final section of the questionnaire reviews Medical Utilization. The results are seen in the following table (Table 13: Medical Utilization T-Tests).

Question	Mean Pre Workshop	Mean Post Workshop	Significance (2 tallied)	Result Significance
1	1.17	1.67	0.296	Non-Significant
2	2.83	2.83	1.000	Non-Significant
3	3.33	3.17	0.741	Non-Significant

Table 13: Medical Utilization T-Tests

There were no significant differences from the pre to post workshop measures in medical services utilization.

A few patterns can be extracted from the data, however due to lack of significance they cannot be correlated directly to the CPSMP. For most participants there appeared to be a reduction in pain levels from the beginning of the program to its completion. With a larger sample size, this measure, in and of itself, would suggest the effectiveness of the program in reducing pain. Participants seemed to be somewhat more physically active at the end of the program, with many participants taking up walking on a more regular basis. The inclusion of some physical activity can be quite beneficial to someone with a chronic pain condition and this could be proven to be a significant impact as a result of the CPSMP. Finally, most participants indicated on the improvement measure, collected only on the post program questionnaire, that they were much improved as a result of the program. While the small sample size was unable to achieve statistically significant results, it is important to recognize that the participants felt that the program was of benefit to them and resulted in an improvement of their chronic pain condition. The suggested benefits are corroborated in the descriptions offered by participants in the qualitative portion of this investigation.

Qualitative Results

The qualitative results of this study consist of data collected from one focus group and one semi-structured interview, consisting of three participants in total. It was initially intended to have the qualitative component of this study consist entirely of focus groups. This was not achieved due to scheduling difficulties. It was determined that data from a semi-structured interview would enhance our understanding of how participants made sense of and coped with their chronic pain condition. The focus group consisted of

two participants and the semi structured interview consisted of one participant who was unable to attend the focus group.

Opinions and Perceptions of the Program

The overall opinions of the program were positive for all of the focus group and interview participants. Each described the usefulness of the program at great length; and each identified a principle reason why the program was as successful to them as it was. Participant C said “I think it is very well designed and the group leaders were amazing. They really helped to get us going and unfortunately we didn’t have a huge group, but if we have a larger group there are pros and cons to that...”

Comments regarding the facilitators’ responsiveness and helpfulness arose repeatedly throughout the focus group and interviews. For instance, Participant A remarked “...people felt comfortable and gained the trust of their facilitators so that they could speak openly. I mean they’re still guarded, we’re still guarded, and it’s only six weeks, right. But within the short period of time it didn’t take long to see that everybody in the room had the same issues and the facilitators were very warm. Facilitators are a very important part of the program.” While the facilitators are key to the program’s success, their role will be discussed at greater length in the next section of this chapter. It is important to mention at the outset, that the overall opinion and perception of the program is inexorably linked with the effectiveness of the facilitators.

Participant A continued their overall view of the program with,

I thought it was very informative. It was excellent information. It was two excellent books that we received that you could just sit and read at home. It was very well done..... I thought it was wonderful. The part that really intrigued me was the fact that I could bring my husband, a

family member, that he could be informed. I have been to a symposium with a social worker years ago on how to cope with your partner or your family member or your child, that has a chronic illness, but the other person has their role in it too. I have always found that informative, so I thought bringing him, because he also has some pain problems, but then we could understand each other more.

The perception of the CPSMP was positive. Participants seemed to feel that they were able to open up and get a lot of information out of the program throughout the six weeks. Given the prior general knowledge about health and chronic pain that most of the focus group and interview participants seemed to have going into the program, it was impressive that they were able to come out of it having learned a great deal more. It is quite clear that given the open and supportive nature of the program that it is possible to teach the participants a new skill set. This theme of knowledge and individual buy-in to the program will be covered at greater length in the next chapter.

Facilitators

As mentioned, the facilitators were an integral component to the success of the self-management program. The facilitators were able to make the participants comfortable enough to discuss their chronic pain conditions openly. Participant A described this in “you have to have that comfort level and we did and that’s why I say that the facilitators themselves manufactured that in the beginning, with their sense of humour and their open way of being.” Participant C went into greater depth about each of the facilitators in the way they worked with each other and played to each other’s strengths.

Well [Facilitator] is amazing. She has been doing training for years, she is a master trainer and she makes it look very very simple and easy. That is, I think the trick. To make something look like a casual conversation even though it is a structured system. You are timing

yourself. She is just like an actress, she is presenting herself.....[Facilitator] Is great, he has got a wonderful attitude and just the way of being very welcoming and how he says things and how he can paraphrase what people say and he puts it into a very short phrase. I really enjoyed just watching them and the skill set that they brought in the group. I saw that they opened up because of how professional, but welcoming they were. They made it feel that they were just sitting in their home and chatting with one another. It was a very natural feeling.

The nature of the process and way that facilitators use were important in the self-management program. Many participants go into the self-management program uncertain of what they are getting themselves into, may be uncomfortable discussing their chronic pain in an open environment and may be hesitant about self-management in general. It is up to the facilitators to alleviate any of these concerns and eliminate them entirely fairly early on in the process; otherwise the program will not be nearly as effective as it should be. In this case it seems as though the facilitators were able to get most of the participants in this group to open up and participate fully in the program.

A discussion arose in the focus group and interview about the gender balance of the facilitators. In the case of the first program, there were both a male and a female facilitator. The participants found that this setup allowed for greater participation of the male population, as it seemed to be a more female dominated program. Participant A said “The facilitators I guess being a female and a male really encouraged the two other men in the room, or three actually sorry, three men opening up, but I think that one would have anyways, that’s just my perception. But, I think that gender-wise for facilitators is ideal situation, having a man and a woman.” Participant C acknowledged the benefit to having the pair of facilitators be from two separate genders, however did not find it to be a necessity.

I thought that it was great that each represented, because each gender has its own issues and if it was two women, maybe the men in the group wouldn't relate as well. If it was two men, maybe the women may not connect as well. I am guessing, but maybe the groups are attended more by women than by men. I am guessing 80%. Personally I don't think that two men, unless they are compassionate, would always work. Honestly, I think it would work too. It depends on the group that you are trying to go towards. I really enjoy it; I just think that rather than the gender, I think it was just the personalities. They fit well together. Sometimes the facilitators go to facilitate and they are just disconnected. That may not work as well.

The gender balance of the facilitators is something important to consider in further implementations of the program and may be a promising area for further research in the continued development of the CPSMP.

Action Planning

This section explores the qualitative results, where each of the topics of the CPSMP will be explored through the opinions of the participants. Each of these components was described in the intervention section of the methodology chapter (see Table 1). Action planning was considered to be the most valuable element of the CPSMP. This was a logical perception of the focus group and interview participants, given the fact that action planning was a component of every week of the CPSMP and is a key component behind the other program elements.

Participant C summed up the nature and benefit of action planning quite succinctly, showing the true benefit of it.

This type of process and program should be taught in primary school to kids, this should be a part of our life, because every day we make action plans just sometimes we make poor ones, making action plans and realizing that if we plan ahead and we plan for something and do something, that's how we get things done. If we don't plan something

and do it then it's not efficient and things happen. If we just plan and don't do anything then nothing happens... The main component that I thought was valuable was the action plan. It is the main one is that we did it every week and you realize that your whole life is made up of action plans, you don't consciously think of that but you make a plan and you continue to do it. I felt that was probably the best and most important thing that I learned from is that it's ok to fail from an action plan, it's ok, but if you consciously think about something and you do it and you have accountability that you make sure you do it and you do it because you told other people to do it.

While the connection of action planning to everyday life is interesting, it is the element of accountability within the program, which involves the personal responsibility towards managing chronic pain that allows it to be most effective. In the program, participants often share their action plans; this allows for some accountability to others in the program along with the aforementioned personal responsibility.

Participant A echoes the opinion of Participant C and adds in the element of support rather than guilt to help reinforce the use of action plans in managing chronic pain.

If you don't have an action plan then you ain't going to do it. I just, I know that. If you don't have goal setting, in whatever it is you are doing in life, for me that's the way I do it. That's what I am going to try and do today at work, I need to do this, this and this. I have chronic pain so in order to take care of myself I need to do this, this and this... I think too though like in the communication part, where you have your action plan and like you have it and you don't do it, I think you are taught that it's ok not to, if you miss. Like the guilt, you are not guilty, say dieting and that is why a lot of people go on action plans. So I think there is a lot of really good communication of things that we were doing.

Through this quote, Participant A demonstrates the benefit of action planning in the workplace environment, as it helps manage workload in a given day.

Participant B used action plans in order to allow themselves to get up and continue to be productive, as opposed to letting the chronic pain condition take over their life.

If you are at home and you are in pain and it's very easy to just kind of go into your shell and you just lay there or lay on the couch or whatever and withdraw and not want to do anything, but if you set yourself an action plan and have a goal then you want to do it, you have a plan in your head, to me in my head I have to get up and I have to do this and I have to do that.

From this discussion of action plans it is quite clear that this section of the program is pivotal to the overall success. Action plans allowed the program participants to focus on something other than their chronic pain condition and create a level of accountability for themselves to take control of both their chronic pain and their lives in general. It was mentioned that action planning in addition to being the most successful element of the program is also the element that is the most transferable to the workplace. By creating and keeping to plans, it is possible to increase efficiency of the work that is being done.

Feedback and Support

In addition to training the participants to self-manage their chronic pain condition, the program is fundamentally a support group, which allows the participants to discuss their condition in an open and safe environment. Participant C had some difficulties with their buddy in the program, but they found that the overall support in the group was quite well done and the participant was still able to get support from other coworkers with chronic pain in the program.

...some people who really had that connection and in the group itself felt very connected but any support systems after that even with my coworkers that attended... I think we did connect a little but because we could understand one another that we'll come from the same area we have chronic pain and we respect that we don't really have to talk about it that much but we can understand when times are tough or if one of us is not feeling well.

While the overall support in the program was well done, the participants also received some level of support from their coworkers, friends and family in order to deal with their chronic pain condition. Participant A did not know anyone in the program, but noticed that it would be quite helpful for those who went with their coworkers. "...three pharmacists in here, in that group. I thought, how wonderful for them, because if they all know how each other and what they have, they can compensate for them in their workplace and help more and understand more. It's hard to go to work and say, oh yeah I am not feeling well again today."

Participant B mentioned that the support of the coworkers and friends at work is something important and people can open up in this workplace environment.

Even when you, you know, come to work and you see that someone's not quite right, you see that something's wrong with them well, you know obviously pain or quiet or whatever, now you understand what they are going through. Instead of thinking, oh they're in a bad mood or whatever. Now I knew from another floor, where I used to work. I felt that it would help if you had support, even if they are people from my place that they would open up so that we can support each other.

Both the program and the workplace allow for some level of support for people with chronic pain conditions. There can also be the negative, more judgemental behaviour in the workplace, which will be discussed later in the chapter. It is important that this behaviour is balanced and offset by supportive colleagues and managers who allow people to work in a non judgemental and pleasant workplace environment.

Relaxation and Pacing

The relaxation and pacing component was the next component of the program mentioned in the description of the intervention. The participants for the most part seemed to enjoy the relaxation and pacing component of the program. Participant B had said that “Yes, definitely the breathing and I don’t know what my problem is but the problem always was that I don’t... I feel... obviously I breathe because I am still alive... but let’s say I am going for a walk or doing something or whatever... I hold my breath.. I don’t breathe deeply... I need to be thinking about it.” The aspect of breathing is a relaxation technique that most people seem to forget about and neglect. It can be an incredibly important component to both pacing activity and relaxing when a chronic pain condition is flaring up.

Participant C stressed the value of pacing and relaxation in “I found that I consciously tried to take my breaks as best I can. I have no problem with getting up and stretching sometimes I'll just go up and stretch. I find that sometimes I'll get ingrained in go back into the way I was and going going going... but I tried to tell myself that I have to take care of myself first because I am of no use to anybody else if I'm not in good working order.” This statement shows the true benefit of pacing in the workplace in particular. Many of the participants often push through their chronic pain in order to get the job done. Working through the pain can often times be a result of counteracting any negative opinions that other employees might have of the employee with chronic pain. These opinions seem to be that the employee with chronic pain was lazy or taking it easy with their workload. These experiences are discussed later in this chapter under the chronic pain in the workplace section.

Diet, Nutrition and Exercise

The next component of the program mentioned in the description of the intervention was the discussion of diet, nutrition and exercise. Dieting and nutrition was not a key component of the program for most participants. Participant A stated the logic behind this in “And the Diet part, the food part. I think everyone knows that, it’s on the news all the time. So don’t go to McDonalds and don’t eat carbs and eat fruit and vegetables and salads, like if you don’t get it now, you never will. But you know what, it’s like old habits are hard to change for some people.” From this statement it is clear that the success of this program component is not through the discussion of new diet and nutrition practices, but rather on reinforcing those concepts along with the other self-management practices. Many people seem to be aware of good diet and nutrition practices prior to self-management training, however the program reminds the participants of these concepts and allows them to reincorporate the concepts into their daily lives.

Participant C discussed the challenges of nutrition and exercise while dealing with everyday life.

I know so much about it I have expertise and knowledge in the areas of nutrition and exercise. The problem is that so many things are at my disposal. We just had a child a year ago so I've been trying to get my wife to get moving and I've taken care of her but I've used it that then as an excuse. I find I got into the cycle of really not exercising that much in last few months so I know that I need to break that and just get out there and so sometimes. I just go out for even 10 minutes or 30 minutes even for a walk. I have to make sure that I actively do that on a regular basis because, yes I become very inactive I tried to eat well but in the last few months I've just really... In giving up the physical activity I have replaced that with the nutrition. I've always known all those things because it's really good as a reminder I have to remind myself that and I have an action plan and it stalled right now.

These statements demonstrate both a problem and a solution to the ongoing implementation of the self-management knowledge to control chronic pain. As is often the case with everyday life, there are often challenges put in place that impede efforts to maintain diet, nutrition and exercise, in this situation the participant's impedance was the birth of a child. It is truly fascinating, however that the participant utilized the action planning in order to help themselves get back on track with a proper diet and exercise regime. This shows a learned behaviour of implementing a problem solving cycle using the action plans as a method to control and manage all facets of a chronic pain condition and everyday life. The action plans helps participants to set goals for themselves, this is a key component to any diet, nutrition and exercise plan, as these goals allow for the participant to work towards a specific target weight.

Medication

The next component of the program that will be discussed is that of medication usage. The focus group and interview participants saw the CPSMP as a way to reduce the need for medications. All of the participants saw the negative implications of taking such serious medications on a semi regular basis. Participant B said "I know that I need help and that my pain is going to get worse. So, I wanted to know what I can do to help myself, because I certainly don't want to take many medications, not at this point anyways, just to see how I can manage it." This demonstrates that people with chronic pain understand the risks and potential consequences of the medications that they take and see the place of the CPSMP to help offset the need for these medications.

The participants mentioned that the medication component was covered in the program, however it may not have been as necessary due to prior knowledge that they had about medication. Participant B mentioned that “well yes they identified the different things that you can take and how they work and things like that, but I think most of us knew pretty well about the medication part of it.” The interesting question to ask about this previous knowledge is whether or not program participants know about medications and their potential consequences on health, some of which were mentioned in the Introduction and Literature Review chapters. Participants in the health care environment may have more knowledge about the different chronic pain medications and be more in tuned with the implications of heavy medication usage. This may be as a result of possible interactions with patients, and in these interactions seeing some of the consequences of heavy medication usage first hand. This question is discussed at greater length in the following chapter.

Depression

The final major component of the program mentioned in the description of the intervention was the concept of depression. Depression is one of the key topics of the program and the opinions of the participants on its coverage by the facilitators. Some of the participants felt that it was covered quite well and got them to think about the implications of depression on their life. Participant C mentioned the value of the depression component in the following quote.

I find that I worked in many years and mental health and depression and it wasn't until I actually took the program that I actually and did a lot of reading about all the different symptoms of depression and chronic pain I'm like wow I actually probably do have a bit of depression because I'm not thinking right. I have a cloudy feeling and I

just thought that was the way things were and him like man I'm just forgetting everything the program got me thinking more about how to self-manage those things you know not take things so seriously and to know what's important and what's not stress tolerance. I don't actively try to remember the wheel of symptoms of the disease and how I can break the chains, I see them in my head and but I know I have a lot of different tools at my disposal.

This program allowed someone who was quite aware and knowledgeable about the many facets of depression to gain a new appreciation and awareness of their own depression as it related to their chronic pain condition.

One focus group participant did not find the depression component to be well covered in the program. Participant A said “I know I can talk about my pain and I think for me I would have liked to have seen more on the communication with a buddy and the depression that comes along with these illnesses because these can also lead to addiction, so you lead to mental health issues and anxiety.” This participant believed that due to the implications of depression leading to other serious mental health issues, that it should be covered at greater depth in the program.

actually the other person that talked a lot about depression and how she couldn't even go out to the mailbox...you know what she did, she ended up getting a dog in the end.... yes, yes...I was thrilled for her. Because the first session she was really, really quiet and she seemed depressed and she was going through a lot I sensed and she didn't even... I'm not sure how far it is to the mailbox that she was walking to, but she wouldn't even go to the mailbox

From this it can be learned that depression is an incredibly important program component to the participants and while it is effective for many participants now, it must be expanded upon further in order to be more successful for a wider range of participants.

Chronic Pain in the Workplace

Living with a chronic pain condition in the workplace seems to be an often challenging issue, where the employee with chronic pain has to tread a careful line of disclosure. Employees seem to be quite hesitant to fully disclose the full nature of their chronic pain condition, for fear of being stigmatized due to their condition. Participant A described this apprehensiveness about disclosure as follows. “...I work at [community based hospital] and I was thinking I don’t want anybody to know, you know like because it is a private issue...I ended up telling people that I went to a pain management clinic, only because I am retiring anyways.” This stigmatization could also be seen as having an impact on CPSMP enrolment as well, as employees may be hesitant to be associated with a program where their chronic pain condition will be disclosed.

As compared to this, Participant C talked about living with chronic pain and both the positive and negative sides to it being a fairly invisible condition in the workplace.

Yeah, well that comfort thing for the people that have it. It is so frustrating. One the one hand if you want to hide, that’s great. On the other hand if you want to show people that this is the reason why, and I don’t want to be this way, but this is who I am and people don’t understand because they can’t see it. The perfect example was this one person who said that every time we had severe pain that we turn blue or something, our nose turned blue or something happened and a light went off and people would notice, oh, your nose is blue, oh you are in severe pain today. This one person said if I had a bandage over my head, that is the only way that someone would really know that I am injured, but with chronic pain it is very very invisible.

The participant continued in stating that because it is invisible a lot of individuals will question if the person is just taking it slow or easy, because of laziness as opposed to the true reason of having the chronic pain condition. Through this there is a fair bit of talking

and discussion of employees on the side about why someone is not working to their maximum efficiency. The participant described it as follows,

I am sure that somebody else is talking about me, if I am not up to speed or I am making mistake, because I am not on today or in a lot of pain. It's not an excuse. A lot of us are made to feel that it is an excuse so we are very guilt ridden because of that. It is also very hard to explain to somebody unless they have some sort of chronic pain.

Participant A also described the difficulty with the external perspective of someone with a chronic pain condition. "I think part of it is that people think you are not going to work as hard with chronic pain so they don't want to get into that with you... it's just... but you know the other fact is that when you're in a health care environment working you would at least expect a little bit more understanding..."

Participant B had said that the workplace support from leadership can be an issue and can vary simply based on the personalities and nature of leadership. "I think it all depends on the manager because I know that like my supervisors they haven't been bad they've been supportive and stuff like that but then there was one there is one that just sits in her office and I don't know what the hell she does"

The different perspectives of chronic pain in the workplace demonstrate that there are a number of issues that employees need to negotiate and consider in the workplace environment. These issues can be summarized into issues with their managers and/or employers, and with coworkers. Both of these issues can be summarized into the common theme that both groups do not fully understand and comprehend the nature of living with a chronic pain condition. The concept of the invisibility of disease will be further explored in the Discussion chapter.

Implementation of the Program in the Workplace

The implementation of the CPSMP at the community based hospital was fraught with challenges. These challenges will be discussed in depth throughout the Discussion and Future Considerations chapters. The focus group participants discussed some of the program challenges from a participant's perspective in the workplace. The focus group participants seemed to be frustrated by the lack of support from their workplace for the CPSMP that has helped them a great deal.

The first discussion of lack of workplace support was in the lack of advertising effort put in by the workplace. Participant A simply felt that the advertising was insufficient.

I don't know if it was advertised enough, I don't think the advertising was enough. Because I am very tuned into it and I am only working part time I have, I guess I had maybe more time to go over my e-mails, but the advertising for full time person between getting information in mox and repeated in your inbox, like a lot of people don't read everything. So, I think the advertising has to be done outside of the tech world, maybe signage and other things...

Participant B expanded on this point by adding the challenges for those who were off work because of the chronic pain condition and them not being able to hear about the program at all. "Just the thought came to me that a lot of people could be off with pain and they don't have either mox or e-mail that they get at home, I am wondering if somehow through Occupational Health get in contact with people who are off with chronic pain." This discussion of advertising is a more specific example of the lack of support from the workplace in implementing the program.

The next mention of lack of support was in the booking of the program sessions by the workplace and issues that occurred with timing. The first major concern that was brought up was in the timing of the program sessions as related to shift work. Participant C discussed the challenges of attending this program while managing shifts and proposed a solution of being given paid time off to attend this program for six weeks.

...people might not have the time to do it after work, the time may not work well for shift workers. A lot of the people are nurses, and they may not want to do it after their shifts, so that was the difficulty for me and I do shift work starting anywhere from 7:30, 8:30, 10, 12:45, depending on where I am designated and what I am to do that day, it was quite difficult for me to switch my shifts around. So that is one thing, it is not a nine to five job at the hospital... even if a part of it was paid or if there was some kind of backing financially through [community based hospital] you would see so many people sign up... Shift workers will often work 7:30-7:30 and if they were given that time and it was paid time. You would have to have an interview process to find out who was worthy of it and does it come under scrutiny or ok, is this person more worthy than another, is this person deserving. So you could have a lot of issues that way. If the organization does not buy into it or does not support it, then it will fail, because the person has already enough issues then they feel that their workplace is not supportive of their condition.

Participant C also discussed the issue of the workplace shifting one of the program sessions because they were unable to accommodate the room in the hospital. This led to many of the participants missing this session because they were unable to rearrange their shifts.

...it would have been nicer to have some buy in from my workplace. I did it because I really wanted to and needed to and I did everything in my power to make it happen and I didn't make it for one of them. That was the one difficulty and this was actually not the program's fault but the hospital's fault. For one session there was no room in the hospital for this and that is how much of a lack of buy in there was. Is that they had to change the date to another day and I did everything in my power to switch my schedule and take these other shifts and do this this and this, and then I find out that they don't have anywhere in this hospital. I know there are lots of empty rooms in this hospital at that point in time. I know they had a very important meeting that day, but I felt saddened by that, that there was absolutely no support..

This example provided by the participant demonstrated the complete lack of support from the workplace. The program needed to shift days in order to run on consecutive weeks because of lack of meeting space, which should not have been that much of a challenge in a hospital environment. The participant went on to explain the reason behind the lack of support. “The thing is, it is very frustrating for myself. I want to promote a program and I can do it virtually free of charge, it is not going to cost them anything, except for my time and I will do all of the work probably on my own, but they won’t buy into it and they don’t see the benefits that you could have from it.” The workplace in this situation was not willing to put the effort into something that they could not see the full benefits of. The question that arose from this is how do these benefits become clear to workplaces in general, if the workplaces that host the pilot studies are not willing to provide the effort and support to at least give the program a chance to be successful.

From the focus group and interview it was possible to identify those attributes of the program that participants found to be most important and valuable. The following chapter will suggest why the participants might have felt that some components were more effective than others and also will discuss the benefits and challenges of implementing this program in the workplace with some potential solutions to future workplace interventions.

Chapter Five: Discussion

This chapter includes an interpretation and analysis of previously described findings. These findings will be categorized into overall themes, based on an analysis of participant responses. These themes include:

Program Component Analysis – A breakdown of why certain components of the program were more or less effective.

Benefits of Implementing the CPSMP in the Workplace – A discussion of the respondents perceived benefits of the program.

Challenges of Implementing the CPSMP in the Workplace – A discussion of why this program faced challenges in this implementation.

Modifications of the CPSMP – An overview of potential modifications that can be made to the CPSMP to enhance its effectiveness in the workplace environment.

Program Component Analysis

The majority of the focus group and interview discussion focussed on the different components of the program, which ones were preferred and which ones were not. All participants praised the inclusion of the action planning foundation, relaxation and pacing elements of the program. Participants also found that the discussion about some of the special topics such as diet and medication to not be as helpful. Another finding was that depression was an important topic that needs to be focussed on at a

greater depth. This section of the discussion includes an analysis of why these preferences seem to have emerged.

Action planning, relaxation and pacing techniques were found to be the most beneficial components of the CPSMP in the workplace. The logic behind these preferences is in their ability to be applied in both the workplace and home environments in managing the chronic pain conditions. Through action planning it is possible to set reasonable goals for yourself over time and to reassess and re-evaluate how those goals are being met on an ongoing basis. In the workplace this can help in managing projects outside of the chronic pain condition, or it could be something to better the chronic pain condition within the work environment. The participants found that action planning is the most understandable component to the program, to either those with a chronic pain condition or without, and that the advertisements of the program should be directed in explaining that element.

The concept of action planning is linked directly with the self-efficacy theory (Lorig, 1996). This theory, as mentioned in the Literature Review chapter, allows the participants to set manageable goals for themselves to achieve on a day-to-day basis. This theory helps to explain why the action planning component of the program was seen to be as important as it was. By allowing the participants to feel as they are in control of their daily goals, they will also feel in control of their chronic pain condition as well, although sometimes these goals and the chronic pain condition are linked. The outcome is individualized as well, as it also demands the inclusion of the participants in the process, lending itself to automatic “buy-in” to the action plan and by extension to the CPSMP process.

The effectiveness of the action planning component is not isolated to this research study. Dysvik et al. (2009) also found the action planning to be a key component to chronic pain self-management. This can be seen as a trend in chronic pain self-management and any intervention in this field should begin with action planning at its core.

The relaxation and pacing techniques were directly applicable in the workplace setting. Often times the participants would push through the pain just to get through their workload in a given day. This program allowed the participants to learn to properly pace themselves through their work day, taking appropriate breaks in order to properly manage and adapt to their chronic pain condition in this environment.

These relaxation and pacing techniques were also seen to be an important element of self-management training by others. For instance, Ersek et al. (2008) found that the relaxation and pacing component was valuable to the self-management arm of the comparative research study. The relaxation component, in the Ersek study, was the only component that showed a significant improvement over the control group of the educational book. The findings from this study help to corroborate our results that relaxation and pacing is a key element to the program, even though the study by Ersek et al. (2008) examined an elderly population. This research helps to fill the gap identified in the literature that relaxation and pacing is integral in interventions in the workplace environment.

Action planning and relaxation techniques also showed the use of the coping component of the self-regulation theory. As mentioned in the literature review, the

coping component to the self-regulation theory involves the participant utilizing new skills to help cope with their chronic condition (Serlachius, & Sutton, 2009). Both action planning and relaxation techniques provided the participants with the necessary skills which allowed them to manage their chronic pain condition in the workplace.

Participants did not see the benefits of the diet, nutrition and exercise component of the program. The common belief was that most of the exercise and nutrition information is widely known by most people prior to entering the program. The program reinforced the knowledge of diet and nutrition that many participants already had due to its regular discussion in promotion and marketing in general society. Through the program it was possible to remind participants of these diet and nutrition practices that they were already aware of, in order for them to incorporate the practices alongside the other self-management techniques. It is interesting to note that diet and nutrition are never identified as having a significant change as a result of the self-management intervention in the previous research in this field. This identifies a trend in the field that diet and nutrition may not be as integral to chronic pain self-management training as initially believed. This deserves further exploration through additional research in this field.

The participants also seemed to be keenly aware of their medication usage, which indicated that there was not a great deal of new information provided by the program. The program seemed to add other techniques such as action planning and pacing in order to reduce the necessity of heavy medication usage. This result departs from Turner-Stokes et al. (2003) study, which found that participants showed significant improvements in medication consumption as a result of their chronic pain intervention.

The lack of importance of medication information from the program may have to do with the knowledge base that participants in the health care environment might have over a general population; the interview participant identified themselves as a pharmacist. The comparison of work populations could be a fruitful direction for future research, as it might identify areas that need to be focussed on more or less in different workplace environments.

These two components of the program were less successful in the implementation in this particular work environment due to the knowledge base that many participants had before the program. This knowledge base was identified throughout in the discussion with the participants and is mentioned in the results chapter. Health care employees see the benefits to proper diet and nutrition and the issues with improper medication usage regardless of the CPSMP specifying their importance.

Many participants felt that this iteration of the CPSMP did not focus very well on the depression element of chronic pain. While the program gave participants some insight and information on depression, it was not consistently successful with all of the participants. The aspect of depression is linked with the representation phase of the self-regulation theory. The representation phase of the self-regulation theory, as mentioned in the literature review, is how chronic pain patients see themselves with their chronic pain condition. This is a link to depression as the mental health status of the participant, including their experiences with depression help to develop this self-representation (Serlachius, & Sutton, 2009). By managing depression, it is possible for the participant to start to modify this representation for the better, not only with the physical symptoms of chronic pain, but with the emotional symptoms of depression as well (Serlachius, &

Sutton, 2009). By devoting more time covering depression, it may be possible to spend less time on the less necessary aspects of the program as identified by the focus group and interview participants.

In any workplace implementation of the CPSMP it is imperative to put a great deal of focus on both action planning and relaxation and pacing, as these components allow the program participants to better manage their chronic pain on a daily basis in the workplace. For future implementations of the CPSMP in the health care work environment it may be advisable that less focus be placed on the diet and medication subtopics and more time spent on other topics, such as depression, which some participants felt to be not covered as well, or that the participants were less knowledgeable about the topic.

Benefits of Implementing the CPSMP in the Workplace

Through discussion with the participants it was found that the skills learned in chronic pain self-management were applicable and suitable to the work environment. As mentioned in the previous section, the action planning and relaxation and pacing skills developed allowed the participants to become more efficient and effective with their work. The aspect of the program not mentioned above, but has a direct impact on the participants was the support systems and communication skills developed over the course of the program. Prior to entering the program, the support systems that the participants had at their disposal varied significantly. The CPSMP allowed for the participants to realize that they were not alone anymore in the workplace, and that there were other employees who understood and have lived with a chronic pain condition. This level of

understanding does not necessarily exist with friends and co-workers who do not have a chronic pain condition and do not directly know all that managing entails. This new support system was incredibly valuable in the workplace, as dealing with a chronic pain condition on an individual basis can add to any depression that the participants might have.

One initial challenge that many participants faced with the program was revealing personal aspects of their chronic pain condition in such an open environment. The participants were initially uncertain of whether the information mentioned was going to stay within the program. After a period of time in the program, the participants felt as though they were able to open up about their chronic pain condition and feel comfortable enough to share the details of what they were going through. By allowing the participants to open up in the program, they were able to discuss their condition more openly in other environments whether that be with other co-workers or their supervisors. The participants did not feel that it was necessary to hide their chronic pain condition from anyone and that in being open about it people might be more supportive and understanding to their situation. This barrier to communication often led to the participants bearing with their chronic pain condition and just pushing through it in order to get the job done. By opening those lines of communication it is possible that more understanding can be achieved and modifications of the CPSMP can be made in order to benefit everyone and maximize the overall workplace efficiency. While it is quite possible that not everyone in the work environment will be supportive even with the added communication, as was seen briefly in the previous chapter, it is still of benefit as

it will likely create a more supportive and healthy work environment overall, which allows for easier management of the chronic pain condition.

Challenges of Implementing the CPSMP in the Workplace

The implementation of the CPSMP in the workplace involved a great deal of difficulties and challenges, which can all be learned from for future implementations in this environment. As was mentioned previously, the community based hospital did not fully support the implementation of the CPSMP in their workplace. This lack of support was mostly in the initial planning and recruitment phases, however the impacts of this lasted throughout the duration of the program. The main lack of support was in the unwillingness among leadership to allow the participants time off work in order to attend the program. One of the focus group participants mentioned that this element alone would have brought many participants to the program and would have easily filled them. By requiring the participants to attend the program after their work day and fitting it in with an ever changing shift schedule, this creates significant barriers for employees with chronic pain to attend the CPSMP. The recommendation of paid-time off will be discussed at greater length in below. This is an area of chronic pain research that has yet to be examined. As only one participant mentioned this as a potential solution, further research should help to identify whether or not giving employees paid time off to attend the program would increase attendance at the CPSMP in the workplace.

Limited organizational support also affected recruitment of participants for the program. Initially, leadership was to advertise to all staff through waves of both digital and print media. This advertising was quite limited and according to one focus group

participant there was minimal information available at the satellite locations of the community based hospital. The focus group participants also felt that there should have been directed advertisements to people who were on sick leave with a chronic pain condition. This was something that was raised by the researcher in the initial planning stages of the program, but was considered impractical by the OHS. If these people were off work because of their chronic pain condition, it is possible that with the help of the program they would have been able to return to work sooner at a productive and efficient level. In this case, this program did not have the ideal level of participants due to the issues faced in recruitment, which had a ripple effect throughout the program and somewhat hampered its overall effectiveness. By not having a fully attended program, participants were unable to maximize the potential benefits gained from the CPSMP, as there can be a much better support system created with at least 15 people (Alvarez, 2009). Another challenge faced by participants, due to lack of support, was in the scheduling of the program. The rescheduling of the program was mentioned by one of the participants in the prior chapter. The focus group participant could not understand how another room in the entire hospital could not be found in order to allow the program to meet for six straight weeks. This rescheduling forced many of the participants to miss that session because they were not able to reschedule their work shifts to compensate for the change in day and time.

These actions and the limited organizational support for the program likely reduced the CPSMP effectiveness in this environment. The reasons for this lack of support are not entirely clear. The CPSMP was not a high priority program for the OHS office, nor was it perceived to be a necessary addition to their list of ongoing programs.

This is counterintuitive to both the evidence of effectiveness provided going into the program and the potential impact the program could have on their staff (Lefort, 1998; Lynch, 2011). This stakeholder hesitancy is something that has been seen before in community based research and will be discussed at greater length in the next chapter (Israel, Schultz, Parker, & Becker, 1998).

The focus group and interview participants also believed that there was a general lack of understanding and knowledge about chronic pain conditions through their case managers in the Occupational Health and Safety Department and their general managers. One participant mentioned that after a certain period of time off, the participant is monitored closely to make certain that the chronic pain condition is a legitimate health care issue. While caution towards those taking advantage of the system is understandable, it was felt by participants that their case manager does not always understand the nature of a chronic pain condition in its periods of flare ups and normality. This issue indicates that both the Occupational Health and Safety Department and general management require more knowledge in the realm of chronic pain and that with this knowledge they may be better suited to help those with a chronic pain condition in the workplace and support them through the process of going through the CPSMP. This is something that has yet to be examined in this field and would be an interesting direction for a future research project.

Modifications to the CPSMP

From the results of the focus group and interview there are a series of potential modifications that can be made to the CPSMP to enhance its effectiveness in the

workplace environment. The key modification that needs to be made in the workplace environment is in the employer support, this is something that was discussed in the previous section and will be discussed at greater length in the following chapter.

Based on the program component analysis mentioned above, the focus of the different program elements needs to be redistributed in order to maximize the program's effectiveness in the workplace environment. While a large percentage of the program was spent on action planning, it might be beneficial to have part of this discussion taking more of a workplace spin to it, focussing on how to set chronic pain related goals specific to this environment. This would allow for a discussion of how to implement action plans in the day to day working life, along with the personal life. More time should also be spent on the relaxation/pacing and depression components to the program, as these have direct impacts on work life as mentioned earlier in the chapter. This may also encourage greater support from the organization.

Each focus group and interview participant had suggestions or modifications that could be made to the CPSMP in the workplace. One common suggestion was to have management and the OHS office attend a version of the CPSMP to educate themselves about chronic pain and to be able to see the true benefits of the CPSMP for their employees. A major issue of chronic pain in the workplace seemed to be a lack of knowledge about chronic pain conditions by fellow staff members and management. This would help to increase that knowledge among the larger organization, which would create a much better work environment for those with chronic pain.

Another suggestion mentioned earlier in this chapter was to give the CPSMP participants paid time off work in order to attend the program. One of the deterrents to attending the CPSMP was that the employees would need to attend it after work or even possibly switch their shifts in order to balance it with their work schedules. It was found that there are enough challenges to get participants to attend the CPSMP in the workplace to begin with; as such it is imperative to find ways to facilitate this process. The issue with this suggestion is that it requires more financial support from the workplace, as they would need to pay for their staff to attend the program on work time. This solution comes with the inherent challenge of determining if staff members have enough of a chronic pain condition to warrant being given paid time off to attend the program. The potential solution to this challenge is to include an interview process to determine the level of the potential participants' chronic pain condition and whether or not they are at a stage to be attending the program on employer time. While there are ways around this and potential solutions to determine who should be able to attend the CPSMP, it is a complicated solution and requires a great deal of support and input from the workplace involved. Support from the workplace leadership would require convincing the leadership of the benefits of the CPSMP, not only to the chronic pain conditions of their staff members, but also to improve morale and productivity. If framed in this way, it might offset the questions regarding the cost of implementing the program.

The two final recommendations for modifications to the CPSMP in the workplace included an online training module to the program, as well as an elongated program consisting of shorter sessions. The online training modules would allow participants to attend the program from the comfort of their homes while receiving most of the benefits

of the program. While this recommendation would allow more participants to get some benefit out of the program information, it would still eliminate many of the positive dynamics of support that exist in the in person implementation, particularly the benefits of having dynamic facilitators. The online training module may be a good addition to the management CPSMP training, as this would allow an increase in knowledge while not requiring the supportive environment. The online module could be designed in a way to include a chat group function, which allows participants to discuss their chronic pain issues and support each other through the process.

The final suggestion mentioned by participants is to increase the length of the program to ten or twelve weeks and reduce the time of the sessions to one hour. This solution would allow the participants to attend the sessions during their lunch hours, while still maintaining much of the integrity of the program. This implementation of the program would need to be honed and refined in order to make certain that it is as effective as the initial program design. This could be an interesting direction for future research in the area of CPSMP in the workplace.

Through the exploration of the results from this study it was clear that the implementation of the program in the work environment was a useful development of the CPSMP for the employees with chronic pain. The following chapter will explore the strengths and limitations of the research study in this environment, and will also examine future directions that can be taken with research in the field of self management of chronic pain in the workplace.

Chapter Six: Future Directions

The final chapter examine the strengths and limitations of this pilot research study and what future directions research in this area can take. This chapter consists of three sections:

Strengths – An overview of the strengths in design of this research project

Limitations – A discussion of the challenges and limitations that hindered this research project

Future Directions – A review of potential future research that would be based on this preliminary study

Strengths

There are two key strengths in this research project, the first was the qualitative research approach and the second was positive stakeholder interactions. Quantitative methodologies, including questionnaires, require a minimum sample size in order to achieve statistically significant results. In this case, as identified earlier in the thesis, this sample size was not achieved. In a purely quantitative study, this would have meant a failed research study. In this circumstance, the focus group, interview and overall qualitative design allowed for the researchers to discuss and explore why the intervention did not work as intended in the community based hospital. The lack of quantitative data, however, proved to be an important lesson moving forward in workplace based interventions. This lesson showed that it is imperative to determine the level of

organizational support prior to implementing an intervention in that environment. For future research opportunities, it is important to have the workplace management support the program at full capacity rather than putting the minimal amount of effort into it. Stakeholder participation is a central element of community based research as set out in its design (Israel, Schultz, Parker, & Becker, 1998). The focus group and interview allowed for the researchers to understand the experiences of living with chronic pain in this setting and to ascertain key information about the workplace environment. While this study did not achieve all that it initially intended, due to the lack of quantitative significance, the information gathered in the qualitative data is useful in continuing to develop the CPSMP in the workplace. The lessons learned from the challenges faced throughout this research are quite valuable in developing new research in this field.

The second major strength of this research was the partnership with the Central East Community Care Access Centre (CECCAC). Their self-management department, under the leadership of the senior manager, proved to be committed to implementing this program in the workplace environment. The CECCAC has put in a considerable amount of effort to salvage the CPSMP at the community based hospital and has allowed them to run even under less than ideal circumstances, such as less than minimal attendance numbers and to run one of the programs on non-consecutive weeks. Through the help and strong support of the self-management program support staff, this research was able to at least get to the point that it has. The self-management program team at the CECCAC has exemplified the definition of being a community stakeholder in continually working with the researchers to try to adapt and manage the ever-changing CPSMP in the workplace. The CECCAC has been truly committed to this research project from the

very start and any further exploration of chronic pain self-management in the workplace will hopefully start with them as principal stakeholders. Israel et al. (1998) identified some of the strengths of a community based research partner that the CECCAC exemplified throughout their involvement in this research project. The CECCAC worked together with the research team to help identify the direction in which this research can take and what would be the best way to maximize its impact on their implementation of the CPSMP. The management at CECCAC also offered the assistance of many of their support staff in implementing the program and the associated research, which was a mentioned benefit to a community based research partner (Israel et al., 1998). The CECCAC was able to enhance their overall research culture in participating in this study as they were able to achieve a better understanding on how a program evaluation is implemented and what data can be ascertained from it. Their involvement throughout this process, in both the implementation of the program itself along with discussion on the various aspects of the research, helped to shape this project in many positive ways and their influence was crucial to any success that this research had.

Limitations

The primary limitation of this research study was in the lack of quantitative results. This was not a limitation by design, but rather a limitation through the other challenges in implementation that were faced. By not gathering significant quantitative data, it is not possible to generalize the results of the research. This lack of generalization is a major limitation on the research project as it constrains the potential impact of the results. In not acquiring generalizable results, the results of the study are fairly limited in the scope of their impact. While there was a great deal learned from the qualitative

results from the study, it is clear that more research still needs to be completed in this area and this research project can inform future research in the area of chronic pain self-management in the workplace.

The second limitation study is in the attrition of participants from the research study throughout the duration of the program. Attrition is a key and prevalent aspect to any community based research project, however in this occurrence it was something that changed the nature of the project itself. The first program session started with fourteen total participants and of these only five agreed to participate in the study. Of these five participants, only three of them completed both the pre and post questionnaires along with the follow up focus group. The two other participants, while initially agreeing to participate, either dropped out of the program entirely or chose not to sign up for one of the focus group sessions. In discussions with participants from the first program there was an exploration of why people did not want to participate. All of the focus group participants could not understand why people would not choose to help out and participate after they had been given a free program that had helped them as much as it did. Further discussion mentioned that in disclosing that the researcher had a chronic pain condition, he had made the research more meaningful to the participants and they were more willing to open up and help 'one of their own'. For the second program, there were seven total participants and all seven agreed to participate in the research study. Only three of these participants completed both the pre and post program questionnaire and none responded to the e-mails or phone calls to book and attend the follow up focus groups. There was a high level of attrition from the second program in general, which was one of the factors why people did not participate in the follow up measures. The

main reason for attrition is the lack of research culture towards community based research that seemed to be apparent in the workplace. It was through attrition and lack of research participation that this research project was unable to achieve statistical significance through the quantitative measures.

Future Directions

While this research project turned out to be more of a preliminary project in nature, it was informative in moving forward with research in this area. It is quite possible to build on the strengths and partnerships that were developed through this project, while at the same time learning from the flaws and limitations in developing future projects.

Future research should incorporate the mixed methods approach that was utilized, with limited success, in this research project. The mixed methods approach allowed for an in-depth exploration of chronic pain self-management and provided great insight to the inner workings of a chronic pain condition in the workplace environment. For subsequent research, both the quantitative and the qualitative measures will be revised and developed further in utilizing different tools and potentially shortening the time period to complete it. While it was necessary to use a pre-designed questionnaire with validated tools for this initial study, it would be useful to incorporate some new measures that would be appropriate in the workplace environment. An example of this would be a greater integration of multiple theoretical frameworks. While the current research project was able to provide some information that would inform these theoretical frameworks, it would be interesting to include some measures specifically designed for that purpose, such as the inclusion of the Stages of Change theory and a measure designed to gather

information on the participant's contemplation stage pre and post program (Glenn and Beck, 2003). It was also found that there was a small amount of repetition in the questionnaire. Through the development of a revised questionnaire, it will be possible to eliminate some of the repetitiveness.

The partnership with the CCAC, specifically the Central East location, can be expanded upon for future research opportunities. This partnership was a mutually beneficial relationship and can help inform further development of the Chronic Pain Self-Management Programs. The involvement with the community based hospital will likely conclude with the completion of this program. While this partnership allowed for the completion of the research project and met the goals of community based research, it is clear, as outlined above, that this project is lacking the necessary organizational support to continue. The key lesson learned for future research in this area is to explore the issue in multiple workplaces. This was not feasible given current time constraints, but could definitely be achieved in subsequent research projects. The concept would be to implement the program and evaluation protocols in workplaces across southern Ontario in order to demonstrate the impacts of these programs in different settings. By expanding the program into multiple workplaces, it is also possible to determine if there are trends based on the type of occupation, for example, if industrial employees found greater success with the program, as opposed to health care employees. Another advantage to including multiple workplaces is that if one of the workplaces yields a smaller sample size it will not impact the study as severely as being restricted to the data from one institution. By expanding the study, it is increasing the workload and involvement of these partners significantly, but the return on this involvement should be quite worth it in

the long run in the potential productivity increases. Finally, a new research partner will likely be brought on board in the Workplace Safety and Insurance Board. By demonstrating the effectiveness of the Chronic Pain Self-Management Program in the workplace, it is possible to start incorporating it into the Return to Work program of employees with chronic pain condition.

The next aspect to consider for future studies is the inclusion of funding to help support the implementation of this program and research in the workplace. While this study did not attempt to acquire funding, due to its size and various timeline implications, future research in this area would benefit from added funding. As described in the limitations, there were significant losses in participants due to attrition. One aspect which might balance and offset attrition would be some sort of incentive for participants to continue with the study throughout the duration of the research project. Funding can also be used to help pay for measures, equipment and possibly research assistants to help manage a larger research study. Initial funding resources include the Canadian Institutes of Health Research, the Workplace Safety and Insurance Board along with the Canadian Pain Society. All three of these organizations have provided funding for projects in the area of chronic pain; it is quite feasible that funding will be able to be acquired from one or more of them in a larger scale project. As stated in the Literature Review chapter, there is a severe lack of funding towards chronic pain in Canada when it is becoming a significantly more important issue impacting Canadians (Lynch, 2011). It is a hope that with future research in this area, more funding can be acquired and chronic pain can be explored completely in the workplace.

While this research had significant challenges throughout the process, there were also some successes moving forward. The topic of chronic pain self-management in the workplace is one that needs to be discussed and explored in much greater detail. There are many facets of this topic, which can be explored through a series of future research studies. Through further research it is quite possible to understand how chronic pain impacts workers and the workplace in general and how it is possible to reduce the severity of its impact on both the employees and on the workplace in general.

References

- Alvarez, S. (2009). *Chronic Disease Self-Management: The Stanford Model*. Palo Alto: Stanford Patient Education Research Center.
- Bair, M. J., Matthias, M. S., Nyland, K. A., Huffman, M. A., Stubbs, D. L., Kroenke, K., & Damush, T. M. (2009). Barriers and Facilitators to Chronic Pain Self-Management: A Qualitative Study of Primary Care Patients with Comorbid Musculoskeletal Pain and Depression. *Pain Medicine*, 10(7), 1280-1290. doi: 10.1111/j.1526-4637.2009.00707.x
- Buenaver, L. F., McGuire, L., & Haythornthwaite, J. A. (2006). Cognitive-Behavioral self-help for chronic pain. *Journal of Clinical Psychology*, 62(11), 1389-1396. doi: 10.1002/jclp.20318
- Canadian Pain Society. (2010) *Canadian Pain Strategy, Recommended by the Canadian Pain Society, Brief for the Parliamentary Committee on Palliative and Compassionate Care*. Retrieved March 10, 2011 from <http://www.canadianpainsummit2012.ca/media/4655/cpsbrieftoparliamentarycteb ydrlynch101910.pdf>
- Cooper, K., Smith, B. H., & Hancock, E. (2009). Patients' perceptions of self-management of chronic low back pain: evidence for enhancing patient education and support. *Physiotherapy*, 95(1), 43-50. doi: 10.1016/j.physio.2008.08.005
- Crowe, M., Whitehead, L., Jo Gagan, M., Baxter, D., & Panckhurst, A. (2010). Self-management and chronic low back pain: a qualitative study. *Journal of Advanced Nursing*, 66(7), 1478-1486. doi: 10.1111/j.1365-2648.2010.05316.x
- Dysvik, E., Kvaløy, J. T., Stokkeland, R., & Natvig, G. K. (2010). The effectiveness of a multidisciplinary pain management programme managing chronic pain on pain perceptions, health-related quality of life and stages of change—A non-randomized controlled study. *International Journal of Nursing Studies*, 47(7), 826-835. doi: 10.1016/j.ijnurstu.2009.12.001

- Ersek, M., Turner, J. A., Cain, K. C., & Kemp, C. A. (2008). Results of a randomized controlled trial to examine the efficacy of a chronic pain self-management group for older adults. *Pain, 138*(1), 29-40. doi: 10.1016/j.pain.2007.11.003
- Haas, M., Group, E., Muench, J., Kraemer, D., Brummel-Smith, K., Sharma, R., Fairweather, A. (2005). Chronic Disease Self-Management Program for Low Back Pain in the Elderly. *Journal of Manipulative and Physiological Therapeutics, 28*(4), 228-237. doi: 10.1016/j.jmpt.2005.03.010
- Honey, M. A. (1987). The Interview as Text: Hermeneutics Considered as a Model for Analyzing the Clinically Informed Research Interview. *Human Development, 30*(2), 69-82.
- Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. A. (1998). Review of Community Based Research - Assessing Partnership Approaches to Improve Public Health. *Annual Review of Public Health, 19*, 173-202.
- Jensen, C., Jensen, O. K., Christiansen, D. H., & Nielsen, C. V. (2011). One-year follow-up in employees sick-listed because of low back pain: randomized clinical trial comparing multidisciplinary and brief intervention. *Spine, 36*(15), 1180-1189.
- Kanfer, R., Ackerman, P. L., & Heggestad, E. D. (1996). Motivational skills & self-regulation for learning: A trait perspective. *Learning and Individual Differences, 8*(3), 185-209. doi: 10.1016/s1041-6080(96)90014-x
- Kristjánssdóttir, Ó., Fors, E. A., Eide, E., Finset, A., van Dulmen, S., Wigers, S., & Eide, H. (2011). Written online situational feedback via mobile phone to support self-management of chronic widespread pain: a usability study of a Web-based intervention. *BMC Musculoskeletal Disorders, 12*(1), 51. doi: 10.1186/1471-2474-12-51
- LeFort, S. M., Gray-Donald, K., Rowat, K. M., & Jeans, M. E. (1998). Randomized controlled trial of a community-based psychoeducation program for the self-management of chronic pain. *Pain, 74*, 297-306.

- LeFort, S. M., Watt-Watson, J., Webber, K., Guerriere, D., Coyte, P., & Croxford, R. (2005). Institute of Musculoskeletal Health and Arthritis Knowledge Exchange Task Force.
- Lorig, K. (1996). Chronic Disease Self-Management: A Model for Tertiary Prevention. *American Behavioral Scientist*, 39(6), 676-683.
- Lorig, K., & Holmann, H. R. (2003). Self-Management Education History, Definition, Outcomes and Mechanisms. *The Society of Behavioral Medicine*, 26(1), 1-7.
- Lorig, K., Lubeck, D., Kraines, R. G., Seleznick, M., & Holman, H. R. (1985). Outcomes of self-help education for patients with arthritis. *Arthritis Rheum*, 28(6), 680-685.
- Lorig, K. R., Mazonson, P. D., & Holman, H. R. (1993). Evidence suggesting that health education for self-management in patients with chronic arthritis has sustained health benefits while reducing health care costs. *Arthritis Rheum*, 36(4), 439-446.
- Lorig, K., Ritter, P. L., & Plant, K. (2005). A Disease-Specific Self-Help Program compared with a Generalized Chronic Disease Self-Help Program for Arthritis Patients. *Arthritis & Rheumatism*, 53(6), 950-957. doi: 10.1002/art.21604
- Lynch, M. E. (2011). The need for a Canadian pain strategy. [Editorial]. *Pain Research & Management*, 16(2), 77-80.
- Lynch, M. E., Schopflocher, D., Taenzer, P., & Sinclair, C. (2009). Research funding for pain in Canada. *Pain Research & Management*, 14(2), 113-115.
- Martensson, L., Marklund, B., & Fridlund, B. (1999). Evaluation of a biopsychosocial rehabilitation programme in primary healthcare for chronic pain patients. *Scandinavian Journal of Occupational Therapy*, 6, 157-165.
- Meeus, M., Nijs, J., Van Oosterwijck, J., Van Alsenoy, V., & Truijen, S. (2010). Pain Physiology Education Improves Pain Beliefs in Patients With Chronic Fatigue Syndrome Compared With Pacing and Self-Management Education: A Double-Blind Randomized Controlled Trial. *Archives of Physical Medicine and Rehabilitation*, 91(8), 1153-1159. doi: 10.1016/j.apmr.2010.04.020

- Mosby's Medical Dictionary (8th ed.). (2008). St. Louis, MO: Elsevier Publishing.
- Ramage-Morin, P. L., & Gilmour, H. (2010). Chronic Pain at ages 12 to 44. *Health Reports - Statistics Canada*, 21(4), 1-9.
- Ryan, S., Hassell, A., Thwaites, C., Manley, K. I. M., & Home, D. (2007). Developing a new model of care for patients with chronic musculoskeletal pain. *Journal of Nursing Management*, 15(8), 825-829. doi: 10.1111/j.1365-2934.2007.00761.x
- Serlachius, A., & Sutton, S. Self-management and behaviour change: Theoretical models in: Newman, S., Steed, L., Mulligan, K., eds. *Self-management and behaviour change: Theoretical models*. Open University Press: 2009; pp 48-63
- Shariff, F., Carter, J., Dow, C., Polley, M., Salinas, M., & Ridge, D. (2009). Mind and Body Management Strategies for Chronic Pain and Rheumatoid Arthritis. *Qualitative Health Research*, 19(8), 1037-1049. doi: 10.1177/1049732309341189
- Teasell, R. W., & Merskey, H. (1997). Chronic pain disability in the workplace. *Pain Research & Management*, 2(4), 197-205.
- Turner-Stokes, L., Erkeller-Yuksel, F., Miles, A., Pincus, T., Shipley, M., & Pearce, S. (2003). Outpatient cognitive behavioral pain management programs: a randomized comparison of a group-based multidisciplinary versus an individual therapy model. *Archives of Physical Medicine and Rehabilitation*, 84(6), 781-788. doi: 10.1016/s0003-9993(03)00015-7

Appendix A: Chronic Pain Self-Management Program Questionnaire

A complete copy of the questionnaire used in this study along with a letter of permission from the CECCAC to use the Chronic Pain Self Management Program Questionnaire.



CE LHIN Self-Management Program
100 Consilium Place
Suite 801
Scarborough, ON M1H 3E3
Toll-Free: 1 866 971 5545
Fax: 416 750 7935

August 3, 2012

To whom it may concern:

The Central East Community Care Access Centre (CECCAC) holds a Multiple Program License Agreement with Stanford University's Patient Education Research Centre to offer the "Chronic Disease Self-Management Program," "Diabetes Self-Management Program" and "Chronic Pain Self-Management Program." Stanford's website <http://patienteducation.stanford.edu/research/> indicates that its self-administered evaluation tools are available for any researcher to use at no cost, thanks to funding from the National Institute of Nursing Research.

The Chronic Pain compilation of the Stanford self-administered research scales, with minor modifications and additions, were provided to CECCAC by Sandra LeFort, Professor, School of Nursing, Memorial University of Newfoundland. Professor LeFort indicated in writing that we could share the Chronic Pain Self-Management evaluation instruments broadly with program partners. In this vein, our Self-Management team at Central East CCAC has consented to the use of the Chronic Pain Self-Management Program Questionnaire by Matthew Stein as it pertains to his thesis work with Chronic Pain Self-Management workshop evaluation at Lakeridge Health in 2011-12.

Sincerely,

Margery Konan
Senior Manager, CE LHIN Self-Management Program
Central East Community Care Access Centre
Scarborough Branch
100 Consilium Place Suite 801
Scarborough, ON M1H 3E3
Email: Margery.Konan@ce.ccac-ont.ca
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Cell: 416 579 6043
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Chronic Pain Self-Management Program Questionnaire

January 2010

NOTE: This questionnaire should be completed by program participants just prior to starting the CPSMP sessions and 3 to 4 months later. It can be used at later periods such as 6 and 12 months as well.

This questionnaire is based on the CDSMP Questionnaire, with permission of Stanford University 2007. The Brief Pain Inventory (BPI) is used with permission of Charles Cleeland, PhD

CHRONIC PAIN SELF-MANAGEMENT PROGRAM

Participant Number: _____

Year of Birth: _____

Background

1. Mother Tongue (circle one):

English	Punjabi	German
French	Spanish	Tagalog
Canadian Aboriginal Language	Italian	Vietnamese
Chinese	Arabic	Portuguese
Other: _____		

2. Please circle the **highest** year of school completed:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	above 22
(primary)							(high school)					(college/university)					(graduate school)					

3. Are you currently (check **✓ only one**):

<input type="checkbox"/> married/common law	<input type="checkbox"/> separated	<input type="checkbox"/> widowed
<input type="checkbox"/> single, never married	<input type="checkbox"/> divorced	

4. Please indicate below which chronic pain condition(s) you have:

<input type="checkbox"/> Chronic musculoskeletal pain (such as chronic neck, shoulder, back pain, etc.)	<input type="checkbox"/> Post-stroke pain
<input type="checkbox"/> Fibromyalgia	<input type="checkbox"/> Persistent headache
<input type="checkbox"/> Whiplash injuries	<input type="checkbox"/> Crohn's disease
<input type="checkbox"/> Chronic regional pain syndrome	<input type="checkbox"/> Irritable bowel syndrome
<input type="checkbox"/> Repetitive strain injury	<input type="checkbox"/> Diabetes with neuropathy
<input type="checkbox"/> Chronic pelvic pain	<input type="checkbox"/> Multiple sclerosis
<input type="checkbox"/> Post-surgical pain that lasts beyond 6 mos.	<input type="checkbox"/> Arthritis or other rheumatic disease
<input type="checkbox"/> Neuropathic pain	<input type="checkbox"/> Other: _____
	<input type="checkbox"/> Don't know

5. Do you have any other illnesses in addition to your chronic pain condition? Please specify.

6. a. Do you currently take medication for your chronic pain condition?

☐ Yes

☐ No

b. If yes, please list the names of the medications you take for your pain and how often you take them:

Medication

How Often

General Health

1. In general, would you say your health is:

(Circle one)

Excellent1

Very good.....2

Good.....3

Fair4

Poor5

Symptoms

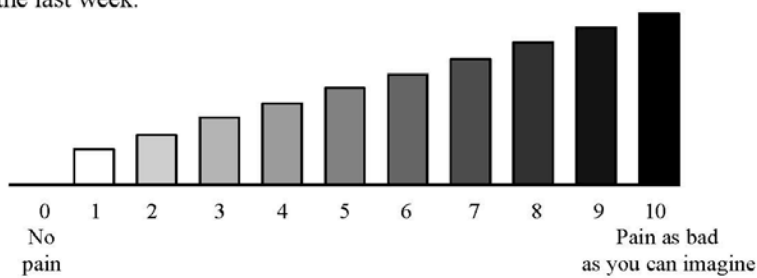
How much time during the **past month...**

	None of the time	A little of the time	Some of the time	A good bit of the time	Most of the time	All of the time
1. Did you feel worn out?.....0		1	2	3	4	5
2. Were you discouraged by your health problems?0		1	2	3	4	5
3. Did you have a lot of energy?0		1	2	3	4	5
4. Were you fearful about your future health?0		1	2	3	4	5
5. Did you feel tired?.....0		1	2	3	4	5
6. Was your health a worry in your life?.....0		1	2	3	4	5
7. Did you feel full of pep?0		1	2	3	4	5
8. Were you frustrated by your health problems?0		1	2	3	4	5
9. Did you have enough energy to do the things you wanted to do?0		1	2	3	4	5

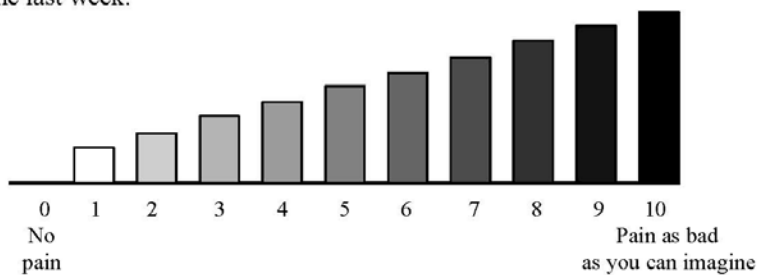
Pain

We are interested in learning about how much pain you have. The next four questions will ask you to rate your pain. Please read carefully.

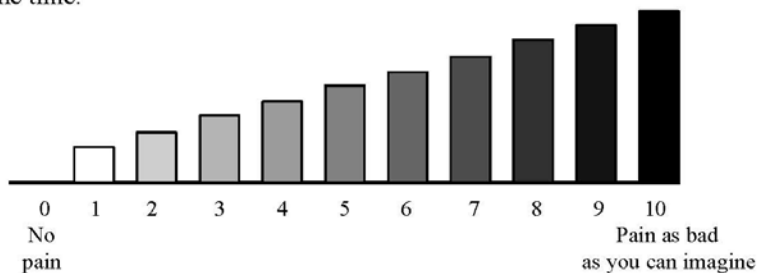
1. Please rate your pain by circling the one number that best describes your pain at its **worst** in the last week.



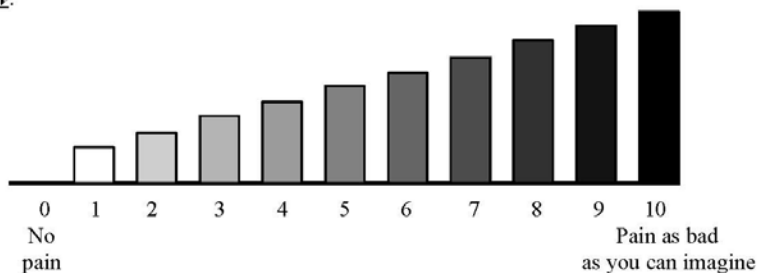
2. Please rate your pain by circling the one number that best describes your pain at its **least** in the last week.



3. Please rate your pain by circling the one number that best describes your **average** pain most of the time.



4. Please rate your pain by circling the one number that tells how much pain you have right now.



Physical Activities

During the past week, even if it was not a typical week for you, how much **total time** (for the *entire week*) did you spend on each of the following? (Please circle **one** number for each question.)

	none	less than 30 min/wk	30-60 min/wk	1-3 hrs per week	more than 3 hrs/wk
1. Stretching or strengthening exercises (range of motion, using weights, etc.)	0	1	2	3	4
2. Walk for exercise	0	1	2	3	4
3. Swimming or aquatic exercise	0	1	2	3	4
4. Bicycle (including stationary exercise bikes)	0	1	2	3	4
5. Other aerobic exercise equipment (Stairmaster, rowing, skiing machine, etc.).	0	1	2	3	4
6. Other aerobic exercise Specify: _____ ..	0	1	2	3	4

Coping With Symptoms

When you are feeling down in the dumps, feeling pain or having other unpleasant symptoms, how often do you *(Please circle **one** number for each question)*:

	Never	Almost never	Some- times	Fairly often	Very often	Always
1. Try to feel distant from the discomfort and pretend that it is not part of your body.....0		1	2	3	4	5
2. Don't think of it as discomfort but as some other sensation, like a warm, numb feeling.....0		1	2	3	4	5
3. Play mental games or sing songs to keep your mind off the discomfort.....0		1	2	3	4	5
4. Practice progressive muscle relaxation0		1	2	3	4	5
5. Practice visualization or guided imagery, such as picturing yourself somewhere else0		1	2	3	4	5
6. Talk to yourself in positive ways.....0		1	2	3	4	5

Physical Abilities

Please check (✓) the **one** best answer for your abilities.

At this moment, are you able to:	Without ANY difficulty	With SOME difficulty	With MUCH difficulty	UNABLE to do
1. Dress yourself, including tying shoelaces and doing buttons?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Get in and out of bed?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Lift a full cup or glass to your mouth?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Walk outdoors on flat ground?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Wash and dry your entire body?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Bend down to pick up clothing from the floor?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Turn faucets on and off? ☐ ☐ ☐ ☐
8. Get in and out of a car? ☐ ☐ ☐ ☐

How Pain and Illness Affects Your Life

Please circle the one number that describes how much, **in the past week**, pain has interfered with your:

A. General Activity

0	1	2	3	4	5	6	7	8	9	10
										Completely Interferes

Does not Interfere

B. Mood

0	1	2	3	4	5	6	7	8	9	10
										Completely Interferes

Does not Interfere

C. Walking Ability

0	1	2	3	4	5	6	7	8	9	10
										Completely Interferes

Does not Interfere

D. Normal Work (includes both work outside the home and housework)

0	1	2	3	4	5	6	7	8	9	10
										Completely Interferes

Does not Interfere

E. Relations with Other People

0	1	2	3	4	5	6	7	8	9	10
										Completely Interferes

Does not Interfere

F. Sleep

0	1	2	3	4	5	6	7	8	9	10
										Completely Interferes

Does not Interfere

G. Enjoyment of Life

0	1	2	3	4	5	6	7	8	9	10
										Completely Interferes

Does not Interfere

The following items ask about how much your pain and other illness and/or the treatment you take interfere with your life. ***Please circle the one number that best describes your current life situation. If an item is not applicable, please check (☐) the box to indicate that this aspect of your life is not affected.*** Please do not leave any item unanswered.

How much does your pain and illness and/or its treatment interfere with:

1. **Your feeling of being healthy** ☐ Not applicable

Not very much> 1 2 3 4 5 6 7 <Very much

2. **The things you eat and drink** ☐ Not applicable

Not very much> 1 2 3 4 5 6 7 <Very much

3. **Your work, including job, house work, chores or errands** ☐ Not applicable

Not very much> 1 2 3 4 5 6 7 <Very much

4. **Playing sports, gardening or other physical recreations or hobbies** ☐ Not applicable

Not very much> 1 2 3 4 5 6 7 <Very much

5. **Quiet recreation or hobbies, such as reading, TV, music, knitting, etc.** ☐ Not applicable

Not very much> 1 2 3 4 5 6 7 <Very much

6. **Your financial situation** ☐ Not applicable

Not very much> 1 2 3 4 5 6 7 <Very much

7. **Your relationship with your spouse or domestic partner** ☐ Not applicable

Not very much> 1 2 3 4 5 6 7 <Very much

8. **Your sex life** ☐ Not applicable

Not very much> 1 2 3 4 5 6 7 <Very much

How much does your pain and illness and/or its treatment interfere with:

9. **Your relationship and social activities with your family** ☐ Not applicable

Not very much > 1 2 3 4 5 6 7 <Very much

10. **Social activities with your friends, neighbours or groups** ☐ Not applicable

Not very much > 1 2 3 4 5 6 7 <Very much

11. **Your religious or spiritual activities** ☐ Not applicable

Not very much > 1 2 3 4 5 6 7 <Very much

12. **Your involvement in community or civic activities** ☐ Not applicable

Not very much > 1 2 3 4 5 6 7 <Very much

13. **Your self-improvement or self-expression activities** ☐ Not applicable

Not very much > 1 2 3 4 5 6 7 <Very much

Confidence About Doing Things

We would like to know how confident you are in doing certain activities. For each of the following questions, please circle the number that corresponds to your confidence that you can do the tasks regularly at the present time.

1. How confident are you that you can keep the fatigue caused by your health condition from interfering with the things you want to do?

not at all		1		2		3		4		5		6		7		8		9		10	totally
confident																					confident

2. How confident are you that you can keep physical discomfort or pain from interfering with the things you want to do?

not at all		1		2		3		4		5		6		7		8		9		10	totally
confident																					confident

3. How confident are you that you can keep the emotional distress caused by your health condition from interfering with the things you want to do?

not at all		1		2		3		4		5		6		7		8		9		10	totally
confident																					confident

4. How confident are you that you can keep any other symptoms or health problems you have from interfering with the things you want to do?
- not at all confident | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | totally confident
5. How confident are you that you can do the different tasks and activities needed to manage your health condition so as to reduce your need to see a doctor?
- not at all confident | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | totally confident
6. How confident are you that you can do things other than just taking medication to reduce how much your health condition affects your everyday life?
- not at all confident | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | totally confident

Feelings

Over the past 2 weeks, how often have you been bothered by any of the following problems? (*circle one number on each line*).

How often during the past 2 weeks were you bothered by...	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things?	0	1	2	3
2. Feeling down, depressed, or hopeless?	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much?	0	1	2	3
4. Feeling tired or having little energy?	0	1	2	3
5. Poor appetite or overeating?	0	1	2	3
6. Feeling bad about yourself, or that you are a failure, or have let yourself or your family down?	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television?	0	1	2	3

How often during the past 2 weeks were you bothered by...	Not at all	Several days	More than half the days	Nearly every day
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual?	0	1	2	3
9. Thoughts that you would be better off dead, or hurting yourself in some way?	0	1	2	3

Daily Activities

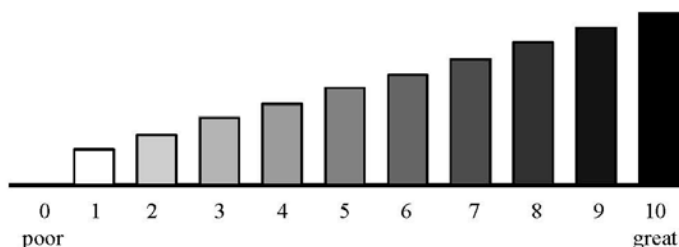
During the past 4 weeks, how much...

(Circle **one**)

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
1. Has your health interfered with your normal social activities with family, friends, neighbours or groups?	0	1	2	3	4
2. Has your health interfered with your hobbies or recreational activities?	0	1	2	3	4
3. Has your health interfered with your household chores?	0	1	2	3	4
4. Has your health interfered with your errands or shopping?	0	1	2	3	4

Quality of Life

We are interested in learning what you think about your quality of life. Please *circle* the *number* below that describes your **quality of life** in the **past 2 weeks**.



Medical Care

1. When you **visit your doctor**, how often do you do the following (*please circle **one** number for each question*):

	Never	Almost never	Some- times	Fairly often	Very often	Always
a. Prepare a list of questions for your doctor	0	1	2	3	4	5
b. Ask questions about the things you want to know and things you don't understand about your treatment	0	1	2	3	4	5
c. Discuss any personal problems that may be related to your pain or illness	0	1	2	3	4	5

2. **In the past 3 months**, how many times have you visited the following health professionals for your chronic pain and/or other illnesses. (Do **NOT** include visits while in hospital):

Family Doctor _____ visits

Nurse Practitioner _____ visits

Medical Specialist _____ visits

Physiotherapist _____ visits

Occupational Therapist _____ visits

Registered Massage Therapist _____ visits

Chiropractor _____ visits

Acupuncturist _____ visits

Registered Nurse _____ visits

Psychologist or Counsellor _____ visits

Naturopath _____ visits

Podiatrist _____ visits

Other (please specify: _____) _____ visits

NOTE: Only use this item for the post-program data collection (3 - 4 months).

Improvement

How would you describe your improvement **overall** as a result of attending the Chronic Pain Self-Management Program? Please circle the number that applies:

1	2	3	4	5	6	7
Very Much Improved	Much Improved	Minimally Improved	No Change	Minimally Worse	Much Worse	Very Much Worse

Thank you!

Appendix B: Workshop Flyer

A copy of the recruitment flyers posted at the community based hospital and used in the onsite recruitment sessions.



CE LHIN Self-Management Program

Getting the most out of life with **CHRONIC PAIN**...

...means better managing your pain, your emotions, and your daily activities.
This "Living a Healthy Life" workshop is open to all LHC staff and family members.

CALLING ALL LHC STAFF!

**FREE SIX-WEEK CHRONIC
PAIN WORKSHOP**
Mornings

Date: September 2011
Time: 8:00 am - 10:30 am
Place: Oshawa Site

TO REGISTER:

1 866 971 5545

www.healthylifeworkshop.ca

CALLING ALL LHC STAFF!

**FREE SIX-WEEK CHRONIC
PAIN WORKSHOP**
Afternoons

Date: September 2011
Time: 4:00 pm - 6:30 pm
Place: Oshawa Site

TO REGISTER:

1 866 971 5545

www.healthylifeworkshop.ca

Learn new skills and tools to use in your daily life:

- Are you experiencing chronic pain resulting from arthritis, fibromyalgia, injury, etc?
- Is your physical mobility limited or hindered by your condition(s)?
- Are you interested in learning more about exercise and ways to better manage your pain?
- Would you like to make changes around diet or exercise but don't know where to start?
- Would you like to feel better and do more of the activities you enjoy?

Pre-registration required

For more information about this program or to register :

www.healthylifeworkshop.ca or Call toll free 1 866 971 5545



You will receive a free copy of the book:
Living a Healthy Life With Chronic Conditions



**FAMILY MEMBERS
WELCOME!**

living a
healthy life *with*
chronic conditions
 CE LHIN Self-Management Program



You will learn new skills and tools to use in your daily life.

SESSION 1

- Overview of self-management
- Debunking myths
- What is chronic pain?
- Making an action plan (all sessions)

SESSION 4

- Communication
- Healthy Eating

SESSION 2

- Feedback & problem solving (all sessions)
- Fitness & exercise (all sessions)
- Pacing activity & rest
- Using your mind to manage symptoms

SESSION 5

- Medications
- Depression

SESSION 3

- Using your mind to manage symptoms
- Difficult emotions
- Fatigue/sleep

SESSION 6

- Making treatment decisions
- Working with health care professionals

Pre-registration required

For more information about this program or to register :

www.healthylifeworkshop.ca or Call toll free 1 866 971 5545



Appendix C: Ethics Documentation

The following appendix includes the consent form, information letter and ethics approval documentation for this research study.



Informed Consent

Title of Research Project:

- Program Evaluation of Living a Healthy Life with Chronic Pain Program at Lakeridge Health Corporation

Research Ethics Approval:

- This study has been reviewed and has received ethics clearance through the Research Ethics Boards at University of Ontario Institute of Technology and at Lakeridge Health Corporation.
- University of Ontario Institute of Technology Research Ethics Board File # 10-105
- Lakeridge Health Corporation Research Ethics Board File # 2011-020

Investigator(s):

- Principal Investigator: Matthew Stein
 - Email – Matthew.Stein@uoit.ca
- Faculty Supervisor: Manon Lemonde
 - Phone - 905-721-8668 ext 2706
 - Email – Manon.Lemonde@uoit.ca
- Co-Investigator – Margery Konan
 - Phone – 416-701-4828 ext 5597
 - Email – Margery.Konan@ce.ccac-ont.ca

Purpose of the Research:

- The purpose of this study is to determine whether or not the Living a Healthy Life with Chronic Pain Workshop is effective in training Lakeridge Health staff to manage their chronic pain on a daily basis. The study will determine whether or not the Living a Healthy Life with Chronic Pain Workshop, a self management training program, can help improve the management of symptoms of Lakeridge Health Staff and family members with chronic pain conditions.

Description of the Research:

- This form and accompanying recruitment letter are an invitation to participate in this research project. Participation in the research project is completely voluntary.
- You are invited to participate in this research project because you are registered in the Living a Healthy Life with Chronic Pain workshop.

Date: August 4, 2011
Version: 1.3

- Your involvement in the research project will occur in three stages. The first stage will be a questionnaire that we will ask you to fill out prior to beginning of the Living a Healthy Life with Chronic Pain Workshop. This questionnaire will provide the researchers with baseline information including: background, general health, symptoms, pain, physical activities, coping with symptoms, physical abilities, the effects of pain and illness on lifestyle, confidence about doing things, feelings, daily activities, quality of life, medical care, effectiveness of the program goals and overall health satisfaction.
- The second stage of the research will be a second questionnaire that we will ask you to fill out after completing the Living a Healthy Life with Chronic Pain Workshop; this will provide the researchers with a comparison to the baseline questionnaires filled out at the beginning of the program. The questionnaires will be a series of short, multiple choice, scale based or fill in the blank questions, and it should take anywhere from 15 minutes to 30 minutes to complete. You have the option of not answering any questions or withdrawing at any time.
- The final stage of the research will be a focus group session six weeks after the completion of the program. This will serve as a follow up for the researchers to see if the program had the desired long-term outcomes and will also examine the participant's opinions about the process. The follow up focus group will be audio recorded.
- Within the focus group there will be a statement stressing confidentiality following the focus group. There is, however, a limit to how the researchers can enforce this confidentiality. As such we ask that you respect others' confidentiality throughout this process. This aspect of confidentiality will also be discussed later in the consent form.
- The research team does not anticipate using the raw data collected following the completion of the research project.
- The data collected from this research will be kept secure for a maximum time frame of five years following the first publication. Following this time period, the data will be shredded and destroyed.
- This research project is a single site investigation at the Oshawa location of Lakeridge

Health. There are no conflicts of interest that exist between the researchers and Lakeridge Health

Access to Research Information:

- Only Matthew Stein and Manon Lemonde of the research team will have access to the raw data. Margery Konan will remain unblinded and will only have access to data that has had all identifying information removed.
- The final report on the data collection will be available to the research participants upon request.
- You may choose not to participate or may withdraw at any time. If the participant withdraws from the research project, any data gathered to that point will be removed.

Potential Harm, Injuries, Discomforts or Inconvenience:

- There is no known harm associated with participation in this study. There are some risks involved in the workshop itself and they are discussed directly below.
- There is a potential discomfort in the process of the Living a Healthy Life with Chronic Pain Program as it involves light exercise designed for people with chronic pain. The risk for this discomfort is minimal and will be monitored by the workshop leaders.
- The risks associated with this study are related to the time spent filling out the questionnaires and attending the focus groups, as well as maintaining confidentiality in the focus group. It should take anywhere from 15 to 30 minutes to complete each questionnaire and the focus group should take approximately two hours. As previously mentioned, the participants of the focus group will be asked to keep all information confidential, and will sign a confidentiality agreement.

Potential Benefits:

- Benefits for participants in the research project include knowledge that participation with the study may help benefit future participants. The contribution of the participants will provide a better understanding of how the Living a Healthy Life with Chronic Pain Workshop can help people manage their chronic pain symptoms and what modifications can be made to improve future iterations of the workshop.
- Benefits from the "*Living a Healthy Life with Chronic Pain*" workshop include increased knowledge related to physical activity, healthy eating, medications, breathing and working with your health care professional and health care system.

- In addition, benefits of the participation for adults with chronic pain include learning from participant experiences during the focus groups. Sharing experiences maximize adults with chronic pain experience and may assist them to be more self-reflective and self-aware of their self-management practices and learn by viewing themselves as knowledge generator in context of pain management.
- Individuals with a similar condition might benefit from this study as the data will be used to improve future versions of the Living a Healthy Life with Chronic Pain Program. This research might also inform similar programs or interventions on ways to improve.

Confidentiality:

- Confidentiality will be respected and no information that discloses the identity of the participant will be released. Each participant will be assigned a code number. The master list will be kept by Margery Konan, the co-investigator of the study. The written report of this study will discuss only group information and no single individual will be referred to or be identifiable. Individual data may be collected; however it will be aggregated in order to ensure proper anonymity.
- The limits of confidentiality exist in the Focus Groups. There is a potential for harm, if confidentiality is violated by the participants of the focus groups. The researchers will ensure confidentiality of participants and will ask participants to observe each other's privacy in participating in the focus groups. In order to add an additional level of confidentiality, a confidentiality form will be signed by all participants in the focus groups.
- Confidentiality of the research project will be protected through anonymizing all raw data in both the questionnaires and focus groups. In the questionnaires, all of the participants will be given participant numbers. One member of the research team will be unblinded, They will know which participant numbers are associated to the participants, but will not have access to the raw data. The focus group transcriptions will also be made anonymous through participant numbers as well.
- All documents related to this research project will be password protected. The raw data will be kept under lock and key in the Faculty Supervisor's research office. The audiotapes from the focus group will be properly destroyed once the research project has been completed.

Participation:

- Your participation in this study is voluntary. You may discontinue your participation at anytime without consequence. Your decision whether or not to participate in or withdraw from this study will not affect your participation in the workshop. Withdrawal from the research study should be directed to Margery Konan (co-investigator of the study)
- Participants have the ability to decide which aspects of the study they would like to participate in. It is encouraged however, to participate in both components.
- If you do not wish to participate, you do not have to provide any reason for your decision not to participate nor will you lose the benefit of any medical care to which you are entitled or are presently receiving;
- Participants will be given a copy of the consent form to keep.

Contact:

If you have any questions about this study or would like to receive a copy of the report, please contact:

Matthew Stein AT
Matthew.Stein@uoit.ca

If you have questions about your rights as a research participant, you may contact:

The Research Ethics Board (REB) Administration/Compliance Officer at UOIT
905-721-8668 ext 3693
compliance@uoit.ca

OR

Chair of the Research Ethics Board at Lakeridge Health
(905)576-8711

Consent:

By signing this form, I agree that:

- The study has been explained to me. Yes ☐ No ☐
- All my questions were answered. Yes ☐ No ☐
- Possible harm and discomforts and possible benefits (if any) of this study have been explained to me. Yes ☐ No ☐
- I understand that I have the right not to participate and the right to stop at any time. Yes ☐ No ☐
- I understand that I may refuse to participate without consequence. Yes ☐ No ☐
- I have a choice of not answering any specific questions. Yes ☐ No ☐
- I am free now, and in the future, to ask any questions about the study. Yes ☐ No ☐
- I have been told that my personal information will be kept confidential. Yes ☐ No ☐
- I understand that no information that would identify me will be released or printed. Yes ☐ No ☐
- I understand that I will receive a signed copy of this consent form. Yes ☐ No ☐
- I would like to participate in the pre and post workshop questionnaires Yes ☐ No ☐
- I would like to participate in the follow up focus groups Yes ☐ No ☐

I hereby consent to participate in this study:

Name of Participant: _____

Signature

Date

Date: August 4, 2011
Version:1.3



July, 2011

Program Evaluation of the Living a Healthy Life with Chronic Pain Program at Lakeridge Health Corporation

Dear Participant,

This letter is a request for your participation in a research project that I am conducting as part of my Master's degree in the Faculty of Health Sciences at the University of Ontario Institute of Technology (UOIT), under the supervision of Dr. Manon Lemonde. Margery Konan, Senior Manager of the Central East Local Health Integration Self-Management Program, will be a co-investigator on this project.

The purpose of this study is to determine the effectiveness of the Living a Healthy Life with Chronic Pain Workshop as implemented at Lakeridge Health. We are interested in exploring differences that might exist in managing chronic pain symptoms from before the program starts to a follow up period after the program. This will determine whether or not the program has met its goals in providing the necessary education and if it has not met its goals it will be determined where the program was unsuccessful.

The procedures involved in this study include two questionnaires and a focus group. The questionnaires will occur both prior to and following the Living a Healthy Life with Chronic Pain Workshops and the focus groups will occur six weeks after completion of the program. The questionnaires will determine pain scales, estimated knowledge about chronic pain along with a discussion of management of chronic pain. The focus group will examine the participant's experience in using the program. The questionnaires are estimated to take fifteen to thirty minutes and the focus groups should take no longer than two hours.

There are no anticipated risks or discomforts involved in participating in this study. There will be no consequence if you decide not to participate in this evaluation and your decision to participate is completely voluntary. You have the option of refusing to answer any question in the questionnaire. Your name will not be identified in the questionnaire and as such it will be completely anonymous. The specific responses gathered from both the questionnaire and focus groups will not be shared with anyone at Lakeridge Health. The raw data collected from this project will remain at a secure location at the University and will only be shared with the direct research team. There is no direct benefit to participating in this study. By participating in this study, you are contributing to future occurrences of the program. The findings from this evaluation will be used to modify and adapt this program to make it as effective as it can be, to teach people how to properly self-manage their chronic pain. You will have an opportunity to review the preliminary findings of the questionnaires at the focus groups. There will be no direct compensation for participating in this research project.

This research project has been approved by both the University of Ontario Institute of Technology Research Ethics Board (10-105) as well as the Lakeridge Health Research Ethics Board (2011-020).

If you have any questions or concerns regarding the research study, or would like to participate in this study, please contact the Principal Investigator via e-mail at Matthew.Stein@uoit.ca. Any questions regarding your rights as participant, complaints may be addressed to the Research Ethics Board through the Ethics and Compliance Officer at UOIT at compliance@uoit.ca or the Chair of the Research Ethics Board at Lakeridge Health at (905) 576-8711.

Thank you,

Matthew Stein



RESEARCH ETHICS BOARD
OFFICE OF RESEARCH SERVICES

Date: August 19th, 2011

To: Matthew Stein (PI), Margery Konan (Co-PI), Manon Lemonde (Faculty Supervisor)

From: Amy Leach, REB Chair

REB File #: 10-105

Project Title: Program Evaluation of the living a healthy life with chronic pain workshop

DECISION: APPROVED

START DATE: August 19th, 2011

EXPIRY: August 19th, 2012

The University Of Ontario Institute Of Technology Research Ethics Board has reviewed and approved the above research proposal. The application in support of the above research project has been reviewed by the Research Ethics Board to ensure compliance with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2) and the UOIT Research Ethics Policy and Procedures.

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and approved by the REB.

Always quote your REB file number on all future correspondence.

Please familiarize yourself with the following forms as they may become of use to you.

- **Change Request Form:** any changes or modifications (i.e. adding a Co-PI or a change in methodology) must be approved by the REB through the completion of a change request form before implemented.
- **Adverse or unexpected Events Form:** events must be reported to the REB within 72 hours after the event occurred with an indication of how these events affect (in the view of the Principal Investigator) the safety of the participants and the continuation of the protocol. (I.e. un-anticipated or un-mitigated physical, social or psychological harm to a participant).
- **Research Project Completion Form:** must be completed when the research study has completed.
- **Renewal Request Form:** any project that exceeds the original approval period must receive approval by the REB through the completion of a Renewal Request Form before the expiry date has passed.

All Forms can be found at http://research.uoit.ca/EN/main/231307/Research_Forms.html.

REB Chair
Dr. Amy Leach, SSH
amy.leach@uoit.ca

Ethics and Compliance Officer
Sascha Tuuha, (905) 721-8668 ext. 3693
compliance@uoit.ca



NOTIFICATION OF RESEARCH STUDY TO COMMENCE

June 27, 2011

To the Principal Investigator:
Manon Lemonde
UOIT

attach: Research Team Form

From: VP, Academic Affairs
Chair, LHC-Research Ethics Board

RI-ID# 2011-020	
Study Title: Program Evaluation of Living a Healthy Life with Chronic Pain Workshop	
Sponsor:	n/a
Initial REB-Approval Date: July 6, 2011	Expiry Date: July 6, 2012

The above named study has been approved for ethical and scientific merit by the Research Ethics Board (REB) and for administrative and resource utilization merit by Lakeridge Health. This research study may now commence, contingent upon the following:

(i) As a reminder, the REB and LHC operate in compliance with applicable laws and regulations including, but not limited to, the International Conference on Harmonization for Good Clinical Practice (ICH/GCP) Guidelines as set forth in Part C Division 5 under the Canadian Food and Drugs Act and the Tri-Council Policy Statement. As the Principal Investigator, you are responsible for the ethical conduct of all research team members during the course of the study, and for cooperating with monitoring activities determined by the REB. As such, you and your Research Team (see attached) agree to undertake the study in conformity with the approved protocol, and to immediately report to the REB:

- any revisions, additions, deletions or other amendments via the *Amendment/Revised Consent Form*;
- any local, and specifically relevant external serious adverse events via the *Internal Serious Adverse Event (SAE) Report Form*; and
- any deviation or new information with respect to the protocol via the *Protocol Deviation Form*



(ii) In the event of confidentiality concerns or privacy breach, such as inappropriate and/or unauthorized use of information, you are to immediately report these to both the REB and to the LH Privacy Officer (in accordance with Ontario health privacy legislation – *Personal Health Information Protection Act, 2004*) via the *Privacy Breach Report Form*.

(iii) As the Principal Investigator, you are further expected to submit:

- an annual progress report and annual re-approval via the *Annual Report/Re-Approval Form* by May 2012 if the study is expected to continue beyond the Expiry Date; and
- a *Study Closure Form* along with a copy of the final report when the study has been completed.

Contact Information:

CONTACT	NAME	PHONE
Principal Investigator	Manon Lemonde	905.721.8668x2706
Research Assistant	Matthew Stein	905.721.8668x2706
Academic Affairs – Research Program	Research Liaison	905.721.4727
Research Ethics Board	Chair, REB at LH	905.576.8711

Please feel free to contact the Research Liaison if there are any questions.

Sincerely,

Peter Dixon, MB, BS, FRCPC
VP Academic Affairs



Items:

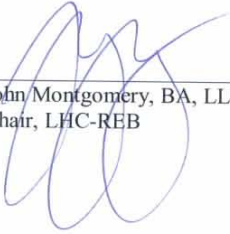
- Protocol dated May 16, 2011 *July 11, 2011 Version 1.2 7/5 19.7.11*
- Main Informed Consent dated ~~May 11, 2011~~ *Version 1.1*
- Recruitment Letter dated ~~May 16, 2011~~ *July 2011 7/5 19.7.11*
- Data Collection Tools dated January 2010
- Recruitment Poster – no date

The Research Ethics Board has reviewed and approved the above-noted study to include the above-noted items at /by:

☒ A Full Board Meeting ☐ The Chair with Notification to All Board Members

Date: *July 6, 2011*
~~Monday June 27, 2011~~
7/5 July 6, 2011

Signed:


John Montgomery, BA, LLB
Chair, LHC-REB

OR

Douglas McIntosh, MD, MA, BSc
Vice-Chair, LHC-REB

Notification of Research Study to Commence Release Date: *July 19, 2011*



RESEARCH TEAM FORM



RID# _____

Principal Investigator: Manon Lemonde

Study Title: Program Evaluation of the Living a Healthy Life with Chronic Pain Workshop at Lakeridge Health Corporation

List only the internal and external members of the research team who plan to access LHC (physically, electronically) during the course of the study.
Check ☐ N/A if you are the only individual involved in this study.

NB: If there are *new/additional members* during the course of the study, submit a new Research Team Form.

LAST NAME, First Name	Telephone #	Professional Affiliation/ Credentials	Role in the Study (Student, Research Assistant)	Indicate if Meditech Access Required (If yes, Research ID Password Required, Contact ext.4727):		Employer		RPG** (specify)
				Start Date	End Date	LH	PI*	
1. LEMONDE, Manon	(905)721-8668 ext 2706	PhD	Site Investigator Principal			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2. STEIN, Mathew	(905)886-0178	MHSc Candidate	Graduate Student			<input type="checkbox"/>	<input type="checkbox"/>	UOIT
3. KONAN, Margery	(416)701-4828 ext 5597	Project Manager	Co-Investigator			<input type="checkbox"/>	<input type="checkbox"/>	CECCAC
4. ,	() -					<input type="checkbox"/>	<input type="checkbox"/>	

*PI – Principal Investigator: supporting documents and research-assigned ID badge will be required for each individual. Contact ext 4727.

** RPG – Research Partner Group: supporting documents and RPG-assigned photo ID badge will be required for each individual. Contact ext 4727.

Supporting Documents:

- ☐ Memorandum of Understanding (MOU)
☒ Curriculum Vitae
☒ Research Confidentiality Agreement
 ☒ LH Confidentiality Agreement

Research Team Form Jan 2011

Appendix D: Chronic Pain Self-Management Program Focus Group Guide

The following is the question guide used for the focus groups and semi-structured interviews.

Chronic Pain Self Management Program – Focus Group Guide

1. What is your overall opinion of the Chronic Pain Self-Management Program?
2. What is your opinion about the value of the following program components?
 - a. Action Planning
 - b. Practice of relaxation techniques
 - c. Moving Easy Exercise Program
 - d. Group discussion and problem-solving
 - e. Presentations on different topics
 - i. Balancing activity and rest
 - ii. Pain Management Strategies
 - iii. Nutrition
 - iv. Exercise
 - v. Depression
 - vi. Fatigue
 - vii. Sleep
 - viii. Medications
 - f. The CPSMP Workbook and the Living a Healthy Life with Chronic Conditions book
3. What, if any, changes has this program made in your frequency of involvement in exercise activities?
 - a. Do you enjoy exercise more now?
4. What, if any, changes has this program made in your ability to relax?
 - a. What things do you do to relax now, that you did not do before?
5. What, if any, effect has this program had on your ability to cope with pain and/or stress?
 - a. If you are better able to cope with pain and stress, what do you attribute this change to?
6. What, if any, changes has this program made in your ability to manage your medications?

7. Describe your perceptions of the facilitators who led the program and explain how they helped you during the program. Identify what you found helpful or not helpful.
8. Was there something that you expected or would have liked in the program that you did not get?
9. Are there any suggestions you have for improving the program?
10. Do you have any other comments you would like to make?

Appendix E – Descriptive Statistics

Sample Size (n=6)	
Age	Mean – 66.5 Range – 46 – 85
Mother Tongue	English – 83.3% (5) Other - 16.6% (1)
Education	High School – 66.6% (4) University – 33.3% (2)
Marital Status	Married – 83.3% (5) Separated – 16.6% (1)
Chronic Pain Condition	Chronic Musculoskeletal Pain – 83.3% (5) Arthritis – 66.6% (4) Pelvic Pain – 16.6% (1) Ankylosing Spondylitis – 16.6% (1)
Other Illnesses	High Blood Pressure – 50% (3) Angina – 33.3% (2) Diabetes – 16.6% (1) Hyperthyroidism – 16.6% (1)

Table 14: Descriptive Statistics