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Analysing Individuals' Failure to Engage with a Multidisciplinary Pain Clinic Programme

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I dedicate this paper to my dear father, Slave Catalovski. I miss you more and more with each day that passes – wish you were here.

Abstract

Scope

The effectiveness of multidisciplinary pain clinics (MPC) in the treatment of chronic pain is quite impressive and well established. However, despite their demonstrated effectiveness in the rehabilitation of individuals with chronic pain, MPC are under-utilised by patients, with a significant portion of individuals failing to engage in such programs. Little is known about the factors influencing patients' failure to engage in MPC programmes. As such, an investigation of factors determining failure to engage in MPC treatment is required for the Australian chronic pain population.

Purpose

The identification of those factors influencing engagement and failure to engage in multidisciplinary pain clinic programmes is warranted for the purpose of improving or increasing retention and access to effective chronic pain interventions, and subsequently minimise the impact of pain on the quality of life for chronic pain sufferers.

Methods

One hundred and eighty-five participants from the Hunter New England Area Health Service catchment area attended HIPS for initial assessment and were recommended to participate in further programmes between 2007 and 2010. The study utilised a method triangulation approach, including two components. Firstly, a quantitative component utilising data routinely collected by HIPS (questionnaire data) in order to identify predictor variables for engagement and failure to engage in treatment. Secondly, a qualitative component, utilising interpretative phenomenological analysis aims to obtain a deeper understanding of engagement and failure to engage in MPC.

Results

The binomial logistic regression analysis revealed a significant association between engagement and health care utilisation (OR= 1.087, 95% CI: 1.010 - 1.150, $P = 0.024$).

Qualitative analysis of the data highlighted the emergence of three superordinate themes: 'managing the pain', 'emotional responses to the pain' and, 'control, confidence and coping'.

Conclusions

Health care utilisation is a predictor of failure to engage in MPC, with those individuals who access health care services more frequently being those who are more likely to engage in MPC. These findings are important for the purpose of improving or increasing retention and access to effective chronic pain interventions. The findings indicate the need for early identification of patients who are not likely to engage in MPC, being those individuals who access health care services less frequently. This particular patient group may benefit from targeted information from their primary health care provider (at the time of referral) to potentially increase the likelihood of engagement in MPC, which may potentially minimise the impact of pain on the quality of life for chronic pain sufferers

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Literature review

Chronic (persistent) pain is defined as pain lasting beyond the normal healing time, which is usually defined as three months or six months (International Association for the Study of Pain, 1986). It affects a significant proportion of the Australian population. In 2007, 3.2 million Australians (1.4 million males and 1.7 million females) were estimated to experience chronic pain, with an estimated cost to the nation of 34.3 billion dollars (Access Economics, 2007). The Australian health care system is also affected, with 78% of chronic pain sufferers having consulted a healthcare practitioner regarding their pain in the previous 6 months (Blyth, March & Cousins, 2003).

The experience of chronic pain was once defined in terms of a biomedical framework of illness, being that pain was primarily the result of tissue damage and thus the amount of pain experienced should correspond to the amount of tissue pathology (Thorn & Dixon, 2007). Consequently, the standard approach to chronic pain treatment consisted of medication, surgery and various other medical interventions (Thorn & Dixon, 2007). In the last 30 years, the multifaceted nature of chronic pain has been emphasised by an all-encompassing biopsychosocial model of illness, which suggests that the experience of chronic pain is complex in nature, influenced by both psychosocial factors (such as emotions, socio-cultural background, social and environmental context, the meaning of pain to the person, beliefs, attitudes and expectations) as well as biological factors (Engel, 1977; Turk & Okifuji, 2002). This conceptualisation of chronic pain as a multi-dimensional experience influenced a shift in treatment approaches from traditional biomedical interventions to multidisciplinary pain management (Thorn & Dixon, 2007).

Multidisciplinary pain clinics (MPC) have become widely accepted as a comprehensive approach to chronic pain management and have rapidly increased in number over the last few decades (Flor, Fydrich & Turk, 1992; Karjalainen, Malmivaara, van Tulder,

Roine, Jauhiainen, Hurri & Koes, 1999; Gatchel & Okifuji, 2006; Scascighini, Toma, Dober-Spielmann & Sprott, 2008). Such programmes typically encompass a variety of strategies such as physical therapy, psychological interventions, education, as well as pharmacotherapy. The centre for the current research is the Hunter Integrated Pain Service (HIPS), an outpatient MPC service within Hunter New England Local Health District, based in the public health system in Newcastle, New South Wales. This MPC offers a number of clinical services, including assessment as well as the provision individual treatments and a number of group-based intervention programs. Despite the reported effectiveness of MPC services, a large number of individuals fail to engage in the recommended multidisciplinary pain treatment after attending an initial multidisciplinary pain assessment with HIPS. For example, in 2009, Hayes reported that only 6% of all patients referred to HIPS since 2007 actually engaged in a “Moving with Pain” programme. This phenomenon has also been observed by other MPC within Australia, with Hogg (2009) reporting 94-95% of referred individuals failing to engage in the recommended treatment with an MPC based in Victoria.

This under-utilisation of MPC services is surprising, given the demonstrated effectiveness of MPC in the rehabilitation of individuals with chronic pain, which is evidenced by a variety of successful treatment outcomes reported in the literature: A meta-analysis conducted by Flor, Fydrick and Turk (1992) revealed evidence for the efficacy of MPC treatment for lower back pain (improvements in pain, mood, interference, return to work and use of the health care system). A systematic review conducted by Guzman, Esmail, Karjalainen, Malmivaara, Irvin and Bombardier (2001) found strong evidence that MPC rehabilitation improves function when compared to inpatient or outpatient non-MPC rehabilitation, and moderate evidence that MPC rehabilitation reduces pain when compared to outpatient non-MPC rehabilitation or usual care. A more recent systematic review of randomised controlled trials on the effectiveness of MPC treatments for chronic pain by

Scascighini, Toma, Dober-Spielmann and Sprott (2008) found moderate evidence of the effectiveness of MPC compared to non-multidisciplinary treatments in the treatment of chronic pain in a variety of domains (measures of pain, emotional strain, quality of life, disability, coping, physical capacity, return to work, drug intake, use of health care services, and pain behaviour). Although systematic reviews and meta-analyses in this area of research are prone to methodological flaws (for example publication bias), (Guzman, et al., 2001), the overall ability of MPC to help reduce the suffering and pain behaviour components of chronic pain syndromes is clear (Scascighini et al).

Failure to engage is not a phenomenon specific to the chronic pain population. For example, in the field of eating disorders, a significant proportion of patients with bulimia nervosa who were referred to a treatment service were reported to fail to attend their first appointment (Bell, 2001; Burket & Hodgins, 1993). Research into the factors predicting failure to engage in these patients identified a heightened fear of weight gain (Bell) and co-morbid borderline personality disorder (Nicholson, 1994; Loumidis & Shropshire, 1997) as factors associated with non-engagement. Non-patient characteristics included venue and waiting time (Loumidis & Shropshire), medication and expectations/concerns regarding non-directive group therapy approaches (Bell). Failure to engage is also a problem in drug and alcohol treatment services with a reported 29-42% of referred clients failing to begin treatment (Coulston, Ng, Geertsema, Dodd & Berk, 2009; Weisner, Mertens, Tam & Moore, 2009). Factors such as work commitments, illness, social and logistical issues have been identified as reasons for non-engagement in this particular group (Coulston et al.). Research also suggests that engagement in services offering psychosocial treatments for first episode psychosis is also notoriously low (Lecomte, Spidel, Leclerc, MacEwan, Greaves & Bentall, 2008). Personality traits, such as agreeableness were linked to poor engagement amongst these individuals. However, little is known about factors influencing patients' failure to

engage in the field of chronic pain, including with HIPS MPC programmes. Much of the literature relevant to patient engagement in MPC programmes concerns the issue of attrition, and is largely devoid of theoretical explanations for failure to engage. It seems reasonable then, to ask why those patients who may benefit from MPC programmes fail to engage in a recommended multi-disciplinary HIPS programme. The literature on attrition, although not specific to the issue of failure to engage, reveals some potentially relevant explanations/factors can be identified. According to Biller, Arnstein, Caudill, Wells-Federman and Guberman (2000), chronic pain patients' readiness to engage in a self-management approach to chronic pain may influence attrition rates. As assessed by the Pain Stages of Change Questionnaire (PSOCQ), they found that low Pre-contemplation and high Action orientation were the best predictors of engagement in treatment within a MPC context. Cipher, Fernandez and Clifford (2002) investigated the role of individual coping styles in MPC treatment compliance using the Millon Behavioral Health Inventory (MBHI). They found repression of the 'Expression of Negative Emotion' factor and scoring at the passive end of the "Aggression" factor to be most predictive of compliance with MPC treatment. Cipher et al., did not, however, comment on the impact of such coping styles on attrition. Furthermore, the predictive power of the MBHI in relation to readiness for change in a self-management approach to chronic pain is questionable (Arnstein, et al., 2000).

Given that the current study aims to identify factors influencing failure to engage in MPC programmes within the chronic pain population, it seems reasonable that a number of factors associated with chronic pain could influence failure to engage. However, in order to understand the factors influencing failure to engage, it is important to also focus on the factors which influence engagement in HIPS MPC programmes. Given that the current investigation focuses specifically on a chronic pain population, it seems reasonable to explore factors associated with chronic pain as potential predictors of engagement and failure to

engage. The factors are categorised as emotional (depression, anxiety, stress), cognitive (locus of control, self-efficacy), treatment expectations and epistemology (patient goals versus MPC programme goals; pain beliefs and pain-self management beliefs; medication and opioid use), and health-care utilisation.

Emotion factors

Depression.

Depression is common amongst the chronic pain population, affecting approximately 50% to 80% of chronic pain sufferers (Gallagher, 1999). Research findings suggest that in individuals with chronic pain, depressive symptoms contribute to a lack of motivation to engage in rehabilitation therapy, reduced physical activity and an increase in feelings of hopelessness (regarding treatment outcomes, perceived ability to engage in the therapy and level of disability) (Alschuler, Theisen-Goodvich, Haig & Geisser, 2008; Erickson, 2005). While the exact mechanisms of how depression impacts function are not entirely clear, it has been suggested that anhedonia and similar depressive symptoms may act to decrease motivation to sustain effort on tasks, while negative thoughts and beliefs may increase negative thoughts about pain (Banks & Kerns, 1996; American Psychiatric Association, 2000). Together, these symptoms may negatively impact upon beliefs that one can successfully perform certain tasks, such as engaging in daily activities and engaging in interventions (including a self-management approach to pain management) (Geisser, Robinson, Miller & Bade, 2003).

There is sound evidence for a strong association between chronic pain and depression (Gatchel et al., 2007). However, the literature has not established the direction of this association (Gatchel et al.). Some studies suggest that chronic pain causes depression (Atkinson, Slater, Patterson, Grant & Garfin, 1991), others suggest that depression causes chronic pain (Magni, Moreschi, Rigatti-Luchini & Merskey, 1994), and there are also studies

which suggest that the two exist in a mutually reinforcing relationship (Rudy, Kerns & Turk, 1988). Arguably, depression can be caused by the attributions a person has about their pain and may influence the person's ability to function despite pain (Robb, Williams, Duvivier & Newham, 2006). Although depression can take many forms, varying in the number and severity of symptoms, even milder symptoms of depression have been found to influence the experience of pain (Geisser, Robinson, Miller & Bade, 2003).

As in those without chronic pain, depression in this population can contribute to sadness, low-self esteem and passivity (Valente, Ribeiro & Jensen, 2009). However, depression associated with pain may also contribute to a decrease in the belief that pain can be managed (Valente et al., 2009). Bar, Brehm, Boettger, Boettger, Wagner and Sauer (2005) found that people with depression or those prone to depression have a greater sensitivity to acute or chronic pain than their non-depressed counterparts. In fact, one study suggests that a significantly greater proportion of people with major depression, compared to their non-depressed counterparts, suffer from chronic pain (Arnold, Hunkeler, Blasey, Lee, Constantino, Fireman et al., 2006). Furthermore, Dysvik, Vinsnes and Eikland (2004) found that positive and negative feelings can increase or decrease pain intensity and, that such feelings are frequently correlated with pain-related disability. Taken together, the above-mentioned findings suggest a link between depression and chronic pain.

Anxiety.

Anxiety is also highly prevalent among chronic pain patients (Dersh, Polantin & Gatchel, 2002; Erickson, 2005; Santiveri, Ferrer, Ruiz, Lopez, Pares & Escolano, 2006). One can also assume that the typical psychological and behavioural components of anxiety, such as avoidance, fear of social embarrassment, worry and rumination will also impact on the individuals' engagement in pain management programmes. Anxiety limits the affected individual's level of physical activity in fear of further exacerbating their pain, leads to

avoidance of individuals and situations which they associate with their pain, and will also lead to fear of treatment failure and fear of group-based interventions. Anxiety and fear is common in patients with chronic pain, as their symptoms are often unexplained (Gatchel, Peng, Peters, Fuchs & Turk, 2007). The research indicates that chronic pain sufferers are anxious about the meaning of their pain and the implications of their pain for their futures, such as the possibility of increased pain severity, diminished physical capacity and progressive disability (Gatchel, et al.). In addition, it has also been suggested that pain sufferers may be worried that their reported symptoms may not be believed or that their prognosis will be poor (and be advised that they are beyond help) (Gatchel et al., 2007). Chronic pain sufferers also experience anxiety relating to physical activities, which they expect will increase their pain (Erikson, 2005). As such, chronic pain sufferers limit their physical activity in fear of further exacerbating their pain, which ultimately leads to greater immobility and potentially increased disability (Alschuler, Theisen-Goodvich, Haig & Geisser, 2008; Erikson, 2005; Nicholas, Coulston, Asghari & Malhi, 2009). Hypervigilance and persistent monitoring of noxious stimulation (and the belief that such stimulation is indicative of disease progression) may render even low-intensity aversive sensations less bearable (Robinson & Riley, 1999). More concerning, however, is the fact that such fears contribute to increased muscle tension and physiological arousal, which may exacerbate and maintain pain (Gatchel, 2005; Vlaeyen, Haazen, Schuerman, Kole-Snijders & van Eck, 1995). Avoidance behaviour can be a maladaptive response if it persists and leads to increased fear, limited activity and other physical and psychological consequences that contribute to disability and persistence of pain (Boersma & Linton, 2006). According to the literature, fear of movement and fear of (re)injury are better predictors of functional limitations than biomedical parameters or even pain severity and duration (Crombez, Vlaeyen & Heuts, 1999; Turk, Robinson & Burwinkle, 2004).

Stress.

Closely related to anxiety is psychological stress, which has been reported to occur in about half of all chronic pain patients (Marcus, 2005). Perceived stress is elevated in individuals with chronic pain (Van Uum, Sauve, Fraser, Morley-Forster, Paul & Koren, 2008). Coping with pain on an on-going basis requires cognitive and behavioural resources to manage pain flares and other significant situations, which at times may exceed an individual's coping resources (Thorn & Dixon, 2007). In the case of chronic pain, there are two important factors that affect coping: the primary issue of living with persistent pain and the secondary issues that are related to the pain interfering with one's life (e.g., marital and family dysfunction, emotional distress, financial insecurity, legal conflicts and sleep deprivation) (Sternbach, 1986). Therefore, coping with pain becomes especially challenging, because the stressor is not simply the physical pain, but the additional effects of chronic pain on a number of important areas of an individual's functioning (Boothby, Thorn, Stroud & Jensen 1999). With this in mind, it can be theoretically linked that the psychological consequences of elevated stress levels may impact on the patient's perceived ability to cope both physically and emotionally with MPC programme treatment. This perceived inability to cope may influence avoidance of pain management programs, and such avoidance may then serve as a coping strategy in itself.

Cognitive factors

Locus of control.

In addition to these mental health concerns, a further psychological phenomenon that may influence non-engagement in MPC programmes is locus of control (LOC). It can be hypothesised that those who believe that their pain is not within their control and is instead something that happens to them due to a disease state (low internal LOC) will be less likely to engage in MPC interventions, as such programmes with a focus on a self-management

approach. According to the literature, those chronic pain patients with a high internal LOC exhibit higher gains from MPC treatment, and are more likely to learn and perform treatment exercises than their low internal LOC counterparts (Harkapaa, Jarvikoski, Mellin, Hurri & Luoma, 1991; Hobara, Wharton & Clark, 2004). However, as many people with chronic pain have engaged in varying treatment approaches to controlling their pain with very little success, it is not unexpected that the majority of these people would have low internal LOC (Turk, Meichenbaum & Genest, 1983). An individual's sense of personal control is an important factor in both their experience of pain and response to pain (Keeley, Creed, Tomenson, Todd, Borglin, & Dickens, 2008). Furthermore, compliance with treatment and self-management for chronic pain are dependent on the individual's locus of control (Keeley, et al., 2008).

Self-efficacy.

Related to perceived control is the construct of self-efficacy. Self-efficacy is the conviction that one can successfully perform a certain task or produce a desirable outcome (Bandura, 1977). Bandura proposed that given sufficient motivation to engage in a behaviour, it is self-efficacy beliefs that determine whether a behaviour will be initiated, how much effort will be expended, and how long effort will be sustained in the face of obstacles and aversive experiences. Self-efficacy is believed to be situation-specific – focused on beliefs about one's personal abilities in specific settings (Rosenstock, Strecher & Becker, 1988). Those individuals with low self-efficacy are less likely to employ ineffective/inappropriate coping responses or persist in the presence of obstacles and aversive consequences than those with high self-efficacy (Turk & Okifuji, 2002). In patients with chronic pain conditions research has identified that self-efficacy positively affects physical and psychological functioning (Asghari & Nicholas, 2001; Rudy, Lieber, Boston, Gourley & Baysal, 2003; Woby, Watson, Roach & Urmston, 2005), and improvements in self-efficacy

after self-management and cognitive-behavioural interventions are associated with improvements in pain, functional status, and psychological adjustment (Keefe et al., 2004; Marks, 2001). Furthermore, the evidence for the role of self-efficacy across a broad range of pain populations is impressive (Geisser, Robinson, Miller & Bade, 2003; Keefe et al., 2004). A high level of self-efficacy is beneficial when people are confronted with a chronic pain experience for the reason that people with high self-efficacy may be more motivated to engage in health-promoting behaviours and adhere to treatment recommendations because they have higher performance success expectancies than those with low self-efficacy (Gatchel, Peng, Peters, Fuchs & Turk, 2007). In addition, people with high self-efficacy are less likely to give up on an activity when facing barriers (e.g., pain) and this may prevent them from becoming trapped in the negative spiral of activity avoidance, physical deconditioning, loss of social reinforcers and depression (Scascighini & Sprott, 2007). Low self-efficacy with regard to pain control may reinforce debilitating health behaviours, which may then lead to decreased social, economic and psychological rewards. This may further impair one's self judgements and self-confidence, regardless of any actual disease "flare up" (Arnstein, Caudill, Mandel, Norris & Beasley, 1999; Marks, 2001). Those with chronic pain who engage in avoidant coping behaviours because of fear of pain, injury, or re-injury are less likely to receive corrective feedback or information that can enhance their sense of self efficacy – that is, the knowledge that they can successfully confront the feared activity without the dire consequences they anticipate (Bandura, 1977; Turk & Okifuji, 2002). If a person with chronic pain feels that there is little that they can do to control their symptoms, they will expend minimal effort in trying to use self-management techniques; conversely, they may become more emotionally distressed, which may amplify symptom perception (Turk & Okifuji). Individuals with chronic pain who perceive themselves as lacking the capacity to acquire self-management skills are less persistent, more prone to frustration, and

more likely to be non-compliant with treatment recommendations (Turk, 2004). Hence, some individuals may demonstrate adequate understanding of a particular treatment rationale, though may be non-compliant due to their perceived inability to produce the behaviour necessary to follow treatment recommendations (Main & Spanswick, 2000; DeGood & Shutty, 1992). In addition, low self-efficacy for pain management might impact detrimentally upon an individual's disease status and total self-efficacy (Smarr, Parker, Wright, Stucky-Ropp, Buckelew, Hoffman, O'Sullivan & Hewett, 1997).

Treatment expectations and epistemology

MPC goals versus patient goals.

Another factor that has been found to predict engagement with treatment is patients' perceptions of illness and medical treatment (Petrie & Weinman, 1997). Research has revealed that patients commonly have a number of expectations of health care visits, including diagnostic information, explanation of their illness, medication and specialist referral (Jackson & Kroenke, 2001). Patients' expectations of pain clinic visits may have important implications for patient satisfaction and engagement with MPC (Petrie, Frampton, Large, Moss-Morris, Johnson & Meechan, 2005). Many chronic pain patients report not feeling understood in consultations and have high levels of anger toward health care providers in pain clinics (Eriksen, Jensen, Sjogren, Ekholm & Rasmussen, 2003; Walker, Holloway & Sofer, 1999). Petrie et al., (2005) found that pain clinic patients expect an improved understanding and explanation of their pain, along with a cure or relief (including medication investigation and changes). A small number of patients expect advice on pain management strategies (Petrie et al).

Other authors suggest that a mismatch between the patient's expectancies of treatment and the goals of the clinic itself may lead to poor motivation to engage in treatment (Cameron & Shepel, 1986; DeGood, 1983). Multidisciplinary pain clinic pain management strategies

are rooted in the self-management approach and involve lifestyle changes (Man, Chu, Chen, Ma & Gin, 2007). The central goals of most pain clinics are to help the person live with their pain and eliminate their analgesic use (Man et al). However, some patients may fear or be unwilling to have their analgesic medication reduced or eliminated, leading to refusal of MPC treatment. Furthermore, most pain patients do not wish to learn alternative coping strategies, they are seeking a cure for their pain. These individuals have, over time, developed a dependency on the health care system and reliance on the medical/health practitioner to correct the “cause” of their pain (Turk & Rudy, 1991). In addition, many patients who are referred to MPC programmes often have long histories of inactivity and have feelings of hopelessness and helplessness (Turk & Rudy). These particular individuals are not comfortable with learning and engaging in active self-management strategies and thus reject the recommended treatment.

Pain beliefs and pain self-management beliefs.

People experiencing chronic pain often develop a set of beliefs about the cause of their pain and the way it should be treated (DeGood, 1983; Turk & Rudy, 1991). Individuals with chronic pain also hold beliefs about how much control they have over their conditions (Thorn & Dixon, 2007). DeGood and Tait (2001) report that in chronic pain patients who hold persistent maladaptive beliefs regarding the diagnosis and treatment of pain, despite numerous ineffective invasive treatments, such patients expect, or demand, more of the same. Recommendations to adopt a more conservative approach, such as a self-management approach (e.g., regular physical activity, use of effective body mechanics, appropriate use of health care services and medication, and relaxation practices) is usually met with disappointment and resistance (Turk & Rudy). DeGood and Tait suggest that this is perhaps due to the fact that many patients are compelled to pursue high-risk treatments to legitimise their pain complaints. Kenny (2004) highlighted the notion that most chronic pain patients

seek “legitimization” of their pain concerns from clinicians through acknowledgment of a biological etiology of their pain. Despite the desire to legitimise pain complaints and the search for a cure for one’s pain, the evidence suggests that better adjustment to chronic pain conditions is better predicted by efforts to increase physical functioning, which is dependent upon a self-management approach (Von Korff, 1999).

Medication and opioid use.

Opioids have been used liberally for many years in the treatment of chronic pain conditions (Jensen, Thomsen & Hojsted, 2006). Concerns about decreasing efficacy due to tolerance, development of drug dependence, addictions and cognitive dysfunction are the main reasons for the reluctance to prescribe long-term opioids medication in this patient group (Savage, 1996). Over the past few decades, there have been significant advances in the development of pharmacological approaches to treatment of chronic pain (Turk, 2004). Despite the accumulating knowledge, a large number of patients find that their pain is non-responsive to these treatments. For example, long-term treatment with opioids, anticonvulsants and anti-depressants reduces pain by on average approximately 30% to 40% (Turk, 2002); and for patients who are carefully selected for implantable drug administration, it is rarely the case that pain is adequately controlled for many patients (North, Kidd, Zahurak, James, & Long, 2003). Whilst there are some patients who do report effective pain relief from the use of opioids, it can be said, that the goal of abolishing pain via the use of opioids, has been largely unsuccessful (Ballantyne, 2007). The findings of clinical studies suggest that opioid analgesic efficacy is not always sustained over time and even if the treatment is initially beneficial, it can later lose its efficacy (Compton, Athanasos & Elashoff, 2003; Ossipov, Lai, King, Vanderah & Porreca, 2005). For example, randomised control trials demonstrate clearly that chronic pain conditions respond to opioids at least during the conduct of such trials- up to eight weeks (Furlan, Sandoval, Mailis-Gagnon & Tunks, 2006;

Kalso, 2005). These randomised controlled trials cannot determine whether analgesic efficacy is sustained over longer periods (Ballantyne). Many case series, mainly reporting the use of long-term opioids therapy in pain programs, report satisfactory analgesia for all patients who stay in the treatment (Ballantyne & Mao, 2003). However, a review of the open-label follow-up studies, demonstrated that 56% of patients abandon the treatment because of lack of efficacy or side effects (Kalso, Edwards, Moore & McQuay, 2004). Overall, the evidence supporting long-term analgesia efficacy is weak. In long-term studies, treatment has been based on the principle that opioid dosage should be titrated upward to overcome pharmacological tolerance (an inevitable consequence of long-term opioid treatment) (Ballantyne). Indeed, the majority of patients are able to reach an effective, non-escalating dose, and pharmacological tolerance seems to stabilise over time (Trescot, Glaser, Hansen, Benyamin, Patel & Manchikanti, 2008). However, studies by Mao (2002) and Mercandante (1999) demonstrate that there are a proportion of patients who fail dose escalation, reporting no change, or a worsening of their pain, despite high doses of opioids. In fact, some patients report an improvement in their pain once opioid treatment is terminated (Harden, 2002; Schofferman, 1993). Despite this, it is common that many chronic pain patients maintain a biomedical focus with regard to their pain management, and although opioid medications may not be particularly effective, patients demand more of the same (DeGood & Tait, 2001). This insistence on the use of medication in the management of chronic pain is part of the patient's overall theory of change, that is, their view of how change occurs. Although having received education regarding their pain condition and the role for medication in the management of their condition, many chronic pain sufferers believe that there is a "cure" for their condition and that cure is in the form of opioid medication. In fact, a study (Andersson, Ejlertsson, Leden & Schersten, 1999) on a Swedish sample of chronic pain patients revealed that the use of analgesics is the most common action undertaken by people with chronic pain

(other possible actions included self-care, accessing primary health care or hospital care).

The stance of HIPS with regard to medication is that it is ideally used as part of holistic management. The Service recommends time limited maintenance therapy (3 to 6 months).

The aim of the HIPS MPC programmes is to provide an opportunity to help the individual develop other strategies with greater potential for long term gain. The medication is then tapered, ceased and reviewed at the end of the 3 to 6 month period. It is important to acknowledge that ethical guidelines for pain medicine stipulate that opioids are essential for the treatment of pain and suffering (American Academy of Pain Medicine, 2005).

Furthermore, it is known that uncontrolled pain may have deleterious physical (Brennan & Kehlet, 2005; Carr & Goudas, 1999; Kehlet & Dahl, 2003) and psychological sequelae; chronic pain destroys the individual's autonomy and dignity, and compromises the person's decision-making capacity (Ballantyne, 2007). However, it is also acknowledged that opioids must be one possible component of management plan, not the primary treatment of chronic pain (Nicholas, Molloy & Brooker, 2006). It seems reasonable to suggest that many patients with chronic pain understand pain (and pain management) in terms of the traditional bio-medical model of illness, and therefore have an inclination or preference for medication over other treatments.

Health care utilisation.

That pain itself is a predictor of care-seeking is hardly surprising (Jensen, Haahr, Frost & Andersen, 2011). Chronic pain sufferers are more likely to access health care services and more likely to be frequent users when accessing care (Blyth, March, Brnabic & Cousins, 2004). Chronic pain with a high level of interference with daily activities is associated with increased hospitalisation and general practitioner visits in the last 12 months and with the numbers of emergency department visits in the last 12 months, compared with no pain even after adjusting for known predictors: age, gender, general health, comorbidities (history of

hypertension, diabetes or asthma), psychological distress and access to care (geographical location and private health insurance cover) (Blyth et al). Severity, persistence, and recency of the onset of pain have been shown to be determinants for seeking health care for specific pain symptoms (von Korff, Wagner, Dworkin & Saunders 1991). Andersson, Ejlertsson, Leden and Schersten (1999) found that depressive symptoms among people with chronic pain contributed to care seeking. They concluded that depression is either primary or secondary to chronic pain, experience of worry may increase the vulnerability to illness and hence care seeking. Keeley, Creed, Tomenson, Todd, Borglin and Dickens (2008) found that fear avoidance beliefs in chronic low back pain sufferers predict health care utilisation (hospital out-patient, in-patient or daily case attendance, operations or surgical procedures, and contact with accident and emergency services). They suggested that fear avoidance beliefs led to increased health care utilisation as part of a maladaptive coping response to chronic pain.

Although the above-mentioned findings are indeed a valuable contribution to our general understanding of the unique population of chronic pain sufferers, little is known about which factors influence engagement in MPC programmes. Furthermore, the findings in the literature thus far have not been used to orchestrate changes to MPC programme structure. As such, an investigation of factors determining failure to engage in MPC programmes is required for the Australian chronic pain population. More specifically, the identification of those factors influencing failure to engage in multidisciplinary services provided by HIPS is warranted for the purpose of improving or increasing retention and access to effective chronic pain interventions, to subsequently minimise the impact of pain on the quality of life for chronic pain sufferers in the Hunter New England area.

Much of the research to date has come from a quantitative perspective. Qualitative analysis has the benefit of permitting an in-depth examination of the participants' personal experience and personal perception of their pain, associated disability and barriers to

engagement. Qualitative analysis allows for a detailed exploration of the causal relationships and predictors of engagement and failure to engage in MPC programmes. As such, the current study will adopt a method triangulation approach, utilising both quantitative and qualitative methodology to facilitate a comprehensive investigation of engagement and the contribution of predicting factors for this particular population.

Taking into account the aforementioned psychological phenomena and consequences of chronic pain, the aim of the current study will be to investigate the inter-relationships of these particular variables (depression, anxiety, stress, locus of control, self-efficacy, MPC goals versus patient goals, pain beliefs and pain-self management beliefs, medication and opioid use, and health-care utilisation) in order to provide an account of the high rate of non-engagement in the HIPS MPC programmes, and to identify factors which predict engagement in HIPS MPC programmes. A further aim of the study is to obtain a deeper understanding of engagement and failure to engage in HIPS programmes. This will be achieved through the use of qualitative analysis, specifically Interpretative Phenomenological Analysis (IPA) (Smith, 1996).

Pain Medicine

Manuscript is being written in the style of American Medical Association (see Appendix 1 for style guide).

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Abstract

Objective. We aim to investigate the factors influencing engagement in a multidisciplinary pain clinic programme in an Australian chronic pain population.

Design. The study utilised a method triangulation approach, analysing quantitative data routinely collected by the service, as well as qualitative data obtained via telephone interview with participants.

Participants. Participants were from the Hunter New England Local Health District and attended the service for initial assessment between January 2007 and December 2010.

Results. The quantitative analysis identified health care utilisation as being a predictor of engagement in the service, with those individuals who more frequently access health care services being more likely to engage in the service than those who access health care services less frequently. Qualitative analysis revealed that the side-effects of opioid medication were associated with failure to engage in the service. The qualitative analysis also suggested that those individuals who failed to engage in the service experienced stress-related growth.

Conclusions. The findings indicate the need for early identification of patients who are not likely to engage in the service, being those individuals who access health care services less frequently. This particular patient group may benefit from targeted information from their primary health care provider (at the time of referral) to potentially increase the likelihood of engagement in the service, which may potentially minimise the impact of pain on the quality of life for chronic pain sufferers.

Key words. Pain; Multidisciplinary; Engagement; Management; Chronic pain

Introduction

The effectiveness of multidisciplinary pain clinics (MPC) is well established [1-2]. However, MPC programmes are under-utilised by patients with chronic pain, with a significant portion (94-95%) of individuals failing to engage in such programs [3]. For example, in 2009, Hayes [4] reported that only 6% of all patients referred to a MPC, Hunter Integrated Pain Service (HIPS), since 2007 actually engaging in a “Moving with Pain” program, despite all having attended a prior initial multidisciplinary pain assessment at the service.

Little is known about the factors influencing patients’ failure to engage in MPC programmes. In order to understand the factors influencing failure to engage, it is important to also focus on the factors which influence engagement. Given that the current investigation focuses specifically on a chronic pain population, it seems reasonable to explore factors associated with chronic pain as potential predictors of engagement and failure to engage. The factors are categorised as emotional (anxiety, depression, stress), cognitive (locus of control, self-efficacy), treatment expectations and epistemology (patient goals versus MPC programme goals; pain beliefs and pain-self management beliefs; medication and opioid use), and health-care utilisation.

In terms of emotional factors, the psychological and behavioural components of anxiety, such as avoidance, fear of social embarrassment, worry and rumination may impact on an individuals' engagement with pain management programmes as chronic pain sufferers may experience anxiety relating to physical activities, which they expect will increase or exacerbate their pain [5]. This anxiety often leads to avoidance of situations which the

affected individual associates with their pain, and leads to fear of treatment failure and fear of group-based interventions [5-7]. Despite evidence that depression associated with chronic pain contributes to a decrease in the belief that pain can be managed [8] chronic pain sufferers are more likely to access health care services and more likely to be frequent users when accessing care [9]. Depressive symptoms in those with chronic pain in this case appear to contribute to care seeking, and the experience of worry may increase vulnerability to illness and hence care seeking. Fear avoidance beliefs lead to increased health care utilisation as part of a maladaptive coping response to chronic pain [10].

Coping with pain on an on-going basis requires cognitive and behavioural resources to manage pain flares and other significant situations, which at times may exceed an individual's coping resources [11]. In the case of chronic pain, there are two important factors that affect pain coping: the primary issue of living with persistent pain and the secondary issues that are related to the pain interfering with one's life (e.g., marital and family dysfunction, emotional distress, financial insecurity, legal conflicts and sleep deprivation) [12]. Therefore, coping with pain becomes especially challenging, because the stressor is not simply the physical pain, but the additional effects of chronic pain on a number of important areas of an individual's functioning [12]. With this in mind, it can be theoretically linked that the psychological consequences of elevated stress levels may impact on the patient's perceived ability to cope both physically and emotionally with MPC treatment. This perceived inability to cope may influence avoidance of pain management programs, and such avoidance may then serve as a coping strategy in itself.

Individuals who have an external locus of control may be less likely to engage in MPC interventions, as such programmes focus on a self-management approach. Chronic pain patients with a high internal LOC exhibit higher gains from MPC treatment, and are more likely to learn and perform treatment exercises than their low internal LOC counterparts [13-14]. However, as many patients with chronic pain have engaged in varying treatment approaches to controlling their pain often with very little success, it is not surprising that the majority of these people would have low internal LOC [15]. An individual's sense of personal control is an important factor in both their experience of pain and response to pain [11]. Furthermore, compliance with treatment and self-management for chronic pain are dependent on the individual's locus of control [11].

A high level of self-efficacy is beneficial when people are confronted with a chronic pain experience as they may be more motivated to engage in health-promoting behaviours and adhere to treatment recommendations because they have higher performance success expectancies than those with low self-efficacy [16-17]. Low self-efficacy with regard to pain control may reinforce debilitating health behaviours. Individuals with chronic pain who engage in avoidance behaviours because of fear of pain, injury, or re-injury rarely receive corrective feedback or information that can enhance their sense of self efficacy – that is, the knowledge that they can successfully confront the feared activity without the dire consequences they anticipate [16, 18].

Patients commonly have a number of expectations of health service providers, including diagnostic testing, explanation of their illness, medication and specialist referral [19]. Patients' expectations of pain clinic visits may have important implications for patient satisfaction and engagement with MPC programmes[20]. Many chronic pain patients report

not feeling understood in consultations and have high levels of anger toward health care providers in pain clinics [21-22]. Pain clinic patients expect an improved understanding and explanation of their pain, along with a cure or relief (including medication review and changes) [20]. A low number of patients expect advice on pain management strategies [20]. A mismatch between the patient's expectancies of treatment and the goals of the clinic itself may lead to poor motivation to engage in treatment [22-24]. Multidisciplinary pain clinic pain management strategies are rooted in the self-management approach and involve lifestyle changes, as well as elimination of analgesic use [25]. However, some patients may be unwilling to have their analgesic medication reduced or eliminated, leading to refusal of MPC treatment. Furthermore, most pain patients do not wish to learn coping strategies, they are seeking a cure for their pain. These individuals have, over time, developed a dependency on the health care system and reliance on the health practitioner to correct the "cause" of their pain [26].

People experiencing chronic pain develop a set of beliefs about the cause of their pain and the way it should be treated [24, 26] which are often maladaptive despite numerous ineffective invasive treatments, patients may expect, or demand, more of the same [27].

Recommendations to adopt an alternative approach, such as a self-management approach, are usually met with disappointment and resistance [26]. This is perhaps due to the fact that many patients are compelled to pursue high-risk treatments to legitimise their pain complaints [27].

Most chronic pain patients seek 'legitimization' of their pain concerns from clinicians through acknowledgment of a biological etiology of their pain [28]. Despite the desire to legitimise pain complaints and the search for a cure for one's pain, the evidence suggests that better adjustment to chronic pain conditions is better predicted by efforts to increase physical

functioning, which is dependent upon a self-management approach [29]. Over the past few decades, there have been significant advances in the development of pharmacological approaches to treatment of chronic pain [30]. Despite the accumulating knowledge, a large number of patients find that their pain is non-responsive to such treatments [15, 31]. Opioid efficacy is not always sustained over time and even if the treatment is initially beneficial, it can later lose its efficacy [32-33]. Despite the limited efficacy of opioids, it is common that many pain patients maintain a biomedical focus with regard to their pain management, and demand more opioids [27].

Ethical guidelines for pain medicine stipulate that opioids are essential for the treatment of pain and suffering [34]. Furthermore, uncontrolled pain may have deleterious physical [35-37] and psychological sequelae; chronic pain can destroy the individual's autonomy and dignity and compromises the person's decision-making capacity [38]. However, opioid medication should not be the only form of treatment of chronic pain [39]. It seems reasonable to suggest that many patients with chronic pain understand pain (and pain management) in terms of the traditional bio-medical model of illness, and therefore have a preference for medication over other treatments. However, it may also be that many patients are seeking alternatives to medication for pain management.

Consequently, little is known about which factors influence engagement and failure to engage in MPC programmes. As such, an investigation of factors determining engagement and failure to engage in MPC treatment is warranted for the Australian chronic pain population in order to improve or increase retention and access to effective chronic pain interventions, and to subsequently minimise the impact of pain on the quality of life for chronic pain sufferers.

Much of the research to date has come from a quantitative perspective. However, qualitative analysis has the benefit of permitting an in-depth examination of the participants' personal experience and personal perception of their pain, associated disability and barriers to engagement. One particular qualitative analysis, Interpretative Phenomenological Analysis (IPA) [40], allows for a detailed exploration of the causal relationships and predictors of engagement and failure to engage in MPC programmes. As such, the current study will adopt a method triangulation approach, utilising both quantitative and qualitative methodology to facilitate a comprehensive investigation of engagement and the contribution of predicting factors for this particular population.

The aim of the current study will be to investigate the inter-relationships of depression, anxiety, stress, locus of control, self-efficacy, MPC programme goals versus patient goals, pain beliefs and pain-self management beliefs, medication and opioid use, family attitudes, and health-care utilisation in order to provide an account of the high rate of non-engagement in MPC programmes, and to also understand what factors contribute to an individual actually engaging in MPC programmes. A further aim of the study is to obtain a deeper understanding of engagement and failure to engage in MPC programmes. This will be achieved through the use of qualitative analysis, specifically IPA [40].

Methods

Design

The present study explores the factors predicting engagement and failure to engage in MPC. To facilitate this, a method triangulation approach was utilised, which included a quantitative arm (part one) and a qualitative arm (part two). The quantitative arm consisted of a quasi-experimental design with two levels of the dependent variable, *engagement* (i.e., *yes/no*). The qualitative arm consisted of a series of semi-structured telephone interviews which explored the casual relationships of engagement and failure to engage through in-depth examination of the participants' personal experience. Data was collected until the data saturation was achieved (i.e., the point at which new themes stop emerging from the data).

Participants

For part one of the study (the quantitative arm) data from 185 past and present chronic pain clients of the Hunter Integrated Pain Service (HIPS) was obtained via the HIPS patient electronic medical record system. Participants were from the Hunter New England Local Health District and attended HIPS for initial assessment between January 2007 and December 2010.

The inclusion criteria was completion of the HIPS standard questionnaire (HIPS Patient Screening Questionnaire) (see Appendix 2) and attendance or failure to engage in the HIPS MPC program 'Moving with Pain'. Contribution of each participant's data was voluntary and participants indicated consent in a specific section in the HIPS Patient Screening Questionnaire.

For part two (the qualitative arm), ten participants were chosen randomly from the part one

participant group. Five of these participants had engaged in the 'Moving with Pain' program and five had failed to engage in this program, despite recommendation. Participants were contacted via telephone and invited to participate in the study - a phone interview time was booked which was suitable for the client and a copy of the Participant Information Statement was sent to the client via mail. Despite having recruited ten participants, our aim was to reach data saturation, which was achieved at four interviews.

Of the total sample, fifty-nine percent were female. Participants aged in range from 22 to 87, with a mean age of 51.71 years. The sample was essentially representative of the Australian population, in that the majority were born in Australia (85%). Ninety-four percent reported their spoken language as being English. Forty-five percent of the sample was unemployed due to their pain problem. The most common pain site was lower back pain (20%).

The study was approved by the Hunter New England Human Research Ethics Committee.

Measures

The Depression Anxiety Stress Scale (DASS-21) [41] is a 21-item self-report questionnaire designed to measure the negative emotions of depression, anxiety and stress, taken from the full version of the Depression, Anxiety and Stress Scale (DASS) [41]. The reliability and validity of the DASS21 is well established and has been confirmed by Jordan [42] in an Australian chronic pain sample.

The Pain Self Efficacy Questionnaire (PSEQ) [43] is a short (10 item), self-administered questionnaire designed to assess pain tolerance beliefs. Activities addressed include those commonly reported to be problematic by patients with chronic pain, including household chores, socialising, work, hobbies and leisure, and more general aspects such as enjoy things, cope with pain in most situations, cope with pain without medication, accomplish most goals,

live a normal lifestyle, and gradual increase in activity levels. Patients rate how confident they are to do each activity despite the pain. Items are assessed on a 7-point ratings scale ranging from 0 (not at all confident of being able to do things despite the pain) to 6 (completely confident to do things despite the pain). Nicholas [44] demonstrated acceptable psychometric properties, including internal consistency (estimates of .92), test-retest reliability (estimates of .79), and validity in chronic low back pain patients. There is also evidence that the PSEQ is sensitive to treatment-related change in activity and function, while pain severity ratings remain unchanged [45].

Procedure

Part one

Following referral to HIPS, the service sends the Patient Screening Questionnaire to each client. This questionnaire includes basic demographic information and amongst other measures, the DASS-21 and PSEQ. A range of other information is requested in the Patient Screening Questionnaire, though for the statistical analysis, the only information utilised was opiate dose (daily oral morphine equivalent dose) and health care utilisation (total number of visits to general practitioner, medical specialists, other health professional, hospital emergency department, and days of inpatient hospitalisation related to pain in the preceding three months). The Patient Screening Questionnaire is returned by the patient to the service via mail or upon their attendance at the initial assessment.

Data analysis: Quantitative data was analysed using the statistical software package SPSS version 19.0. The classification (engagement/non-engagement) was used as the dependent

variable for analyses to determine differences on the instrument scores and questionnaire responses. Only complete cases were used in the analyses. Logistic regression was used to determine the predictors of whether or not a person would engage in HIPS MPC by inputting the following independent variables: depression (DASS-21 total depression score), anxiety (DASS-21 total anxiety score), stress (DASS-21 total stress score), self-efficacy (PSEQ total score), health care utilisation (total score) and opiate dose . The alpha level used for the analysis was $\alpha = 0.05$. The sample size was adequate to ensure the statistical power of the logistic regression [46]. Prior to subjecting the raw data to statistical tests, preliminary statistical tests were conducted. Tests of multicollinearity were performed in accordance with Pallant [47], which revealed low inter-correlations among predictor variables, as indicated by an absence of low (less than .1) tolerance values. The data was screened for presence of outliers: one extreme outlier was identified within the ‘morphine dose’ variable. As recommended by Tabachnick and Fidell [48] the outlying case was assigned a raw score that was one unit larger than the next most extreme score in the distribution.

Part two

Each phone interview was a maximum duration of one hour, and was digitally recorded. After it was ascertained that the participant had received a copy of the Participant Information Statement, and still consented to interview at that time, participants were encouraged to comment on and discuss their general functioning and coping in the context of their chronic pain. The mean duration of the phone interviews was 37 minutes. Interview information was de-identified and each interview was transcribed verbatim.

Interview schedule: The interview was semi-structured. Examples of indicative questions include: “How have you been progressing with your pain issues since attending the HIPS service?”, and, “Were there any barriers to your attendance at HIPS?”. The interview was

guided by the schedule, but respondents were provided with maximum opportunity to introduce and elaborate on issues and topics that were not included in the schedule. Upon completion of the interview, participants were given the opportunity to change or withdraw any information/responses that they had provided during the telephone interview.

Qualitative analysis: Data was analysed using the Interpretative Phenomenological Analysis (IPA) [40] method. Analysis began with an in-depth analysis of a single interview transcript prior to analysis of other transcripts. Examination of the initial transcript provided a list of preliminary themes. With these themes in mind, the remaining transcripts were analysed using the same procedure. A master list of themes that occurred across transcripts was compiled, with transcript extracts that illustrated them. Several themes were then grouped together based on their conceptual similarity, allowing master and subordinate themes to be identified. The transcript extracts that had been paired with the preliminary themes were reread, and instances that supported the master and subordinate themes were assigned accordingly. Each transcript was then reread to ensure that the final master and subordinate themes were characteristic of the original material. An experienced IPA researcher (MJ) oversaw the analysis at all stages in the study and judged the analysis of the transcripts to be coherent.

Results

Logistic regression

A binomial logistic regression was performed to assess the impact of a number of factors on the likelihood that respondents would engage in an MPC programme. The logistic regression analysis omitted 59 cases due to missing values, and as such 126 cases were included in the analysis. The model contained six independent variables (DASS total depression score, DASS total anxiety score, DASS total stress score, PSEQ total score, total health care usage, and daily oral morphine equivalent dose). A test of the full model against a constant only model containing all predictors was statistically significant ($\chi^2 = 13.364$ (6), $p = .038$) indicating that the model was able to distinguish between respondents who attended and did not attend HIPS MPC. The model as a whole explained 10.1% (Cox and Snell R square) and 14.1% (Nagelkerke R square) of the variability. The model classified 71.4% of the participants correctly.

As reported in Table 1, the results of the logistic regression analysis revealed a significant association between engagement and health care utilisation (OR= 1.087, 95% CI: 1.010 - 1.150, $P = 0.024$). In addition, the odds ratio value of 1.087 indicates that for every additional episode of health care access, participants were 1.1 times more likely to engage in an MPC programme. However, no significant association was observed between engagement and depression (OR= 1.013, 95% CI: 0.953-1.076, $P = 0.684$). No significant association existed between engagement and anxiety (OR= 0.958, 95% CI: 0.902-1.018, $P = 0.167$). Likewise, no significant association existed between engagement and stress (OR= 1.001, 95% CI:

0.942-1.065, $P = 0.963$). The analysis also failed to identify a significant association between engagement and self-efficacy (OR= 1.037, CI 95%: 0.989-1.087, $P = 0.132$). No significant association existed between engagement and opiate dose (OR= 0.736, CI 95%: 0.467-1.158, $P = 0.184$).

[approximate placement of Table 1]

Interpretative phenomenological analysis

Analysis of the data highlighted the emergence of three superordinate themes, and they are presented here as: ‘managing the pain’, ‘emotional responses to the pain’ and, ‘control, confidence and coping’.

Managing the pain

Interestingly, all participants talked about their pain condition in quite a medicalised manner. They demonstrated a high-level of medication knowledge and were quite medication-literate. Furthermore, all participants had undergone radical surgical interventions for their chronic pain condition.

For all participants, taking opioid medication was an established daily routine:

JS: “I’m having three 40mmg Oxycontin a day...If I don’t have that first tablet when I get up, I can’t do anything...it’s a quick fix solution. But if I didn’t take them, I’d be suffering a lot more...If I don’t have it, then I can’t do anything”

The desire for immediate relief from the long-standing discomfort of chronic pain is apparent and the short-term nature of analgesia is quite appealing to all participants, despite an awareness that this particular form of pain management is in fact temporary. Medication, it

would seem, enables a temporary ability to engage in life, in daily activities of living that would otherwise be unattainable by the participant. The need to rationalise and justify opioid use is also apparent, with explanations emphasising significant disability in the absence of opioid use.

Opioid medication was used to manage pain, but was largely ineffective for intense pain (which participants described as occurring on a daily basis). Participants spoke of taking the prescribed dosage (sometimes exceeding this dose), but that there was still significant pain

MM: “I spend a lot of nights awake with the pain and the pain killers I’ve got don’t work”

There is a strong emphasis on opioid medication as being responsible for alleviating the participants’ chronic pain-related discomfort. The invasive nature and impact of chronic pain on one’s life is apparent, with many participants indicating that they are at the mercy of their pain condition, which not only interferes with their day-time activities, but also interferes at times of rest

All participants acknowledged the severe side effects of opioid medication, being largely neuro-cognitive in nature and quite pervasive. Such side-effects impact on one’s behaviour and relationships with others

MM: “...I was just a zombie and I still had pain... my head wasn’t together, and I don’t like that...I’d rather cope with the pain than be like that... I don’t want to drive when I’m taking those pills, because I know I’m groggy”

SR: “I lost my home and lost a lot of friends because of my behaviour, which I can only associate with these drugs”

These accounts would suggest that opioid medication, as well as the pain itself, took over one’s self-control and behaviour. The participants’ sense of control and sense of self was adversely affected by opioid medication whilst providing little (if any) analgesia. Participants

are faced with two equally unappealing choices (taking opioid medication or experiencing pain), neither of which results in a positive outcome.

Confusion and ambivalence regarding the effects of opioid medication on chronic pain was evident. Participants felt that their pain condition was worsening and that they were finding management of the condition to be increasingly difficult.

JS: "... [the pain] is kind of getting worse... I feel that my back is deteriorating more and more... and ...my [opioid dosages] have gone up, not down..."

On one hand, the medication was viewed as a necessity, and yet on the other hand, there was a dislike of the severe side effects it produces:

MM: "...I was apprehensive when I was told 'opioid medication isn't a great way to treat pain' ...to me, it was the *only* way I could deal with the pain... I was very apprehensive [about not using opioid medication]... I think I had a breakdown...I thought, 'don't take anything away from me'"

Despite the ambivalence, medication was perceived as the only effective method for pain management. There is an element of contradiction present: it is apparent that medication is ineffective in managing chronic pain, and participants acknowledged serious side-effects of opioid use, yet most participants reported daily use of opioids and were apprehensive about having to potentially cease usage. In addition, despite a reliance on (or perhaps preference for) opioid medication, all patients indicated openness to alternative treatments:

LT: "...sometimes you have to do deep breathing and sometimes you have to move around and sometimes you have to change [your approach] just to get through [the pain]....I realised that I needed to try and come off the medication [and] replace [the medication] with other things...with strategies that I would have for life "

All participants were optimistic of a "cure" for their chronic pain. It was apparent that both attendees and those who failed to engage in MPC were seeking a permanent solution to their

pain, rather than management of their chronic pain.

MM: "... I understand what they [HIPS] are saying... but at the end of the day, I've got an injury that's causing all this pain... what I don't understand is how I can't get treatment for it... I know that people get broken bones and they get pain and then they mend. But what I can't understand is that I've continually got pain."

Participant accounts would suggest a lack of knowledge or awareness of the etiology of chronic pain. Alternatively, such accounts are indicative of a sense of denial or refusal to accept the long-term, life-long, nature of chronic pain.

Emotional responses to the pain

Participants indicated emotional difficulties related to their developing chronic pain and also in relation to coping with chronic pain. Low mood, depressive cognitions (specifically negative self-perceptions) and behavioural indicators of depression were reported by both attendees and those who failed to engage in MPC.

SR: "...All at once it [previous lifestyle] was taken away from me...suddenly I really just seemed worthless... I tended to be pretty reclusive because I have always been active... and to suddenly have that cut from your feet at 50 [years of age]...it was very hard to adjust to it... I had lost a lot of confidence...and it does lead to depression".

MM: "... I don't have that get up and go anymore... I sort of see myself as...not weak...but not the person I used to be... it's like I've succumbed to the pain"

This sense of helplessness and demoralisation accounted for by the experience of chronic pain and the impact of chronic pain on one's life was apparent in all participant accounts. In addition, there was emphasis on the difference between the old self and the new self (with chronic pain), which was associated with feelings of great loss.

Anxiety and stress were features of each participant's experience of coping with, and living with, chronic pain:

JS: "... I can't relax, I'm pretty nervy...I put a movie on and ten minutes later I'm up and not into it... I don't know if it's anxiety or what"

Participants had experienced these feelings and symptoms for extended periods of time and indicated that these symptoms had impacted upon their self-esteem, motivation and relationships.

Control, confidence and coping – negative

Participants emphasised that chronic pain was something that had happened to them and suggested that the pain was not within their control. This was the case for both attendees and those who failed to engage in MPC

LT: "...[the pain] delayed my studies, it delayed my work...there is nothing [I] can do about [the pain]"

This external locus of control was also evident in participants' reflections of previous chronic pain interventions, as well as previous engagement with other MPC. All participants had followed doctors' recommendations because they felt that the doctors were in control of their pain management and could potentially take their chronic pain away.

JS: "...I thought it [engaging in MPC] would keep the doctors happy"

MM: "...they [the doctors] kept shoving pills down my throat"

Participant accounts indicate the belief that being a good patient entailed assuming a passive role in the patient-doctor relationship. Such passivity and compliance was perhaps to the detriment of the quality of health outcomes.

Those participants who failed to engage in MPC described low self-efficacy for a MPC approach to pain management. They acknowledged that their perceived self-efficacy to

manage their pain condition using a self-management approach was quite low. This belief was a barrier to their engagement in MPC:

LT: "...I was not in the right headspace to try those things (MPC approach)... I did not feel that I would come off the medication"

Both attendees and participants who failed to engage in MPC reported the use of a range of maladaptive coping strategies as being their regular methods for coping with their chronic pain and the psychosocial implications of chronic pain:

MM: "...a bottle of bourbon knocks me out...sometimes you've just got to do it [drink], you know, to get that restful sleep... but when you get up in the morning you've got to deal with the hangover... and the pain is still there, but at least you have gotten rest for a while".

Participant accounts suggest that chronic pain leaves them with no choice but to engage in maladaptive, and perhaps quite dangerous coping strategies. This willingness to adopt drastic methods of coping emphasises the level of desperation experienced by participants and the intensity of their pain-related discomfort.

Control, confidence and coping – positive

Participants' accounts revealed an internal locus of control, as they made reference to "you" or "I". This was true of both attendees and those who failed to engage in MPC.

JS: "...You have to change your ways... you have to change a lot of things in your life to try and make life a bit better for yourself. It takes a lot of thinking to get there"

This internal locus of control was also coupled with high self-efficacy, evidenced by participants' confidence in their ability to execute particular behaviours and engage in activities. In some cases, this high-self efficacy had increased over time as a result of living with chronic pain, or was enhanced as a result of their initial consultation with HIPS:

LT: "... I am very resilient, very strong, and capable.... now I can do things for myself... I think I have more confidence now and I know that I can, I have done, certain things in the past and I can do it again"

This high-self efficacy was reflected in participants' reports of persisting with activities, despite the pain:

SR: "...Whilst I have got the pain... the pain is awful... I am doing gardening...and doing things like that... I am learning to walk without a walking-stick, which is wonderful".

Participants who failed to attend referred to stress-related positive outcomes as a result of responding to, and coping with, chronic pain, reflected in their reports of enhanced personal resources and new/improved coping skills:

SR: "...I did not think I was strong as strong as I have been and what I am. I suppose that I have learned about myself"

These positive outcomes are referred to in the literature as stress-related growth (SRG) [49]; being positive change brought about as a result of responding to, and coping with, stressful/traumatic experiences, and is based on the notion that 'what doesn't kill us will only make us stronger'. Those participants who failed to engage in MPC reported the experience of SRG, and this growth has facilitated the development and implementation of self-taught pain-management strategies, a feeling that they are in control of their pain and coping effectively and thus not requiring the assistance of a MPC.

Discussion

The study, utilizing a method triangulation approach, aimed to identify factors which predict engagement or failure to engage in MPC programmes. Of all the factors hypothesised as predictors, only one factor, health care utilisation, was a significant predictor of failure to engage.

Results of the regression revealed that total health care utilisation was a predictor of engagement in MPC programmes, with those individuals who more frequently access health care services being more likely to engage in MPC programmes than those who access health care services less frequently. These results are not surprising given that individuals with chronic pain are more likely to seek medical care than those without chronic pain, and are also more likely to be frequent users when accessing health care [9, 42]. Therefore, we can consider whether those who more frequently access health care services (for their pain condition) are more regular users of health care services in general. The qualitative findings revealed that those who engage in MPC programmes have a long history of health care utilisation, accessing a variety of health care providers and services for their chronic pain condition as evidenced by accounts emphasising dates and times of contact with a range of practitioners and services over the years, and also in more recent times. Such recollections also emphasised a willingness to access, or perhaps even dependence upon, health care services. Furthermore, participants remain in regular contact with their general practitioners. A novel finding from this study is that participants were well informed on the available relevant services for management of chronic pain, both in their local areas and more distant locations. Interestingly, those who engaged in MPC programmes have done so irrespective of their prior experiences with health care services, and the respective outcomes. In addition,

those who engaged in MPC programmes report having undergone radical surgical interventions in the past for their chronic pain with few (if any) positive outcomes. Yet, despite minimal improvement, these participants engaged in another intervention: MPC programmes. A possible factor influencing health care utilisation is health beliefs [50], as health beliefs are associated with an increased likelihood of seeing a health professional [51]. The accounts of participants indicate that health care utilisation may be influenced by the duration of each individual's chronic pain, and the constant physical symptoms which characterise the condition. Alternatively, pain intensity may be related to health care utilisation as the qualitative findings suggest that those with high subjective ratings of pain intensity were those who engaged in MPC programmes. However, the predictors of health care utilisation were not explored in this study. Further research on factors influencing health care utilisation in chronic pain populations is warranted.

Our findings did not suggest a link between depression, anxiety or stress and engagement (or failure to engage) in MPC programmes. It may be that those who are distressed do not engage in MPC programmes because they are amotivated, and are experiencing feelings of hopelessness and helplessness which prevents them from engaging in MPC programmes. On the other hand, those individuals who are distressed may engage in MPC programmes because they are seeking help for their distressed mood state.

The findings of the qualitative component of the study suggest that cognitive and behavioural symptoms of depression, anxiety and stress are associated with chronic pain in the study sample of participants. The descriptions of both attendees and those who failed to engage in MPC programmes include features of depression, anxiety and stress though such symptoms were not specifically related to engagement or failure to engage in MPC programmes.

Participant accounts demonstrated negative self-evaluations in relation to what they ought to be (or how they used to be) and their current self, current functioning, current ability. In addition, elements of demoralisation, hopelessness and helplessness were also noted. The study did not allow for a clinical diagnosis of depression; however the cognitions, behaviour and distress reported are largely consistent with, or typical of, depression.

The regression did not identify self-efficacy as a predictor of engagement or failure to engage in MPC programmes, despite the wealth of literature which suggests a strong link between self-efficacy and disability [52-54]. Given that many individuals with chronic pain experience a high level of disability, it can be expected that those individuals who are the most disabled by their pain would be those with low-self efficacy. With this in mind, it is reasonable to anticipate that self-efficacy may be a predictor of either engagement or failure to engage in MPC programmes. The results from the IPA are largely consistent with that of the quantitative analysis, in that although self-efficacy is an important factor within the experience of chronic pain, it does not seem to be associated with engagement or failure to engage in MPC programmes. The accounts of both attendees and those who failed to engage in MPC reveal evidence of high self-efficacy and low self-efficacy, depending on the behaviour being discussed with each participant. Participant accounts suggest that at times, high self-efficacy is a feature of their experience (with participants persisting with daily activities despite pain), yet at other times low self-efficacy prevails. Not surprisingly, participant accounts suggest a gradual increase in self-efficacy over time as a result of the experience of living with chronic pain. That is, over time, individuals had become more confident in their ability to engage in particular behaviours. Interestingly, participant accounts indicate an increase in self-efficacy as a consequence of having attended their initial

consultation with MPC, though this increase in self-efficacy did not determine engagement or failure to engage in MPC programmes.

In this study we identified that individuals with an external LOC are no more or less likely to engage in MPC programmes than those with an internal LOC. A potential explanation for these findings is offered in terms of the influence of model of care was adopted by the MPC clinician in the initial assessment, being either a patient-centred approach or a more traditional patriarchal model of care. Whichever model of care was adopted may not necessarily align with the preferences of the patient, given their respective locus of control. Those who prefer for their health care provider to make their treatment decisions are likely to have an external locus of control [55]. On the other hand, patients with an internal locus of control are more likely to have a preference for a highly active role in their treatment planning and management of their chronic pain. The model of care adopted in the initial MPC assessment could not be identified with certainty and could not be controlled for. In addition, the patient's locus of control and preference for model of care could not be predicted at the time of initial MPC assessment. As such, the MPC initial assessment approach/model of care may not be aligned with the patient's locus of control. This misalignment may be responsible for the fact that we did not find LOC to be a predictor of MPC engagement. The findings of the qualitative analysis suggest that individuals with chronic pain demonstrate an external LOC, by reporting that their pain was something that had happened to them and that pain was due to factors beyond their control. In addition, participant accounts indicated that pain management was also a factor beyond their control, evidenced by their compliance with doctors' recommendations for pain management (such as an intense regime of opioid medication, invasive surgical procedures or engagement in MPC programmes) despite their

concerns such interventions. The consequence being that chronic pain continued to exist (and in some cases worsened in severity), and participants perceived further loss of control over their pain condition and their pain management. However, the same participants also report an internal LOC, whereby they are in control of making changes to their lives/lifestyles to make their pain condition more manageable. As such, although internal and external LOC orientations are themes in participants' accounts, a specific LOC orientation was not specifically related to engagement or failure to engage in MPC programmes. This finding may reflect the conceptualisation of the construct of LOC as being a multidimensional continuum, rather than uni-dimensional [56], and that an individual's position on that continuum may be changeable. Furthermore, the qualitative findings may highlight the limitations of the construct's conceptualisation, in that generalised expectancies for LOC only allow for broad, not specific, behaviour predictions [57].

Results of the regression indicate that opioid dosage was not a predictor of engagement in MPC programmes. The qualitative analysis revealed participants' fear of being taken off opioid medication, with opioids being a preferred treatment approach for management of chronic pain. All participants reported that opioids were the only effective method of pain relief, though acknowledged that this method of pain control provided them with temporary relief for a long-term medical condition. Despite this, participants also reported an openness to alternative treatments, including meditation, stretching and breathing exercises. The qualitative analysis revealed daily use of opioids by all participants. Despite this, participants reported minimal (if any) analgesia. In addition, all participants reported neuro-cognitive side-effects including sedation, confusion and forgetfulness, which they suggest were responsible for their failing to attend appointments and failing to engage in MPC

programmes. Furthermore, opioid medication had caused drowsiness which prevented them from driving to appointments. This drowsiness had also caused participants to sleep at times when they should have attended appointments. This was true of both attendees and those who failed to engage. Interestingly, participants demonstrated an ambivalence regarding opioid usage, reporting a dislike of the significant side-effects, though reporting opioid usage as a necessity in pain management. Participants justified their opioid use by emphasising the pervasive nature of chronic pain, in that it affects not only their work and daily activities, but also interferes with rest. This highlights a potential dilemma for all chronic pain sufferers: to suffer the discomfort of chronic pain, or to suffer the discomfort of opioid side effects. To add to this dilemma, participant accounts suggest that the effects of both chronic pain and opioid side effects contribute to a sense of loss of self-control. Despite this, it would seem that participants perceived opioids as being responsible for pain relief.

It was identified that all participants were seeking a cure for their chronic pain, rather than learning methods to manage their pain. Specifically, all participants made reference to ‘treatment’, rather than ‘management’. Participant accounts suggest denial of, or refusal to accept, the long-term nature of chronic pain. Despite most participants being open to alternative treatments, all participants reported daily usage of medications and indicated apprehension regarding potentially having to cease opioid use. As the goals of MPC programmes are to reduce opioid dose and reliance upon medication for pain management, it can be inferred that the MPC programme goals are largely inconsistent with that of the patient. However, this discrepancy between MPC and patient goals did not seem to be specifically related to engagement or failure to engage in MPC programmes.

The results of the regression did not support the hypothesis that pain management beliefs predict engagement or failure to engage in MPC programmes. These findings are largely consistent with the findings of the quantitative analysis in that pain management beliefs do not seem to be associated with engagement (or failure to engage) in MPC programmes. All participants had a medicalised view of their pain condition, evidenced by their high-level of medication knowledge and having undergone radical surgical interventions for their chronic pain condition. Interestingly, despite having a medicalised view of their condition, all participants reported an openness to alternative interventions, such as meditation and deep breathing.

Our qualitative investigation revealed a range of maladaptive coping strategies that were used by participants who engaged in MPC programmes and also by those who failed to engage, such as heavy alcohol consumption. Furthermore, such strategies were used on a regular basis as means of coping with chronic pain and the psychosocial implications of chronic pain. Participant accounts revealed high levels of desperation related to the intensity of their pain-related discomfort, and that this desperation caused participants to adopt maladaptive, perhaps even dangerous, coping strategies.

An intriguing pattern of results were identified in the qualitative analysis that was not expected. Participants who failed to engage made reference to stress-related positive outcomes as a result of responding to, and coping with, chronic pain, which were reflected in their reports of enhanced personal resources and improved coping skills. Such outcomes have

been previously reported in the literature and are termed ‘stress-related growth’ (SRG) [49].

The qualitative findings suggest that those individuals who fail to engage in MPC have experienced SRG, and this growth has facilitated the development and implementation of self-taught pain-management strategies and they feel that they are in control of their pain and coping effectively, thus not requiring the assistance of MPC. However, further investigation of this relationship is warranted to establish SRG as a predictor of failure to engage (or engagement) in MPC programmes.

Surprisingly, the current study failed to identify pain itself as a predictor of failure to engage in MPC programmes. All participants reported experiencing severe pain on a daily basis and it would seem likely that severe chronic pain may be disabling enough to prevent an individual from engaging in MPC programmes. Another interesting observation was present in the qualitative component of the study, with a number of participants who agreed to participate in the research failing to engage in the study when phoned by the researchers at the previously arranged and agreed upon time. One may ask the question if failure to engage was at play in this context also. Failure to engage in the study was determined by the participant not answering the phone at the agreed time or by ending the phone call as soon as the researcher identified themselves. Perhaps not surprisingly, these individuals were those patients who failed to engage in the recommended MPC programme.

A potential limitation of the study was that it failed to consider lower level factors contributing to engagement or failure to engage. Such factors include, but are not limited to availability of childcare services, distance from home address to MPC and finances. Future research could overcome this issue by extending the range of factors to include other, lower

level, potential predictors.

The present study is the first to fully utilise method triangulation in the investigation of engagement in MPC programmes by a chronic pain population. The combination of quantitative and qualitative methodology enabled a comprehensive investigation of engagement and the contribution of predicting factors for this particular population. Findings of the present study demonstrate that health care utilisation is a predictor of failure to engage in MPC programmes, with those individuals who access health care services more frequently being those who are more likely to engage in MPC programmes. These findings are important for the purpose of improving or increasing retention and access to effective chronic pain interventions. The findings indicate the need for early identification of patients who are not likely to engage in MPC programmes, being those individuals who access health care services less frequently. This particular patient group may benefit from targeted information from their primary health care provider (at the time of referral) to potentially increase the likelihood of engagement in MPC programmes, which may potentially minimise the impact of pain on the quality of life for chronic pain sufferers.

Conflict of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

References

- ¹ Guzman J, Esmail R, Karjalainen K, Malmivaara A, Irvin E & Bombardier C.
Multidisciplinary rehabilitation for chronic low back pain: Systematic review. *BMJ*
2001; 322: 1511-1516.
- ² Scascighini L, Toma V, Dober-Spielmann S & Sprott H. Multidisciplinary treatment for
chronic pain: A systematic review of interventions and outcomes. *Rheumatology*
2008; 47: 670-678.
- ³ Hogg M. *Waiting in pain: The effects of prolonged waiting time for pain management
services*. Paper presented at The Australian Pain Society 29th Annual Scientific
Meeting. Sydney, 2009.
- ⁴ Hayes, CDS. Managing demand: applying concepts at the coal face, ANZCA Annual
Scientific Meeting 2009. Cairns, 2009.
- ⁵ Nicholas MK, Coulston CM, Asghari A & Malhi GS. Depressive symptoms in patients with
chronic pain. *The Medical Journal of Australia* 2009; 190: s66-s70.
- ⁶ Alschuler KN, Theisen-Goodvich ME, Haig AJ & Geisser ME. A comparison of the
relationship between depression, perceived disability and physical performance in
persons with chronic pain. *European Journal of Pain* 2008; 12: 757-764.
- ⁷ Erickson B. Depression, anxiety, and substance use disorder in chronic pain. *Techniques in
Regional Anesthesia and Pain Management* 2005; 9: 200-203.
- ⁸ Valente MAF, Ribeiro JLP & Jensen MP. Coping, Depression, Anxiety, Self-Efficacy and
Social Support: Impact on Adjustment to Chronic Pain. *Escritos de Psicología* 2009;
2: 8 - 17.
- ⁹ Blyth FM, March LM, Brnabic A JM & Cousins, MJ. Chronic pain and frequent use of
health care. *Pain* 2004; 111: 51-58.

- ¹⁰ Keeley P, Creed F, Tomenson B, Todd C, Borglin G, & Dickens C. Psychosocial predictors of health-related quality of life and health service utilisation in people with chronic low back pain. *Pain* 2008; 135: 142-150.
- ¹¹ Thorn BE & Dixon K E. *Coping with chronic pain: A stress-appraisal coping model*. In E. Martz & H. Liveneh (Eds.) *Coping with chronic illness - Theoretical, empirical, and clinical aspects* New York: Springer Science + Business Media LLC, 2007: 313-335.
- ¹² Boothby JL, Thorn BE, Stroud MW & Jensen MP. Coping with Chronic Pain. In R. J. Gatchel & D. J. Turk (Eds.), *Psychosocial factors in pain: Critical perspectives* New York: Guilford, 1999: 343-359
- ¹³ Harkapaa K, Jarvikoski A, Mellin G, Hurri H & Luoma J. Health locus of control beliefs and psychological distress as predictors for treatment outcome in low-back pain patients: results of a 3-month follow-up of a controlled intervention study. *Pain* 1991; 46: 35-41.
- ¹⁴ Hobara M, Wharton R, & Clark C. Relationships between Pain Health Locus of Control (PLOC) and the Coping Strategies Questionnaire (CSQ). *The Journal of Pain* 5; 2004: S1, pS132.
- ¹⁵ North RB, Kidd D H, Zahurak M, James CS & Long DM. Spinal cord stimulation for chronic, intractable pain: experience over two decades. *Neurosurgery* 2003; 32: 384-394.
- ¹⁶ Turk DC & Okifuji A. Psychological factors in chronic pain: Evolution and revolution. *Journal of Consulting and Clinical Psychology* 2002; 70: 678-690.
- ¹⁷ Gatchel RJ, Peng YB, Peters ML, Fuchs PN & Turk DC. The biopsychosocial approach to chronic pain: Scientific advances and future directions. *Psychological Bulletin* 2007; 133: 581-624.
- ¹⁸ Bandura A. Self-efficacy: toward a unifying theory of behavioral change. *Psychological*

Review, 1977; 84: 191-215.

- ¹⁹ Jackson JL & Kroenke T. The effect of unmet expectations among adults presenting with physical symptoms. *Annals of Internal Medicine* 2001; 134: 889-897.
- ²⁰ Petrie K J, Frampton T, Large RG, Ross-Morris R, Johnson M, & Meechan G. What do patients expect from their first visit to a pain clinic? *The Clinical Journal of Pain*, 2005; 21: 297-301.
- ²¹ Eriksen J, Jensen M, Sjogren M, Ekholm O & Rasmussen N. Epidemiology of chronic non-malignant pain in Denmark. *Pain*, 2003; 106: 221-228.
- ²² Walker J, Holloway I & Soafer B. In the system: The lived experience of chronic back pain from the perspectives of those seeking help from pain clinics. *Pain* 1990; 80: 621-628.
- ²³ Cameron R & Shepel LF. The process of psychological consultation in pain management. In: A. D. Holzman and D. C. Turk (Eds), *Pain Management: a Handbook of Psychological Treatment Approaches*. New York: Elmsford, 1986.
- ²⁴ DeGood DE. Reducing medical patients' reluctance to participate in psychological therapies: the initial session. *Professional Psychology, Research and Practice* 1983; 14: 570-579.
- ²⁵ Man AKY, Chu MC, Chen PP, Ma M & Gin T. Clinical experience with a chronic pain management program in Hong Kong Chinese patients. *Hong Kong Medical Journal* 2007; 13: 372-378.
- ²⁶ Turk DA & Rudy TE. Neglected factors in chronic pain treatment outcomes studies- referral patterns, failure to enter treatment, and attrition. *Pain* 1991; 43: 7-25.
- ²⁷ DeGood, D. E., & Tait, R. C. (2001) Assessment of pain beliefs and pain coping. In: Turk, D. C. (Ed.), *Handbook of Pain Assessment*. Guilford Publications Inc, New York (pp. 320-345).

- ²⁸ Kenny, DT. Constructions of chronic pain in doctor-patient relationships: Bridging the communication chasm. *Patient Education and Counselling* 2004; 52: 297-305.
- ²⁹ Von Korff M. Pain management in primary care: An individualized stepped-care approach. In R. J. Gatchel & D. J. Turk (Eds.), *Psychosocial factors in pain: Critical perspectives*. New York: Guilford, 1999: 360-373
- ³⁰ Turk DC. Understanding pain sufferers: The role of cognitive processes. *The Spine Journal* 2004; 4: 1-7.
- ³¹ Turk DC. Clinical effectiveness and cost effectiveness of treatments for chronic pain patients. *Clinical Journal of Pain* 2002; 18: 355-365.
- ³² Furlan AD, Sandoval JA, Mailis-Gagnon A Tunks E. Opioids for chronic non cancer pain: A meta-analysis of effectiveness and side effects. *Canadian Medical Association Journal* 2006; 174: 589-594.
- ³³ Kalso E. Opioids for persistent non-cancer pain. *BMJ* 2005; 330: 156-157.
- ³⁴ AAPM Council on Ethics. American Academy of Pain Medicine. Ethics Charter. Available at www.painmed.org/productpub/pdfs/EthicsCharter.pdf. 2005
- ³⁵ Brennan TJ & Kehlet H. Preventive analgesia to reduce wound hyperalgesia and persistent postsurgical pain. Not an easy path. *Anesthesiology* 2005; 103: 681-683.
- ³⁶ Carr DB & Goudas LC. Acute pain. *Lancet* 1999; 353: 2051-2058.
- ³⁷ Kehlet H & Dahl JB. Anaesthesia, surgery, and challenges in postoperative recovery. *Lancet* 2003; 362: 1921-1928.
- ³⁸ Ballantyne JC. Problems with chronic opioid therapy and the need for a multidisciplinary approach. In M. E. Schatman (Ed.), *Chronic pain management: guidelines for multidisciplinary program development*. New York: Informa Healthcare, 2007: 49-64.
- ³⁹ Nicholas MK, Molloy AR & Brooker C. Using opioids with persisting noncancer pain: A biopsychosocial perspective. *Clinical Journal of Pain* 2006; 22: 137-146.

- ⁴⁰ Smith JA. Beyond the divide between cognition and disclosure: using interpretative phenomenological analysis in health psychology. *Psychology and Health* 1996; 11: 261-271.
- ⁴¹ Lovibond SH & Lovibond PF. *Manual for the depression anxiety stress scales*: Sydney: Psychology Foundation, 1995.
- ⁴² Jordan M. Measuring psychological distress in a persistent pain population with the K10 and DASS21. 28th Annual Scientific Meeting of the Australian Pain Society, 30/3/08-2/4/08. Perth, 2008.
- ⁴³ Nicholas MK. Self-efficacy and chronic pain. In Paper presented at the annual conference of the British Psychological Society, St.Andrews, Scotland, 1989.
- ⁴⁴ Nicholas M. The pain self-efficacy questionnaire: Taking pain into account. *European journal of pain (London, England)* 2007; 11: 153-63
- ⁴⁵ Williams AC DeC, Richardson PH, Nicholas MK, Pither CE, Harding VR, Ridout KL, Ralphs JA, Richardson IH, Justins DM & Chamberlain JH. Inpatient vs. outpatient pain management: results of a randomised controlled trial. *Pain* 1993; 66: 13-22.
- ⁴⁶ American Medical Association. *AMA Manual of style: A guide for authors and editors (10th Ed.)*. New York: American Medical Association, 2007
- ⁴⁷ Pallant J. SPSS survival manual: a step by step guide to data analysis using SPSS (2nd ed.). Crows Nest, NSW: Allen & Unwin, 2002.
- ⁴⁸ Tabachnik BG & Fidell FS. Using multivariate statistics. Boston, Mass: Allyn and Bacon, 2001.
- ⁴⁹ Park C & Fenster JR. Stress-related growth: predictors of occurrence and correlates with psychological adjustment. *Journal of Social and Clinical Psychology* 2004; 23: 195-215.

- ⁵⁰ Szpalski M, Nordin M, Skovron ML, Melot C & Cukier D. Health care utilization for low back pain in Belgium. Influence of sociocultural factors and health beliefs. *Spine* 1995; 19: 129–137
- ⁵¹ Jensen JC, Haahr JP, Frost P & Andersen JH. Looking beyond pain. The significance of health anxiety and somatisation in care-seeking for back pain and upper extremity pain. *Family Practice* 2011; Aug 4. [Epub ahead of print].
- ⁵² Arnstein P, Caudill M, Mandel CL, Norris A & Beasley R. Self-efficacy as a mediator of the relationship between pain intensity, disability and depression in chronic pain patients. *Pain*, 1999; 80: 483-491.
- ⁵³ Denison E & Lindberg PAP. Self-efficacy, fear avoidance, and pain intensity as predictors of disability in subacute and chronic musculoskeletal pain. *Pain* 2004; 111: 245-252.
- ⁵⁴ Costa LDCM, Maher CG, McAuley JH, Hancock MJ & Smeets RJEM. Self-efficacy is more important than fear of movement in mediating the relationship between pain and disability in chronic low back pain. *European Journal of Pain* 2011; 15: 213-219.
- ⁵⁵ Teh CF, Karp JF, Kleinman A, Reynolds CF, Weiner DK & Cleary PD. Older people's experiences of patient-centred treatment for chronic pain: A qualitative study. *Pain Medicine*, 2009; 10: 521-530.
- ⁵⁶ Rotter JB. Some problems and misconceptions related to the construct of internal versus external control of reinforcement. *Journal of Consulting and Clinical Psychology* 1975; 43: 56-67.
- ⁵⁷ Kormanik MB & Rocco TS. Internal versus external control of reinforcement: A review of the locus of control construct. *Human Resource and Development Review* 2009; 8: 463-483.

Table 1 Logistic regression results with Engagement as the dependent variable for chronic pain patients.

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Depression	.013	.031	.166	1	.684	1.013	.953	1.076
Anxiety	-.043	.031	1.905	1	.167	.958	.902	1.018
Stress	.001	.031	.002	1	.963	1.001	.942	1.065
Self-efficacy	.036	.024	2.274	1	.132	1.037	.989	1.087
Health care utilisation	.075	.033	5.110	1	.024	1.078	1.010	1.150
Opiate dose	-.307	.231	1.762	1	.184	.736	.467	1.158
Constant	.265	.918	.084	1	.773	1.304		

Extended discussion

Extended discussion is being written in the style of American Psychological Association (APA) (6th edition).

Extended discussion

The study, utilizing a method triangulation approach, aimed to identify factors which predict engagement or failure to engage in MPC programmes. Of all the factors hypothesised as predictors, only one factor, health care utilisation, was a significant predictor of failure to engage.

Results of the regression revealed that total health care utilisation was a predictor of engagement in HIPS MPC programmes. More specifically, the results indicate that those people who more frequently access health care services are more likely to engage in HIPS MPC programmes than those who access health care services less frequently. These results are not surprising given that individuals with chronic pain are more likely to seek medical care than those without chronic pain, and are also more likely to be frequent users when accessing health care (Blyth, March, Bnarbic & Cousins, 2004; Von Korff, Wagner, Dworkin & Saunders, 1991). Therefore, we can consider whether those who more frequently access health care services (for their pain condition) are more regular users of health care services in general. The qualitative findings revealed that those who engage in MPC programmes have a long history of health care utilisation, accessing a variety of health care providers and services for their chronic pain condition as evidenced by accounts emphasising dates and times of contact with a range of practitioners and services over the years, and also in more recent times. Such recollections also emphasised a willingness to access, or perhaps even dependence upon, health care services. Furthermore, participants remain in regular contact with their general practitioners. A novel finding from this study is that participants were well informed on the available relevant services for management of chronic pain, both in their local areas and more distant locations. Interestingly, those who engaged in MPC programmes have done so irrespective of their prior experiences with health care services, and the respective outcomes. One participant had engaged with a HIPS MPC programme even after

having previously engaged in another MPC with minimal improvement in symptom management. In addition, those who engaged in a HIPS MPC programme report having undergone radical surgical interventions in the past for their chronic pain with few (if any) positive outcomes. Yet, despite minimal improvement, these participants engaged in another intervention: HIPS MPC programmes. A possible factor influencing health care utilisation is health beliefs (Szpalski, Nordin, Skovron, Melot & Cukier, 1995). Health beliefs are associated with an increased likelihood of seeing a health professional (Jensen, Haahr, Frost & Andersen, 2011). The fact that an individual engages in MPC programmes indicates particular beliefs about health care. The accounts of participants indicate that health care utilisation may be influenced by the duration of each individual's chronic pain, and the constant physical symptoms which characterise the condition. Access to health care services and clinicians reinforces the individual's biomedical beliefs about their pain, despite the reported inefficacy of these treatments. Similar findings have been reported by Snelgrove and Lioosi (2009). Health care utilisation may also be influenced by the sense of entitlement associated with the national health insurance scheme (Medicare), as there are little disincentives to seeking the services of health care professionals and hospitals/clinics (Biderman, Yeheskel & Herman, 2003). Access to free medical care may lead patients to consulting a number of bulk-billing practices for their chronic pain. As HIPS is a public health service, patients may be more inclined to engage in HIPS services. Alternatively, pain intensity may be related to health care utilisation as the qualitative findings suggest that those with high subjective ratings of pain intensity were those who engaged in HIPS MPC programmes. However, the predictors of health care utilisation were not explored in this study. However, further research on the factors influencing health care utilisation in chronic pain populations is warranted.

Depression, anxiety and stress

Our findings did not suggest a link between depression, anxiety or stress and engagement or failure to engage in MPC programmes. In fact, the results indicated that if a person is distressed, they are just as likely to engage in a MPC programme as they are to not engage in MPC. It may be that those who are distressed do not engage in a MPC programme because they are amotivated, and are experiencing feelings of hopelessness and helplessness which prevents them from engaging in MPC programmes. On the other hand, those people who are distressed may engage in MPC programmes because they are seeking help for their distressed mood state.

Another potential explanation of the quantitative findings is evident in the measurement and reporting of symptoms. Depression, anxiety and stress were measured using the DASS-21. This measure has been used with patients with chronic pain (Nicholas, Asghari & Blyth, 2007) and is preferred because of its less emphasis on somatic symptoms than other mood scales. Measures that emphasise somatic symptoms may lead to overestimation of severity of depression, anxiety and stress in this population (Taylor, Lovibond, Nicholas, Cayley, & Wilson, 2005) and therefore may not be reliable. Psychological distress commonly presents in the form of depressive symptomatology and heightened somatic awareness of physiological distress (Main & Spanswick, 2000). The occurrence of higher rates of depression and depressive symptomatology in patients with chronic pain compared with non-pain populations is well documented (Jordan, 2008). Depressive symptomatology has been found to be associated with increased pain report, increased pain behaviour, poorer response to treatment and impaired psychosocial functioning (Main & Spanswick). It can be argued then that because the DASS-21 focuses on the cognitive aspects of psychological phenomena, rather than the somatic features of depression, anxiety and stress, participants may be less likely to report psychological distress. The reason for this can be understood in terms of the concept of somatic fixation. Somatic

fixation is a process whereby a physician or a patient or a family focuses exclusively, and inappropriately, on the physical or biomedical aspects of a complex problem (Van Eijk, Grol, Huygen, Mesker, Mesker-Niesten, van Mierlo, Mokkink & Smits, 1983). Somatic fixation can occur not only in hypochondriasis and somatisation disorder, but in any illness, especially chronic illness, when there is a one-sided emphasis on the biomedical aspects of a multifaceted problem (McDaniel, Campbell & Seaburn, 1991). In spite of very difficult life situations, somatically fixated patients tend to present not with anxiety, depression or trouble coping, but with numerous physical symptoms (McDaniel, et al.). It can be argued that the participants in this study failed to identify/ report cognitive and behavioural features of depression, anxiety and stress as they are more fixated on the somatic symptoms of these presentations. Because somatic symptoms are characteristic components of affective disorders, it is not unusual for the affected individual to receive an explanation or diagnosis of depression or “stress” (McDaniel, Campbell, Hepworth & Lorenz, 2005). Such an explanation is likely to be met with denial, as the patient may become defensive at the suggestion that their problems are “in one’s head” (McDaniel et al., 2005; Turk & Rudy, 1991). Patients are instead committed to some biomedical explanation of their symptoms and condition, and committed to pursuing further testing and biomedical interventions (McDaniel et al., 2005).

Another concept, alexithymia, which is related to somatic fixation, may provide a deeper understanding of how somatic fixation may be responsible for findings of the quantitative analysis related to distress. The features of alexithymia include: difficulty in identifying one’s feelings or emotions from physical sensations, difficulty in describing or communicating one’s feelings to others and, a tendency to engage in externally-oriented thinking rather than psychological introspection (Taylor, Bagby & Parker, 1997).

Alexithymia interferes with the adaptive regulation of the negative emotions that result from

stressors or psychological conflict (Lumley, Radcliffe, Macklem, Mosley-Williams, Leisen, Huffman, D'Souza, Gillis, Meyer, Kraft & Rapport, 2005). As a result, people with alexithymia have been found to experience chronic sympathetic hyperarousal, an excessive focus on their body, uncomfortable physical sensations, and an increased likelihood of complaining about their bodies (Taylor, Bagby & Parker, 1997). Alexithymic subjects focus on somatic manifestations of emotional arousal, resulting in misinterpretation of somatic sensations as signs of physical illness (Celikel & Saatcioglu, 2006). Accordingly, research has found evidence of an association between alexithymia and the development of functional somatic symptoms, as seen in patients with somatoform disorders (Celikel & Saatcioglu). Alexithymia is thought to be a risk factor for chronic pain, disability and related health problems (Lumley et al., 2005). In fact, alexithymia has been shown to be associated with pain in patients with chronic myofascial pain, temporomandibular disorder, rheumatoid arthritis, migraine headaches, systemic lupus erythematosus, low back pain, fibromyalgia, and cancer pain (Hosoi, Molton, Jensen, Ehde, Amtmann, O'Brien, Arimura & Kubo, 2010). Alexithymia has also been shown to predict depression, anxiety and physical impairment in patients with various chronic pain conditions (Hosoi et al). The findings of the present study (with regard to depression, anxiety and stress not being predictive of engagement in HIPS MPC programmes) may potentially be due to somatic fixation and alexithymia. However, further investigations are warranted to establish this potential link.

The findings of the qualitative component of the study suggest that cognitive and behavioural symptoms of depression, anxiety and stress are associated with chronic pain in the study sample of participants. The descriptions of both attendees and those who failed to engage in MPC programmes include features of depression, anxiety and stress though such symptoms were not specifically related to engagement or failure to engage in MPC programmes. Participant accounts demonstrated negative self-evaluations in relation to what

they ought to be, or how they used to be and their current self, current functioning, current ability. In addition, elements of demoralisation, hopelessness and helplessness were also noted. The study did not allow for a clinical diagnosis of depression; however the cognitions, behaviour and distress reported are largely consistent with, or typical of, depression.

Self-efficacy

The regression did not identify self-efficacy as a predictor of engagement or failure to engage in MPC programmes, given the wealth of literature which suggests a strong link between self-efficacy and disability (Arnstein, Caudill, Madle, Norris & Beasley, 1999; Denison & Lindberg, 2004; Costa, Maher, McAuley, Hancock & Smeets, 2011). Given that many individuals with chronic pain experience a high level of disability, it can be expected that those individuals who are the most disabled by their pain would be those with low-self efficacy. With this in mind, it is reasonable to anticipate that self-efficacy may be a predictor of either engagement or failure to engage in MPC programmes. That is, individuals with low self-efficacy regarding their ability to cope with chronic pain and those with high self-efficacy regarding their ability to engage in MPC programmes would engage in a MPC programme. Alternatively, individuals with low-self efficacy regarding their ability to engage in MPC programmes may fail to engage, as well as those with high self-efficacy regarding their ability to cope with chronic pain (without having to engage in MPC). The Hunter Integrated Pain Service MPC programmes offer individuals with low self-efficacy ways to improve their pain self-management skills and those with high self-efficacy ways to further improve on their pain self-management skills. Hence, HIPS MPC programmes offer both groups of participants an opportunity to improve pain self-management skills, yet the quantitative analysis found self-efficacy to not be a predictor of engagement in MPC programmes. The results from the IPA are largely consistent with that of the quantitative analysis, in that although self-efficacy is an important factor within the experience of chronic

pain, it does not seem to be associated with engagement or failure to engage in MPC. The accounts of both attendees and those who failed to engage in MPC programmes reveal evidence of high self-efficacy and low self-efficacy, depending on the behaviour being discussed with each participant. Participant accounts suggest that at times, high self-efficacy is a feature of their experience (with participants persisting with daily activities despite pain), yet at other times low self-efficacy prevails. Not surprisingly, participant accounts suggest a gradual increase in self-efficacy over time as a result of the experience of living with chronic pain. That is, over time, individuals had become more confident in their ability to engage in particular behaviours. Interestingly, participant accounts indicate an increase in self-efficacy as a consequence of having attended their initial consultation with HIPS, though this increase in self-efficacy did not determine engagement or failure to engage in MPC programmes.

Locus of control

In this study we identified that individuals with an external LOC are no more or less likely to engage in MPC than those with an internal LOC. A potential explanation for these findings is offered in terms of the influence of model of care was adopted by the HIPS clinician in the initial assessment conducted by HIPS, being either a patient-centred approach or a more traditional patriarchal model of care. The patient-centred model of care acknowledges the patient as the “source of control” in the health care setting and recommends that “patients... be given the necessary information and the opportunity to exercise the degree of control they choose over health care decisions that affect them” (Committee on Quality of Healthcare in America, Institute of Medicine, 2001, p. 61). This model of care is a far cry from the patriarchal model of care and has changed the concept of what it means to be a patient (Teh, Karp, Kleinman, Reynolds, Weiner & Cleary, 2009). Nowadays, it is quite often expected that the patient play an active role in their care, by being involved in making treatment decisions and working in partnership with their health care

provider/clinician (Teh et al.). Despite this shift from patriarchal to the patient-centred model of care, not all patients may be willing to be involved in decision making/treatment planning. For example, while many patients are likely to want a say in their treatment planning, older patients may not feel comfortable in questioning their health care providers and assuming control over the management of their care, which would include requesting or refusing certain treatments and prefer their health care provider to make decisions regarding their treatment (Ellins & Coulter, 2005; Levinson, Kao, Kub & Thisted, 2005; Schneider, Korner, Mehring, Wensing, Elwyn & Szecsenyi, 2006). In the current study, the model of care adopted by the HIPS clinician during the client's initial assessment could have been either a patient-centred or patriarchal model of care, it cannot be certain and this could not be controlled for. Furthermore, whichever model of care was adopted may not necessarily align with the preferences of the patient, given their respective locus of control. Those who prefer for their health care provider to make their treatment decisions are likely to have an external locus of control, as patients with an external locus of control are not likely to want the responsibility of treatment planning or assuming control over the management of their chronic pain condition (Teh, et al.). On the other hand, patients with an internal locus of control, are more likely to have a preference for a highly active role in their treatment planning and management of their chronic pain. Because we cannot determine the patient's preference for model of care before the initial assessment, and we also cannot determine or predict the patient's locus of control at this stage of contact, the model of care/approach may not be aligned with the patient's locus of control. This misalignment may be responsible for the fact that we did not find LOC to be a predictor of MPC programme engagement.

Although it is the philosophy of HIPS to adopt a patient-centred model of care, there is social power inherent in the health care professions, which is therefore present in the interview relationship between client and HIPS clinician. Social power is essentially the potential to

influence another. Social power is neither a structural power ascribed by a third party, nor a personal characteristic, but an interpersonal attribute that is earned by one person in the eyes of another (French & Raven, 1959). Social power may influence the client's perception of the HIPS clinician's interview style as being a directive style. The findings of the qualitative analysis suggest that individuals with chronic pain demonstrate an external LOC, by reporting that their pain was something that had happened to them and that pain was due to factors beyond their control. In addition, participant accounts indicated that pain management was also a factor beyond their control, evidenced by their compliance with doctors' recommendations for pain management (such as an intense regime of opioid medication, invasive surgical procedures or engagement in MPC programmes) despite their concerns such interventions. The consequence being that chronic pain remained a problem (and in some cases worsened in severity). This then contributed to participants perceiving further loss of control over their pain condition and pain management. However, the same participants also report an internal LOC, whereby they are in control of making changes to their lives/lifestyles to make their pain condition more manageable. As such, although internal and external LOC orientations are themes in participants' accounts, a specific LOC orientation was not specifically related to engagement or failure to engage in MPC programmes. This finding may reflect the conceptualisation of the construct of LOC as being a multidimensional continuum, rather than uni-dimensional (Rotter, 1975), and that an individual's position on that continuum may be changeable. Indeed, Rotter (1954) suggested that LOC orientation is a learned behaviour and that change in LOC orientation will therefore change with life's experiences. As such, the findings of the qualitative analysis may suggest that combinations of LOC orientations (external and internal) may reflect the changeable continuum of LOC. Furthermore, the qualitative findings may highlight the limitations of the construct's conceptualisation, in that generalised expectancies for LOC only allow for broad, not

specific, behaviour predictions (Kormanik & Rocco, 2009).

Medication and opioid dose

Results of the regression indicate that opioid dosage was not a predictor of engagement in MPC programmes. It was thought that a high dose of opioid medication would be indicative of an individual's beliefs concerning their chronic pain condition (and the subsequent treatment of that condition) as being focused on the biomedical model of illness and disease management. And as HIPS MPC programmes are rooted in the self-management approach (with an emphasis on decreasing opioid medication), those individuals who believe that the cause and subsequent treatment of their condition is biomedical in nature would be less inclined/ less motivated to adopt a self-management approach to their illness.

The preliminary findings of the quantitative analysis suggest that those participants taking higher doses of opioids engage in MPC programmes. This findings may indicate that individuals on higher doses of opioids may not have satisfactory pain relief (higher doses increase the likelihood of drug tolerance (Ballantyne, 2007)) and consequently seek a holistic, rather than strictly pharmacological, approach to pain management. This finding, however, was not statistically significant.

As previously stated, an aim of HIPS MPC programmes is to reduce the patient's opioid dosage. As patients progress through the MPC programmes, it is expected that a gradual reduction in opioid dose will occur. However, recent HIPS research has revealed that although there have been improvements in patient distress and level of activity, there has been no change in the percentage of patients using opioids or each patient's respective opioid dose (Jordan, 2012). This may be explained by the research by Fordyce (1976), who suggests that taking analgesic medication is conceptualised as an overt expression or communication of pain. And in order to communicate their pain, patients continue to take analgesic medication, despite improvements in functioning. However, further investigation of this

phenomenon is necessary.

The qualitative analysis revealed participants' fear of being taken off opioid medication, with opioids being a preferred treatment approach for management of chronic pain. All participants reported that opioids were the only effective method of pain relief, though acknowledged that this method of pain control provided them with temporary relief for a long-term medical condition. Despite this, participants also reported an openness to alternative treatments, including meditation, stretching and breathing exercises. Future studies may explore the psychological distress surrounding potentially having to reduce opioids, and whether the distress is driven by fear of withdrawal (as suggested by Portenoy, 1996), or fear of potential increase in pain severity.

The qualitative analysis revealed daily use of opioids by all participants. Despite daily use of opioids (and occasional consumption of opioids in excess of that prescribed), participants reported minimal (if any) analgesia. In addition, all participants reported neuro-cognitive side-effects including sedation, confusion and forgetfulness, which they suggest were responsible for their failing to attend appointments and failing to engage in MPC. Indeed, long-term use of opioids raises concerns about possible impairments of cognitive and psychomotor function (Jamison, Schein, Vallow, Ascher, Vorsanger & Katz, 2003), due to the presence of opioid receptors in many areas of the brain that are involved in attention, memory, and learning (Chapman, Byas-Smith & Reed, 2002). The deficits reported by participants are largely consistent with findings of other research. For example, Cherrier, Amory, Ersek, Risler and Shen's (2009), investigation of the neuro-cognitive effects of oxycodone in pain-free adults revealed a decline in attention and verbal memory during the period of peak drug effect. Other research on verbal memory indicates that morphine may disrupt memory for information that one was given prior to consumption of the drug (Friswell, Phillips, Holding, Morgan, Brandner & Curran, 2008). Participants of the current

study reported that the effects of opioid medication had caused them to forget appointments. Furthermore, opioid medication had caused drowsiness which prevented them from driving to appointments. This drowsiness had also caused participants to sleep at times when they should have attended appointments. This was true of both attendees and those who failed to engage. Indeed, warning labels on opioid packaging caution users against the operation of heavy machinery due to the side-effect profile of this drug class. The MIMS prescribing information states that oxycodone may modify patients' reactions to a varying extent, depending on the dosage and individual susceptibility ("OxyContin", 2012). As driving a car is an important factor in the ability of an ambulatory individual to maintain independence and to attend appointments, reports of failing to engage in MPC programmes are reasonable given the documented side-effects of opioid medication. However, there are findings in the literature which suggest that with time, many chronic pain patients using opioid medication adjust to the adverse effects, especially with regard to impaired cognition, over time (Jamison, et al.). These individuals report an improvement in their ability to drive due to a reduction in pain and do not experience impairment in concentration or gross (or fine) motor skills, nor do they experience euphoria or extreme sedation (Jamison et al.). They also deny impairments in their ability to hold a conversation and impairments in cognitive function.

Interestingly, participants demonstrated an ambivalence regarding opioid usage, reporting a dislike of the significant side-effects, though reporting opioid usage as a necessity in pain management. Participants justified their opioid use by emphasising the pervasive nature of chronic pain, in that it affects not only their work and daily activities, but also interferes with rest. This highlights a potential dilemma for all chronic pain sufferers: to suffer the discomfort of chronic pain, or to suffer the discomfort of opioid side effects. To add to this dilemma, participant accounts suggest that the effects of both chronic pain and opioid side effects contribute to a sense of loss of self-control. Despite this, it would seem

that participants perceived opioids as being responsible for pain relief.

MPC goals versus patient goals

It was identified that all participants were seeking a cure for their chronic pain, rather than learning methods to manage their pain. Specifically, all participants made reference to ‘treatment’, rather than ‘management’. Participant accounts suggest denial of, or refusal to accept, the long-term nature of chronic pain. Despite most participants being open to alternative treatments, all participants reported daily usage of medications and indicated apprehension regarding potentially having to cease opioid use. As the goals of MPC programmes are to reduce opioid dose and reliance upon medication for pain management, it can be inferred that the MPC programme goals are largely inconsistent with that of the MPC programme. However, this discrepancy between MPC programme goals and patient goals did not seem to be specifically related to engagement or failure to engage in MPC programmes.

Pain management beliefs

The results of the regression did not support the hypothesis that pain management beliefs predict engagement or failure to engage in MPC programmes. This finding is surprising given that previous research suggests that patients’ own beliefs and expectations concerning how their pain should be treated appear to have an important influence on treatment outcome (Shutty, Degood & Tuttle, 1990). That is, of individuals who engaged in a program rooted in the self-management approach, those who did not initially agree with this particular approach reported greater pain and were less satisfied with the treatment (Shutty, et al., 1990). The findings of the qualitative are largely consistent with the findings of the quantitative analysis in that pain management beliefs do not seem to be associated with engagement or failure to engage in MPC programmes. All participants had a medicalised view of their pain condition, evidenced by their high-level of medication knowledge and having undergone radical surgical interventions for their chronic pain condition. Interestingly,

despite having a medicalised view of their condition, all participants reported an openness to alternative interventions, such as meditation and deep breathing.

Coping

Our qualitative investigation revealed a range of maladaptive coping strategies that were used by participants who engaged in MPC programmes and also by those who failed to engage, such as heavy alcohol consumption. Furthermore, such strategies were used on a regular basis as means of coping with chronic pain and the psychosocial implications of chronic pain. Participant accounts revealed high levels of desperation related to the intensity of their pain-related discomfort, and that this desperation caused participants to adopt maladaptive, perhaps even dangerous, coping strategies.

An intriguing pattern of results were identified in the qualitative analysis that was not expected. Participants who failed to engage made reference to stress-related positive outcomes as a result of responding to, and coping with, chronic pain, which were reflected in their reports of enhanced personal resources and improved coping skills. Such outcomes have been previously reported in the literature and are termed ‘stress-related growth’. Stress-related growth refers to positive change brought about as a result of responding to, and coping with, stressful/traumatic experiences, and is based on the notion that ‘what doesn’t kill us will only make us stronger’. The growth that is experienced results in improvement beyond the pre-trauma level of functioning, and according to Park and Fenster (2004), these positive changes may include the development of new coping skills, broadened perspectives, improved relationships, goals, values and life philosophies, as well as the development of personal resources. The qualitative findings suggest that those individuals who fail to engage in MPC programmes have experienced SRG, and this growth has facilitated the development and implementation of self-taught pain-management strategies and they feel that they are in control of their pain and coping effectively, thus not requiring the assistance of MPC

programmes. However, further investigation of this relationship is warranted to establish SRG as a predictor of failure to engage (or engagement) in MPC programmes.

This study aimed to identify higher-level factors which were predictive of engagement or failure to engage in HIPS MPC programmes, but failed to consider lower-level factors, such as access to the service. Jerant, von Friederichs-Fitzwater and Moore (2004) reported that a common barrier to accessing self-management services and resources as reported by patients was that of transportation problems. Although some participants reported that the neuro-cognitive side effects of opioids affected their ability to drive a car (and therefore were barriers to engagement in MPC programmes), it may be that many of the clients who failed to engage in MPC programmes had issues such as transportation problems (did not own a car, could not rely on friends or family to transport them to the service, costs associated with transport) that prevented them from engaging in the HIPS MPC programme. In addition, Jerant et al. also found physical symptoms that limited mobility, particularly fatigue and pain, as factors which limited access to self-management support programs and resources. The findings of research conducted by the American Psychological Association (APA) (2004) to determine barriers to accessing mental health treatment may also provide potential insight into factors influencing failure to engage in HIPS MPC programmes. It was found that 81% of patients identified cost (that is, time, childcare, parking etc.) as the main reason for failure to engage in non-specific psychological treatment.

Studies of patients who fail to attend scheduled medical clinic appointments have revealed that these individuals tend to be younger (Barron, 1980; Frankel, Farrow & West, 1989; Sharp & Hamilton, 2001), and of lower socioeconomic status (Barron; Sharp & Hamilton). They are more likely to have a history of missed appointments (Barron), are receiving government-provided health benefits (Smith & Yawn, 1994; Sharp & Hamilton) and tend to have a history of psychosocial problems (Cosgrove, 1990). In addition, it seems

that they are less likely to understand the purpose of the appointment (Frankel & Farrow). Not surprisingly, it has been found that the likelihood of failing to attend appointments increases with the length of time between the scheduling of the appointment, and the actual appointment date (Festinger, Lamb, Marlowe & Kirby, 2002; Moser, 1994; Sharp & Hamilton; Bean & Talaga, 1992). A variety of reasons for failing to attend scheduled appointments have been identified by patients, forgetting appointments (Sharp & Hamilton; Cosgrove), logistical issues such as difficulty getting time off work (Frankel & Farrow; Sharp & Hamilton); child care (Sharp & Hamilton) and; transportation (Frankel & Farrow; Cosgrove; Bean & Talaga), as well as cost (Barron; Mirotznik, Ginzler, Zagon & Baptiste, 1998; Bean & Talaga). In addition, patients indicated that they failed to attend appointments if their symptoms improved (Barron; Frankel & Farrow; Cosgrove), or if they felt too unwell to attend (Barron; Frankel & Farrow; Cosgrove). Surprisingly, the current study failed to identify pain itself as a predictor of failure to engage in MPC programmes. All participants reported experiencing severe pain on a daily basis and it would seem likely that severe chronic pain may be disabling enough to prevent an individual from engaging in MPC programmes. An investigation by Lacy, Paulman, Reuter & Lovejoy (2004) identified reasons such as inability to obtain an appointment within their desired timeframe, anxiety regarding cause of symptoms, feeling disrespected by the clinician and, symptoms having improved (or worsened). Transportation and child care difficulties were not the primary cause of failing to attend. Lacy et al.(2004) suggest that the construct of respect (more specifically, the patient feeling disrespected by the clinician/clinic) may be a factor which explains why patients do not telephone to cancel their scheduled appointments, the patient's satisfaction with their interactions with a clinician and their failure to attend scheduled appointments. Taken together, it seems that failure to engage may perhaps be understood in terms of a complex combination of factors, rather than accounted for by a single variable.

Another interesting observation was present in the qualitative component of the study, with a number of participants who agreed to participate in the research failing to engage in the study when phoned by the researchers at the previously arranged and agreed upon time. One may ask the question if failure to engage was at play in this context also. Failure to engage in the study was determined by the participant not answering the phone at the agreed time or by ending the phone call as soon as the researcher identified themselves. Perhaps not surprisingly, these individuals were those patients who failed to engage in the recommended HIPS MPC programme. This failure or refusal to engage in the research reflects the non-engagement observed by HIPS.

A potential limitation of the study was that it failed to consider lower level factors contributing to engagement or failure to engage. Such factors include, but are not limited to availability of childcare services, distance from home address to MPC and finances. Future research could overcome this issue by extending the range of factors to include other, lower level, potential predictors.

The present study is the first to fully utilise method triangulation in the investigation of engagement in an MPC programme by a chronic pain population. The combination of quantitative and qualitative methodology enabled a comprehensive investigation of engagement and the contribution of predicting factors for this particular population. Findings of the present study demonstrate that health care utilisation is a predictor of failure to engage in MPC, with those individuals who access health care services more frequently being those who are more likely to engage in MPC programmes. These findings are important for the purpose of improving or increasing retention and access to effective chronic pain interventions. The findings indicate the need for early identification of patients who are not

likely to engage in MPC programmes, being those individuals who access health care services less frequently. This particular patient group may benefit from targeted information from their primary health care provider (at the time of referral) to potentially increase the likelihood of engagement in MPC programmes, which may potentially minimise the impact of pain on the quality of life for chronic pain sufferers.

References

- Access Economics (2007). *The high price of pain: the economic impact of persistent pain in Australia*, taken from the Access Economics website:
<http://www.accesseconomics.com.au/index.php>.
- Alschuler, K. N., Theisen-Goodvich, M. E., Haig, A. J., & Geisser, M. E.(2008). A comparison of the relationship between depression, perceived disability and physical performance in persons with chronic pain. *European Journal of Pain*, 12, 757-764.
- American Academy of Pain Medicine (2005). AAPM Council on Ethics.. Ethics Charter.
Retrieved January 5 2012 from www.painmed.org/productpub/pdfs/EthicsCharter.pdf.
- American Medical Association (2007). *AMA Manual of style: A guide for authors and editors (10th Ed.)*. New York: American Medical Association.
- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders*, Fourth Edition, Text Revision. Washington, D.C: American Psychiatric Association.
- American Psychological Association (2004). APA poll: Most Americans have sought mental health treatment but cost, insurance still barriers. Retrieved December 8, 2011 from:
<http://www.apa.org/news/press/releases/2004/05/apa-poll.aspx>
- Andersson, H. I., Ejertsson, G., Leden, I., & Schersten, B. (1999). Impact of chronic pain on health care seeking, self care, and medication. Results from a population-based Swedish study. *Journal of Epidemiology and Community Health*, 53, 503-509.
- Arnstein, P., Caudill, M., Mandel, C.L., Norris, A., & Beasley, R. (1999). Self-efficacy as a mediator of the relationship between pain intensity, disability and depression in chronic pain patients. *Pain*, 80, 483-491.
- Arnow, B. A., Hunkeler, E. M., Blasey, C. M., Lee, J. L., Constantino, M. J., Fireman, B., Kraemer, H. C., Dea, R., Robinson, R., & Hayward, C. (2006). Comorbid depression,

- chronic pain, and disability in primary care. *Psychosomatic Medicine*, 68, 262-268.
- Asghari, A., & Nicholas, M. K. (2001). Pain self-efficacy beliefs and pain behaviour: a prospective study. *Pain*, 94, 85-100.
- Atkinson, J. H., Slater, M. A., Patterson, T. L., Grant, I., & Garfin, S. R. (1991). Prevalence, onset, and risk of psychiatric disorders in men with chronic low back pain: a controlled study. *Pain*, 45, 111-121.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.
- Banks, S. M., & Kerns, R. D. (1996). Explaining high rates of depression in chronic pain: A diathesis-stress framework. *Psychological Bulletin*, 119, 95-110.
- Ballantyne, J. C. (2007). Problems with chronic opioid therapy and the need for a multidisciplinary approach. In M. E. Schatman (Ed.), *Chronic pain management: guidelines for multidisciplinary program development* (pp.49-64). New York: Informa Healthcare.
- Ballantyne, J. & Mao, J. (2003). Opioid therapy for chronic pain. *The New England Journal of Medicine*, 349, 1943-1953.
- Bar, K. J., Brehm, S., Boettger, M. K., Boettger, S., Wagner, G., & Sauer, H. (2005). Pain perception in major depression depends on pain modality. *Pain*, 117, 97-103.
- Barron, W. M. (1980). Failed appointments. Who misses them, why they are missed, and what can be done. *Primary Care*, 7, 563-574.
- Barron, W. M. (1980). Failed appointments. Who misses them, why they are missed, and what can be done. *Primary Care*, 7, 563-574.
- Bean, A. G., & Talaga, J. (1992). Appointment breaking: causes and solutions. *Journal of Health Care Marketing*, 12, 14-25.

- Bell, L. (2001). What predicts failure to engage in or drop out from treatment for bulimia nervosa and what implications does this have for treatment? *Clinical Psychology and Psychotherapy*, 8, 424-435.
- Biderman, A., Yeheskel, A., & Herman, J. (2003). Somatic fixation: the harm of healing. *Social Science and Medicine*, 56, 1135-1138.
- Biller, N., Arnstein, P., Caudill, M. A., Wells-Federman, C., & Guberman, C. (2000). Predicting completion of a cognitive-behavioral pain management program by initial measures of a chronic pain patient's readiness for change. *The Clinical Journal of Pain*, 16, 352-359.
- Blyth, F. M., March, L. M., Brnabic, A. J. M., & Cousins, M. J. (2004). Chronic pain and frequent use of health care. *Pain*, 111, 51-58.
- Blyth, F. M., March, L. M., & Cousins, M. J. (2003). Chronic pain-related disability and use of analgesia and health services in a Sydney community. *The Medical Journal of Australia*, 179, 84-87.
- Boersma, K., & Linton, S. J. (2006). Psychological processes underlying the development of a chronic pain problem: A prospective study of the relationship between profiles of psychological variables and the fear avoidance model in disability. *Clinical Journal of Pain*, 22, 160-166.
- Boothby, J.L. Thorn, B. E., Stroud, M. W., & Jensen, M. P. 1999). Coping with chronic pain. In R. J. Gatchel & D. J. Turk (Eds.), *Psychosocial factors in pain: Critical perspectives* (pp. 343-359). New York: Guilford.
- Brennan, T. J., & Kehlet, H. (2005). Preventive analgesia to reduce wound hyperalgesia and persistent postsurgical pain. Not an easy path. *Anesthesiology*, 103, 681-683.
- Burket, R. C., & Hodgin, J. D. (1993). Factors predicting reluctance to seek treatment in patients with eating disorders. *Southern Medical Journal*, 86, 529-532.

- Cameron, R., & Shepel, L. F. (1986). The process of psychological consultation in pain management. In: A. D. Holzman and D. C. Turk (Eds), *Pain Management: a Handbook of Psychological Treatment Approaches*. New York: Pergamon, Elmsford, pp. 240-256.
- Carr, D. B., & Goudas, L. C. (1999). Acute pain. *Lancet*, 353, 2051-2058.
- Celikel, C. C., & Saatcioglu, O. (2006). Alexithymia and anxiety in female chronic pain patients. *Annals of General Psychiatry*, 5, 13-18.
- Chapman, S. L., Byas-Smith, M. G., & Reed, B. A. (2002). Effects of intermediate- and long-term use of opioids on cognition in patients with chronic pain. *Clinical Journal of Pain*, 18, S83-S90.
- Cherrier, M.M., Amory, J. K., Ersek, M., Risler L., & Shen, D. D. (2009). Comparative cognitive and subjective side effects of immediate-release oxycodone in healthy middle-aged and older adults. *Journal of Pain*, 10, 1038-1050.
- Cipher, D. J., Fernandez, E., & Clifford, P. A. (2002). *Journal of Health Psychology*, 2, 665-673.
- Compton, P., Athanasos, P., & Elashoff, D. (2003). Withdrawal hyperalgesia after acute opioid physical dependence in nonaddicted humans: a preliminary study. *Journal of Pain*, 4, 511-519.
- Committee on Quality of Healthcare in America, Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press; 2001.
- Cosgrove, M. P. (1990). Defaulters in general practice: reasons for default and patterns of attendance. *The British Journal of General Practice*, 40, 50-52.
- Costa, L. D. C. M., Maher, C. G., McAuley, J. H., Hancock, M. J., & Smeets, R. J. E. M. (2011). Self-efficacy is more important than fear of movement in mediating the

- relationship between pain and disability in chronic low back pain. *European Journal of Pain*, 15, 213-219.
- Coulston, C., Ng, F., Geertsema, M., Dodd, S., & Berk, M. (2009). Client-reported reasons for non-engagement in drug and alcohol treatment). *Drug and Alcohol Review*, 28, 372-378.
- Crombez, G., Vlaeyen, J. W., & Heuts, P. H. (1999). Pain-related fear is more disabling than pain itself: Evidence on the role of pain-related fear in chronic back pain disability. *Pain*, 80, 329-339.
- DeGood, D. E. (1983). Reducing medical patients' reluctance to participate in psychological therapies: the initial session. *Professional Psychology, Research and Practice*, 14, 570-579.
- DeGood, D. E., & Shutt, M. S. (1992). Assessment of pain beliefs, coping, and self-efficacy. In: Turk, D. C. & R. Melzack (Eds.), *Handbook of Pain Assessment*. Guilford Publications Inc, New York (pp. 214-234).
- DeGood, D. E., & Tait, R. C. (2001) Assessment of pain beliefs and pain coping. In: Turk, D. C. & R. Melzack (Eds.), *Handbook of Pain Assessment*. Guilford Publications Inc, New York (pp. 320-345).
- Denison, E., & Lindberg, P. A. P. (2004). Self-efficacy, fear avoidance, and pain intensity as predictors of disability in subacute and chronic musculoskeletal pain. *Pain*, 111, 245-252.
- Dersh, J., Polantin, P. B., & Gatchel, R. J. (2002). *Psychosomatic Medicine*, 64, 773-786.
- Dysvik, E., Vinsnes, A. G., & Eikland, O. (2004). The effectiveness of a multidisciplinary pain management programme managing chronic pain. *International Journal of Nursing Practice*, 10, 224-234.
- Ellins, J., & Coulter, A. (2005). *How engaged are people in their healthcare? Findings from*

- a National Telephone Survey*. Oxford: Picker Institute Europe and The Health Foundation.
- Engel, G. L. (1977). The need for a new medical model: a challenge for biomedicine. *Science*, 196, 129-136.
- Eriksen, J., Jensen, M., Sjogren, M., Ekholm, O. & Rasmussen, N. (2003). Epidemiology of chronic non-malignant pain in Denmark. *Pain*, 106, 221-228.
- Erickson, B. (2005). Depression, anxiety, and substance use disorder in chronic pain. *Techniques in Regional Anesthesia and Pain Management*, 9, 200-203.
- Festinger, D. S., Lamb, R. J., Marlowe, D. B., & Kirby, K. C. (2002). From telephone to office: intake attendance as a function of appointment delay. *Addictive Behaviours*, 27, 131-137.
- Flor, H., Fydrich, T., & Turk, D. C. (1992). Efficacy of multidisciplinary pain treatment centres: a meta-analytic review. *Pain*, 49, 221-230.
- Flor, H., & Turk, D.C. (1989). The psychophysiology of chronic pain: Do chronic pain patients exhibit symptom-specific psychophysiological responses? *Psychological Bulletin*, 105, 215-259.
- Fordyce, W. E. (1976). *Behavioral methods for chronic pain and illness*, St. Louis, MO: C.V. Mosby.
- Frankel, S., Farrow, A., & West, R. (1989). Non-attendance or non-invitation? A case-control study of failed outpatient appointments. *BMJ*, 298, 1343-1345.
- French, J. R., & Raven, B. (1959). The bases of Social Power. In D. Cartwright (ed.) *Studies in Social Power*. Ann Arbor: University of Michigan Press.
- Friswell, J., Phillips, C., Holding, J., Morgan, C. J., Brandner, B. & Curran, H. V. (2008). Acute effects of opioids on memory functions of healthy men and women. *Psychopharmacology (Berlin)*, 198, 243-250.

- Funch, D. P. & Gale, E. N. (1986). Predicting treatment completion in a behavioral therapy program for chronic temporomandibular pain. *Journal of Psychosomatic Research*, 30, 57-62.
- Furlan, A. D., Sandoval, J. A., Mailis-Gagnon, A., & Tunks, E. (2006). Opioids for chronic non cancer pain: A meta-analysis of effectiveness and side effects. *Canadian Medical Association Journal*, 174, 589-594.
- Gallagher, R. M. (1999). Managing pain and co-morbid depression: a public health challenge, *Seminars in Clinical Neuropsychiatry*, 3, 203-220.
- Gatchel, R. J. (2005). *Clinical essentials of pain management*. Washington, DC: American Psychological Association.
- Gatchel, R. J., & Okifuji, A. (2006). Evidence-based scientific data documenting the treatment and cost-effectiveness of comprehensive pain programs for chronic non-malignant pain. *Journal of Pain*, 7, 779-93.
- Gatchel, R. J., Peng, Y. B., Peters, M. L., Fuchs, P. N., & Turk, D. C. (2007). The biopsychosocial approach to chronic pain: Scientific advances and future directions. *Psychological Bulletin*, 133, 581-624.
- Geisser, M. E., Robinson, M. E., Miller, Q. L. & Bade, S. M. (2003). Psychosocial factors and functional capacity evaluation among persons with chronic pain. *Journal of Occupational Rehabilitation*, 13, 259-276.
- Guzman, J., Esmail, R., Karjalainen, K., Malmivaara, A., Irvin, E., & Bombardier, C. (2001). Multidisciplinary rehabilitation for chronic low back pain: Systematic review. *BMJ*, 322, 1511-1516.
- Harden, R. N. (2002). *Chronic opioid therapy; another reappraisal*. Australian Prosthodontic Society Bulletin 12(1). <http://www.ampainsoc.org/pub/bulletin/jan02/poli1.htm>. Accessed on 2/12/11.

- Harkapaa, K., Jarvikoski, A., Mellin, G., Hurri, H., & Luoma, J. (1991). Health locus of control beliefs and psychological distress as predictors for treatment outcome in low-back pain patients: results of a 3-month follow-up of a controlled intervention study. *Pain, 46*, 35-41.
- Hayes, C. D., S. (2009). *Managing demand: applying concepts at the coal face*, ANZCA Annual Scientific Meeting 2009. Cairns.
- Hobara, M, Wharton, R., & Clark, C. (2004). Relationships between Pain Health Locus of Control (PLOC) and the Coping Strategies Questionnaire (CSQ). *The Journal of Pain*, 5, S1, pS132.
- Hogg, M. (2009). *Waiting in pain: The effects of prolonged waiting time for pain management services*. Paper presented at The Australian Pain Society 29th Annual Scientific Meeting. Sydney.
- Hosoi, M., Molton, I. R., Jensen, M. P., Ehde, D. M., Amtmann, S., O'Brien, S., Arimura, T., & Kubo, C. (2010). Relationships among alexithymia and pain intensity, pain interference, and vitality in persons with neuromuscular disease: considering the effect of negative affectivity. *Pain, 149*, 273-277.
- International Association for the Study of Pain (1986). Classification of chronic pain. *Pain, suppl 3: S1-S226*.
- Jackson, J. L., & Kroenke, T. (2001). The effect of unmet expectations among adults presenting with physical symptoms. *Annals of Internal Medicine, 134*, 889-897.
- Jamison, R. N., Schein, J. R., Vallow, S., Ascher, S., Vorsanger, G. J., & Katz, N. (2003). Neuropsychological effects of long-term opioid use in chronic pain patients. *Journal of Pain and Symptom Management, 26*, 913-921.
- Jensen, J. C., Haahr, J. P., Frost, P., & Andersen, J. H. (2011). Looking beyond pain. The significance of health anxiety and somatisation in care-seeking for back pain and

- upper extremity pain. *Family Practice*, Aug 4. [Epub ahead of print].
- Jensen, M. K., Thomsen, A. B., & Hosted, J. (2006). 10-year follow-up of chronic non-malignant pain patients: Opioid use, health related quality of life and health care utilisation. *European Journal of Pain*, 10, 423-433.
- Jerant, A. F., von Friederichs-Fitzwater, M. M., & Moore, M. (2005). Patients' perceived barriers to active self-management of chronic conditions. *Patient Education and Counseling*, 57, 300-307.
- Jordan, M. (2008) *Measuring psychological distress in a persistent pain population with the K10 and DASS21*. 28th Annual Scientific Meeting of the Australian Pain Society, 30/3/08-2/4/08. Perth.
- Jordan, M. (2012, January). *Living with pain program report*, Hunter Integrated Pain Service, Newcastle, New South Wales, Australia.
- Kalso, E. (2005). Opioids for persistent non-cancer pain. *BMJ*, 330, 156-157.
- Kalso, E., Edwards, J. E., Moore, R.A., & McQuay, H. J. (2004). Opioids in chronic non-cancer pain: Systematic review of efficacy and safety. *Pain*, 112, 372-380.
- Karjalainen, K. A., Malmivaara, A., van Tulder, M. W., Roine, R., Jauhiainen, M., Hurri, H., Koes, B. W. Multidisciplinary rehabilitation for fibromyalgia and musculoskeletal pain in working age adults. *Cochrane Database of Systematic Reviews* 1999, Issue 3. Art. No.: CD001984. DOI: 10.1002/14651858.CD001984.
- Keefe, F., & Lefebvre, J. (1994). Pain behavior concepts: controversies, current status, and future directions. In G. Gebhart, D. Hammond, T. Jensen (Eds.). *Proceedings of the 7th World Congress on Pain – Progress in Pain Research and Management*, Vol. 2 Seattle, WA: IASP Press pp. 127-147.
- Keefe, F. J., Rumble, M., Scipio, C. D., Giordano, L. A., & Perri, L. M. (2004). Psychological aspects of persistent pain: Current state of the science. *Journal of Pain*,

5, 195-211.

Keeley, P., Creed, F., Tomenson, B., Todd, C., Borglin, G., & Dickens, C. (2008).

Psychosocial predictors of health-related quality of life and health service utilisation in people with chronic low back pain. *Pain*, 135, 142-150.

Kehlet, H. & Dahl, J.B. (2003). Anaesthesia, surgery, and challenges in postoperative recovery. *Lancet*, 362, 1921-1928.

Kenny, D. T. (2004). Constructions of chronic pain in doctor-patient relationships: Bridging the communication chasm. *Patient Education and Counselling*, 52, 297-305.

Kormanik, M. B. & Rocco, T. S. (2009). Internal versus external control of reinforcement: A review of the locus of control construct. *Human Resource and Development Review*, 8, 463-483.

Lacy, N L., Paulman, A., Reuter, M. D., & Lovejoy, B. (2004). Why we don't come: patient perceptions on no-shows. *Annals of Family Medicine*, 2, 541-545.

Lecomte, T., Spidel, A., Leclerc, C., MacEwan, W. G., Greaves, C., & Bentall, R. P. (2008). Predictors and profiles of treatment non-adherence and engagement in services problems in early psychosis. *Schizophrenia Research*, 102, 295-302.

Levinson, W., Kao, A., Kuby, A. & Thisted, R.A. (2005). Not all patients want to participate in decision making. A national study of public preferences. *Journal of General Internal Medicine*, 20, 531-535.

Loumidis, K. S., & Shropshire, J. M. (1997). Effects of waiting time on appointment attendance with clinical psychologists and length of treatment. *Irish Journal of Psychological Medicine*, 14, 49-54.

Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the depression anxiety stress scales*: Sydney: Psychology Foundation.

Lumley, M. A., Radcliffe, A.M., Macklem, D. J., Mosley-Williams, A., Leisen, J. C. C.,

- Huffman, J. L., D'Souza, P. J., Gillis, M. E., Meyer, T. M., Kraft, C. A., & Rapport, L. J. (2005). Alexithymia and pain in three chronic pain samples: Comparing Caucasians and African Americans. *Pain Medicine*, 6, 251-261.
- Main, C. J., & Waddell, G. (2004). Beliefs about back pain. In Waddell G. (Ed.). *The Back Pain Revolution (2nd ed.)*. Oxford, UK: Churchill Livingstone, pp. 221-239.
- Magni, G., Moreschi, C., Rigatti-Luchini, S., & Merskey, H. (1994). Prospective study on the relationship between depressive symptoms and chronic musculoskeletal pain. *Pain*, 56, 289-297.
- Main, C., & Spanswick, C. (2000). *Pain management: An interdisciplinary approach*. Edinburgh: Churchill Livingstone.
- Man, A. K. Y., Chu, M. C., Chen, P.P., Ma, M., & Gin, T. (2007). Clinical experience with a chronic pain management program in Hong Kong Chinese patients. *Hong Kong Medical Journal*, 13, 372-378.
- Mao, J. (2002). Opioid induced abnormal pain sensitivity: implications in clinical opioid therapy. *Pain*, 100, 213-217.
- Marcus, D. (2005). *Chronic pain: a primary care guide to practical management*. Towata, NJ: Humana Press Inc.
- Marks, R. (2001). Efficacy theory and its utility in arthritis rehabilitation: Review and recommendations. *Disability and Rehabilitation*, 23, 271-280.
- McDaniel, S. H., Campbell, T., & Seaburn, D. (1991). Treating somatic fixation: A biopsychosocial approach. *Canadian Family Physician*, 37, 451-456.
- McDaniel, S. H., Campbell, T., Hepworth, J., & Lorenz, A. (2005). *Family-oriented primary care (2nd ed.)* New York: Springer-Verlag.
- Mercandante, S. (1991). Opioid rotation for cancer pain: rationale and clinical aspects. *Cancer*, 86, 1856-1866.

- Mirotznik, J., Ginzler, E., Zagon, G., & Baptiste, A. (1998). Using the health belief model to explain clinic appointment-keeping for the management of a chronic disease condition. *Journal of Community Health, 23*, 195-210.
- Moser, S.E. (1994). Effectiveness of post card appointment reminders. *The Family Practice Research Journal, 14*, 281-288.
- Nicholas M.K. (1989). *Self-efficacy and chronic pain*. In Paper presented at the annual conference of the British Psychological Society, St.Andrews, Scotland.
- Nicholas, M. (2007), The pain self-efficacy questionnaire: Taking pain into account. *European journal of pain (London, England), 11*, 153-63
- Nicholas, M. K., Asghari, A., & Blyth, F. M. (2007). What do the numbers mean? Normative data in chronic pain measures, *Pain, 134*, 158-173.
- Nicholas, M. K., Coulston, C. M., Asghari, A., & Malhi, G. S. (2009). Depressive symptoms in patients with chronic pain. *The Medical Journal of Australia, 190*, s66-s70.
- Nicholas, M. K., Molloy, A. R., & Brooker, C. (2006). Using opioids with persisting noncancer pain: A biopsychosocial perspective. *Clinical Journal of Pain, 22*, 137-146.
- Nicholson, I.R. (1994). Factors involved in failure to keep initial appointments with mental health professionals. *Hospital and Community Psychiatry, 45*, 276-278.
- North,R. B., Kidd, D. H., Zahurak, M., James, C. S., & Long, D. M. (2003). Spinal cord stimulation for chronic, intractable pain: experience over two decades. *Neurosurgery, 32*, 384-394.
- Ossipov, M. H., Lai, J., King, T., Vanderah, T. W., & Porreca, F. (2005). Underlying mechanisms of pronociceptive consequences of prolonged morphine exposure. *Biopolymers, 80*, 319-324.
- OxyContin* (2012). Retrieved March 6, 2012 from MIMS Online.

- Pallant, J. (2002). *SPSS survival manual: a step by step guide to data analysis using SPSS* (2nd ed.). Crows Nest, NSW: Allen & Unwin.
- Park, C., & Fenster, J. R. (2004). Stress-related growth: predictors of occurrence and correlates with psychological adjustment. *Journal of Social and Clinical Psychology*, 23, 195-215.
- Petrie, K. J., & Weinman, J., (1997). *Perceptions of health and illness*. Amsterdam: Harwood.
- Petrie, K. J., Frampton, T., Large, R. G., Ross-Morris, R., Johnson, M., & Meechan, G. (2005). What do patients expect from their first visit to a pain clinic? *The Clinical Journal of Pain*, 21, 297-301.
- Portenoy, R. K. (1996). Adjuvant analgesic agents. *Hematology/Oncology Clinics of North America*, 10, 103-119.
- Ranjan, R. (2006). *Chronic pain and family: a clinical perspective*. New York; Springer.
- Robb, K. A., Williams, J. E., Duvivier, V., & Newham, D. J. (2006). A pain management program for chronic cancer-treatment-related pain: A preliminary study. *The Journal of Pain*, 7, 82-90.
- Roberts, A. H. (1981). The behavioral treatment of pain. In J. M. Ferguson & C. D. Taylor (Eds.) *The comprehensive handbook of behavioral medicine*, Vol. 2 (pp. 171-189). New York, NY: Spectrum.
- Robinson, M. E., & Riley, J. L. (1999). The role of emotion in pain. In R. J. Gatchel & D. C. Turk (Eds), *Psychosocial factors in pain: Critical perspectives* (pp. 74-88). New York: Guilford.
- Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the health belief model. *Health, Education and Behavior*, 15, 175-183.

- Rotter, J. B. (1954). *Social learning and clinical psychology*. Englewood Cliffs, NJ: Prentice-Hall.
- Rotter, J. B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. *Journal of Consulting and Clinical Psychology*, 43(1), 56-67.
- Rowat, K., Knafl, K. (1985). Living with chronic pain: the spouse's perspective. *Pain*, 23, 259-271.
- Rudy, T. E., Kerns, R. D., & Turk, D. C. (1988). Chronic pain and depression: toward a cognitive-behavioral mediation model. *Pain*, 35, 129-140.
- Rudy, T. E., Lieber, S. J., Boston, J. R., Gourley, L. M., & Baysal, E. (2003). Psychosocial predictors of physical performance in disabled individuals with chronic pain. *Clinical Journal of Pain*, 19, 18-30.
- Santiveri, X., Ferrer, M. D., Ruiz, A., Lopez, R., Pares, F., & Escolano, F. (2006). *European Journal of Pain*, 10, S1, S227.
- Savage, S.R. (1996). Long-term opioid therapy: assessment of consequences and risks. *Journal of Pain Symptom Management*, 11, 853-860.
- Scascighini, L. & Sprott, H. (2007). Chronic non-malignant pain: a challenge for patients and clinicians. *Nature Clinical Practice: Rheumatology*, 4, 74-81.
- Scascighini, L., Toma, V., Dober-Spielmann, S., & Sprott, H. (2008). Multidisciplinary treatment for chronic pain: A systematic review of interventions and outcomes. *Rheumatology*, 47, 670-678.
- Schofferman, J. (1993). Long-term use of opioids analgesics for the treatment of chronic pain of non-malignant origin. *Journal of Pain Symptom Management*, 8, 279-288.
- Schneider, A., Korner, T., Mehring, M., Wensing, M., Elwyn, G., & Szecsenyi, J. (2006). Impact of age, health locus of control, and psychosocial co-morbidity on patients'

- preferences for shared decision making in general practice. *Patient Education and Counselling*, 61, 292-298.
- Sharp, D. J., & Hamilton, W. (2001). Non-attendance at general practices and out-patient clinics. *BMJ*, 323, 1081-1082.
- Shutty, M. S., DeGood, D. E., & Tuttle, D. H. (1990). Chronic pain patients' beliefs about their pain and treatment outcomes. *Archives of Physical Medicine and Rehabilitation*, 71, 128-132.
- Smarr, K. L., Parker, J. C., Wright, G. E., Stucky-Ropp, R. C., Buckelew, S. P., Hoffman, R. W., O'Sullivan, F. X., & Hewett, J. E. (1997). The importance of enhancing self-efficacy in rheumatoid arthritis. *Arthritis Care and Research*, 10, 18-26.
- Smith, C.M., & Yawn, B. P (1994). Factors associated with appointment keeping in a family practice residency clinic. *Journal of Family Practice*, 38, 25-29.
- Smith, J. A. (1996). Beyond the divide between cognition and disclosure: using interpretative phenomenological analysis in health psychology. *Psychology and Health*, 11, 261-271.
- Snelgrove, S. & Liossi, C. (2009). An interpretative phenomenological analysis of living with chronic low back pain. *British Journal of Health Psychology*, 14, 735-749.
- Sternbach, R. A. (1986) Pain and 'hassles' in the United States: findings of the nuprin pain report. *Pain*, 27, 69-80.
- Sturgis, E. T., Schaefer, A. A., & Sikora, T. L. (1984). Pain center follow-up study of treated and untreated patients. *Archives of Physical Medicine and Rehabilitation*, 65, 301-303.
- Szpalski, M., Nordin, M., Skovron, M. L., Melot, C., & Cukier, D. (1995). Health care utilization for low back pain in Belgium. Influence of sociocultural factors and health beliefs. *Spine*, 19, 129-137

- Tabachnik, B. G., & Fidell, L.S. (2001). *Using multivariate statistics*. Boston, Mass: Allyn and Bacon.
- Taylor, G. J., Bagby, R.M., & Parker, J. D. A.(1997). The revised Toronto Alexithymia Scale: some reliability, validity and normative data. *Psychotherapy and Psychosomatics*, 57, 34-41.
- Taylor, R., Lovibond, P. F., Nicholas, M. K., Cayley, C., & Wilson, P. H. (2005). The utility of somatic items in the assessment of depression in chronic pain patients: a comparison of the Zung Self-rating Depression Scale (SDS) and the Depression Anxiety Stress Scales (DASS) in chronic pain and clinical and community samples. *Clinical Journal of Pain*, 21, 91–100.
- Teh, C. F., Karp, J. F., Kleinman, A., Reynolds, C. F., Weiner, D. K., & Cleary, P. D. (2009). Older people's experiences of patient-centred treatment for chronic pain: A qualitative study. *Pain Medicine*, 10, 521-530.
- Thorn, B. E., & Dixon, K. E. (2007). Coping with chronic pain: A stress-appraisal coping model. In E. Martz & H. Liveneh (Eds.) *Coping with chronic illness - Theoretical, empirical, and clinical aspects* (pp.313-335). New York: Springer Science + Business Media LLC.
- Trescot, A., Glaser, S. E., Hansen, H., Benyamin, R., Patel, S., & Manchikanti, L. (2008). Effectiveness of opioids in the treatment of chronic non-cancer pain. *Pain Physician, Opioids Special Issue*, 11, S181-S200.
- Turk, D. C. (2002). Clinical effectiveness and cost effectiveness of treatments for chronic pain patients. *Clinical Journal of Pain*, 18, 355-365.
- Turk, D. C. (2004). Understanding pain sufferers: The role of cognitive processes. *The Spine Journal*, 4, 1-7.
- Turk, D. C., Meichenbaum, D., & Genest, M. (1983). *Pain and behavioral medicine: A*

- cognitive-behavioral perspective*. New York: Guilford Press.
- Turk, D. C., & Okifuji, A. (2002). Psychological factors in chronic pain: Evolution and revolution. *Journal of Consulting and Clinical Psychology, 70* (3), 678-690.
- Turk, D., Robinson, J. P., & Burwinkle, T. (2004). Prevalence of fear of pain and activity in fibromyalgia syndrome patients. *Journal of Pain, 5*, 483 -490.
- Turk, D. A., & Rudy, T. E. (1991). Neglected factors in chronic pain treatment outcomes studies- referral patterns, failure to enter treatment, and attrition. *Pain, 43*, 7-25.
- Valente, M. A. F., Ribeiro, J. L. P., & Jensen, M. P. (2009). Coping, Depression, Anxiety, Self-Efficacy and Social Support: Impact on Adjustment to Chronic Pain. *Escritos de Psicología, 2*, 8 - 17.
- Van Eijk, J., Grol, R., Huygen, F., Mesker, P., Mesker-Niesten, J., van Mierlo, G., Mokkink, H., & Smits, A. (1983). The family doctor and the prevention of somatic fixation. *Family Systems Medicine, 1*, 5-15.
- Van Uum, S.H. M., Sauve, B., Fraser, L.A., Morley-Forster, P., Paul, T. L., & Koren, G. (2008). Elevated content of cortisol in hair of patients with severe chronic pain: A novel biomarker for stress. *Stress, 11*, 483-488.
- Vlaeyen, J. W., Haazen, I. W., Schuerman, J. A., Kole-Snijders, A. M. J., & van Eck, H. (1995). Behavioural rehabilitation of chronic low back pain: Comparison of an operant treatment, an operant-cognitive treatment and an operant-respondent treatment. *British Journal of Clinical Psychology, 34*, 95-118.
- Von Korff, M. (1999). Pain management in primary care: An individualized stepped-care approach. In R. J. Gatchel & D. J. Turk (Eds.), *Psychosocial factors in pain: Critical perspectives* (pp. 360-373). New York: Guilford.
- Von Korff, M., Wagner, E. H., Dworkin, S. F., Saunders, K. W. (1991). Chronic pain and use of ambulatory health care. *Psychosomatic Medicine, 53*, 75-83.

- Walker, J., Holloway, I., & Soafer, B. (1990). In the system: The lived experience of chronic back pain from the perspectives of those seeking help from pain clinics. *Pain*, 80, 621-628.
- Weisner, C., Mertens, J., Tam, T., & Moore, C. (2001). Factors effecting the initiation of substance abuse treatment in managed care. *Addiction*, 96, 705-716.
- Woby, S. R., Watson, P. J., Roach, N. K., & Urmston, M. (2005). Coping strategy use: Does it predict adjustment to chronic back pain after controlling for catastrophic thinking and self-efficacy for pain control? *Journal of Rehabilitation Medicine*, 37, 100-107.
- Young, S., Gray, K., & Bramham, J. (2009). A phenomenological analysis of the experience of receiving a diagnosis and treatment of ADHD in adulthood: a partner's perspective. *Journal of Attention Disorders*, 12, 299-307.

Appendix 1

Pain Medicine Instructions for Authors and American Medical Association style guide

Pain Medicine

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Author Guidelines

INSTRUCTIONS FOR AUTHORS

MPIP Author Toolkit: Below is a link to the MPIP Authors' Toolkit which is a resource for authors regarding manuscript preparation and submission which you might find useful. The toolkit has been produced through the Medical Publishing Insights and Practices (MPIP) initiative, a project co-sponsored by members of the pharmaceutical industry and the International Society for Medical Publication Professionals (ISMPP).
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Submission of a paper implies that it reports unpublished work, except in abstract form, and is not being submitted simultaneously to another publication.

Requirements for publication are consistent with the International Committee of Medical Journal Editors, which are published in: Uniform Requirements for Manuscripts Submitted to Biomedical Journals, *Annals of Internal Medicine* 1997; 126:36-47. (<http://www.icmje.org>)

Manuscripts will be considered in the form of:

Original Research Article: Present results of original clinical and translational research.

(approximately 10-40 pages)

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Reviews: Comprehensive surveys covering a broad area. They consolidate old ideas and may suggest new ones. They must provide a critique of the current literature, and this review of the literature must be systematic. The authors should detail the strategy for the review, the scoring system for article quality, and the criteria for inclusion. We do not usually publish uninvited reviews, however ideas for reviews may be discussed with the editor in chief or section editors before submission. (approximately 20-40 pages)

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Commentary: Invited as a companion to a full article presenting an alternative or a complimentary perspective.

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Manuscripts must be submitted exclusively to *Pain Medicine* and will become the copyright of the journal. Please submit completed, signed Copyright Transfer Agreement with final accepted manuscript. The Copyright Transfer Agreement form will be sent to you with the acceptance letter. Make sure the file is double-spaced and has no hard returns at the end of lines. Ragged right margins are preferable to justified lines. The manuscript should be typed in 12 point font. All textual elements should begin flush left with no paragraph indents and two returns after every element, such as titles, headings, paragraphs, legends, etc. Please be sure to keep a back up copy of the file for reference, as accepted manuscripts are not returned.

Authorship Criteria: Authorship is an explicit way of assigning responsibility, giving credit for intellectual work, and ensuring transparency. The following is the criteria for authorship in *Pain Medicine*:

- Authors are those who made a significant contribution to (a) the study concept and design, acquisition of data, or analysis and interpretation of data; (b) drafting/revising the manuscript for important intellectual content; and (c) approval of the final version to be published
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- All other persons making contributions that do not meet all three criteria should be acknowledged, typically by degree, academic or business affiliation, and specific contributions.

Corresponding Author Responsibilities:

- Serve as the primary contact on behalf of all coauthors.
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We will consider manuscript submissions covering study results that have been previously presented at a local, national, or international conference, and/or for which an abstract has been published or presented as a poster or platform session at societal meetings. If a manuscript is accepted and it is subsequently found that large parts or the entire study have been previously published, the journal may retract the article and include a notice of redundant publication.

Title Page: The first text page should contain: 1. Title; 2. Full names and affiliations for all authors, including highest academic degree; 3. Full postal address, telephone number, fax number, and e-mail address for the corresponding author, to whom the proofs will be sent followed by full disclosure information (see below); 4. Running title of no more than 6 words.

Abstracts: The abstract, on the page following the title page, must be 250 words or less, under the following headings, as appropriate: Objective, Design, Setting, Subjects, Interventions, Outcome Measures, Results, and Conclusions (JAMA 1992;267:42–4). Abstracts are necessary for all papers. Up to six key words must be provided with the abstract.

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Details of Style: Follow guidelines set by American Medical Association Manual of Style, Ninth Edition, Williams and Wilkins, 1989. Double-space throughout, including title page, abstract, text, acknowledgments, references, legends for illustrations, and tables. Start each of these sections on a new page, numbered consecutively in the upper right-hand corner, beginning with the title page.

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Drug names: Use generic names only in referring to drugs. If the trade name is necessary, e.g., in bio-availability studies, indicate it in parentheses.

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References: References for Pain Medicine should follow the Vancouver (or numerical) system. Identify with Arabic numerals inside parentheses. A full list of references should be provided in numerical order, sequentially as they appear in the text. Do not alphabetize.

Use the *Index Medicus* reference style (see “Uniform Requirements for Manuscripts Submitted to Biomedical Journals.” *Ann Intern Med* 1988;108:258–65). For abbreviations of journal names, refer to *List of Journals Indexed in Index Medicus*. Provide names of all authors, full article titles and inclusive pages. Accuracy of reference data is the responsibility of the author.

Examples:

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1. Author AB, author CD. Title of paper. *J Title Abbrev* 1994; **00**: 000-00. (In press.)

Article in edited book:

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Book:

3. Author AB. *Book Title*, 5th edn. Place: Publisher, 1994.

Ethical Review Board Approval: All research must have the appropriate ethical review board approval for your institution (e.g. IRB). This information must be included in the Methods section of the manuscript.

Acknowledgment Statement: List all individuals who have substantially contributed to the work in this manuscript but who do not fulfill the authorship criteria. Also include their specific contribution (eg. Data collection, editing, etc). These individuals must agree to their names being listed in the acknowledgements.

TABLES, FIGURES AND ILLUSTRATIONS

All tables, figures and illustrations should be clearly legible. They should be numbered consecutively as they appear in the text. All figures and illustrations must include legends typed double-spaced.

Tables and Figures: Must be double-spaced, on separate pages. Title all tables and figures, and number them in order of their citation in the text (e.g., Table 1, Table 2, etc.; Figure 1, Figure 2, etc.). Any notes or legends should appear at the bottom of the table or figure. Please be sure that the legend and notes enable the reader to understand the table or figure without need for referencing the text of the article.

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abbreviations and symbols used should be clearly defined. Color illustrations will be charged to the authors. The cost for color illustrations is \$800 each.

All illustrations should be able to be reduced to 50-66% of their original size with no loss of clarity or legibility. Figure legends should be typed, double-spaced. Cite each figure in the text by its number. Figures should be numbered consecutively as they appear in the text. If a figure has been previously published, permission must be received in writing for its use regardless of authorship or publisher. Acknowledgment of the original source must be included at the end of the legend.

All artwork must be submitted in digital format. Please save line artwork (vector graphics) i.e. Encapsulated PostScript (EPS) and bitmap files (halftone or photographic images) as Tagged Image Format (TIFF), with a resolution of at least 300 dpi at final size. The following are acceptable file types for figures: .tif, .jpg, .pdf, and .eps. Do not send native file formats. More detailed information is available at <http://authorservices.wiley.com/>

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Authors must disclose all financial support, including 'ghost' writing (ghost authorship is not allowed; all authors substantially contributing to the writing must be mentioned as authors on the title page), and any other sources of potential bias (e.g. expert testimony, device or process ownership or financial interest, etc). Disclosure/Conflict of interest information must be included after the Corresponding Author contact information on the title page in bold. Substantial work on projects or preparation of manuscripts (not meriting authorship) should be acknowledged.

Manuscript Checklist:

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- ____ 3. Provide an abstract (250 words or less) with appropriate headings.
- ____ 4. Include complete consent forms for patient photographs: See the Uniform Requirements for Manuscripts Submitted to Biomedical Journals" (www.icmje.org; section II.E.1).
- ____ 5. Include permission forms for previously published illustrations and tables.
- ____ 6. Designate a corresponding author and provide an address, telephone number, fax number, and e-mail address.

____7. Include disclosure information and acknowledgment of support in a section on the title page following the corresponding author information.

Appendix 2

Hunter Integrated Pain Service (HIPS) patient screening questionnaire

HIPS Referral Questionnaire

Hunter Integrated Pain Service Updated October 2009

This questionnaire requests information helpful to a Specialist Pain Management Centre in prioritising your case and making treatment recommendations. If it is completed as part of a referral to Hunter Integrated Pain Service then please send it along with a medical referral letter to:

Fax: 4922 3900 or Mail: PO Box 664J, Newcastle 2300

Date: _____

A. PERSONAL PARTICULARS



Mr / Mrs / Miss / Ms Surname: _____
Given Names: _____ Previous Surnames: _____

Address: _____

Postcode: _____

Telephone: (H): _____ (W): _____ (Mob): _____

DOB: _____ Age: _____ Country of Birth _____ Language Spoken: _____

Marital Status: _____ How tall are you?  _____ How much do you weigh?  _____

Name & address of family doctor: _____

Referring Doctor: _____

B. CLASSIFICATION

Have you been seen by a pain clinic before (give details) _____

Are you currently visiting a pain clinic? (give details) _____

Medicare Number (include digit next to your name) _____

Do you have private health fund cover? (circle one) No / Yes Name of fund _____

Is there a current compensation case related to your pain problem? (circle one) No / Yes (If Yes, _____)

Office Use Only

Triage Date: _____ MRN: _____

Baseline Measures:

Pain Severity (BPI): _____ /10

Pain Interference (BPI): _____ /10

K10 Score: _____ /50

CSQ:(czg / coping) _____

PSEQ: _____ /60

Healthcare Utilisation: / / / / / Total _____

Opiate medication >2 days/week Y/N

Daily oral morphine equivalent _____ mg

Number of analgesic drug groups _____ /5

Treatment benefit _____ % Side effects _____ /10

Priority: Urgent (A) 1 month
High (B) 3 months
Moderate (C) 6 months

Category:

Medical assessment: Anaesthetist / Any

Multidisciplinary Assessment: Anaesthetist / Any

Physiotherapy Psychology / Psychiatry / Any

Understanding Pain

last week.

0	1	2	3	4	5	6	7	8	9	10	
No pain									Pain as bad as you		
can imagine											

4. Please rate your pain by circling the one number that best describes your pain on average.

0	1	2	3	4	5	6	7	8	9	10	
No pain									Pain as bad as you		
can imagine											

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

0	1	2	3	4	5	6	7	8	9	10	
No pain									Pain as bad as you		
can imagine											

6. What treatments or medications are you receiving for your pain?

7. In the last week, how much relief have pain treatments or medications provided? Please circle the one percentage that best shows how much relief you have received.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%
100%									
No relief									
Complete relief									

8. Circle the one number that describes how, during the past week, pain has interfered with your:

a. General activity

0	1	2	3	4	5	6	7	8	9	10	
<i>Does not interfere</i>									<i>Completely</i>		
<i>interferes</i>											

b. Mood

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

c. Walking ability

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

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

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

e. Relations with other people

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

f. Sleep

0 1 2 3 4 5 6 7 8 9 10

g. Enjoyment of life

0 1 2 3 4 5 6 7 8 9 10

*Does not interfere
interferes*

Completely

E. ADDITIONAL PAIN DETAILS

- Which are your most troublesome sites of pain? Please number all your significant sites of pain in order of severity. Mark the most troublesome site "1", the next most troublesome site "2" and so on. If you have total or almost total body pain then you can choose to mark the final option "1" instead of marking each individual site.

☐ Head, face &/or mouth

☐ Neck region

☐ Shoulder(s)

☐ Arm(s) and/or hand(s)

☐ Upper back region (thoracic)

☐ Chest

☐ Lower back and/or buttocks (lumbosacral)

body pain

☐ Abdominal

☐ Groin region

☐ Pelvic

☐ Anal/genital

☐ Hip region

☐ Leg(s) and or feet

☐ Total or almost total

- Please describe the way your main pain feels to you (eg. tingling, burning, throbbing, aching, radiating, numbness, stabbing).

- Which statement describes the typical pattern of your main pain? Please circle the best option.

0 Single episode

1 Always or almost always present, constant intensity

2 Always or almost always present, variable intensity

3 Recurring irregularly (eg: like headache)

4 Recurring regularly (eg: premenstrual pain)

- How long has your main pain been present? Please circle the best option.

Please also give the month and year this pain started if possible _____

0 1 month or less

1 1 month to 6 months

2 6 months to 12 months

3 12 months to 3 years

4 3-5 years

5 5-10 years

6 >10 years

5. How did your main pain begin? Please circle the best option.

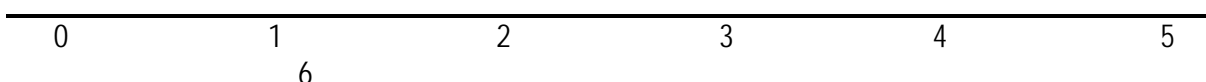
- 0 Accident at work
- 1 Accident at home
- 2 Motor vehicle crash
- 3 After surgery
- 4 Related to cancer
- 5 Related to another illness_____
- 6 Pain just began, no clear reason
- 7 Other_____

F. K-10

<i>Please circle the number that best describes how you felt</i>	None of the time	A little of the time	Some of the time	Most of the time	All of the time
1. In the last 4 weeks, how often did you feel tired out for no good reason?	1	2	3	4	5
2. In the last 4 weeks, how often did you feel nervous?	1	2	3	4	5
3. In the last 4 weeks, how often did you feel so nervous that nothing could calm you down?	1	2	3	4	5
4. In the last 4 weeks, how often did you feel hopeless?	1	2	3	4	5
5. In the last 4 weeks, how often did you feel restless or fidgety?	1	2	3	4	5
6. In the last 4 weeks, how often did you feel so restless that you could not sit still?	1	2	3	4	5
7. In the last 4 weeks, how often did you feel depressed?	1	2	3	4	5
8. In the last 4 weeks, how often did you feel that everything was an effort?	1	2	3	4	5
9. In the last 4 weeks, how often did you feel so sad that nothing could cheer you up?	1	2	3	4	5
10. In the last 4 weeks, how often did you feel worthless?	1	2	3	4	5

G. CSQ-R

Individuals who experience pain have developed a number of ways to cope with, or deal with, their pain. These include saying things to themselves when they experience pain, or engaging in different activities. Below are a list of things that patients have reported doing when they feel pain. For each activity, I want you to indicate, using the scale below, how much you engage in that activity when you feel pain, where a 0 indicates you never do that when you experience pain, a 3 indicates you sometimes do that when you experience pain, and a 6 indicates you always do it when you are experiencing pain. Remember, you can use any point along the scale.



Never do that
always do that

sometimes do that

When I feel pain . . .

- _____ 1. I try to feel distant from the pain, almost as if the pain was in somebody else's body
- _____ 2. I try to think of something pleasant
- _____ 3. It's terrible and I feel it's never going to get any better
- _____ 4. I tell myself to be brave and carry on despite the pain
- _____ 5. I tell myself that I can overcome the pain
- _____ 6. It's awful and I feel that it overwhelms me
- _____ 7. I feel my life isn't worth living
- _____ 8. I pray to God it won't last long
- _____ 9. I try not to think of it as my body, but rather as something separate from me
- _____ 10. I don't think about the pain
- _____ 11. I tell myself I can't let the pain stand in the way of what I have to do
- _____ 12. I don't pay attention to it
- _____ 13. I pretend it's not there
- _____ 14. I worry all the time about whether it will end
- _____ 15. I replay in my mind pleasant experiences in the past
- _____ 16. I think of people I enjoy doing things with
- _____ 17. I pray for the pain to stop
- _____ 18. I imagine that the pain is outside of my body
- _____ 19. I just go on as if nothing happened
- _____ 20. Although it hurts, I just keep on going
- _____ 21. I feel I can't stand it any more
- _____ 22. I ignore it
- _____ 23. I rely on my faith in God
- _____ 24. I feel like I can't go on
- _____ 25. I think of things I enjoy doing
- _____ 26. I do something I enjoy, such as watching TV or listening to music
- _____ 27. I pretend it's not a part of me

H. PSEQ

Please rate how confident you are that you can do the following things at present despite the pain. To indicate your answer, circle one of the numbers on the scale under each item, where 0 = not at all confident and 6 = completely confident. Remember, this questionnaire is not asking whether or not you have been doing these things, but rather how confident you are that you can do them at present, despite the pain.

1. I can enjoy things, despite the pain.

0 1 2 3 4 5 6

Not at all Confident

Completely Confident

2. I can do most of the household chores (eg. tidying-up, washing dishes etc.) despite the pain.

0 1 2 3 4 5 6

Not at all Confident

Completely Confident

3. I can socialise with my friends or family members as often as I used to do, despite the pain.

0 1 2 3 4 5 6

Not at all Confident

Completely Confident

4. I can cope with my pain in most situations.

0 1 2 3 4 5 6

Not at all Confident

Completely Confident

5. I can do some form of work, despite the pain ("work" includes housework, paid and unpaid work).

0 1 2 3 4 5 6

Not at all Confident

Completely Confident

6. I can still do many of the things I enjoy doing, such as hobbies or leisure activities, despite the pain.

0 1 2 3 4 5 6

Not at all Confident

Completely Confident

7. I can cope with my pain without medication.

0 1 2 3 4 5 6

Not at all Confident

Completely Confident

8. I can still accomplish most of my goals in life, despite the pain.

0 1 2 3 4 5 6

Not at all Confident

Completely Confident

9. I can live a normal lifestyle, despite the pain.

0 1 2 3 4 5 6

Not at all Confident

Completely Confident

10. I can gradually become more active, despite the pain.

0 1 2 3 4 5 6

Not at all Confident

Completely Confident

I. HEALTHCARE UTILISATION

1. How many times in the past 3 months have you seen a general practitioner in regard to pain?
_____times
2. How many times in the past 3 months have you seen medical specialists (eg. orthopaedic surgeon or neurologist) in regard to pain? _____times
3. How many times in the past 3 months have you seen health professionals other than doctors (eg. physiotherapist, chiropractor or psychologist) in regard to pain? _____times
4. How many times in the past 3 months have you visited a hospital emergency department in regard to pain?_____times
5. For how many days in total over the past 3 months have you been in hospital as an inpatient because of pain?_____days

J. MANAGEMENT

1. Please indicate any of the following treatments that you have tried, and whether or not they were helpful:

Treatment	Never Tried	Helpful	No help	Pain worse	Ongoing
Surgery					
Nerve blocks					
TENS					
Bed rest in hospital					
Bed rest with traction					
Psychology					
Hypnosis					
Relaxation					
Acupuncture					
Chiropractic					
Osteopathic					
Physiotherapy (hands on)					
Hydrotherapy					

2. Please list any operations you have had relating to your pain problem(s):

[illegible]

3. Please list all the medications you are taking for pain at present:

[illegible]

5. Please list all the medications you are taking for reasons other than pain at **present**:

6. Please list any additional medications (other than those listed in question 3) you have taken in the **past** for your pain and indicate whether or not they were helpful:

[illegible]

7. Do you think you need more medication, or stronger medication, than you are currently taking?

1 2 3 4 5
(agree strongly) (agree) (unsure) (disagree) (disagree strongly)

8. Please circle if you are a: smoker / non-smoker / ex-smoker

9. If you currently smoke, please circle how many cigarettes you smoke in a normal day? <5 5-14 15+

10. Please circle how many days of the week you drink alcohol <1 1 2 3 4 5 6 7

11. If you currently drink alcohol, please circle how many *standard* drinks you usually have on these days

1-2 3-4 5-6 7-8 8-15 15+

12. Do you ever drink alcohol to relieve your pain? NO / YES

13. How many cups or glasses of caffeinated drinks (ie. tea/coffee/caffeinated or energy drinks) do you have per day?

0

1-3

4-5

6-7

8+

14. Are there any questions you would like answered if you attend for an assessment at Hunter Integrated Pain Service?

15. What are you hoping to achieve if you attend the Hunter Integrated Pain Service?

16. Your Story

If you wish to, this section is reserved for you to tell **your** story. This may be the story of your pain and how it affects you and your lifestyle, or what you do now to limit your pain's effect on your life.

17. Who helped you to fill in this questionnaire? (tick the box)

Family member ☐Friend ☐Healthcare professional ☐

No help

☐

needed

Thank you for completing the Referral Questionnaire. If you would like further information about persistent pain and its management while you are awaiting Specialist Pain Management Centre input, then you may like to visit:

www.hnehealth.nsw.gov.au/pain

Teaching and research

We would like your permission to use the answers you provide for teaching and research purposes at HIPS. This research helps us to improve our understanding of pain and its effects on people's lives, and measure the effectiveness of our treatments. To make your responses anonymous we remove all identifying details like names, addresses etc. to protect your privacy, and combine it with information given by many patients.

If you do not wish for the information you provide to be used for research purposes, now or in the future, you are free to say so and this will not affect your rights, entitlements or your medical care at HIPS.

Please tick one of the following boxes

- ☐ I am willing to allow this information to be used in HIPS research work
- OR
- ☐ I do not wish this information to be used for research purposes.

Signature _____ Date _____

Appendix 3

Hunter New England Human Research Ethics Committee approval.

HUNTER NEW ENGLAND NSW HEALTH

8 July 2010

Rev Dr M Johnson
School of Psychology
University of Newcastle

Dear Rev Dr Johnson,

Re: Analysing Individual's Failure to Engage with a Multidisciplinary Pain Clinic Program (10/05/19/5.04)

HNEHREC reference number: 10/05/19/5.04

HREC reference number: HREC/10/HNE/97

SSA reference number: SSA/10/HNE/98

Thank you for submitting an application for authorisation of this project. I am pleased to inform you that authorisation has been granted for this study to take place at the following sites:

- **Hunter New England Health**

The following conditions apply to this research project. These are additional to those conditions imposed by the Human Research Ethics Committee that granted ethical approval:

1. Proposed amendments to the research protocol or conduct of the research which may affect the ethical acceptability of the project, and which are submitted to the lead HREC for review, are copied to the research governance officer;
2. Proposed amendments to the research protocol or conduct of the research which may affect the ongoing site acceptability of the project, are to be submitted to the research governance officer.

Yours faithfully

Dr Nicole Gerrand
Research Governance Officer
Hunter New England Health

Hunter New England Research Ethics & Governance Unit

(Locked Bag No 1)
(New Lambton NSW 2305)
Telephone (02) 49214 950 Facsimile (02) 49214 818
Email: hnehrec@hnehealth.nsw.gov.au
http://www.hnehealth.nsw.gov.au/Human_Research_Ethics

7 July 2010

HUNTER NEW ENGLAND NSW HEALTH

Rev Dr M Johnson
School of Psychology
University of Newcastle

Dear Rev Dr Johnson,

Re: Engagement in a Multidisciplinary Pain Clinic Program (10/05/19/5.04)

HNEHREC Reference No: 10/05/19/5.04
NSW HREC Reference No: HREC/10/HNE/97
NSW SSA Reference No: SSA/10/HNE/98

Thank you for submitting the above protocol for single ethical review. This project was first considered by the Hunter New England Human Research Ethics Committee at its meeting held on **19 May 2010**. This Human Research Ethics Committee is constituted and operates in accordance with the National Health and Medical Research Council's *National Statement on Ethical Conduct in Human Research (2007)* (National Statement) and the *CPMP/ICH Note for Guidance on Good Clinical Practice*. Further, this Committee has been accredited by the NSW Department of Health as a lead HREC under the model for single ethical and scientific review. The Committee's Terms of Reference are available from the Hunter New England Area Health Service website: http://www.hnehealth.nsw.gov.au/Human_Research_Ethics.

I am pleased to advise that following acceptance under delegated authority of the requested clarifications and revised information statement and consent form by Dr Nicole Gerrand, Manager, Research Ethics & Governance in consultation with members of the Hunter New England Human Research Ethics Committee, the Hunter New England Human Research Ethics Committee has granted ethical approval of the above project.

The following documentation has been reviewed and approved by the Hunter New England Human Research Ethics Committee:

- For the Participant Information Statement (Version 2 dated 20 May 2010);
- For the Participant Consent Form (Version 2 dated 19 May 2010);
- For the Pain Questionnaires; and
- For the HIPS Referral Questionnaire

For the protocol: **Engagement in a Multidisciplinary Pain Clinic Program**

Approval from the Hunter New England Human Research Ethics Committee for the above protocol is given for a maximum of **3** years from the date of this letter, after which a renewal application will be required if the protocol has not been completed.

The *National Statement on Ethical Conduct in Human Research (2007)*, which the Committee is obliged to adhere to, include the requirement that the committee monitors the research protocols it has approved. In order for the Committee to fulfil this function, it requires:

Hunter New England Research Ethics & Governance Unit

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http://www.hnehealth.nsw.gov.au/Human_Research_Ethics

- A report of the progress of the above protocol be submitted at 12 monthly intervals. Your review date is **July 2011**. A proforma for the annual report will be sent two weeks prior to the due date.
- A final report must be submitted at the completion of the above protocol, that is, after data analysis has been completed and a final report compiled. A proforma for the final report will be sent two weeks prior to the due date.
- All variations or amendments to this protocol, including amendments to the Information Sheet and Consent Form, must be forwarded to and approved by the Hunter New England Human Research Ethics Committee prior to their implementation.
- The Principal Investigator will immediately report anything which might warrant review of ethical approval of the project in the specified format, including:
 - Any serious or unexpected adverse events
 - Adverse events, however minor, must be recorded as observed by the Investigator or as volunteered by a participant in this protocol. Full details will be documented, whether or not the Investigator or his deputies considers the event to be related to the trial substance or procedure. These do not need to be reported to the Hunter New England Human Research Ethics Committee
 - Serious adverse events that occur during the study or within six months of completion of the trial at your site should be reported to the Manager, Research Ethics & Governance, of the Hunter New England Human Research Ethics Committee as soon as possible and at the latest within 72 hours.
 - All other safety reporting should be in accordance with the NHMRC's Safety Monitoring Position Statement – May 2009 available at http://www.nhmrc.gov.au/health_ethics/hrecs/reference/files/090609_nhmrc_position_statement.pdf
 - Serious adverse events are defined as:
 - Causing death, life threatening or serious disability.
 - Cause or prolong hospitalisation.
 - Overdoses, cancers, congenital abnormalities whether judged to be caused by the investigational agent or new procedure or not.
 - Unforeseen events that might affect continued ethical acceptability of the project.
- If for some reason the above protocol does not commence (for example it does not receive funding); is suspended or discontinued, please inform Dr Nicole Gerrand, as soon as possible.

You are reminded that this letter constitutes ethical approval only. You must not commence this research project at a site until separate authorisation from the Chief Executive or delegate of that site has been obtained.

A copy of this letter must be forwarded to all site investigators for submission to the relevant Research Governance Officer.

Hunter New England Research Ethics & Governance Unit

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http://www.hnehealth.nsw.gov.au/Human_Research_Ethics

Should you have any concerns or questions about your research, please contact Dr Gerrand as per her details at the bottom of the page. The Hunter New England Human Research Ethics Committee wishes you every success in your research.

Please quote 10/05/19/5.04 in all correspondence.

The Hunter New England Human Research Ethics Committee wishes you every success in your research.

Yours faithfully

For:

Chair
Hunter New England Human Research Ethics Committee

Hunter New England Research Ethics & Governance Unit

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Appendix 4

Participant information statement

Engagement in a Multidisciplinary Pain Clinic Program
Natasha Catalovski, Rev. Dr Martin Johnson and Meredith Jordan
Document Version 3: 13/12/2010

You are invited to participate in the research project identified above which is being conducted as part of Natasha Catalovski's Professional Doctorate of Clinical and Health Psychology under the supervision of Rev. Dr Martin Johnson from the School of Psychology at the University of Newcastle and Meredith Jordan of the Hunter Integrated Pain Service (HIPS), Hunter New England Health.

Why is the research being done?

The purpose of the research is to identify reasons why people attend the HIPS multidisciplinary pain management program. It is hoped that the research will improve the service provided to future clients of HIPS.

Who can participate in the research?

You are being invited because you have been referred to HIPS by your GP or another specialist GP. This study is suitable for you if you are over 18 years of age and under 60 years of age and English is your first language.

What choice do you have?

Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project. Whether or not you decide to participate, your decision will not disadvantage you or affect the treatment you receive from HIPS. If you do decide to participate, you may withdraw from the project at any time without giving a reason and have the option of withdrawing any information which identifies you.

What would you be asked to do?

If you have agreed to participate in this study, you will receive this information statement in the mail. You will then be contacted at an agreed time via telephone by the researcher who will ask your consent to discuss your questionnaire responses and your general functioning and coping with pain over the phone. This telephone call will be recorded. You have the opportunity to decline to participate in the research phone call at any time, and upon completion of the phone call you will be given the opportunity to change or withdraw information/responses that you have provided should you wish to do so.

How much time will it take?

The telephone conversation will take a maximum of 1 hour to complete.

What are the risks and benefits of participating?

We cannot promise you any direct benefit from participating in this research, however, previous participants in such research have reported that the measures have helped them focus their thoughts on how they are coping with their pain and have enabled them to better

describe their signs and symptoms to health care providers. If you do feel distressed you may stop participating. If participation in the study raises any issues for you, you should speak to your GP or referring doctor. Please contact Meredith Jordan, Clinical Psychologist at HIPS 0249 223 402 should you experience any distress as a result of engaging in this research.

How will your privacy be protected?

Any information collected by the researchers which might identify you will be stored securely at the University of Newcastle and only accessed by the researchers, unless you consent otherwise, except as required by law. Information routinely collected by HIPS will be stored on the confidential electronic patient health database. All the information you provide for this research will be kept confidential, unless disclosure is required by law.

Data will be retained and stored in a locked cupboard at the Hunter Integrated Pain Service, Hunter New England Health for at least 5 years following the submission of Natasha's thesis and then destroyed.

How will the information collected be used?

The information collected will be used in a thesis to be submitted for Miss Catalovski's Doctor of Clinical and Health Psychology degree. Also it may be used in the production of papers in scientific journals and at scientific conferences. However, you will not be identified personally in any reports arising from the project.

A summary of the research findings will be available on Rev Dr Martin Johnson's web pages from Dec 2011: http://www.newcastle.edu.au/school-old/psychology/our_staff/johnson_martin.html

What do you need to do to participate?

Please read this Information Statement and be sure you understand its contents before you consent to participate. If there is anything you do not understand, or you have questions, contact the researcher.

Further information

If you would like further information please contact Rev Dr Martin Johnson (02) 4921 8864 or email: Martin.Johnson@newcastle.edu.au

Thank you for considering this invitation.

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Complaints about this research

This research has been reviewed and approved by the Hunter New England Human Research

Ethics Committee of Hunter New England Health 10/05/19/5.04

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to Dr Nicole Gerrand, Manager Research Ethics and Governance, Hunter New England Human Research Ethics Committee, Hunter New England Health, Locked Bag 1, New Lambton NSW 2305, telephone (02) 49214950, email HNEHREC@hnehealth.nsw.gov.au.

Appendix 5

Scope of Pain Medicine

Pain Medicine

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Overview

Pain Medicine is a multi-disciplinary journal dedicated to the pain clinician, teacher and researcher. It is the Official Journal of the American Academy of Pain Medicine, the Faculty of Pain Medicine of the Australian and New Zealand College of Anaesthetists, and the International Spine Intervention Society.

The journal is devoted to the advancement of pain management, education and research.

Aims and Scope

Pain Medicine is a multi-disciplinary journal dedicated to pain clinicians, educators and researchers. This scholarly, indexed publication reflects the rapid growth in pain science and practice as well as the field's need for policy, ethical, and forensic commentary on pain and its management. Readers benefit from both cutting-edge original clinical research and scientific reviews.

This is the respected clinical pain journal that gives you special sections on spine pain, aging, primary care, neuropathic pain, substance abuse/addiction, psychiatry/psychology and brain neuroscience, translational research, ethics and forensic pain medicine, as well as case reports, reviews, clinical investigations, special articles on thematic topics, editorials and guest commentary. Several thematic supplements are published yearly.

The journal accepts international research papers on all pain topics, including submissions from Australia, Canada, China, Egypt, England, France, Germany, Italy, Japan, Korea, New Zealand, Spain and Turkey. *Pain Medicine* promotes both the visibility and development of pain medicine as a worldwide medical specialty within a multidisciplinary pain field.

Appendix 6

Evidence of submission of manuscript to journal.

24-Jun-2012

Dear Miss Catalovski:

Your manuscript entitled "Analysing Individuals' Failure to Engage with a Multidisciplinary Pain Clinic Program" has been successfully submitted online and is presently being given full consideration for publication in Pain Medicine.

Your manuscript ID is PME-OR-Jun-12-239.

Please mention the above manuscript ID in all future correspondence or when calling the office for questions. If there are any changes in your street address or e-mail address, please log into Manuscript Central at <http://mc.manuscriptcentral.com/pme> and edit your user information as appropriate.

You can also view the status of your manuscript at any time by checking your Author Center after logging into <http://mc.manuscriptcentral.com/pme> .

Thank you for submitting your manuscript to Pain Medicine.

Sincerely,

Pain Medicine Editorial Office