"Physiotherapy outpatient's chronic pain management ……. realizing the potential"

Pain is a conscious correlate of the implicit perception of threat to body tissue

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Contents

List of Tables

Don't expect to get anything back, don't expect recognition for your efforts, don't expect your genius to be discovered or your love to be understood. Act because you need to act.
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Acknowledgements

A big thank-you to all of the people who have made this journey possible
Participants….without you this would never have happened. Thank-you for your honesty
Daniel and Stephanie Mitchell
Kris Berry and John Graham
Rob Newell and Paul Pattison
Heads of Departments
Physiotherapists at Ballina……for your support
Jan Bavaresco and Margo Schneider ……for your care
Lisa Diett and Lisa Beasley
Emma Webster and David Schmidt…CETI/HETI program coordinators…..a very big thank-you
Linda Cutler
Kate Willock research buddy and fellow traveller…….brekky was priceless in so many ways
Avigdor Zask mentor ….thanks for everything…especially the pep-talks
Thanks Lyndy, Denise and Charlta for your formatting help
Cathy Nilon librarian
Ruth White and Hunter-New England pain service
Executive of NNSWLHD
All others who have generously given their time and energy

Abbreviations

Acute pain (AP)
Chronic pain (CP)
Chronic pain management (CPM)
Diffusion of innovation (DOI)
Evidence-based practice (EBP)
Evidence-based chronic pain management (EB CPM)
General Practitioners (GP/GP's)
Heads of department (HOD's)
International Association for the Study of Pain (IASP)
Physiotherapist (PT's, physios)

Abstract Aim:

Physiotherapy outpatient services are well placed to provide services to people with chronic pain. This study explores the experiences and perceptions of outpatient physiotherapists who work with people with chronic pain.

Background:

In September 2010 the International Association for the Study of Pain stated in the declaration of Montreal:

> ***"…access to pain management is a fundamental human right'*** *and a* ***"person in pain has a right to assessment and treatment by an appropriately educated and trained interdisciplinary team at all levels of care".***

Evidence-based chronic pain management is an innovative practice providing tools for outpatient physiotherapists to integrate and transform daily practice.

Study Design and Methods:

Phenomenological inquiry via direct contact was used to explore the lived experiences of outpatient physiotherapists. Fourteen physiotherapists from rural, remote and regional physiotherapy outpatient departments were interviewed using a semi-structured approach. The interviews were recorded, transcribed, coded and analysed manually. Thematic analysis elicited the barriers physiotherapists have to successful engagement with people with chronic pain.

Results:

The main themes were: outpatient services have been designed for quick turnaround and addressing acute conditions; physiotherapy training has up until now focused on biomedical and biomechanical assessment processes, physiotherapists feel rewarded for relief of symptoms, working with people with chronic pain is difficult, dealing with emotional distress is uncomfortable, and poor access to new information and training due to geographical and professional isolation prevents new practices from gaining traction.

Discussion:

Physiotherapists often lack knowledge of the theoretical underpinnings of chronic pain management. The lack of knowledge of and use of a biopsychosocial assessment and identification process means people with chronic pain are managed as if they have acute pain. These issues create barriers to full engagement and management by outpatient physiotherapists of people with chronic pain. Physiotherapists need opportunities to experience chronic pain management in action before they adopt the new forms of thinking and practice. The current lack of investment in physiotherapy

outpatients in evidence-based chronic pain management prevents successful engagement. Without the empowerment of outpatient physiotherapists to alter their practices people with chronic pain do not get the outcomes now known to be possible.

Conclusion:

Physiotherapists can work successfully with people with chronic pain when they have integrated evidence-based chronic pain management knowledge, interventions and approaches into their clinical decision-making and embed these into day to day practice.

Keywords: physiotherapy outpatients, qualitative research, training implications, rural and regional, evidence-based chronic pain management

Executive summary

Implications

- Barriers preventing physiotherapists from implementing evidence-based chronic pain management in physiotherapy outpatients should be systematically addressed
- Long term condition management and education for physiotherapists is needed to embed interdisciplinary and multidisciplinary care into routine outpatient physiotherapy care.
- Rotation of rural outpatient physiotherapists through the pain clinic for observation of evidence-based chronic pain management (EB CPM) in action to enhance, maintain capabilities and motivation of clinicians
- Champions already successfully working with people with chronic pain need support (resourced and credible) to continue modelling EB CPM.
- Quarantined funds made available as a clinical stream to provide the same resources as other chronic care programs currently available in physiotherapy departments .[1]
- Promote active patient participation and decision-making using patient priorities and self-management principles to increase the benefits to the people with chronic pain and reduce the burden on physiotherapists.

Evidence-based chronic pain management provides the most efficacious strategies to date for physiotherapists working with people with chronic pain.[2-9] However, evidence-based chronic pain management is not widespread in current physiotherapy outpatient practice despite the evidence being widespread and readily available. [6, 8, 10]

People with chronic pain are not being identified in physiotherapy outpatients as needing different interventions to people with acute pain.

Barriers exist that prevent people with chronic pain receiving the level of care they need in physiotherapy outpatients.

Physiotherapists can work successfully with people with chronic pain if they have; exposure to new models of care, understanding of the neuroscience underpinning chronic pain management, practice expertise, environmental and systems support for effective management of people with chronic pain.

Current Context

Physiotherapy outpatient services stand as an interface between acute systems and primary health care. Many people with both acute and chronic musculoskeletal pain are referred and treated at physiotherapy outpatients, in some areas this can be up to 80% of all referrals[11]
In rural and regional areas often physiotherapy outpatients is one of the only allied health services available. These services rely on the experiences and expertise of one of two physiotherapists. Therefore it is critical that the physiotherapists have the knowledge, skills and support to confidently work with people with chronic pain.

Introduction

Evidence-based chronic pain management is a clinical decision-making and intervention strategy that has proven its effectiveness over the last twenty years[12] Evidence-based chronic pain management (EB CPM) suggests a program of: functional restoration, biopsychosocial assessment and identification of risk factors, a cognitive-behavioural therapy (CBT) program eliciting patient commitment using interdisciplinary approach and underpinning the education with therapeutic neuroscience.

The NSW Pain Strategy and the Declaration of Montreal call on all health professionals to learn to work successfully with people with chronic pain. This does not need to be only the work of a tertiary service and the process of risk identification, assessment and use of appropriate interventions for people with chronic pain can commence in an outpatient setting. [13],[3]

Background

Referrals for physiotherapy outpatients are from acute services and primary health. They are categorized or triaged depending on certain criteria[14] If they are categorized as chronic pain (lasting > 3-6 months) they are triaged at a lower priority. These people are often on waiting lists for up to 12 months before they receive services.[11] A waiting list strategy may exacerbate a pain condition by allowing transition from acute pain (often treatable) to chronic pain that is a more difficult problem to ameliorate.[12]

The number of people living with chronic pain in Australia is predicted to grow in line with the growth of the aging population. [1] This will place an additional financial burden on the Australian health care system, as services stretch to include people with chronic conditions. [6]

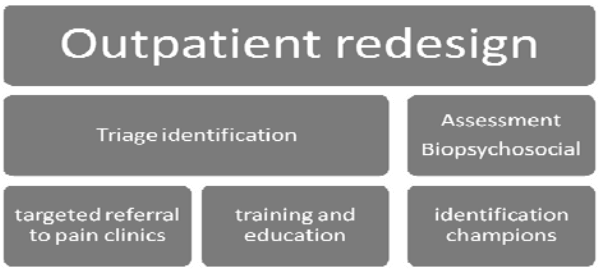
Current Research

The purpose of this report is to provide the experiences and perceptions of outpatient physiotherapists who work with people with chronic pain. A qualitative approach was used to elicit the experiences of 14 outpatient physiotherapists. These physiotherapists were purposively recruited from the local outpatient services of Northern New South Wales local health district (NNSWLHD). Phenomenological inquiry via semi-structured interviews produced the data that informed the major and minor themes.

Results

- Outpatient services are not set up for people with chronic pain to be identified and managed appropriately
- Outpatients is for quick turnaround for people with acute conditions and is not organized to facilitate working towards effective self- management
- Physiotherapists have the expertise to manage musculoskeletal conditions. A biomedical and biomechanical model of care underpins their current practice. This is no longer efficacious for people with chronic pain to create and sustain improvements
- People with chronic pain are seen as difficult to work with and require a level of expertise not widespread amongst physiotherapists.
- Physiotherapists are uncertain about how to apply evidence-based chronic pain management.
- Training in evidence-based chronic pain management is hampered by professional and geographical isolation.

Table 1 Core recommendations Outpatient redesign.



- Physiotherapy outpatient services go through a clinical redesign process
- The processes of triage and identification are reviewed to identify those people at risk of developing chronic pain and those already with chronic pain and streamed appropriately to local services or to tertiary services
- Assessment processes for people with chronic pain reviewed and training in a biopsychosocial assessment model made available as part of the overall training in evidence-based chronic pain management
- Identification of champions by heads of departments to act as the local advocate for implementation of evidence-based chronic pain management in physiotherapy outpatient services.

BACKGROUND

Chronic pain management in rural Australia.

People with chronic pain are prevalent within our communities, 40% of all consults in primary health care can be for chronic pain. [15] As one of the top ten chronic diseases chronic musculoskeletal pain, used interchangeably in this report as chronic pain (CP) is one of the leading causes of suffering in the community. [16, 17]Anecdotally up to 80% of the referrals for outpatients are for people with pre-existing chronic musculoskeletal pain conditions and are not well recognised.[11]

The National Pain Summit Australia, March 2010, stressed the need for all health professionals to engage in evidence-based pain management. [18] The lack of education, understanding and resources available to health professionals to meet the needs of the people with all types of pain including CP is considered to be one of the most powerful reasons so many people in the world receive substandard pain management. [12, 19]

> ***"There are major deficits in the knowledge of health professionals regarding the mechanisms and management of pain" (Declaration of Montreal, 2010).***

The knowledge deficits are articulated further under goal three of the National Pain Strategy and this recommendation includes as a high priority:

> ***"training and support for health practitioners in best-practice pain assessment and management, designate pain management as a key competency in undergraduate and post graduate training (including the scientific differences between acute and chronic pain), promote continued professional development (CPD) in pain assessment and management across all clinical groups."(National Pain Strategy, 2010)***

Evidence-based chronic pain management (EB CPM) provides the most efficacious strategies to date for physiotherapists (2-9). The evidence for managing people with CP is widespread and readily available. Sackett et al describes evidence-based practice as the ***'Conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients' is considered the highest form of clinical practice' (Sackett et al,1996)***

Evidence-based practice (EBP) includes the use of external clinical evidence from systematic research, clinical expertise from training, clinical experience and the inclusion of patient's rights and preferences in making clinical decisions. [20] All physiotherapists are expected as part of their registration requirements to practice in this way. [21]However, the lack of knowledge of the practical application of a whole-person model of care inhibits the integration of the new evidence into current

practice. [22] This research sets out to explore whether the EBP of chronic pain management in utilized in physiotherapy outpatient services.

Literature Review

The researcher has had an interest in EB CPM to inform and enhance practice. The literature search has amassed a large quantity of literature. Searches used the clinical information access portal (CIAP) data bases of Medline, Embase, Pubmed, Pedro, Evidence-Based Practice, Cochrane Collaboration and on-line guidelines. Supervisors, colleagues and pain management courses have also supplied information. Google search provided articles that had evidence-based chronic pain management, cognitive-behavioural therapy, therapeutic neuroscience and physiotherapy in their titles.

The literature defines EB CPM as:

- Biopsychosocial model of care
- An Interdisciplinary treatment approach
- Cognitive behavioural therapy and other psychological approaches
- Functional restoration model [23]

Specifically for physiotherapy:

- Manual therapy, specific exercise training and targeted education [6]
- Spinal manipulative therapy, short term relief only[24]
- Individual education more effective then exercises alone [25]
- Neurophysiological and neurobiological education and retraining[26]
- Functional restoration and graduated exposure [10, 27]

It should be noted that during this extensive search the author could not find any information regarding rural or regional outpatient physiotherapist's subjective experiences when working with people with chronic pain.

Pain defined

The International Association for the study of Pain (IASP) defines pain as:

> "***An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (28).***

Pain as a disease rather than a symptom of underlying pathophysiology provides a conceptual substrate to see pain as a 'whole of person' experience[18]

Chronic pain management (CPM) is misconstrued on many levels. Most health professionals equate pain management with acute pain management usually consisting of medication management for

pain relief and in the case of physiotherapy the use of various techniques and interventions to diminish pain in the body and enhance healing. [18]

The surpassing of the narrow biomedical definition and practice to include a biopsychosocial definition has been around since Engel initially proposed this as a model for clinical decision-making in 1980 (29). This change in orientation has been highlighted as one of the key principles needed in the management of chronic pain. [3, 22, 30-35]

Chronic pain is different to acute pain

Chronic pain (CP) or pain that has been experienced for greater than three months can be unresponsive to usual treatment. Chronic pain has an impact on a person's level of functioning and psychological, emotional well-being (36). Therefore, CP cannot be seen as a purely physical or in the body tissue phenomena. [12]

Chronic pain requires a different approach

Chronic pain remains an enigma for most health professionals, including physiotherapists and is extremely resistant to change, despite recent advances in understanding.[37]

The evidence-based practice (EBP) for CP has seen the emergence of new models for the delivery of CPM. The knowledge-base for chronic pain management is continuing to evolve and new principles and guidelines documented. [38]

Interventions for chronic pain have emerged from a far broader conceptual and management framework. This broadening of practice is reflected in the types of interventions and patient engagement used in the management of people with CP. A physiotherapist's ability to engage and include the people with CP in clinical decision-making and clinical planning is fundamental to adoption of CPM principles. [22, 39]

New practices requires new knowledge

Chronic pain management practice for physiotherapy is a relatively new discipline and has been developed within pain clinics and pain teams and by specialist physiotherapists. The penetration of EB CPM into outpatients in rural and regional northern NSW is in its infancy. [10] To engage successfully with EB CPM physiotherapists need to understand the; neurophysiological and neural plastic underpinnings of chronic pain, the behavioural manifestations and the appropriate active approaches and interventions. [35, 40-43] People with CP often present to outpatients with greater levels of complexity requiring greater unravelling of all of the interdependent contributors to their experience of pain. This is not how current outpatient services operate. [22]

Evidence-based chronic pain management can be part of physiotherapy practice. [10, 44-47] In regional, rural and remote settings the diffusion and dissemination of new information is often left up to a few individuals who have had the experience and enterprise to adopt and implement a new practice. These champions often provide an unrecognized resource to local services and are rarely seen as integral to the quality of services despite their key roles.[48]

People with pain are often referred to physiotherapy outpatients

Physiotherapy outpatients are utilized for treatment of people from the local communities. Referrals come from acute services and primary health care. Outpatients usually provide a time-limited number of treatments often 6-8 within a 6 week timeframe. By this time most people with acute conditions have reached a level of recovery that enables them to return to their previous level of activity and engagement in their lives. Often with recovery their pain diminishes. This time frame and model does not always match what is needed for people with CP.

Outpatient environment maximizes outcomes for acute problems

Pain relief in the form of a reduction in pain scores is less achievable with people with chronic pain. [49-51] Changes within the central and peripheral nervous system are sustained and often exacerbated by accompanying behaviours, emotions and thoughts of people with chronic pain.[52-54] Current outpatient physiotherapy practices have only short term benefit for people with chronic pain.[55] However, the privileging of the acute model of care has meant people with CP are often not identified as being at risk or of developing greater disability as the condition progresses and are triaged as a lower priority. People with CP are triaged to a waiting list or inadequately treated using a model of care no longer effective for this population.[56]

Rural and regional outpatient physiotherapists are heterogeneous mix of trained professionals with differing amounts of experience and exposure to EB CPM. However, they have all been trained in musculoskeletal physiotherapy and apply the tenets, knowledge and techniques in their unique way. Rural and regional physiotherapy outpatients are required to address the demands placed on them. They are often one of the only allied health services available in smaller areas. Having to meet the wide range of demands requires both broad skills and good problem-solving abilities. Evidence-based chronic pain management stretches physiotherapists further to include new skills and understandings. There is little current literature exploring how physiotherapists experience working with people with CP in rural physiotherapy outpatient services in New South Wales. [22]

Uptake of EB CPM takes time and an active approach

Diffusion of innovation theory suggests there are stages to the adoption of new behaviours, ideas and technology within populations. The stages of adoption equate to how quickly and what conditions need to be met before new behaviours and concepts are integrated into practice.[57, 58] Initially innovation is quickly adopted by early adopters (Champions) who do a risk analysis and decide the

new form of practice is better then what has gone before. The rest of the population follows as the innovation gains greater acceptance. [21]

However, to access and attend training courses to learn about innovative approaches requires rural and regional physiotherapists to travel to the bigger centres. Most of the pain management services are within larger metropolitan areas. Unfortunately within New South Wales health service paid professional development in EB CPM for physiotherapists outside Sydney is difficult to access and maintain.

However, to change clinical practice often requires the changing of the whole system as well as individual change. Trishe et al, highlight how ***'Rule-bound inherently conservative large professional bureaucracies can stifle innovation'*** and how active support is needed to allow for new practices to be implemented and become common place.[(57)]

What is well-documented in the literature is the principle of self-management as one of the goals of EB CPM. [(12)] These principles require a different relationship between physiotherapists and their clients. The six principles of self-management include enhancing a person with CPs; knowledge of their condition, ability to follow a treatment plan (care plan) agreed with their physiotherapist, active sharing in the decision-making with physiotherapists, monitoring and managing signs and symptoms of their condition, managing the impact of the condition on their physical, emotional and social life and adopting lifestyles that promote health.[(59, 60)] These principles are starting to gain traction with other chronic diseases and attract funding for physiotherapy outpatients. This has not occurred for chronic musculoskeletal pain.

This study aims to find out what the barriers are to this process of implementation of EB CPM in physiotherapy outpatients as the momentum for change in chronic pain management is increasing.

> *The point is…to unify and harmonize the opposites, both positive and negative, by discovering a ground which transcends and encompasses them both.*
>
> *Ken Wilbur, No Boundary*

STUDY DESIGN AND METHODOLOGY

This study was embedded in the naturalistic and inductive design of qualitative research. Qualitative research was chosen to explore the contextual, professional and the personal aspects related to outpatient physiotherapists' clinical practice. This methodology had the capacity to provide insights into outpatient physiotherapist's experiences and reveal the complexity of that experience. [(61)] A deductive interpretive perspective created the links and meanings between the physiotherapist's experiences and the current field of evidence-based chronic pain management. [(62, 63)] Delving into the

physiotherapists' experiences allowed understanding and empathy by the researcher for the physiotherapists working in this context to unfold.

The researcher's current position as an outpatient physiotherapist, who had previously worked in a pain clinic provided the background for the inquiry.

Phenomenology

Phenomenology emerged from the field of philosophy. Phenomenology or the study of phenomena of experience, allowed the researcher access to the physiotherapist's inner experiences. Phenomenology focuses on the physiotherapist's subjectivity and interpretations of the world. These experiences include; their thoughts, feelings, memories, images, how they make contact with people with CP, contact with themselves and contact with and within their working environment and the meanings of their experiences they make. [64] Husserl a philosopher says phenomenology highlights a person's subjectivity in its most direct way.[64]

Phenomenology in the words of Crotty can also provide a "study of experiencing individuals".[61] In this study description of the physiotherapist's experiences provides the primary data. Further interpretation of the physiotherapist' experience within the context of their clinical practice highlights the subtleties physiotherapists have with these experiences.[65] The Stanford encyclopaedia states:

> ***"hermeneutical phenomenology studies the interpretive structures of experiences, how we understand and engage us in our human world, including ourselves and others"***
> ***(Stanford, 2008)***

At the most basic level the researcher wanted to understand how the world of evidence-based chronic pain management is experienced by outpatient physiotherapists and how their experiences are constructed and whether their experiences can be changed.

Sampling and Sample

Convenience sampling was the approach used to gain access to those who could provide the details that would lead to an improved understanding about chronic pain management practices. Initially, heads of physiotherapy departments were canvassed for their support. They received an information sheet and provided the dissemination of information to outpatient physiotherapists. The information sheet included the support of the health education and training institute in this research and in the initial request to the heads of physiotherapy the researcher discussed her novice status as a researcher.

An email to all physiotherapists in the local health area was sent via group email asking for volunteers and there were 15 replies, out of a possible 50-60. Fourteen respondents met the criteria of working in

outpatients; one was not working in outpatients and was excluded from the study. Some of the physiotherapists interviewed knew the researcher but none interviewed had worked with her.

All physiotherapists received an information sheet and consent form prior to interview. Confidentiality and anonymity were highlighted in these forms (See appendix)

Methods Data collection

Fourteen semi-structure interviews were conducted mostly face to face and some, due to distance and the weather (flooding at the time), over the phone. These first-person reports or interviews occurred in a quiet room at the participants place of work and within work time. The naturalistic outpatient environment provided information to add to the data collected.

The interviews were done with a systematic approach using an interview guide. General questions were asked first followed by more specific questions. All interviews were recorded using a digital recorder. The same questions were asked with additional probing, exploration and clarification as needed. The semi-structured nature of the interview allowed the physiotherapists to bring up additional experiences and comments as needed, there was no time limit. All interview ceased when the physiotherapists had finished. Most interviews took approximately 45 -60 minutes.

Table 2: Types of Questions asked

What do you enjoy or not enjoy about working in outpatients?
What does chronic pain and chronic pain management mean to you?
How do you normally work with some-one who has chronic pain?
What would you do differently if you could when working with some-one with chronic pain?

The interviews were transcribed manually. These transcriptions provided the data. The data was analysed after all the interviews had taken place. The interviews were completed within a two week time frame. Data saturation was reached when no new themes were emerging from the interviews.

Data analysis

The thematic analysis involved constant comparison of the data, as the transcripts were read and re-read for coding. Transcripts were not returned to the participants for correction or feedback on the findings. Field notes taken during the interviews were referred to when needed to clarify context of data.

Initially, open coding was used and these codes produced descriptive memos.[65] These memos were summarized and charted into matrices with their corresponding quotes. These produced the common themes and were coded accordingly. Axial coding produced further categories and final analytical themes.

Table 3: An example of the axial coding.

Main code	Sub code	Description of code	Quote
Avoidance of engagement with people with chronic pain	Don't have the patience with high levels distress (emotional response)	Lack of experience, skills, understanding and possibly empathy	"don't do psych"

Ethics

Low risk ethics approval was received November 2010, number NCAHS LNR002. The site specific approval (SSA) was received January 2011.

RESULTS

The physiotherapists interviewed ranged in experience from 1 year post graduate to 30 years of working life. There were physiotherapists from very small remote sites of only 1-2 physiotherapists to larger sites of 8-9 physiotherapists. The rurality ranged from; small remote towns with population of less than 5000, larger regional centres 20 -30,000 to a metropolitan centre with a population of >80000. There was a wide range of expertise and experience.

Table 4: Physiotherapists years in outpatients

Number of physiotherapists	Years in outpatients
n=4	<5 years
n=6	5-10 years
n=4	10> years

The purpose of this study was to explore outpatient physiotherapists' subjective experiences when working with people with CP. These findings reveal the physiotherapists perceptions, attitudes and emotions as well as the outpatient system constraints that interfere with implementation of EB CPM. Overall this research has identified the more challenging aspects physiotherapists have when working with people with CP.

THE EMERGENT THEMES CONSIST OF:

- outpatient setting
- physiotherapists perceptions and attitudes
- processes of working with people with CP

(1) Outpatient setting:

Autonomy and independence

Physiotherapy outpatient departments are uniquely situated in the continuum of care. They form an interface between the hospital inpatients, community services and primary health care. There is a strong emphasis on working directly with people on a one to one basis. The physiotherapists feel they are able to work autonomously and have significant control of their work.

> ***"There's a significant amount of independence so you really are kind of your own boss"*** Participant 7

Close working relationships

The environment of outpatients is experienced by the physiotherapists as supportive of working with people.

> ***"I guess like all areas of physio I enjoy the interaction with the patients"*** Participant 1

> ***"nice thing about outpatients you do get to have a close rapport with people who don't' have a lot of support elsewhere"*** Participant 12

Pain is a common presentation in outpatients

Physiotherapists work with people in pain, both acute and chronic, as part of their everyday duties.

> ***"Single reason people present to physiotherapy is because they hurt"*** Participant 5

> ***"Its (chronic pain) something you are always going to come in contact with especially in outpatients"*** **Participant 2**

Structure of outpatients supports acute presentations

In most outpatient services the triage system prioritizes people with acute condition. Distinctions are made between acute conditions (less than 3months) and chronic pain conditions (> 3 months). Outpatient's has an impact on physiotherapists by shaping their behaviour to meet the demands of the acute system. Outpatient services contribute to physiotherapist's decision-making processes and have a structure that can unintentionally marginalize people with CP.

> ***"So the way outpatients is set up with pretty much one after another appointments and the focus on acute conditions that's not terribly conducive to what's needed for somebody with chronic pain"*** Participant 11

> ***"um, in an outpatient setting seeing people with chronic pain one on one for 20 minutes, it's sometimes hard to achieve those things (EB CPM)in that environment"*** Participant 13

Throughput

The outpatient service aims for a quick turnover of clientele in order to manage the demand for physiotherapy.

> ***"I find the service dictated by sort of through put rather than success, no-one's interested in whether the person got better whether they come back on the waiting list, all they are interested in is how many people are initials and how many people get discharged"*** Participant 10

People with chronic pain lesser priority

People with CP are often triaged as lesser priority and are often left on a waiting list. Unfortunately the lack of identification of people at risk of developing chronic pain early contributes to the transition from acute pain to chronic pain.

> ***"I'd say the majority of the people who come through here have chronic pain because of the length of the waiting list"*** Participant 10

Environmental set-up of outpatients a constraint

There is a sense that people with CP cannot be treated appropriately within an outpatient setting due to the people with chronic pains expecting to be the passive recipients of physiotherapy treatment. A larger space to promote an active approach like a gym may be a better option. Not all physiotherapy departments have this option. Outpatient services have time constraints and people with chronic pain are perceived as needing more time and more appointments.

> ***"um I would say it's not the most conducive, the evidence support for chronic pain is you know a multidisciplinary approach with some CBT(cognitive-behavioural therapy) and that's not best suited to being in a cubicle….. there's that tendency in a cubical the just dumping you know it's an opportunity to have a whinge and sit there and not know…… that's not to say it's impossible you know to bring them back to some specific goals and things like that but you also you know have a gym thing because you want them to pace and gradually increase their capacity and stuff like that or if it you want them to do specific exercise some core stuff you know it's probably a hard thing to do one on one"*** Participant 1

> ***'there's 6-8 half hour appointments not that much achieved in that period of time um and the physio gets frustrated they have got limited appointments and the patients frustrated that they can't come in as much as they think they should and I think the whole thing collapses a little bit"*** Participant 10

Geographical and professional isolation

The work of outpatients highlights some of the difficulties physiotherapists face on a day to day basis and these difficulties are compounded by the geographical and professional isolation of rural and regional services.

"There's only myself" Participant 5

"I think at the moment with staffing (difficulty sustaining numbers), they (physiotherapists) would be reluctant to start anything new" Participant 10

Generalists lack specialist pain management skills

Outpatient physiotherapists develop skills to meet the large variety of people they see on a day to day basis. These generalist skills enable physiotherapists the flexibility to problem-solve and work through the range of routine and novel situations they encounter.

"I think in terms of physio outpatients departments …… are essentially rural departments, we are generalist physios that cover numerous different case loads and we are not essentially specialist in any area so chronic pain is another case with the other ten for example that requires probably a bit more than all the others that we just don't have the expertise in" Participant 9

Different skills needed for people with chronic pain

People with CP are seen to require a level of expertise over and above the usual levels required of outpatient physiotherapists.

"I feel the chronic pain patients require a lot more from the therapist" Participant 9

(2)Physiotherapist Perception

Physiotherapists working with people with CP display a range of attitudes and behaviours that impact on their engagement. The lack of expertise in working with people with CP is highlighted by the frustration physiotherapists expressed.

"***I find it is an area that frustrates all the people that come into outpatients for all the reasons, they are not well educated in the area, where people have a deficit in their knowledge, not sure what they are doing the patient gets bounced from person to person"*** Participant 1

Rural physiotherapy issues expertise and specialisation

Physiotherapists working in rural and regional physiotherapy outpatients experience isolation. Their reported feelings of frustration and sometimes inadequacy in trying to meet the expectations of the job, themselves and the people they see are common experiences. The single discipline departments put extraordinary responsibilities on physiotherapists to be "all things to all people".

"*Expected to be an expert at everything, sometimes I sit back and wish I was living in the city and I had specialized in something you know"* Participant 7

"a bit stressful at times, how can you fix me if (you) don't know the answers, (you) lose confidence from patient and (your)self" Participant 2

People with chronic pain are seen as creating a significant burden of care

The burden of care on health professionals is well recognized (66). Like doctors in the study by Krasner et al physiotherapists find working with people with CP emotionally exhausting and this is compounded when they are on their own and managing their case load. They are aware of the expectations they feel are placed on them to get someone better in the timeframes they work under. People with CP are seen as particularly challenging and this can be perceived as a positive or a negative however the burden of care can be ongoing with very little support from their traditional knowledge base or other health professionals. Physiotherapists feel their moods are affected by working with people with CP.

" I find it a challenge (working with PWCP when distressed) so I like that aspect of it but particularly when you get a couple in a row (people with CP) it can get you down and affect how you are feeling" Participant 2

Positive emotions help with satisfaction including professional satisfaction and feelings of well-being whilst negative emotions have the opposite effect.

"Don't want to hear anyone whinge" Participant 11

"***Probably the stress of when you are unsure, don't get them better"*** Participant 5

Difficulty dealing with emotional distress

Some physiotherapists reported their discomfort when communicating with people with CP when they (people with CP) are emotionally distressed. Physiotherapists are reluctant to engage with people with CP because of the emotional intensity that working with people with CP can bring. Sometimes people with CP have difficulty moving outside the biomedical model and accept a more active approach physiotherapists become cautious when trying to introduce new models of care.

"particularly with chronic pain ones when they are quite upset and you have to be very careful about the way you speak about what plans are and what goes on with them" Participant 2

"Unfortunately you hear them, I've had patient's been to various pain clinics, simply haven't accepted it (EB CPM) can be extremely angry or whatever been to these places and they have been told "get on with life" they don't understand and if you're not careful you simply antagonize them" Participant 4

Experiencing people with CP as negative can lead to avoidance of engagement. The avoidance engaging with people with CP can influence the clinical decision-making and whether EB CPM strategies are included in the episode of care.(67).

> ***"I don't work with people with chronic pain because I don't like opening a can of worms, I'm not a clinical psychologist I became a I have lots of experience I see the flags I don't back away, I don't confront and try and use any taught techniques and I never try to learn anything in that area"*** Participant 4

People with CP often experience negative emotions and negative thought patterns. These are considered part of the profile of someone with CP (68). The relational aspects of a therapeutic alliance are particularly important for engagement. Acceptance and tolerance of people with CP is critical and engagement becomes easier if people with CP feel validated and safe to disclose. Some of the physiotherapists do try to stay engaged and present with the people with CP when they are expressing their levels of suffering. This is not a comfortable place and physiotherapists struggle with what interventions are needed.

> ***" I just talk to them, find out what is distressing them, listen and see whether .often the other thing is you can't fix everything you can't make everything alright when someone's distressed but there could be something you can do"*** Participant 1

Even with training they would not like to be left with the full responsibility for the care of people with CP and implementing EB CPM.

> ***"I wouldn't like to do the extra training and then being the only one who deals with it"*** Participant 2

> ***"I would say I'd try to listen try to pick up what main concerns are and try and change that offer suggestions of maybe going back to the GP for further referral or referral to someone else to someone more experienced deal with factors social and other factors"*** Participant 6

Meeting their own and people with chronic pain's expectations

Physiotherapists express confusion about how to apply their skills and how to meet the perceived expectations of people who are referred to outpatients including people with CP.

> ***"well I wouldn't say it's a dilemma I know what the evidence base is so I'm quite happy to do EBP but in a way I sometimes in a way your patients want that and sometimes I find it hard because yes you want to alleviate their pain and in the short term you know it (manual therapy) gives pain relief and sometimes yes it's a battle because especially if you have a difficult chronic pain patient to continue to do active therapy I'm going to do this where as they want pain relief.*** Participant.9

"***and the thing is you pull your hair out trying to give them exercises and programs and stuff like that but at the end of the day if you give them what they wanted they got better"*** Participant 6

Professional fulfilment and rewards

Physiotherapists find professional fulfilment and reward in helping people and seeing results which normally means; symptom free, improved range of motion and strength, result achieved with people with acute pain.

"I like the challenge of getting someone better" Participant 6

"I think we get most of our gratification out of people that are improving, so that's why we become physios to help people improve their function and decrease their pain" Participant 7

Unfortunately for people with chronic pain these parameters aren't the only ones necessary to attend to for people with CP, where an emphasis on physical impairments can promote disability.

"I think um if you were to do chronic pain wrong for want of a better term um you'd focus on the impairment and on their constant pain" Participant 1

Physiotherapists have enjoyed success with their patients using their skills, people with CP often do not respond the same way. This has an impact on the physiotherapist's self-esteem and self-efficacy when working with this population.

"when you have client that just aren't improving you know you are actually just decreasing your job satisfaction, increasing self-doubt so it's taxing on us physios not so much physically taxing but mentally taxing especially if you seeing them Friday afternoon at 4 pm and they say no my pains the same, no I haven't done my exercises no just want you to massage me" Participant 9

"I guess there is no instant gratification or reward, someone doesn't walk in that day and walk out after that day feeling good" Participant 10

Awareness of difference

The physiotherapists who work consistently and consciously with people with CP in outpatients respond differently to people with CP. They are able to shift their thinking and assessment processes depending on the needs of the person in front of them.

"***I've consciously thought about it (CPM), don't do it with everyone, someone in front of me with chronic pain problem I know I think a certain way ,respond a certain way, so it's a conscious effort, I'm sure someone comes in with a sprained ankles, I probably don't have those thoughts at all do all the normal things"*** Participant 8

Biopsychosocial model

The biopsychosocial model is one of the foundations of EB CPM. Identification of those people with CP at risk is through assessment of psychosocial issues contributing to CP. Psychosocial issues are identified as yellow flags in contrast to red flags or medical issues. Physiotherapists don't feel they have the skills to address these issues.

> ***"yellow flags that are really quite difficult and sometimes I feel it's the yellow flags type that I just say you need to go to the chronic pain clinic"*** Participant 9

The application of a cognitive-behavioural approach to address psychosocial issues is often seen as outside the physiotherapist's scope of practice.

> ***"I'm a physio I'm not a psych and there are psychologists out there who can do good stuff with chronic pain and I'm just a rural physio we don't have access to psych's (psychologists) who specialize in chronic pain"*** Participant 7

However, it is recognized that physiotherapists are equipped to work closely with people with CP using a cognitive-behavioural approach as the rapport already established in outpatients is a good starting point. Some physiotherapists already work closely with other health professionals.

> ***"having a psychologist (is a) real advantage, using CBT (cognitive-behavioural therapy))approach, physios are not trained, although it is a hall mark of how physio in general manage people in a way reckon they are already doing it to some extent"*** Participant 5

(3) Process and Implementation of EBP

Strong Assessment Skills

Outpatient physiotherapy has a strong emphasis on musculoskeletal physiotherapy. After a thorough assessment interventions usually consist of a combination of manual therapy, education and exercise therapy.

> ***"the challenge I'd say of coming out with a treatment plan, finding out what the actual diagnosis is and treating the condition and give good enough instructions to get the message across so they can understand that and get a result they can be happy with"*** Participant 6

Biomedical model

The biomedical/biomechanical model of practice reinforces the anatomically based clinical decision-making that has been a hall-mark of physiotherapy practice since its inception.

> ***" It's complicated I think from the professional level the biggest barriers is a lot of physios see themselves as technicians for want of a better word, highly skilled mechanics who can***

diagnoses and access structures, fix or design strategies to fix them and very much focused on the physical part of the description of the name" Participant 3

"***Physios hold onto manual therapy, hands on, fear not having a job or purpose in life, they pride themselves on their manual skills, find out what is wrong and use hands to cure, evidence starts to point that that doesn't make a difference, maybe threatening ,evidence is changing we still have an important role though***" Participant 8

Some recognized the differences between acute pain and chronic pain. Others didn't know there are other options to management rather than the focus on structural impairments.

" the reason for whatever is not based in the tissues or structural things like um musculoskeletal or joint or that problem um I presume it the direction goes to the psychological or social issues where I don't see much of a difference its(the brain and nervous system) just another tissue you know" Participant 14

Hands on or hands off

Physiotherapists use their hands diagnostically and therapeutically. The literature sends mixed messages about the use of touch, some authors advocating for the use of touch for guidance and learning as well as direct application for modulation of the nervous system. In the traditional sense manual therapy is used directly on tissue to mobilize the tissue. Outpatient physiotherapists have confidence in their manual therapy skills so they fall back on them in situations of doubt rather than trying interventions that they are less certain about or what outcomes are possible. Unfortunately this exacerbates the experience of frustration and uncertainty when applying new skills and frameworks.

"You have people say you must use clinical evidence-based treatment which is says chronic pain no hands on but I just override that with my own personal experience" Participant 14

"***I feel I come back to self-doubt, not having been working that long, should I be doing something else? Sometimes I think if they come in ok we are going to do exercise they'll think oh I'm not giving this person a full good treatment if I don't put my hands on them"*** Participant 7

"I generally start hands on and if that's not working you think red flag change tactic, otherwise the plan of attack is I use lots of hands on type stuff, I hope I can give them some short term relief" Participant 9

Innovative practice and new paradigms

Physiotherapists indicated they are aware they need to stay current. EB CPM is a new and different paradigm competing with updates from the other fields of physiotherapy.

"I've never really learnt about it, I've never been to chronic pain management course, I do a lot of reading, I've attended a lot of musculoskeletal courses and conferences" Participant 7

Physiotherapists who work with people with CP in a positive way have sought out the learning experiences that enable them to use EB CPM.

> ***"physios(physiotherapy practice has) changed since I went through 15 years ago seems like that has changed a fair bit, changing evidence-based what to do if it doesn't work, keeping in touch with new treatments for chronic pain, physios need to keep going to courses, reading latest stuff"*** Participant 6

> ***"I guess I'm curious, there's oodles of evidence what is the elements needed to have in chronic pain management but what is stopping the roll out?"*** Participant 3

Exposure

Physiotherapy training at this stage doesn't provide the necessary skill base for physiotherapists to work with people with CP. In undergraduate training only a small number of students had the opportunity to see EB CPM in action.

> ***"we were somewhat limited in what exposure we got to it on practical's that sort of thing I mean one of our students got to go to the pain clinic in Sydney, they feel completely on top of it all but that's only 2 out of 56"*** Participant 2

> ***" I just think they should know it I guess that's not really taught that well at uni (university), you know they might get a day and afternoon on that sort of stuff, mostly MS (musculoskeletal) students have really limited knowledge and are very much still in that um biomechanical paradigm although once you introduce those concepts to them they are really quite receptive to it and I often take that into account, you can't really get them away from wanting to do this and that but you can at least get them thinking about those things about chronic pain management, thinking in terms of chronic pain management not just thinking of muscles and ligament but what is in the persons brain"*** Participant 5

The physiotherapists who had some exposure to EB CPM didn't think they had enough to integrate the new information into their current practices.

> ***"Quite few lectures and that sort of thing on it I guess like a lot of things lectures are very different then when you are dealing with someone in front of you"*** Participant 2

> ***"Yeah, I found the stuff with Damien Finness (physiotherapists who specializes in CPM) to be great however you might not see someone with chronic pain for another month and then you think oh god what, what was he talking about? What was he doing?"*** Participant 10

Challenge to take on new information

Physiotherapists struggle with the new paradigms of EB CPM. The lack of understanding is a significant deterrent to using EB CPM however physiotherapy as a profession needs to accept and take responsibility for the implementation of EB CPM.

> ***"what I am trying to say is there's a huge challenge(EB CPM) to a large extent, what is up to us as a profession to grapple with it (chronic pain), as it is not well understood"*** Participant 3

Knowledge and experience of neurophysiology and neurobiology

The physiotherapists who have less experience and knowledge in CPM express uncertainty with the concepts and principles that underpin EB CPM.

> "***Well I wouldn't say I'm familiar I'm I mean I'm aware that it (chronic pain management) exists but if you were to quiz me on what it is I'd come up short"*** Participant 10

Integration new knowledge

Integrating the concepts of EB CPM by educating the patients on the mechanisms, cognitive-affective and motivational aspects of CPM is a new skill.

> ***"That its neurological there's a neurological component to it yeah a lot of chronic pain um is no longer the damage in the tissues the damage has healed itself but it's the neurological system that is misfiring and sending the wrong messages"*** Participant 7

The transfer of this knowledge from physiotherapist to people with CP requires understanding and practice. Physiotherapists reported trying to convey the appropriate education if they are familiar with it.

> ***" um yeah I guess and yeah just thinking something its tricky to explain that because people will come back and say you're telling me it's in my head you know it's all in my head is that what you are saying and so if you if they say that you have it totally wrong um"*** Participant 2

Training

Training is considered a significant way to increase confidence and use of EBP. However, skill development requires a more in-depth approach that can be sustained over time and when faced with a person with chronic pain the physiotherapists feels confident they can implement a new approach.

> ***"I would probably say everyone needs some skill in it, need to spread the work, spread the knowledge, you are going to come across it no matter where you work"*** Participant 6

> ***"Educating the physios individually is probably in my situation (rural/remote and part-time physios) is going to get better outcomes"*** Participant 7

" to be familiar wouldn't take you know much, a half day workshop would achieve a lot if people are open-minded enough to it all" Participant 3

Lack of access to training

Lack of access to training is widespread and seen as a major barrier to effectiveness. There is the perception that training needs to be more available and more regular with support from the health services in accessing training.

"***just more training, it's not to me it's not that hard I mean because I'm also in private practice I'm fully aware of the plethora of APA (Australian Physiotherapy Association) courses taught by very good people and the health service just doesn't pay for you to do them I mean I just had pot luck here and there, I've had I've been working at the hospital 4-5 years and I've had one course approved***" Participant 4

Mentors and modelling

Some physiotherapists detailed how useful a CP EBM mentor would be to them in their practice.

"I think early on a mentor would be perfect certainly someone you can access and discuss things with I think that's the hardest part of with these people sometimes you need someone to talk to about them, bounce ideas off" Participant 10

"X (senior physiotherapist) is a really up to date therapist we look to him for guidance" Participant 12

Successful Integration

However, given the right training and support from experienced practitioners the participants identified the potential for physiotherapists to work successfully with people with CP.

"interesting enough the physios even older ones embraced new knowledge, quite satisfying and quite a few people I know think more that way incorporate knowledge into what they do and do things differently still help people get results" Participant 5

Finally, whilst the integration of EB CPM into existing outpatient physiotherapy practice is difficult it was identified by some participants as something worth working towards.

"***It's difficult to fit chronic pain into that sort of health service paradigm… (For) impact, actually integrating principles and practices into tool kit, every day practices into every day… (we need) champions at each site to model that….. Otherwise you're just treading water*** Participant 13

Discussion

This study highlights the current experiences of rural and regional outpatient physiotherapists. Their lived experiences are shaped by the roles and responsibilities of being an outpatient physiotherapist. This research revealed that while there are some positives, working directly with people with CP and integrating EB CPM into outpatient clinical practice is experienced as frustrating, confusing and difficult by rural physiotherapists. These physiotherapists feel they are unskilled and under-resourced to deal with people with CP.

There is very little research looking at physiotherapist's experiences, attitudes and perceptions when working with people with CP. This is in contrast to the plethora of information on the perceptions and experiences of people with CP and pre and post training of physiotherapists in EB CPM.[69]

The strength of this research is in listening to the physiotherapists concerns. Illuminating the subjective, environmental, emotional and psychological barriers physiotherapists have when working with people with CP adds depth and understanding to the current literature.

The findings are consistent with the previous literature that states physiotherapists have difficulties working in a holistic way with people with CP. [31, 70] The inability to look past the immediate physical presentations and take into account the neurophysiological and biopsychosocial factors is widespread amongst outpatient physiotherapists.

This research has initiated a dialogue with outpatient physiotherapists who articulate and clarify the barriers preventing successful implementation EB CPM at both health system barriers and personal skill level barriers. Physiotherapists already work very effectively in the outpatient setting with people with acute presentations. Improvements to patient's outcomes have been a hallmark of a physiotherapist's success. [71] Physiotherapists have invested heavily in improving their skills in this area. This investment has taken a lot of time and resources. Only a few of the physiotherapists in the study had made a similar investment in the practice of EB CPM. This is in contrast to the literature that says people with CP regularly present to outpatients and targeted populations of people with CP can be successfully treated in outpatients. [42, 43, 72-76]

Professional isolation can be a day to day experience for rural and regional physiotherapists. This can be a source of distress for those physiotherapists. This isolation has meant new concepts have taken longer before adoption except by those physiotherapists who have been self-directed towards finding out and implementing EB CPM.

This research highlights how the lack of investment in pain management education and training impacts on the physiotherapist's self-esteem and confidence. People with CP can make some

physiotherapists uncomfortable when they are not noticeably improving. People with CP commonly present with increased and fluctuating pain intensity and often with psychosocial issues and emotional distress. These characteristics are well articulated throughout the literature and an area of ongoing investigation.[70, 77]

Some physiotherapists in this research described avoidance of EB CPM by focusing on the physical dimensions of the immediate presentation. The complexity of the biomechanical paradigm is in itself challenging. However, as shown in previous literature a biomedical focus often fails to get results they need for their professional satisfaction.[39, 49-51] This failure to embed EB CPM into every day clinical decision-making and care impacts directly on people with CP and minimizes any opportunities to re-orient the services to provide a quality service.

This research highlights how physiotherapists utilise the biomedical model in outpatient services and at the same time are asked to work with people with CP using a biopsychosocial model. The physiotherapists in this study are aware of both and find themselves at a clinical crossroad. They are not sure what elements of the biomedical model to hold onto and what to let go and how to adopt the biopsychosocial model into the constraints of their current environment and practice. Physiotherapists in rural and regional outpatients have difficulties gaining the exposure needed to change or adopt new practices. The lack of training opportunities, exposure to new practices and minimal support for adoption of new practices structures maintain the status quo.[12]

EB CPM requires the identification of biological, psychological and social risk factors preferably by interdisciplinary assessment. Sharing roles is difficult within rural and regional health services when there are few human resources and therefore autonomy is sustained. In the absence of other services physiotherapy outpatients is a key area for; case finding, identifying risk of transition from acute pain to chronic, prevention of transition and direct intervention. These opportunities are lost if there is not engagement with people with CP.

The physiotherapist's experiences provide data for future planning. Utilizing outpatient physiotherapist's subjective experiences will allow clinical processes to reflect the reality of clinical practices and how they can be more responsive to people with CPs needs. Tertiary pain services, academia and innovators currently provide the knowledge and strategies. These are metropolitan or interstate and not easily accessed for direct exposure to EB CPM by rural physiotherapists. However, they contribute valuable learning and support for physiotherapists. Outpatient provides a different environment where intervention needs to be modified so the local responses are within the resources available.

The Health Change model suggests that simply providing treatment advice and education or simply telling people what to do is not effective in creating and sustaining long-term behaviour change. [78] The same can be said for health professionals. Giving lectures about the neurophysiology and practice of chronic pain management without the follow-up to address the behavioural, emotional,

situational and cognitive barriers health professionals face is not enough. There needs to be processes put in place that help physiotherapists and managers to identify the barriers within each part of the system to maximize an implementation phase.

A limitation of this study may be due to the researcher coming from the same setting and experiencing the same dilemmas, emotionally and conceptually, as the participating physiotherapists. Therefore, the inherent bias highlights the challenges of working in outpatients with people with CP. The position of an insider may prevent the recognition and appreciation of themes that may be clearer to someone from an outsider position. Aspects that may be relevant to the overall direction and meaning of the study may have been missed.

Conclusion

In order to work successfully with people with CP, physiotherapists need to broaden their existing practice and risk learning new ways of engagement. With investment in EB CPM they will have the opportunities to become more confident, less burdened and find the rewards they seek within the therapeutic encounter with people with CP.

There are physiotherapists who confidently engage with people with CP. Their role as mentors, modellers of appropriate practice and supervisors could be strengthened as a current resource and to start the links with other services. The effective support of good leadership, sound decision making and human resource management can go a long way to promoting the implementation of evidence-based chronic pain management.[1] The vehicles of training, mentoring and good supervision by experienced clinicians can enhance motivation and minimize any perceived risks a clinician may experience when implementing new practice.

Further research may provide greater understanding of the daily dynamics in physiotherapy outpatient departments that contribute to the marginalization of people with CP.

Recommendations:

Firstly the New South Wales pain management plan when available (from the Ministry of Health) to be disseminated throughout Local Health Districts down to the level of outpatient physiotherapy services and feedback elicited.

- Barriers preventing physiotherapists from implementing evidence-based chronic pain management in physiotherapy outpatients should be systematically addressed
- Long term condition management and education for physiotherapists is needed to embed interdisciplinary and multidisciplinary care into routine outpatient physiotherapy care.

- Rotation of rural outpatient physiotherapists through the pain clinic for observation of EB CPM in action to enhance, maintain capabilities and motivation of clinicians
- Champions already successfully working with people with chronic pain need support (resourced and credible) to continue modelling EB CPM.
- Quarantined funds made available as a clinical stream to provide the same resources as other chronic care programs currently available in physiotherapy departments .[(1)]
- Promote active patient participation and decision-making using patient priorities and self-management principles to increase the benefits to the people with chronic pain and reduce the burden on physiotherapists.

REFERENCES:

1. Musculoskeletal Network . Centre for clinical innovation NSW. Osteoarthritis chronic care program model of care. 2012.
2. Nicholas M, Molloy A. Chronic pain control, integrating medical and psychosocial treatment options. New Ethicals Journal. 2002.
3. Siddall P, Cousins M. Persistent pain as a disease entity: implications for clinical management. Anaesth Analg. 2004;99:510-20.
4. Sluka K, Turk D. Invited Commentary. American physical therapy association. 2009;http://ptjourna.apta.org/content.89/5/470.full.
5. Sluka KA. General principles of physical therapy practice in pain management. In: Sluka KA, editor. Mechanisms and management of pain for the physical therapist2009.
6. Moseley L. Combined physiotherapy and education is efficacious for chronic low back pain. Australian journal of physiotherapy. 2002;48:297-302.
7. Henry J. The need for knowledge translation in chronic pain. Pain Res Management. 2008;13(6):465-76.
8. Hay MD Eea. Comparison of physical treatments versus a brief pain-management programme for back pain in primary care: a randomised clinical trail in physiotherapy practice. The Lancet. June 2005;365(9476):2024-30.
9. Waddell G. A New Clinical Model for the Treatment of Low-back pain. Spine. 1987;Volume 12(7). Epub 1987 Volvo Award in Clinical Sciences.
10. Kaapa EH, Frantsi K, Sarna S, Malmivaara A. Multidisciplinary group rehabilitation Versus individual physiotherapy for chronic nonspecific low back pain: A randomized trial. Spine. 2006 February;31 (4):371-6.
11. Barlow S, Pattison P. Chronic musculoskeletal conditions survey for physiotherapy departments in NCAHS. 2009.
12. Cousins M, editor National Pain Strategy, Pain Management for all Australians. National Pain Summit; 2010 March; Melbourne Victoria Australia.
13. Moseley GL. Reconceptualising pain according to modern pain science. Physical therapy reviews. 2007;12:169-78.
14. Pattison P, Rowland. Clinical Procedure: Physiotherapy Department Prioritisation procedure. 2009.
15. Frieem CH, Willweber-Strumpf A, Zenz MW. Chronic pain in primary care. German figures from 1991 and 2006. BMC Public Health. 2009;9(299).
16. Blyth F, March L, Nicholas M, Cousins M. Self-management of chronic pain: a population-based study. Pain. 2005;113:285-92.
17. Macfarlane GJ, Jones GT, Hannaford PC. Managing low back pain presenting to primary care:

Where do we go from here? pain. 2006;122:219-22.
18. Cousins M. National Pain Strategy 2010. National Pain Summit initiative2010.
19. Loeser JD. Five crises in pain management. Pain clinical updates. 2012;20(1).
20. Sackett D, Rosenberg W, Gray J, Haynes R, Richardson W. Evidence based medicine:what it is and what it isn't. British Medical Journal. 1996;312:71(7023).
21. Australian Physiotherapy Association APA. Physiotherapy and You.
22. Hayes C, Hodson FJ. A whole-person model of care for persistent pain: from conceptual framework to practical application. Pain medicine. 2011.
23. IASP. Global year against musculoskeletal pain. Assessment of musculoskeletal pain: experimental and clinicalOctober 2009- October 2010.
24. Rubinstein S, van Middelkoop M, Assendelft W, de Boer M, van Tulder M. Spinal manipulative therapy for chronic low-back pain (review). Cochrane database of systematic reviews. 2011 (2).
25. Engers AJ, Jellema P, Wensing M, van der Windt DAWM, Grol R, van Tulder MW. Individual patient education for low back pain. Cochrane database of systematic reviews. 2011 (1).
26. Louw AL, Diener I, Butler DS, Puentedura EJ. The effect of neuroscience education on pain, disability, anxiety, and stress in chronic musculoskeletal pain. Arch phys med rehabil. 2011;92:2041-56.
27. Badke et al.Functional restoration versus outpatient physical training in chronic low back pain: a randomized comparative study. Spine. 2000 Oct 1;25(19):2494-500. PubMed PMID: 11013502.
28. Loeser JD, Treede RD. The Kyoto protocol of IASP Basic Pain Terminology. Pain. 2008 31 Jul;137(3):473-7. PubMed PMID: 2008332924. English.
29. Engel GL. The clinical application of the biopsychosocial model. The american journal of psychiatry. 1980;137(5):535-44.
30. Main CJ, George SZ. Psychological influences on low back pain: why should we care? Physical therapy. 2011;91(5):609-13.
31. Craik RL. A convincing case-for the psychologically informed physical therapist. physical therapy. 2011;91(5):606-8.
32. Apkarian V. Low Back Pain. Pain clinical Updates. August 2010;XV111(6):1-6.
33. Keefe FJ, Somers TJ. Coping with Pain. Pain, Clinical Updates. October 2009;XV11(5):1-5.
34. Lederman E. The fall of the postural-structural-biomechanical model in manual and physical therapies:exemplified by lower back pain. CPDO Online journal. 2010;March:1-14. Epub www.cpdo.net.
35. Linton SJ, Shaw WS. Impact of psychological factors in the experience of pain. Physical therapy. 2011;91(5):700-11.
36. Anaesthetists AanZco, medicine FoP, Australia Cp. National Pain strategy. In: Health Mo, editor. 2011.
37. Turk D, Dworkin R, Revicki D, Harding G, Burke L, Cella D, et al. Identifying important outcome domains for chronic pain clinical trials: An IMMPACT survey of people with pain. Pain. 2008;137:276-85. Epub www.elsevier.com/locate/pain.
38. Morris DB. The culture of pain. Berkley
California: University of California press; 1993.
39. Trede F, Higgs J, Jones M, Edwards I. Emancipatory practice: a model for physiotherapy practice? Focus on health professional education: a multi-disciplinary journal. 2003;5(2).
40. Austen T. Pain education is required for all physiotherapists. Journal of Physiotherapy. 2012;58(1):64.
41. Bo K, Herbert RD. When and how should new therapies become routine clinical practice? physiotherapy. 2009;95:51-7.
42. Sandborgh M, Lindberg P, Asenlof P, Denison E. Implementing behavioural medicine in physiotherapy treatment.
Part: clinical trial. Advances in Physiotherapy. 2010;12:2-12.

43. Tonkin L, Molloy AR. Physiotherapy: its role managing nonmalignant pain. Modern Medicine of Australia CME. 1999.
44. Demoulin C, Grosdent S, Capron L, Tomasella M, Somville PR, Crielaard JM, et al. Effectiveness of a semi-intensive multidisciplinary outpatient rehabilitation program in chronic low back pain. Joint Bone Spine. 2010 January;77(1):58-63.
45. Sharpe L, Sensky T, Timberlake N, Ryan B, Brewin CR, Allard S. A blind, randomised, controlled trial of cognitive-behavioural intervention for patients with recent onset rheumatoid arthritis: preventing psychological and physical morbidity. Pain. 2001;89:275-83.
46. Vlaeyen JWS, Morley S. Cognitive-behavioral treatments for Chronic pain, What works for whom? Clinical journal of pain. 2005;21(1).
47. Hunter Integrated pain service/chronic pain australia.IpScp. Gp access. Updated April 2011.
48. Holley S, McMillan S, Hagan S, Palacios P, Rosenberg D. Pain resource nurses: believing the patients, and believing in themselves. Oncology nursing forum. 2005;32(4):843-8.
49. Cohen M, Quinter J. The clinical conversation about pain: Tensions between the lived experience and the biomedical model.2010.
50. Domenech J, Sanchez-Zuriaga D, Segura-Orti E, Espejo-Tort B, Lison JF. Impact of biomedical and biopsychosocial training sessions on the attitudes, beliefs and recommendations of health care providers about low back pain: A randomised controlled trial. Pain. 2011;152:2557-63.
51. Foster NEP, T. Underwood, M.R.Vogel, S.Breen, A. Harding, G. Understanding the process of care for musculoskeleatl conditions-why a biomedical approach is inadequate. Rheumatology. 2003;42:401-4.
52. Moseley G. A pain neuromatrix approach to patients with chronic pain. Manual therapy. 2003;8(3):130-40.
53. Wand B, Parkitny L, O'Connell N, Luomajoki H, McAuley J, Thacker M, et al. Cortical changes in chronic low back pain: Current state of the art and implications for clinical practice. Manual therapy. 2011;16:15-20.
54. Moseley GL, Flor H. Targeting cortical representations in the treatment of chronic pain: A review. Neuorehabilitation and neural repair. 2012;XX(X):1-7.
55. Domenech et al.Attitude of outpatients with neuromuscular diseases in Japan to pain and use of analgesics. Journal of the Neurological Sciences. 2008 Apr 15;267(1-2):22-7. PubMed PMID: 17916366.
56. Lafuma A, Fagnani F, Vautravers P. Management and cost of care for low back pain in primary care settings in France. Revue du Rhumatisme (English Edition). 1998;65 (2):119-25.
57. Trisha. G, Sietse. W. Is it time to drop the "knowledge trasnlation" metaphor? A critical literature review. Royal society of medicine. 2011;104(501-509).
58. Greenhalgh T, Robert G, Macfarlane F, Bate P, Kyriakidou O. Diffusion of innovations in service organisations: systematic review and recommendations. The Milbank quarterly. 2004;82(4):581-629.
59. Flinders University Adelaide.. What is effective management of chronic disease.
60. Flinders University self-management unit. What is self-management?
61. Crotty M. The foundations of Social Research. Sage publications; 1998.
62. Coyle N, Tickoo R. Qualitative research: What this research paradigm has to offer to the understanding of pain. Pain Medicine. 2007 April;8(3):205-6. PubMed PMID: 2007144735. English.
63. Braun V, Clarke V. Using thematic analysis in psychology. Qualitative research in psychology. 2006;3:77-101.
64. Stanford. Phenomenology. http:plato.stanford.edu/entries/phenomenology/; revised july, 2008.
65. Sandelowski M. Focus on research methods. Whatever happened to Qualitative description?. Research in nursing and health. 2000;23:334-40.
66. Krasner MS, Epstein RM, Beckman H, Suchman AL, Chapman B, Mooney CJ, et al. Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. JAMA. 2009;302(12):1284-93.

67. Zeelenberg M, Nelissen RMA, Breugelmans SM, Pieters R. On emotion specificity in decision making: why feeling is for doing. Judgement and decision-making. 2008;3(1):18-27.
68. Nicholas MK, Linton SJ, Watson PJ, Main CJ. Early identification and management of psychological risk factors("yellow flags") in patients with low back pain: A reappraisal. Physical therapy. 2011;91(5).
69. Jack K, McLean SM, Moffett JK, Gardiner E. Barriers to treatment adherence in physiotherapy outpatient clinics: A systematic review. Manual Therapy. 2010 June;15 (3):220-8.
70. Nicholas MK, George SZ. Psychologically informed interventions for low back pain: An update for physical therapists. Physical therapy. 2011;91(5):765-76.
71. Takeuchi R, O'Brien M, Ormond KB, SCJ., Maly M. "Moving Forward": Success from a physiotherapist's point of view. Physiotherapy Canada. 2008;60:19-29.
72. Woby SR, Roach NK, Urmston M, Watson PJ. Outcome following a physiotherapist-led intervention for chronic low back pain: the important role of cognitive processes. Physiotherapy. 2008 Jun;94 (2):115-24.
73. Slatter H, Briggs A. Physiotherapists must collaborate with other stakeholders to reform pain management. Journal of Physiotherapy. 2012;58:65.
74. Potter MB. Chronic Pain Management: Practical Tips and Guidelines for Primary Care. Advanced Studies in Medicine. 2004 January;4(1):31-40. PubMed PMID: 2004042395. English.
75. Albaladejo C, Kovacs FM, Royuela A, del Pino R, Zamora J. The efficacy of a short education program and a short physiotherapy program for treating low back pain in primary care. Spine. 2010;35(5):483-96.
76. Critchley DJ, Ratcliffe J, Noonan S, Jones RH, Hurley MV. Effectiveness and cost-effectiveness of three types of physiotherapy used to reduce chronic low back pain disability: A pragmatic randomized trial with economic evaluation. Spine. 2007 Jun;32 (14):1474-81.
77. Overmeer T, Boersma K, Denison E, Linton SJ. Does teaching physical therapists to deliver a biopsychosocial treatment program result in better patient outcomes? A randomised controlled trial. Physical therapy. 2011;91(5):804 -19.
78. Gale J. The HCA Model of health change: an integrated model of health behaviour change for chronic disease prevention and chronic condition management. 2010.

Appendix

Letter to physiotherapists, interview questions and consent

Dear Physiotherapist,

I am inviting you to be part of a research project that looks at the barriers to the implementation of evidence-based chronic pain management. This project is specifically looking at the barriers within NCAHS physiotherapy outpatient departments.

This research is being undertaken by Shelley Barlow level 2 physiotherapist with Ballina Community Health. It is part of the Rural Research Capacity Building Program 2010.

Participation in this project is voluntary. I am inviting you to participate in a one hour interview at your place of work. The interview is confidential and your written consent will be asked for on the day of the interview. Your answers will be completely anonymous with any identifying aspects de-identified in the data and final report.

The interview will be recorded and transcribed. The information collected will be analysed for themes and included in a final report. You will be sent a copy if you wish and before final submissions you will have the opportunity to veto any of the quotes and data. There are no consequences to you for either participating or not in this project.

If you choose to be a participant I will contact you. During this contact we will schedule a time and a date for you interview. The interview will take approximately one hour and will take the place of one hour of your work.

I appreciate your consideration of this invitation.
Please email me if you would like to participate, shelley.barlow@ncahs.health.nsw.gov.au
Regards
Shelley Barlow
Physiotherapist 11/10/10 version 1

Semi-structured interview questions for Physiotherapists

Outpatients:

- What do you enjoy about working in outpatients?

- What do you not enjoy about working in outpatients?

Chronic Musculoskeletal Pain

- What does chronic pain management mean to you?
- How did you learn about chronic pain management?
- How do you decide someone has chronic musculoskeletal pain?
- How do you work with people who have chronic musculoskeletal pain?
- Can you describe one of your typical outpatient physiotherapy sessions with one of these clients?
- What do you enjoy about working with these clients?
- What do you find difficult about working with these clients?
- Is there anything you would do differently if you were able to with these clients?
- Is there anything you would keep the same?

Evidence-based Practice

- How would an evidence-based chronic pain management program look like to you?
- What enables you to use evidence-based chronic pain management?
- What prevents you from using evidence-based chronic pain management?
- Have you had any training in evidence-based chronic pain management?
- What aspects do you use now?
- What are you not using?
- Would you be interested in working this way?
- What do you need to be able to use evidence-based chronic pain management in your daily work?

Consent form for research participants
Study title: The barriers to the implementation of evidence-based chronic pain management in physiotherapy outpatients departments**.**
Researcher: Shelley Barlow physiotherapist

1. I …… (name) of ……..... hereby consent to take part in the research project entitled 'Barriers to the implementation of evidence-based chronic pain management in physiotherapy outpatient departments

2. I have read the information letter for this project and understand its contents. I have had the nature and purpose of the research project, so far as it affects me, fully explained to my satisfaction by the information letter. My consent is given freely.

3. I understand that if I agree to participate in the research project I will be asked to an interview. The interview will consist of a series of semi-structured questions. This will take approximately 1 hour.

4. I understand that if I agree to participate. My answers given at the interview will be recorded and transcribed. The information will be analysed and written into a report.

5. I understand that while information gained during the research project may be published in the form of a report or journal article. My personal results will not be identified in any way in the publications.

6. I understand that the information provided by me will be kept confidential and stored in a locked filing cabernet. The information will be kept for 7 years and then destroyed.

7. I understand I can withdraw from the research project at any time.

Signed……..date…….

Researcher to Complete

I, Shelley Barlow certify that I have explained the nature and procedures of the research project to ……..and consider that she/he understands what is involved.

Signed

……date……..