



# **Guidelines for Pain** **Management** **Programmes for adults**

*An evidence-based review prepared  
on behalf of the British Pain Society*

July 2019

To be reviewed April 2018

Copyright: The British Pain Society 2019

## Authors

### Pain Medicine

Iain Jones (Chair and Editor)  
Lars Williams  
Paul Wilkinson

---

### General Practice

Frances Cole (retired)

### Psychology

Hannah Twiddy  
Lance McCracken

### Physiotherapy

Eve Jenner  
Gail Sowden  
Cormac Ryan

### Occupational Therapy

Sarah Kelly

### Participant Liaison

Peter Moore

Published by:  
The British Pain Society  
Third Floor  
Churchill House  
35 Red Lion Square  
London WC1R 4SG  
Website: [www.britishpainsociety.org](http://www.britishpainsociety.org)  
ISBN: \*\*\*\*\*

# Guidelines for Pain Management Programmes for adults

An evidence-based review prepared on behalf of the British Pain Society

## Contents

Foreword	5
Definitions and approach to evidence	6
1. Executive summary	7
2. Background	9
3. PMPs: aims, methods, delivery and outcomes	11
4. Assisting Retention and return to work in PMPs	23
5. Referral and selection	27
6. Resources	30
7. References	39

# Foreword

In 1997, the Pain Society (now the British Pain Society) published Desirable Criteria for Pain Management Programmes. This was a response to the perceived need for information and guidance for those involved in developing and running such biopsychosocial interventions. This second revision aims to build on the 2013 revision and provide updated guidance on what constitutes a pain management programme (PMP), its position within care pathways for people with chronic (non-cancer pain) pain and desirable content.

The functions of this document are:

- To provide a set of standards of care and guidelines for provision of programmes of rehabilitation to improve health outcomes for all types of pain.
- To provide healthcare professional councils(HCPCs) of various disciplines with a synthesis of current best practice to set up and deliver pain management programmes.
- To provide commissioners and provider organisations with an outline framework for effective and sustainable service provision.
- To update stakeholders on the scientific foundation of practice and quality issues relating to pain management programmes

An accompanying document *Participant information for Pain Management Programmes* provides information specifically for people with chronic pain and carers.

The document begins with a general background as well as current evidence for PMPs. It considers its target group in section 2, while addressing the more specific aims as well as methods, delivery and outcomes in section 3. There is growing interest in utilising the internet to engage sufferers of chronic pain with pain management strategies. A summary of the available evidence in this area is a new addition to section 3. The challenge of selecting people appropriately while reaching as wide a target group as possible is considered in section 4 and the resources required, including, staff, training and other essentials, is considered in section 5.

## Definitions and approach to evidence

The term *chronic pain* refers to pain which has persisted beyond the usual healing time. In the latest version of the WHO international classification of disease (ICD-11), Chronic pain was defined as persistent or recurrent pain lasting longer than 3 months. (Treede et al.,2015)

For simplicity, the document refers to PMPs as a treatment. It avoids the term patient, instead using the term participant or equivalent. In addition, it uses the term interdisciplinary instead of multidisciplinary team. This most accurately reflects the way separate discipline approaches work together within a common model using cognitive behavioural principles. It is accepted that definitions and use of these terms can vary.

The 2008 and 2013 guideline documents utilised a search for evidence using standard databases and followed SIGN 50 guidelines in order to grade and make recommendations on the quality of evidence available.

The intention was for the 2019 guideline to be a limited update on the previous guideline. However during the course of the guideline review process it became apparent that since the 2013 publication, significant changes have been made to the SIGN guidelines and the way in which evidence is graded and how recommendations are made. The question as to whether to retain the original approach, attempt to combine the old and new SIGN approach or adopt the current approach was debated by the current guideline review group. The consensus was that it may cause confusion to the reader to continue with the older SIGN guideline, or attempt to combine it with the new SIGN guideline. It was agreed that to fully adopt the new SIGN approach would require a major review and regrading of all evidence which was beyond the resources of the current guideline revision group. We have therefore removed the evidence gradings found in the 2013 document

The guideline group have undertaken a review and update of evidence focussing particularly on areas where it was felt that the evidence has evolved since 2013. We are aware of and would guide the reader to more recent systematic reviews on evidence around pain rehabilitation since 2013, in addition to reading this document (Kamper et al.,2015; Salathe et al.,2018) We have retained the same format as the 2013 document but readers of the previous document will find a number of areas with valuable updates throughout each section.

We believe that this guideline remains a strongly evidence based document. that is unique in building upon other available resources in providing a practical guide to clinicians and commissioners involved in the provision and commissioning of pain management programmes.

# 1. Executive summary

1.1 *Pain Management Programmes are the intervention of choice for people with chronic pain which adversely affects their quality of life and where there is significant impact on physical, psychological and social function. These person centred programmes are formulated on evidence based cognitive behavioural principles and normally occur in non residential settings.*

1.2 There is good evidence for the efficacy of cognitive behavioural PMPs as a package, compared with either no treatment or treatment as usual, in improving pain experience, mood, coping, negative outlook on pain and activity levels (Morley et al., 1999; Guzmán et al., 2001; European Guidelines, 2004; Koes et al., 2006; Hoffman et al., 2007; Williams et al., 2012 Kamper et al., 2015; Salathe et al., 2018).

1.3 Rehabilitative and physical treatments (aimed at functional restoration) can be helpful, but where problems associated with pain are more complex, the psychological components of pain are best addressed in a PMP (Koes et al., 2006).

1.4 PMPs consist of methods to promote behaviour change and promote well-being., including methods based on cognitive and behavioural therapy, learning and conditioning processes, skills training, physical exercise and education

Participants practise these skills in their home and other environments to become expert in their application and in integrating them into their daily routines. Methods to enhance acceptance, mindfulness and psychological flexibility are also recommended.

1.5 PMPs are delivered in a group format to normalise pain experience, to maximise the possibilities of learning from other group members and for economy. However, an important addition to this document is the recognition that the content of PMPs may in some circumstances be best provided on an individual basis.

1.6 Evaluation of outcome should be standard practice. This should include assessing changes in pain intensity, pain frequency, physical activity, emotional wellbeing, satisfaction with social roles and activities, productivity, health related quality of life and patients perceptions of treatment goal achievement. Additional outcome measures should be considered in specialised PMP interventions. PMPs should demonstrate significant change in the specified domains. Evaluation of effectiveness should be considered in respect to both group level and individual level change (clinically significant)

Best practice recommends capturing outcomes based on magnitude of change in the underlying process and data on patient experience of attending the program.

1.7 Return to work can be achieved. Consideration of the potential to return to work and addressing obstacles where possible is important. Interventions to facilitate return to work should be viewed as an essential component of the work of PMP teams and integrated with other treatment offered.

1.8 Greater length and intensity of programme usually achieve greater change. Economies of time, staff skills or other resources risk reducing the effectiveness of the programme towards zero; however, it is not possible to specify a minimum number of hours as change results from the interaction of participant needs and staff skills during treatment.

1.9 Suitability for a PMP is based on the impact of pain on daily function and well being. There are no grounds for discrimination on the basis of age, literacy, litigation or judgement of motivation.

1.10 A PMP is delivered by an interdisciplinary team where some competencies are shared, and some are unique to particular professions. All staff use cognitive behavioural principles to deliver their component(s) of the PMP.

1.11 Guidance on resources required to provide interdisciplinary pain management programmes for commissioners are outlined in the BPS commissioning document; -Pain management services :planning for the future (2013) <http://bit.ly/2xOhtCR>, as well as within this document.

## 2. Background

### Key points

- 1. High-quality evidence supports the use of PMPs in people with chronic pain.**
- 2. This document is designed to promote appropriate evidence-based provision of PMPs.**
- 3. Evidence is growing that some principles of PMPs may be applied early in care pathways to attempt to reduce future disability. These interventions should not be confused with PMPs for complex participants.**

2.1 Chronic pain is a common complex sensory, emotional, cognitive and behavioural long-term health condition which occurs when pain cannot be resolved by available medical or other treatments.

2.2 Chronic pain is common in Europe and elsewhere and its under-treatment confers a substantial burden on individuals, employers, healthcare systems and society in general. (Breivik 2013) In 2016 an estimated 30.8 million working days were lost to musculoskeletal conditions in the UK ( Dept of work and pensions)

A 2016 meta-analysis reports that chronic pain affects between one-third and one-half of the population of the UK, corresponding to just under 28 million adults. It is expected that this number is likely to increase further in line with an ageing population. (Fayaz 2016)

Global burden of disease (GBD) estimates in 2017 show low back pain, neck pain and headache remain among the leading cause of disability adjusted life years in the UK.(GBD 2017)

There is evidence that Pain management programmes can reduce healthcare utilisation and costs. (Luciano et al 2017,Clare 2013)

2.3 The principal aims of PMPs are to enable people with chronic pain to achieve as normal a life as possible by reducing physical disability and emotional distress, and improving the individual's ability to self-manage pain-associated disability and reduce reliance on healthcare resources.

2.4 Since 2005, the Department of Health approach for the management of long-term health conditions has changed, increasing the emphasis on self-management skills and resources (see for instance, the NHS long-term plan for long-term medical conditions.([www.longtermplan.nhs.uk](http://www.longtermplan.nhs.uk))

2.5 There is high-quality evidence for effectiveness of PMPs (Morley et al, 1999; van Tulder et al., 2000; Guzmán et al., 2001; Hoffman et al., 2007; Williams et al., 2012; Kamper et al., 2015; Salathe et al., 2018).



- 2.6 Currently, UK programmes, aimed at helping participants manage their pain and its impact on their health, vary and continue to refine their method and processes.
- 2.7 This document is designed to promote the appropriate provision of evidence-based treatment within PMPs and to maintain and improve the quality of group-based self-management training and support offered to participants.
- 2.8 Historically, PMPs are offered to people who have failed previous medical interventions. Research has suggested that a less intensive form of intervention may be both effective and cost-effective if delivered at an early stage (Linton, 2000, 2005; Pincus et al., 2001). It has been shown that non-specialist staff can be trained to deliver low-intensity or brief psychologically informed pain management interventions, focused primarily on improving physical functioning and self-management skills (Hill et al., 2011).
- 2.9 These early interventions should not be confused with interventions by specialist staff for participants with complex needs
- 2.10 The provision of services should include early assessment and triage of individuals to enable them to access pain management rehabilitation programmes based on biopsychosocial management if this is indicated. Individuals should be matched to interventions that meet their needs, led by staff trained to the appropriate level for the treatment being delivered.
- 2.11 Group based interventions for pain management have been designed to be delivered by between one and three health professionals with lower levels of staff and training aimed at participants with lower levels of distress and disability. A PMP as referenced within this guideline would be for participants considered to have more complex needs and requiring high levels of staffing and experience. The image below is intended as a visual guide to these differences and the terms used to describe different group-based interventions.

Insert infographic

### 3. PMPs: aims, methods, delivery and outcomes

#### Key points

1. **The general aim of PMPs is to improve participation in daily activities and enhance quality of life for those with persistent pain and disability.**
2. **A PMP consists of a variety of methods for directly and indirectly producing behaviour change, including methods based on cognitive and behavioural therapy.**
3. **Outcome evaluation should be standard practice so that pain management staff can describe to participants, referrers and commissioners the range of participants with whom they work and the range of improvements that a PMP brings about, in both the short and longer term. Best practice should benchmark the magnitude of patient improvement against the minimally important clinical change for each outcome measure.**

#### 3.1 Aims of treatment

- 3.1.1 PMPs aim to improve the long-term physical, emotional and social dimensions of health and functioning for people with chronic pain. This is carried out using interdisciplinary team working according to broadly cognitive behavioural principles.
- 3.1.2 The general aim of PMPs is to improve participation in daily activities and enhance “quality of life” for those with persistent pain and disability. This may include focus on increasing mobility, self-care, work, leisure and social activities, and reducing reliance on medication or healthcare use. Specific goals should be identified by the individual participants, although these are likely to be more effective when these are shaped and clarified with the help of healthcare providers.
- 3.1.3 Pain relief or reduction in other symptoms is typically not a primary aim of treatment, although improvements in pain are often reported (Morley et al., 1999; van Tulder et al., 2000; Guzmán et al., 2001; Hoffman et al., 2007). The primary focus is on daily functioning without assuming that a change in pain is necessary to improve that functioning. One of the primary strategies of PMPs is to shift participant behaviour from struggling ineffectively with pain and to focus their behaviour on more worthwhile individual goals.

#### Pain Rehabilitation approach

- 3.2 A PMP consists of a variety of methods for directly and indirectly producing behaviour change, including methods based on cognitive and behavioural therapy, learning and conditioning processes, skills training, physical exercise and education.

## Specific cognitive and behavioural methods

**3.4.1 Cognitive therapy methods.** These methods are used to identify, examine, and change the impact of distressing, misleading, or restricting thoughts and beliefs, particularly those about pain. The aim is to help guide and teach methods of managing and re-evaluating unhelpful thinking styles and beliefs. (Williams et al., 2012; see also Longmore & Worrell, 2007)."

**3.4.2 Graded exposure/ activation guided by participant goals. .**

This is a core method within PMPs and includes domains of general physical activity, self-care, work, social activities and physical exercise. This consists of goal-setting, identification and management of barriers to activity. These behavioural techniques should often be delivered in parallel with cognitive methods. Structuring a series of practice activities in ways that are specifically designed to reduce fear and avoidance is called "graded exposure". This aims to reduce fear or to increase willingness to experience fear (Bailey et al., 2010) (Williams et al., 2012). and to reduce avoidance. Either way increased activity is the goal.

**3.4.3 Methods to enhance acceptance, mindfulness and psychological flexibility** There are a range of methods designed to enhance participant openness and willingness to experience undesirable sensations, cognitions, emotions and memories and present moment focus, including mindfulness techniques. The aim of acceptance-based treatments is to enhance psychological flexibility to promote effective and value-led patterns of behaviour (Hayes et al., 1999, 2012; Veehof et al., 2011; Wicksell et al., 2008, 2012).

## 3.5 Skills training and activity management

**3.5.1**• Information alone is typically a weak way to change behaviour and improve daily functioning but can help prepare the patient to make behavioural changes. Experiential learning opportunities to experience behaviour change is preferred when possible (Hayes et al., 1999; see also Waller, 2009).

**3.5.2**• PMPs are an opportunity for direct practice in the use of skills for changing behaviour, pursuing goals and dealing with barriers to

the achievement of these goals. Direct practice of skills within the PMP context enables participants to access help from staff. This helps participants shape, develop and integrate changes in their behaviour, starting from their current level of performance and increasing at an effective and practical rate (Main et al., 2008).

### 3.5.3 Typical skills taught in PMPs include the following:

- Methods for altering the negative impacts of thoughts and feelings on behaviour, including, cognitive restructuring or other more contextually based methods (such as mindfulness, acceptance and awareness exercises).

### 3.5.4• Methods for identifying, setting, planning and pursuing goals.

- Strategies for co-ordinating, scheduling and managing the rate and pattern of value based activity. The word pacing is widely used, a conceptual analysis usefully defined pacing as:

“an active self-management strategy whereby individuals learn to balance time spent on activity and rest for the purpose of achieving increased function and participation in meaningful activities.” (Jaimeson-Lega et al., 2012).

This helps guide clinicians and participants in being clear about the purpose of pacing and how best to achieve this, resulting in healthy engagement with activity rather than avoidance patterns (McCracken & Samuel, 2007; Gill & Brown, 2009)

- Skills for communication and social interaction with family, friends, employers, work colleague or healthcare providers, including skills such as reflective listening and assertive communication.

- 3.5.5 • Methods for generalising and integrating new skills and behaviour change into daily life and maintaining these over the longer term. Participants are helped to set goals, make explicit plans and commitments, and then to practice these in their home and other environments, monitoring what they do. They should review progress with HCPs, incorporate setbacks or failures into continued progress, and adjust goals and methods as necessary.

Note;- It is not possible to quantify the level of evidence for each individual component of a PMP. These treatment components

have Level 1 evidence of effect in other areas of healthcare and are the components that contribute to the Level of evidence of effect of the programme as a whole.

### 3.6 Sleep

3.6.1 It is well recognised that sleep problems are prevalent amongst those with chronic pain. (Tang 2007) There is evidence that group interventions that place equal emphasis on pain management and insomnia treatment have produced significantly improvements in sleep, mood, fatigue and pain-related outcomes (Tang 2012b; Pigeon, 2012)

3.6.2• An Acceptance and Commitment Therapy (ACT) based approach to overcoming chronic insomnia seeks to increase people's willingness to experience the discomfort commonly associated with not sleeping. Such acceptance paradoxically acts to lessen the brains level of nocturnal arousal, thus encouraging a state of rest and sleepiness, rather than struggle with and wakefulness and unhelpful behaviours. ( Daly-Eichenhardht et al ., 2016 ; Lundh., 2005)

3.6.3 To deliver a PMP that addresses insomnia, practitioners would need skills/knowledge in the following areas: (Espie 2012 ., ;Daly-Eichenhardht et al ., 2016; Lundh., 2005)

- Sleep science
- Sleep assessment measures
- Core components of CBT-Insomnia or ACT-Insomnia
- Supporting use of patient resources such as sleep diary
- Sleep disorders and when to refer for further assessment or investigation.

### 3.7 Physical exercise

3.7.1 •Physical activity and exercise are associated with few adverse events and can improve

•pain severity, physical function and quality of life in people with pain.  
(Geenen et al 2017, Hauser 2010, Bennell 2011)

•No particular type of exercise has been shown to be superior to another.  
(Gennen 2017 van Middelkoop 2014, Smith 2014)

3.7.4• An important aim of physical exercise is in changing behaviour patterns around physical sensations, including pain, to increase willingness to engage the body in movements and to expand patterns of activity.

- Patients should be encouraged to take a flexible approach to exercise and activity levels in accordance with individual valued goals. Mindful movement can be used to explore avoidance and habitual ways of moving and create opportunities to experiment with responding differently to avoided external and internal experiences (e.g. cognitions, emotions and sensations).

3.7.5• The role of physical deconditioning, such as in chronic low back pain, is not clear and hence the role of physical reconditioning in treatment is also not clear (Smeets et al., 2006; Verbunt et al., 2010). However, for general health benefits, patients should aim to achieve 30 minutes of moderate intensity physical activity per day in keeping with current physical activity guidelines (Ryan et al. 2017) (Gov.uk physical activity guidelines). Patient adherence to exercise can be improved by providing supervised and individualised exercises, supplemented with home exercises . (Jordan.,2010)

3.7.6 • As with other processes of behaviour change, it is important to explicitly train generalization and integration of new patterns outside of the program context so that they persist over time.

### **3.8 Education**

3.8.1• Education should be considered as a relatively low-intensity method that can improve knowledge and understanding and is a weak way to produce behaviour change or improve daily functioning (Linton et al., 2008). Hence, education often needs to be supplemented with other methods to create an impact. Education is frequently delivered because it can be done with relative ease and because it is often highly satisfying to PMP participants. Popularity should not be confused with effectiveness.

3.8.2• As part of a PMP, education should be provided by all members of the interdisciplinary team, according to their expertise, using an interactive style to enable participants to raise and resolve difficulties in understanding material or in applying it to their particular situations or problems.

- 3.8.3• Pain science-based education, which aims to help patients to reconceptualise their pain as less threatening, can reduce catastrophizing and fear of movement. Such education appears more effective when delivered as part of a package of care rather than in isolation. Progress towards reconceptualization should be monitored throughout, tailoring concepts that have not been accommodated to ensure relevance of the material to the individual. (Watson et al. In Press).

*Many participants benefit from a current and up to date pain science explanation to guide them in their valued behavioural changes. Other participants may be more helped by engagement in behaviour change without accepting and relating to a pain science explanation first.*

- 3.8.4• Some of the information provided to PMP participants should aim to facilitate behavioural change techniques and can include:

- Safety, costs and benefits in relation to exercise and activity
- How to commence, problem solve difficulties and sustain exercise and physical activity
- Short- and long-term advantages and disadvantages of using aids, treatments and medication.
- Safe and effective use of medication and awareness of harmful side effects.
- Self-management approaches to flare-ups and setbacks.
- General information and advice on issues such as diet, weight, alcohol use, smoking, recreational drug use and exercise for improving or maintaining general health.

### **3.9 Delivery**

- 3.9.1 The inclusion of additional components will depend on available resources and should always be properly evaluated. Sacrificing core components for other content for which evidence is poor or lacking is to be discouraged.

3.9.2 The dimensions of the programme should reflect an individual's health needs and may vary in intensity, structure, length, size of group, and the time available and competencies of the clinical staff. Providing a low-intensity programme to individuals with high complexity is less likely to be cost-effective and may be harmful.

### **3.10 Intensity and range**

3.10.1 PMPs are delivered as non-residential programmes, in the form of one or more sessions per week, including sessions from one hour to a full day in duration, typically over a period of two to ten weeks, or as more intensive, usually residential, programmes.

3.10.2 Non-resident programmes of at least 25–30 hours have produced evidence of efficacy, but more intensive programmes achieve greater improvement (Williams et al., 1996, 1999; Guzmán et al., 2001). This advantage is seen to be maintained at one-year follow-up.

3.10.3 Clinical experience suggests that graduates of pain management programmes may struggle to continue to use the self-management skills they have learnt in the long term, particularly in times of crisis. Several models are being explored to provide long-term support to patients in putting the knowledge and skills they have learnt into practice in their day-to-day lives, including user-led groups. As yet there is no published evidence to support any particular model.

3.10.4 It is acknowledged that a proportion of patients will be re-referred to pain services. Reasons for re-referral are complex and multifactorial and may be addressed to some extent by educating and supporting primary care services to better assess and manage people with persistent pain. Where former PMP graduates are seen again in clinical services for the same pain problem, embarking on a further round of consultations, investigations and treatments relating to pain control is unlikely to be helpful. In this situation it is usually preferable to re-orientate them towards a pain rehabilitation approach and support them to put the skills and techniques they have learnt into practice. PMPs may have a useful role in supporting or delivering this re-orientation.

### **3.11 Group format**

3.11.1 PMPs are delivered to groups because this format can normalise the experience of pain, provide natural social situations for addressing behaviour change and rehearsal, and maximise opportunities to draw



on the experiences of group members. They can also be delivered at lower cost per case.

3.11.2 Group size should be chosen with the needs of participants in mind.(Stewart et al., 2009)

3.11.3 Smaller groups (8 or less) are considered supportive for participants with greater need for psychological therapy, providing opportunity for patients to participate and share individual experiences and stories, and more actively engage with psychological therapy.

3.11.4 Larger groups (9 or more) are considered suitable for education and information focused sessions. Larger groups may reduce the risk of outlier disengagement where the programme serves a heterogeneous demographic and are better able to cope with high drop-out rates.

3.11.5 Larger groups require a larger team of staff. Where considered appropriate and given adequate staff, larger groups can be split into smaller groups for psychological and patient-centred sessions.

3.11.6 The most common group programme size in the UK is between 10 to 15 participants per programme, but range from 8 to 20.

3.11.7 Aspects of potentially useful group influences can be weakened with smaller numbers. Likewise, the influence exerted by the treatment provider can be weakened with larger groups.

3.11.8 Space provided must support the group size and format chosen.

### **3.12 Staff Skills**

Staff training is addressed in section 5; there are no data specifically from PMPs on staff skills in relation to outcome, however, it has been shown that periods of high staff turnover are associated with poorer participant outcomes (Williams & Potts., 2010).

### 3.13 Outcome measurement

3.13.1 Commissioners, referrers and participants expect providers to deliver an effective PMP. There is no single primary outcome, since multiple problems imply multiple outcomes, and goals are to a large extent determined by participants themselves. The following domains have recently been proposed for assessing the effectiveness of interdisciplinary multimodal therapy by an expert panel of clinicians and patients (Kaiser et al.,2018):

- Pain intensity and pain frequency
- Physical activity (including activities such as household chores).
- Emotional wellbeing
- Health related quality of life
- Satisfaction with social roles and activities
- Productivity (including work related activities both paid and unpaid)

Participant's perception of treatment goal achievement

These domains have been listed in the same order as the primary source (Kaiser et al., 2018) and the order does not reflect importance. In addition to the above, the following domains could also be considered:

- Health-care utilisation
- Patient experience of the programme (both quantitative and qualitative)
- Process outcomes (monitoring concordance of the programme with best practice)

In addition to outcome data, services should collect participant demographic data so that the outcomes can be appropriately contextualised.

Data collection should seek to capture short- and longer-term outcomes.

Services should routinely utilise the data collected to evaluate the service and make improvements where a need is identified, regularly feeding the findings back to key stakeholders such as participants and commissioners.

**3.13.2** Additional assessment of condition specific outcome domains should be considered in respect to the delivery of specialised PMP services, e.g. chronic pelvic pain (sexual dysfunction), facial pain and young people (Dworkin et al., 2008)

**3.13.3** Outcome evaluation should consider benchmarking changes against published minimally clinically important change values where possible.

### **3.14 Evidence for effectiveness**

3.14.1 There is a significant body of evidence to support the efficacy of interdisciplinary PMPs (Williams et al., 1996, 1999; Morley et al., 1999; Guzmán et al., 2001; van Tulder et al., 2001; Gatchel & Okifuji 2006; Scascighini et al. 2008; Gatchel et al. 2014; Waterschoot et al., 2014; Kamper et al., 2015).

3.14.2 PMPs have generally been evaluated as complete packages (see Morley & Williams, 2002). A number of systematic reviews have shown that PMPs significantly reduce distress and disability, significantly enhance coping, and improve various measures of physical performance (Morley et al., 1999; van Tulder et al., 2000; Guzmán et al., 2001; Gatchel & Okifuji 2006; Scascighini et al., 2008; Chou et al., 2009; Gatchel et al. 2014; Waterschoot et al., 2014; Kamper et al., 2015). It has become increasingly important to demonstrate the cost effectiveness of PMPs. Evidence of reduced healthcare costs through reductions in numbers of consultations and reduction of medication in the UK and across other healthcare systems has been demonstrated (Morley et al., 1999, Turk, 2002; Gatchel & Okifuji, 2006 Clare 2013 Luciano 2017).

3.14.3 Few of the components of a PMP have been evaluated individually. It has been concluded that there is too much heterogeneity in the content of treatment to establish its relation with outcomes (Williams et al., 2012). However, there are the following points to consider:

- The exercise component is drawn from established practice, supported by multiple RCTs and systematic reviews (Hayden et al., 2005; Geneen et al., 2017).
- Each of the components in the behaviour change methods and skills training components is drawn from behavioural and/or cognitive therapy, with moderate-to-excellent evidence of efficacy in changing behaviour and improving emotional

functioning in psychological disorders (Roth & Fonagy.,2004; Tolin, 2010) compared with no treatment or with most alternative treatments. Efficacy in psychological settings depends, in part, on the skills of the HCP(s) delivering treatment (Roth & Fonagy., 2004).

- Another way to consider treatment components is in terms of treatment process. For example, studies of CBT, in general, do not show clear evidence that disputing negative thoughts or irrational beliefs is necessary for change produced by CBT (Longmore & Worrell., 2007). Adherence to thought-challenging, pacing, stretching and exercise correlate variably with outcomes at follow-up (Curran et al., 2009; Nicholas et al., 2011. Other results show that beneficial outcomes from PMPs are more likely to be a result of changes in patterns of fear- and pain-related avoidance than in changes in physical capacity (McCracken et al., 2002), or from increases in psychological flexibility (McCracken & Gutierrez-Martinez, 2011; Vowles & McCracken., 2008, 2010; Wicksell et al., 2010).

### **3.15 Internet-based treatments**

**3.15.1** Internet-based treatments based on CBT and ACT are efficacious (Buhrman et al., 2016; Martorella et al, 2017; Paganini et al., 2019) and are increasingly being offered alongside face to face pain management programmes. Effect sizes for pain interference/disability and pain severity are small to medium, which is in line with the effects of CBT in face-to-face trials (Buhrman et al., 2016; Eccleston et al., 2013).

**3.15.2** Web based interventions can have high drop-out rates (Eccleston et al., 2014; Macea et al., 2010) however this is less of a problem of late (Buhrman et al., 2016). Different methods have been used to engage patients (e.g. telephone support, personalized reminders and feedback, and financial incitements), however it is unclear how effective these methods are (Buhrman et al., 2016).

**3.15.3** Prediction of who will do well is difficult as the evidence is unclear (Gilpin et al., 2017; Trompetter et al., 2016; Vugts et al., 2018). Therefore, assigning people to online treatment should to be based on clinical judgement, taking into account patient preferences, circumstances and ability to engage.

#### **3.15.4 Apps**

There is a proliferation of pain apps, however the quality of the content is variable, most lack evidence of user or HCP input into their development and their effectiveness in improving patient outcomes has not been rigorously assessed (Gustavo et al., 2016; Reynoldson *et al.*, 2014; Wallace & Dhingra, 2014).

DRAFT

## 4. Assisting retention and return to work in PMPs

### Key points

4. People who lose their jobs are more likely to suffer from significant physical and mental health problems.
2. Return to work can be achieved. Intervention should be viewed as an essential component of PMPs and integrated with other treatment offered.
4. Early intervention should be offered to increase likelihood of work retention and return to work.
4. Return to work is likely to be more successful if there is joint planning between the participant, the employer and the HCPs.

**4.1** Work intervention should be viewed as an essential component of PMPs and integrated with other treatment offered. Interventions which aim to support work retention or return the person with pain to work quickly, lead to less disability and psychological distress in the long term.

Not everyone wants to be employed, but almost all want to 'work', that is to be engaged in some kind of valued activity that uses their skills and facilitates social inclusion. (RCOT/NSIP, 2007) (Stanley & Maxwell., 2004).

**4.2** There is a strong evidence base showing that work is generally good for physical and mental health and well-being. Worklessness is associated with poorer physical and mental health and well-being. Work can be therapeutic and can reverse the adverse health effects of unemployment. That is true for healthy people of working age, for many disabled people, for most people with common health problems and for social security beneficiaries. The provisos are that account must be taken of the nature and quality of work and its social context; jobs should be safe and accommodating. Overall, the beneficial effects of work outweigh the risks of work and are greater than the harmful effects of long-term unemployment or prolonged sickness absence. Work is generally good for health and well-being (Waddell & Burton., 2006).

**4.3** The longer a person with pain is absent from work, the less likely they are to ever work again (Waddell & Burton, 2006).

**4.4** Potential obstacles to return to work should be assessed early and addressed in the treatment process, including psychosocial factors (Yellow Flags) (Nicholas et al., 2011), perceptions about work (Blue Flags) (Shaw et al., 2009) and organisational factors (Black Flags), (Krause et al., 1998; Young et al., 2005).

**4.5** Participants who are struggling to retain work or who are off sick from work and at risk of losing their job should be identified early following referral and offered urgent work intervention. (Wynne-Jones et al., 2014; Lydell et al., 2009) Participants do not need to have started or completed a pain management programme in order to address work issues and return to work.

- Work advisory reports regarding work modification, such as the Allied Health professionals (AHP) Advisory fitness for work report (see link below), along with signposting can be offered as part of the participant's urgent work intervention, even prior to participants starting the PMP to reduce risk of sickness from work or job loss. Resource [link: AHP Advisory fitness for work report](#)

**4.6** Appointing a practitioner, who can offer work rehabilitation to individuals, has been shown to support optimal outcomes. (Oakman et al., 2016; Waddell et al., 2008) This practitioner should have training in work rehabilitation (Waddell et al., 2008) and pain self-management approaches.

**4.7** PMPs alone can support, but not maximise an individual's job retention and return to work. (Kemper et al., 2015). Appointing a practitioner, who can offer service coordination and work modification components, has been shown to reduce lost time at work (Franche et al., 2006; Cullen et al., 2017; Wynne-Jones et al., 2018) and can result in shorter absences (van Vilsteren M et al., 2015) and lower wage-replacement costs and production losses (van Oostrom et al., 2009).

Resource link: Work matters: aimed at occupational therapists and other allied health professionals and provides good practice guidance to support their work with people on their journeys to employment. (RCOT): [Work matters](#)

Resource link: [A Healthy return: A good practice guide to rehabilitation people at work \(iosh\)](#)

**4.8** Evaluation of the participant's working environment followed by specific adaptation, including changes in work organisation, working conditions and work environment (Edwardson et al., 2018; van Vilsteren M et al., 2015) and ergonomic approaches, (Anema et al., 2004), can be effective in shortening the time to return to work, enhancing work participation, and work engagement. This should be offered where possible and conducted by a professional skilled in such assessments (Waddell et al., 2008).

**4.9** People who have been out of work for some time and those who are unemployed may need specific vocational counselling to help them identify transferrable skills and training needs to gain skills to assist them to return to work (Watson et al., 2010). This may include referral outside the PMP team to a specialist with occupational rehabilitation training, such as a vocational specialist occupational therapist or physiotherapist, or to Employability Support which can be accessed through local Jobcentre plus.

Resource link: [Specialist Employability Support](#)

**4.10** Return to work is likely to be more successful if there is joint planning between the participant, the employer and an appointed HCP (van Oostrom et al., 2009; Waddell et al., 2008)

- Return to work plans can be developed as part of the participant's treatment plan in a PMP where return to work is a desired and valued outcome to be reviewed periodically to assess progress.

- This may include a workplace visit to assess the work environment and identify solutions to Blue Flags (Carroll et al., 2010; Kamper et al., 2015). This must be managed sensitively with awareness of the impact on workplace relationships.
- A return-to-work programme incorporating modified work through adjustment in work tasks and work hours can be effective at quickening return to work (Krause et al., 1998; Franche et al., 2005; van Vilsteren M et al., 2015)
- Some participants may believe that returning to work is not possible alongside the other physical and psychological demands that are made on them by other, usually domestic, activities. PMPs can enable participants to achieve a more acceptable work/life balance (Main et al., 2008).

**4.11** Although symptoms may increase during or following work, there is no evidence that this represents a progression of an underlying condition in people with most non-specific chronic pain conditions (e.g. chronic low back pain, chronic arm and neck pain) (Klumb & Lampert, 2004; Waddell & Burton, 2006).

- There is no evidence to support the notion that physical activity engaged in through normal working causes a progression of "degenerative" changes in conditions such as neck and back pain. There is good evidence that most people with musculoskeletal pain can, and do, work when symptomatic (Bowey- Morris et al., 2010)



## 5. Referral and selection

### Key points

- 1. PMP's are group based interventions and so enabling widest access of people with chronic pain to PMP's. Skilled selection of participants needs to ensure all participants can benefit effectively where possible.**
- 2. Selection of participants suitability for attending a PMP is important but great care must be taken to maximise access of people with chronic pain to PMPs. There are no grounds for discrimination on the basis of age, literacy, physical or mental ill health, litigation or judgement of motivation.**

**5.1** PMPs should be offered to individuals with persistent pain and associated distress, disability and impaired quality of life. Treatment is usually offered as a group treatment.

A primary aim of the assessment process is to assess suitability for and orient participants towards, a pain rehabilitation approach. It is important to ensure, as much as is possible, that they are engaging willingly in treatment. The assessment and consenting should include a discussion of what patients will experience during treatment, the responsibilities of the treatment team and participants and expected outcomes.

**5.2** Self- management strategies may be offered alongside treatments intended to control pain, although sometimes medical treatments and self-management strategies are difficult for the participant to reconcile. It can take time for some people to accept that their pain cannot be cured and strategies to manage life-long pain are indicated. The optimal timing of a PMP in relation to other treatment will vary between individual participants, but will always entail careful discussion between participant and HCPs.

**5.3** PMPs are suitable for all participants with chronic pain, regardless of the underlying cause. There is no evidence to suggest participants with any particular diagnosis benefit more from diagnosis-specific PMPs, although participants with particular problems, such as urogenital pain, may prefer to be treated in groups specific to that pain, where these exist.

**5.4** Referrals to PMPs may come from primary or secondary care, but in all cases, potential participants should have completed all necessary pain-related investigations and treatments prior to referral.

**5.5** Assessment for inclusion in a PMP should include appropriate medical screening by a medical specialist with appropriate training in pain medicine to exclude treatable disease, to discuss treatment options aimed at pain reduction or the lack of them, and to introduce the concepts of persistent pain and pain management, if this has not already been done.

**5.6** Assessment for a PMP is usually made by more than one member of the clinical team, with a clinical skills mix appropriate to the assessment needs of each potential participant.

**5.7** Common inclusion criteria include:

- Presence of persistent pain causing significant disability and/or distress.
- The participant is able to communicate in the language in which the PMP is conducted; a trained independent interpreter may facilitate successful participation.
- The participant is willing, and cognitively, emotionally and functionally able, to participate in a group.

**5.8** There are other issues which have historically been treated as obstacles to attendance and completion of PMPs but for which there is no evidence that alone they render treatment unsuitable:

- Older adults; there is evidence that older participants are able to benefit from PMPs (Cook, 1998 , McCracken 2012)
- Written and spoken English are poor.
- *Litigation alone should not be the basis for delay or exclusion from multi-disciplinary pain management programmes.* The idea that potential secondary financial gain renders positive functional and psychological improvement, unlikely is not substantiated. The consensus view is that decision-making regarding PMP inclusion is based upon individual assessment as evidence is mixed regarding the relevance of a context of litigation. (Spearing 2012, Twiddy 2018)
- The individual is judged to be poorly motivated. Open discussion with the participant on the prospect of gains in quality of life entailing losses of compensation/welfare payments is helpful. Potential participants should receive an adequate explanation of the aims of the programme in relation to their pain-related problems. Many are simply cautious or have not been motivationally engaged so as to make an informed decision.

Clinical judgements of “motivation” are most likely to exclude already disadvantaged participants Efforts to engage people in pain management should instead focus on the benefits of learning new skills to change behaviour that will support improved quality of life.

## 6. Resources

### Key points

1. **A PMP is delivered by an interdisciplinary team in which some competencies are shared, and some are unique to particular professions. All staff use cognitive behavioural principles to deliver their component(s) of the PMP.**
2. **Pain management is a complex speciality and requires a broad background of experience in rehabilitation**
3. **PMPs may be delivered in a primary or a secondary care setting; the resources required will be the same.**
4. **PMPs should be properly resourced with time, personnel and facilities.**

**6.1** PMPs should be properly resourced with time, personnel and facilities. Efficacy has been demonstrated for the entire package, rather than for specific components (Morley et al., 1999; Guzmán et al., 2001), therefore

reduction of any of these may adversely affect outcome. Pressure to treat the maximum number of participants for minimum outlay is likely to result in an intervention of low-to-negligible efficacy. The content of Behavioural interventions can be diluted until they are no longer effective. This can demoralise both participants and staff. Serious consideration needs to be given to the utility of poorly resourced PMPs and to honest evaluation of their results across the range of intended outcomes.

## **Time**

**6.2** The length and intensity of PMPs varies across the UK. Shortening a programme may reduce its efficacy or render it ineffective.

**6.3** A crucial principle of PMPs is interdisciplinary teamwork between diverse professionals who together have the necessary skills and competencies to provide the assessment and programme content. In this context, the combined competencies of the team are as important as individual qualifications.

**6.4** Competencies can be described as core and specific:

- Core competencies relate to the knowledge and skills required to be part of an interdisciplinary team and to use cognitive and behavioural principles in their intervention in a group environment. These are transferable, in that all members of the team should be able to provide these effectively.
- Specific competencies are the knowledge base and specific skills with which profession-specific training equips the individual. These are not transferable.

## **Staff**

### **6.5 Medical**

A PMP requires input from a medically qualified person. This will usually be a specialist in Pain Medicine with FFPMRCA qualification, but the role can be filled by other medical specialist, such as a GP, neurologist or rheumatologist, with appropriate training. Standards of practice are defined by the Faculty of Pain Medicine including the publication: The Good Pain Medicine Specialist (Faculty of Medicine, 2012).

- A Pain specialist is the medical specialist best trained to ensure that patients have been offered a comprehensive package of pain treatments and to enable participants to have a fully informed discussion on the appropriateness of pain treatments ,or further pain related investigations. They also have expertise in discussing the relative risks

and consequences of pain treatments that participants are using or are contemplating .

- Whilst not exclusively the role of a pain specialist, their presence within a PMP often provides a valuable opportunity to identify complications of pain related treatments, or to advise if further assessment or investigation is indicated in relation to this .For example endocrine or sleep related disorders associated with opioid medications
  - Specific competencies include their role in the assessment and management of medical needs of participants, and in the education and training of participants and staff,pertaining to this. .
- Medical personnel, should have an understanding of behavioural principles, and be able to help shift a patient's focus away from medical treatments and towards pain management/rehabilitation.
- Medical personnel ensure the safety and well-being of participants, especially if new medical problems emerge during the course of the PMP.

## **6.6. Psychologist**

A chartered clinical psychologist, Health and Care Professions Council (HCPC)-registered practitioner psychologist or a British Association for Behavioural & Cognitive Psychotherapies (BABCP1)-registered cognitive behavioural therapist with appropriate training and supervision is required.

- Since the treatment model for PMPs is psychological, many clinical service directors are consultant psychologists.
- Cognitive and behavioural elements fundamental to the delivery of PMPs require high levels of competence in providing an effective service to participants with complex needs, and in training and supervising staff not formally trained in psychological methods.
- Specific competencies: they have a role in the assessment, implementation of psychological principles, the delivery of behavioural and cognitive therapies, and staff education, training and supervision.
- The lead psychologist must have adequate training in cognitive and behavioural techniques in psychological and physical health problems, and experience of group work.

## **6.7 Physiotherapist**

A HCPC-registered physiotherapist with specialist experience in assessing and managing people with chronic pain is required.

- Pain management is a complex specialty and requires a broad background of experience in rehabilitation. The physiotherapist should also be skilled in the delivery of exercise within the psychological model used by the PMP and should link to content covered by other professionals.
- Physical conditioning and restoration of physical function is a key component of the rehabilitation process. The role of the physiotherapist may encompass a wide range of areas such as:
  - Working collaboratively with the participant to develop effective exercise programmes which will assist in the increase in physical function as a means of improving quality of life.
  - Exploring movements and physical activities which the participant perceives as challenging due to pain or associated factors.
  - Assisting the participant to build an awareness of their body and develop behavioural flexibility in the presence of pain..
  - Provide ongoing assessment of musculoskeletal symptoms and signs experienced during the PMP and act upon these if required.
  - Physiotherapists may undertake further training and obtain qualifications as prescribers which enables them to provide advice about medication
  - Physiotherapy standards of practice for work in pain management programmes are described by the Physiotherapy Pain Association <https://ppa.csp.org.uk>

## 6.8 Occupational therapist

An HCPC registered occupational therapist is recommended. Occupational therapists contribute to effective programmes (Turk et al., 2008; Stanos & Houle., 2006 Demoulin et al.,2010; Lagueux et al., 2018). Pain management teams that currently involve occupational therapists strongly recommend their inclusion.

- As experts in enabling occupation, occupational therapists are primarily concerned with supporting how individuals living with chronic pain can perform and engage in their chosen daily activities. (Lagueux et al., 2018) These could include essential day-to-day tasks such as self-care, work or leisure (RCOT, 2019).

- Occupational therapists are dual trained across both physical and mental health and so can consider the totality of an individual's needs. (RCOT, 2017)
- Work is an essential occupation to ensure good health and wellbeing. Supporting people to remain in, return to or obtain work is a key function of occupational therapy. (RCOT, 2019)
  - Occupational therapists are able to assess for and prescribe interventions that facilitate people with chronic pain to stay in, or return to work, given their remit regarding vocational occupations, productivity, and knowledge regarding activity analysis (BSRM, 2003).
  - Occupational therapists should be considered to provide prompt work intervention for patients who are identified as struggling to retain work or who are off sick from work and at risk of losing their job.
- Occupational therapists should gain additional training, experience and skills in the understanding and teaching of pain mechanisms and the physiology of chronic pain and the psychological approaches used within the pain management programme.
- Standards for occupational therapists working on PMPs may be found in CSPMS Core Standards for Pain Management Services in the UK section 5.5

[CSPMS Core Standards for Pain Management Services in the UK](#)

## 6.9 Nurse

An NMC registered Nurse with specialist experience in managing people with chronic pain can enhance the PMP inter-disciplinary team. Preferably they should have or be working towards their Non-medical Prescribing qualification.

- The nurse's role may include medication review, rationalisation and reduction, as well as providing information regarding general health needs and liaising with the participant's family and other agencies, such as primary care practitioner, pharmacist, etc.

- They should have sufficient skills and experience to participate in the assessment of people with chronic pain regarding their suitability for attendance at a PMP.
- Specialist chronic pain nurses have been shown to effectively facilitate integrated CBT and ACT programmes, thereby improving participants' perceived ability to manage pain and improve function. They should be experienced in delivering supported self-management information using psychologically informed practice. (Wells-Ferdman et al., 2002).
- The nurse's role can also include providing quality evidence-based education and training to primary and secondary care multi-disciplinary staff.
- Specialist Pain Nurses can liaise with medical personnel to ensure the safety and well-being of participants.

#### **6.10 Pharmacist**

Access to a pharmacist is desirable. Their role includes education and planning of medication adjustment working closely with team members.

#### **6.11 Clinical support workers**

These may include healthcare assistants, occupational therapists and physio-technicians and assistant psychologists. Assistant psychologists have an important role, often in data collection and analysis, and in working alongside specialist clinical staff in a supporting role.

It is crucial that the outcomes of PMPs are evaluated and that audits are carried out. This requires personnel for distribution and collection of assessment materials and data entry. Such skills are often provided by assistant psychologists.

#### **6.12 Administration**

A PMP requires secretarial and administrative support appropriate to its organisational needs. This will entail liaison activities, the organisation of assessments and sessions, collation and distribution of assessments and discharge summaries, and correspondence and assistance with the



production of course materials. The administration team must have excellent communication skills, as they are often the first point of contact for participants who may be depressed, anxious, angry or confused.

### **6.13 PMP past-participant**

A past-participant of a PMP whose role includes participant education and serving as a role model for participants may be helpful.

### **Leadership**

**6.14** Leadership within local management structures and in the daily running of the team and programme is crucial. The discipline or title of the leader(s) is less important than the identification and recognition of these roles. Consideration should be given to professional and clinical support and supervision for the post-holder(s).

**6.15** Most NHS staff are accustomed to management hierarchies within their discipline. True interdisciplinary teams require cross-discipline supportive management structures.

### **Team working**

**6.16** The coexistence of staff with a shared purpose does not make a team. Working together as a team requires frequent and regular times to meet and arrive at shared understandings of participants' needs and staff provision. Team members also need to appreciate one another's areas of unique and shared expertise.

**6.17** All staff including medical, can benefit from discussion with the clinical psychologist or equivalent on the application of cognitive and behavioural principles to their area of work. Time should be allocated to team meetings and training. This is important to maintaining the health and wellbeing of all staff.

### **6.18 Training and continued professional development**

There is currently no recognised accredited standard pain management training in the UK or elsewhere directly relevant to PMP work. Appropriate areas of knowledge and skill are set out in the IASP core curriculum

<http://bit.ly/2WFODUi>

Recently, a small number of studies have shown that biopsychosocial based pain education/training can enhance undergraduate health care professionals' (HCPs) knowledge of pain and may shift their clinical behaviour in line with clinical guidelines (Domenech et al. 2011; Colleary et al. 2017; Maguire et al. 2018). Similar studies with qualified HCPs have shown that biopsychosocial based pain education can improve clinical behaviour and, in some cases, patient outcomes (Chassany et al. 2006; Evans et al. 2010; Overmeer et al. 2011). These studies do not endorse any specific type of education but highlight the potential benefit of good clinician training and education. There are several courses (available up to Masters Level) across the UK which will equip clinicians with a broad framework of understanding of pain management. Each professional has a responsibility to ensure their own training is adequate. The following should be recognised:

- Pain management especially chronic pain should be a core component of all undergraduate HCP training programmes
- The British Pain Society have published a guide on incorporating pain management into the medical undergraduate curriculum. <https://adobe.ly/2XF3fn8> and there are other related resources on the Education SIG webpage). <http://bit.ly/32rDOnT>
- PMP staff bring profession-specific as well as generic skills to their workplace
- In addition to IASP core competencies, that apply to all PMP staff, each profession should refer to their own professional body's competencies and the Core Standards document from the faculty of pain medicine

## CSPMS Core Standards for Pain Management Services in the UK

- Management structures should support staff training to achieve core standards and maintain competencies
- Staff should also be encouraged to attend relevant national meetings, join special interest groups and network with fellow professionals in PMPs outside their geographical area.
- Some components of a PMP do not 'belong' to any particular profession, so development of training in these areas may be undertaken by an interested individual from any profession
- Where PMP staff are delivering a component of a PMP that is outside their usual professional remit (e.g. mindfulness), appropriate supervision structures should be in place. Where the component is recognised as profession-specific, the staff member taking responsibility for supervision will be obvious. Where the component is not 'owned' by any profession, the individual most qualified to do so will take responsibility.

### **Facilities suitable for pain management programmes**

- 6.19** A PMP requires designated space suitable for its activities and where any necessary equipment can be accommodated, including:
- A disabled-friendly venue

- Access to public transport
- Adequate parking
- A room large enough for the group size and their PMP team
- Adequate floor space for exercise and relaxation practice
- Availability of private area(s) for individual discussion
- Easily accessible toilet facilities
- Refreshment facilities
- Office space.

When applicable, suitable overnight accommodation should be identified for participants who require it.

### **Location**

**6.20** PMPs are often delivered within hospitals or health centres,. Alternative venues such as gyms or community centres may also be suitable and these maybe preferable to ensure closer access to the communities that participants live in.

DRAFT

## 7. References

Bailey K.M., Carleton R.N., Vlaeyen J.W.S., Asmundson G.J.G. (2010). Treatment addressing pain-related fear and anxiety in patients with musculoskeletal pain: a preliminary review. *Cognitive Behaviour Therapy* 39, 46–63.

Bennell KL, Hinman RS. A review of the clinical evidence for exercise in osteoarthritis of the hip and knee. *J Sci Med Sport*. 2011;14(1):4–9.

Blakely T.A., Collings S.C.D., Atkinson J. (2003). Unemployment and suicide: evidence for a causal association? *Journal of Epidemiology and Community Health* 57, 594–600.

Bowey-Morris J., Davies S., Purcell-Jones G., Watson P.J. (2010). Beliefs about back pain: results of a population survey of working age adults. *Clinical Journal of Pain* 27, 214–224.

Breivik, H, Eisenberg, E and O'Brien, T. The individual and societal burden of chronic pain in Europe: the case for strategic prioritisation and action to improve knowledge and availability of appropriate care. *BMC Public Health*. 24 December 2013, Vol. 13, 1229.

The British Society of Rehabilitation Medicine (BSRM) (2003) Vocational Rehabilitation: the way forward (2nd Ed) Working Party Report Dec; Page 41: 10.7

Buhrman M, Gordh T, Andersson G. (2016) Internet interventions for chronic pain including headache: A systematic review. *Internet Interventions* 4 (2016) 17–34

Carroll C., Rick J., Pilgrim H., Cameron J., Hillage J. (2010). Workplace involvement improves return to work rates among employees with back pain on long-term. *Disability and Rehabilitation* 32, 607–621.

Chassany, O., Boureau, F., Liard, F., Bertin, P., Serrie, A., Ferran, P., Keddad, K., Jolivet-Landreau, I. and Marchand, S., 2006. Effects of training on general practitioners' management of pain in osteoarthritis: a randomized multicenter study. *The Journal of rheumatology*, 33(9), pp.1827-1834.

Chou, R., Loeser, J.D., Owens, D.K., Rosenquist, R.W., Atlas, S.J., Baisden, J., Carragee, E.J., Grabojs, M., Murphy, D.R., Resnick, D.K. and Stanos, S.P., 2009. Interventional therapies, surgery, and interdisciplinary rehabilitation for

low back pain: an evidence-based clinical practice guideline from the American Pain Society. *Spine*, 34(10), pp.1066-1077.

Clare A, Andiappan M, MacNeil S, Bunton T, Jarrett S. Can a pain management programme approach reduce healthcare use? Stopping the revolving door. *Br J Pain*. 2013;7(3):124-9.

Clinical Standards Advisory Group (CSAG) (2000). *Services for Patients with Pain*. London: Department of Health.

Cochrane Library [www.thecochranelibrary.com](http://www.thecochranelibrary.com) or via [www.nelh.nhs.uk/cochrane.asp](http://www.nelh.nhs.uk/cochrane.asp)

Colleary, G., O'Sullivan, K., Griffin, D., Ryan, C.G. and Martin, D.J., 2017. Effect of pain neurophysiology education on physiotherapy students' understanding of chronic pain, clinical recommendations and attitudes towards people with chronic pain: a randomised controlled trial. *Physiotherapy*, 103(4), pp.423-429.

Cook A.J. (1998). Cognitive-behavioral pain management for elderly nursing home residents. *Journals of Gerontology Series B Psychological Sciences and Social Sciences* 53B, 51–59.

COT. (2008) College of Occupational Therapists. Vocational Rehabilitation Strategy COT London

Cullen K.L., Irvin E., Collie A., Clay F., Gensby U., Jennings P. A, Hogg-Johnson S., Kristman V., Laberge M., McKenzie D., Newnam S., Palagyi A., Ruseckaite R., Sheppard D. M., Shourie S., Steenstra I., Van Eerd D., and Amick B. C. 3rd, (2018) Effectiveness of Workplace Interventions in Return-to-Work for Musculoskeletal, Pain-Related and Mental Health Conditions: An Update of the Evidence and Messages for Practitioners *J Occup Rehabil.*; 28(1): 1–15.

Curran C., Williams A.C.D.C., Potts H.W.W. (2009). Cognitive-behavioral therapy for persistent pain: does adherence after treatment affect outcome? *European Journal of Pain* 13, 178–188.

Daly-Eichenhardt A, Scott W, Howard-Jones M, Nicolaou T and McCracken LM (2016) Changes in Sleep Problems and Psychological Flexibility following Interdisciplinary Acceptance and Commitment Therapy for Chronic Pain: An Observational Cohort Study. *Front. Psychol.* 7:1326. doi: 10.3389/fpsyg.2016.01326

Demoulin C., Grosdent S., Capron L., Tomasella M., Somville P.R., Crielaard J.M., Vanderthommen M. (2010). Effectiveness of a semi-intensive multidisciplinary outpatient rehabilitation program in chronic low back pain. *Joint Bone Spine* 77, 58–63.

Dept for Work and Pensions, Dept of Health. *Work, Health and Disability Green Paper Data Pack*. London : Government Digital Service, 2016.

Domenech, J., Sánchez-Zuriaga, D., Segura-Ortí, E., Espejo-Tort, B. and Lisón, J.F., 2011. Impact of biomedical and biopsychosocial training sessions on the attitudes, beliefs, and recommendations of health care providers about low back pain: a randomised clinical trial. *Pain*, 152(11), pp.2557-2563.

Dworkin, R.H., Turk, D.C., Wyrwich, K.W., Beaton, D., Cleeland, C.S., Farrar, J.T., Haythornthwaite, J.A., Jensen, M.P., Kerns, R.D., Ader, D.N. and Brandenburg, N., 2008. Interpreting the clinical importance of treatment outcomes in chronic pain clinical trials: IMMPACT recommendations. *The journal of pain*, 9(2), pp.105-121.

Dr Foster (2003). *Your Guide to Better Health. Adult Chronic Pain Services in the UK*. London: Dr Foster & Pain Society. Available at [www.britishpainsociety.org/](http://www.britishpainsociety.org/)

Eccleston, C., Fisher, E., Craig, L., Duggan, G. B., Rosser, B. A., & Keogh, E. (2014). Psychological therapies (Internet-delivered) for the management of chronic pain in adults. *The Cochrane Library*, 2, CD010152)

Espie, C. (2012). *Overcoming insomnia and sleep problems: A self-help guide using cognitive behavioural techniques*. Hachette UK.

European Guidelines for the management of non-specific low back pain (2004). [www.backpaineurope.org/web/files/WG2\\_Guidelines.pdf](http://www.backpaineurope.org/web/files/WG2_Guidelines.pdf)

Evans, D.W., Breen, A.C., Pincus, T., Sim, J., Underwood, M., Vogel, S. and Foster, N.E., 2010. The effectiveness of a posted information package on the beliefs and behavior of musculoskeletal practitioners: the UK Chiropractors, Osteopaths, and Musculoskeletal Physiotherapists Low Back Pain Management (COMPLEMENT) randomized trial. *Spine*, 35(8), pp.858-866.

Faculty of Pain Medicine, 2015. Core standards for pain management services in the UK. <https://www.rcoa.ac.uk/system/files/CSPMS-UK-2015-v2-white.pdf> [accessed 29/01/19]

Faculty of Pain Medicine. The Good Pain Medicine Specialist. [www.rcoa.ac.uk/node/2961](http://www.rcoa.ac.uk/node/2961) (2012)

Fayaz A, Croft P, Langford RM, *et al*  
Prevalence of chronic pain in the UK: a systematic review and meta-analysis of population studies. *BMJ Open* 2016;**6**:e010364. doi: 10.1136/bmjopen-2015-010364

Franché RL, Severin CN, Hogg-Johnson S, Côté P, Vidmar M, Lee H (2007) The Impact of Early Workplace-Based Return-to-Work Strategies on Work Absence Duration: A 6-Month Longitudinal Study Following an Occupational Musculoskeletal Injury in *Journal of occupational and environmental medicine / American College of Occupational and Environmental Medicine* October; 49(9):960-74

Franché R., Cullen K., Clarke J., Irvin E., Sinclair S., Frank J. (2005). Workplace-based return-to-work interventions: a systematic review of the quantitative literature. *Journal of Occupational Rehabilitation* 15, 607–631.

Gatchel R.J., Okifuji A. (2006). Evidence-based scientific data documenting the treatment and cost-effectiveness of comprehensive pain programs for chronic nonmalignant pain. *Journal of Pain* 7, 779–798.

Gatchel, R.J., McGeary, D.D., McGeary, C.A. and Lippe, B., 2014. Interdisciplinary chronic pain management: past, present, and future. *American Psychologist*, 69(2), p.119.

Gill J.R., Brown C.A. (2009). A structured review of the evidence for pacing as a chronic pain intervention. *European Journal of Pain* 13, 214–216.

Gilpin, H. R., Keyes, A., Stahl, D. R., Greig, R., McCracken, L. M. (2017). Predictors of treatment outcome in contextual cognitive and behavioral therapies for chronic pain: A systematic review. *The Journal of Pain*, 18, 1153-1164.

Global burden of disease data <http://www.healthdata.org/results/country-profiles>



Geneen,LJ<sup>1</sup> Moore,AM<sup>2</sup> Clarke C,<sup>3</sup> Martin,D<sup>4</sup> Colvin,LA<sup>5</sup> and Smith BH<sup>1</sup>  
Physical activity and exercise for chronic pain in adults: an overview of  
Cochrane Reviews [Cochrane Database Syst Rev](#). 2017 Apr 24; (4):  
CD011279.  
Published online 2017 Apr 24. doi: [10.1002/14651858.CD011279.pub3](#)  
PMCID: PMC5461882  
PMID: [28436583](#)

Gustavo C. Machado a, \*, Marina B. Pinheiro b, Hopin Lee c, g, i, Osman H.  
Ahmed d, e, Paul Hendrick f, Chris Williams g, h, i, Steven J. Kamper a, i  
Smartphone apps for the self-management of low back pain: A systematic  
review *Best Practice & Research Clinical Rheumatology* 30 (2016)  
1098e1109;

Guzmán J., Esmail R., Karjalainen K., Malmivaara A., Irvin E., Bombardier C.  
(2001). Multidisciplinary rehabilitation for chronic low back pain: systematic  
review. *British Medical Journal* 322, 1511–1516.

Hauser W, Klose P, Langhorst J, Moradi B, Steinbach M, Schiltenswolf M, et al.  
Efficacy of different types of aerobic exercise in fibromyalgia syndrome: a  
systematic review and meta-analysis of randomised controlled trials. *Arthritis  
Res Ther*. 2010;12(3):R79.

Hayden J.A., van Tulder M.W., Malmivaara A.V., Koes B.W. (2005). Meta-  
analysis: exercise therapy for nonspecific low back pain. *Annals of Internal  
Medicine* 142, 765–775.

Hayes S.C, Strosahl K.D, Wilson, K.G. (2012). *Acceptance and Commitment  
Therapy: The process and practice of mindful change*. London: Guilford  
Press.

Hill J.C., Whitehurst D.G.T., Lewis M., Bryan S., Dunn K.M., Foster N.E.,  
Konstantinou K., Main C.J., Mason E., Somerville S., Sowden G., Vohora K.,  
Hay E.M. (2011). Comparison of stratified primary care management for low  
back pain with current best practice (STarT Back): a randomised controlled  
trial. *Lancet* 378, 1560–1571.

Hoffman B.M., Papas R.K., Chatkoff D.K., Kerns R.D. (2007). Meta-analysis  
of psychological interventions for chronic low back pain. *Health Psychology*  
26, 1–9.

3. Improving Lives, the Work, Health and Disability Green paper. *Response from the  
College of Occupational Therapists* 17 November 2017

Jaimeson-Lega K., Berry R., Brown C.A. (2012). Pacing: A concept analysis of a chronic pain intervention. *Pain Research and Management (in press)*.

Jordan JL, Holden MA, Mason EE, Foster NE. Interventions to improve adherence to exercise for chronic musculoskeletal pain in adults. *Cochrane Database Syst Rev*. 2010;1:CD005956

Kaiser, U., Kopkow, C., Deckert, S., Neustadt, K., Jacobi, L., Cameron, P., De Angelis, V., Apfelbacher, C., Arnold, B., Birch, J. and Bjarnegård, A., 2018. Developing a core outcome domain set to assessing effectiveness of interdisciplinary multimodal pain therapy: The VAPAIN consensus statement on core outcome domains. *Pain*, 159(4), pp.673-683.

Kamper S.J, Apeldoorn A.T., Chiarotto A., Smeets R.J.E.M., Ostelo R.W.J.G, Guzman J., van Tulder M.W. (2015) Multidisciplinary biopsychosocial rehabilitation for chronic low back pain: Cochrane systematic review and meta-analysis *BMJ* 2015;350:h444

Karjalainen K., Malmivaara A., van Tulder M., Roine R., Jauhiainen M., Hurri H., Koes B. (2001). Multidisciplinary biopsychosocial rehabilitation for subacute low back pain in working-age adults: a systematic review within the framework of the Cochrane Collaboration Back Review Group. *Spine* 26, 262–269.

Karjalainen K., Malmivaara A., van Tulder M., Roine R., Jauhiainen M., Hurri H. (2003). Multidisciplinary biopsychosocial rehabilitation for neck and shoulder pain among working age adults.[update of Cochrane Database Systematic Reviews 2000;(3):CD002194; PMID: 10908529]. *Cochrane Database of Systematic Reviews*:CD002194.

Klumb P., Lampert T. (2004). Women, work and wellbeing 1950–2000: a review and methodological critique. *Social Science and Medicine* 58, 1007–1024.

Koes, B.W., van Tulder, M.W., Thomas, S. (2006). Diagnosis and treatment of low back pain. *British Medical Journal* 332, 1430–1434.

Kposowa A.J. (2001). Unemployment and suicide: a cohort analysis of social factors predicting suicide in the US National Longitudinal Mortality Study. *Psychological Medicine* 31, 127–138.

Krause N., Dasinger L.K., Neuhauser F. (1998). Modified work and return to work: a review of the literature. *Journal of Occupational Rehabilitation* 8, 113–139.

Lagueux, E. Depelteau, A. Masse, J. (2018) 'Occupational Therapy's unique Contribution to Chronic Pain Management: A Scoping Review' Pain Research and Management Volume 2018, Article ID 5378451, 19 pages

Linton S.J. (2000). A review of psychological risk factors in back and neck pain. *Spine* 25, 1148–1156.

Linton S.J. (2005). Do psychological factors increase the risk for back pain in the general population in both a cross-sectional and prospective analysis? *European Journal of Pain* 9, 355–361.

Linton, S.J., McCracken, L.M., Vlaeyen J.W.S. (2008). Reassurance: help or hinder in the treatment of pain. *Pain* 134, 5–8.

Longmore R.J., Worrell M. (2007). Do we need to challenge thoughts in cognitive behavior therapy? *Clinical Psychology Review* 27, 173–187.

Luciano Juan V Cost-Utility of Group Acceptance and Commitment Therapy for Fibromyalgia Versus Recommended Drugs: An Economic Analysis Alongside a 6-Month Randomized Controlled Trial Conducted in Spain (EFFIGACT Study). *The Journal of Pain* , Volume 18 , Issue 7 , 868 – 880

Lundh, L.G., (2005). The Role of Acceptance and Mindfulness in the Treatment of Insomnia. *J of Cog Psychother*, 19: 29-39

Lydell M, Grahn B, Månsson J, Baigi A, Marklund B. (2009) Predictive factors of sustained return to work for persons with musculoskeletal disorders who participated in rehabilitation *Work* January; 33(3):317-28

Macea DD, Gajos K, Daglia Calil YA, Fregni F. The efficacy of Web-based cognitive behavioral interventions for chronic pain: a systematic review and meta-analysis. *J Pain*. 2010 Oct;11(10):917–29. doi:10.1016/j.jpain.2010.06.005;

Maguire, N., Chesterton, P. and Ryan, C., 2018. The Effect of Pain Neuroscience Education on Sports Therapy and Rehabilitation Students' Knowledge, Attitudes and Clinical Recommendations Towards Athletes with Chronic Pain. *Journal of sport rehabilitation*, pp.1-19.

Main C., Sullivan M.J.L., Watson P.J. (2008). *Pain Management: Practical Applications of the Biopsychosocial Perspective in Clinical and Occupational Settings*. Edinburgh: Churchill-Livingstone.

Martorella G, Boitor M, Berube M, Fredericks S, Le May S, Gélinas C Tailored Web-Based Interventions for Pain: Systematic Review and Meta-Analysis J Med Internet Res 2017;19(11):e385 DOI: [10.2196/jmir.8826](https://doi.org/10.2196/jmir.8826)

McCracken L.M., Samuel V.M. (2007) The role of avoidance, pacing, and other activity patterns in chronic pain. *Pain* 130, 119–125.

McCracken L.M., Gutierrez-Martinez O. (2011) Processes of change in psychological flexibility in an interdisciplinary group-based treatment for chronic pain based on acceptance and commitment therapy. *Behaviour Research and Therapy* 49, 267–274.

McCracken L.M., Jones R. (2012). Treatment for chronic pain for adults in the seventh and eighth decades of life: A preliminary study of Acceptance and Commitment Therapy (ACT). *Pain Medicine* 13, 861–867.

McCracken L.M., Gross R.T., Eccleston C. (2002). Multimodal assessment of treatment process in chronic low back pain: comparison of reported pain-related anxiety with directly measured physical capacity. *Behaviour Research and Therapy* 40, 585–594.

Miller W.R., Rollnick S. (2002) *Motivational Interviewing: Preparing People for Change, 2nd edition*. New York: Guilford Press.

Morley S., Williams A.C.de C. (2002). Conducting and evaluating treatment outcome studies. In Turk D.C., Gatchel R. (eds.), *Psychological Approaches to Pain Management: A Practitioners Handbook, 2nd edition*. New York: Guilford Press, pp. 52–68.

Morley S., Eccleston C., Williams A. (1999). Systematic review and meta-analysis of randomised controlled trials of cognitive behaviour therapy and behaviour therapy for chronic pain in adults, excluding headache. *Pain* 80, 1–13.

Nicholas M.K. (1992). Chronic pain. In Wilson P.H. (ed.), *Principles and Practice of Relapse Prevention*. New York: Guilford Press, pp. 255–289.

Nicholas M.K., Linton S.J., Watson P.J., Main C.J. (2011). The early identification and management of psychological risk factors (Yellow Flags) in patients with low back pain: a critical review. *Physical Therapy* 91, 737–753.

Oakman J, Keegel T, Kinsman N, Briggs AM. (2016) Persistent musculoskeletal pain and productive employment; a systematic review of interventions. *Occup Environ Med.* Mar;73(3):206-14.

Overmeer, T., Boersma, K., Denison, E. and Linton, S.J., 2011. Does teaching physical therapists to deliver a biopsychosocial treatment program result in better patient outcomes? A randomized controlled trial. *Physical therapy*, 91(5), pp.804-819.

Paganini S, Lin J, Kahlke F, *et al.* A guided and unguided internet- and mobile based intervention for chronic pain: health economic evaluation alongside a randomised controlled trial. *BMJ Open* 2019;9:e023390. doi:10.1136/bmjopen-2018-023390

Pigeon, W. R., Moynihan, J., Matteson-Rusby, S., Jungquist, C. R., Xia, Y., Tu, X., & Perlis, M. L. (2012). Comparative effectiveness of CBT interventions for co-morbid chronic pain & insomnia: a pilot study. *Behaviour research and therapy*, 50(11), 685-689.

Pincus T., Burton A.K., Vogel S., Field A.P. (2001). A systematic review of psychological factors as predictors of disability in prospective cohorts of low back pain. *Spine* 27, 109–120.

Reine I., Novo M., Hammarström A. (2004). Does the association between ill health and unemployment differ between young people and adults? Results from a 14-year follow-up study with a focus on psychological health and smoking. *Public Health* 118, 337–345.

Reynoldson C, Stones C, Allsop M, Gardner P, Bennett MI, Closs J, Jones R, and Knapp P. Assessing the Quality and Usability of Smartphone Apps for Pain Self-Management, *Pain Medicine* 2014; 15: 898–909).

Roth A.D., Fonagy P. (2005). *What Works for Whom: A Critical Review of Psychotherapy Research, 2nd edition.* New York: Guilford Press.

Royal College of Occupational Therapists (2019) What is occupational therapy? (Accessed March 2019) <https://www.rcot.co.uk/about-occupational-therapy/what-is-occupational-therapy>

Royal College of Occupational Therapists / National Social Inclusion Programme. (2007) Work matters: vocational navigation for occupational therapy staff

Royal College of Occupational Therapists (2019) What is occupational therapy? [What is occupational therapy?](#)

Royal College of Occupational Therapists (2017) Improving Lives, the Work, Health and Disability Green paper. *Response from the College of Occupational Therapists* 17 November 2017 [RCOT](#)

Ryan, C.G., Wellburn, S., McDonough, S., Martin, D.J. and Batterham, A.M., 2017. The association between displacement of sedentary time and chronic musculoskeletal pain: an isotemporal substitution analysis. *Physiotherapy*, 103(4), pp.471-477.

[Salathé CR](#)<sup>1</sup>, [Melloh M](#)<sup>2,3,4</sup>, [Crawford R](#)<sup>3</sup>, [Scherrer S](#)<sup>1</sup>, [Boos N](#)<sup>5</sup>, [Elfering A](#)<sup>1,6</sup>.

Treatment Efficacy, Clinical Utility, and Cost-Effectiveness of Multidisciplinary Biopsychosocial Rehabilitation Treatments for Persistent Low Back Pain: A Systematic Review. [Global Spine J.](#) 2018 Dec;8(8):872-886. doi: 10.1177/2192568218765483. Epub 2018 Apr 19.

Scascighini, L., Toma, V., Dober-Spielmann, S. and Sprott, H., 2008. Multidisciplinary treatment for chronic pain: a systematic review of interventions and outcomes. *Rheumatology*, 47(5), pp.670-678

Shaw W.S., van der Windt D.A., Main C.J., Loisel P., Linton S.J. (2009). Early patient screening and intervention to address individual-level occupational factors (Blue Flags) in back disability. *Journal of Occupational Rehabilitation* 19, 64–80.

SIGN 50 (2008). *Scottish Intercollegiate Guidelines Network*. ISBN 978 1 905813 25 4

Smeets R.J.E.M., Wade D., Hidding A., Van Leeuwen P.J.C.M., Vlaeyen J.W.S., Knottnerus J.A. (2006). The association of physical deconditioning and chronic low back pain: a hypothesis-oriented systematic review. *Disability and Rehabilitation* 28, 673–693.

Smith BE, Littlewood C, May S. An update of stabilisation exercises for low back pain: a systematic review with meta-analysis. *BMC Musculoskeletal Disord.* 2014;15:416.

Spearing, N. M., Connelly, L. B., & Sterling, M. (2012). Does injury compensation lead to worse health after whiplash? A systematic review. *Pain*, 153(6), 1274-1282.



Stanley K., Maxwell D. (2004). *Fit for Purpose*. London: IPPR.

Stanos S., Houle T. (2006). Multidisciplinary and interdisciplinary management of chronic pain. *Physical Medicine and Rehabilitation Clinics of North America* 17, 435–450.

Stewart, L, Usher A ,Allenby K, Research Branch, Correctional Service of Canada; A Review of Optimal Group Size and Modularisation or Continuous Entry Format for Program Delivery Published 2009. <http://www.csc-scc.gc.ca/research/005008-0215-01-eng.shtml>

Thorsell J., Finnes A., Dahl J., Lundgren T., Gybrant M., Gordh T., Buhrman M. (2011). A comparative study of 2 manual-based self-help interventions, Acceptance and Commitment Therapy and applied relaxation, for persons with chronic pain. *Clinical Journal of Pain*, 27, 716–723.

Tolin D.F. (2010). Is cognitive-behavioral therapy more effective than other therapies? A meta-analytic review. *Clinical Psychology Review*, 30, 710–720.

Turk D.C. (2002). Clinical effectiveness and cost-effectiveness of treatments for patients with chronic pain. *Clinical Journal of Pain* 18, 355–365.

Turk D.C., Dworkin R.H., Revicki D., Harding G., Burke L.B., Cella D., Cleeland C.S., Cowan P., Farrar J.T., Hertz S., Max M.B., Rappaport B.A. (2008). Identifying important outcome domains for chronic pain clinical trials: An IMMPACT survey of people with pain. *Pain* 137, 276–285.

Tang, N. K., Wright, K. J., & Salkovskis, P. M. (2007). Prevalence and correlates of clinical insomnia co-occurring with chronic back pain. *Journal of sleep research*, 16(1), 85-95.

Tang, N. K., Goodchild, C. E., & Salkovskis, P. M. (2012b). Hybrid cognitive-behaviour therapy for individuals with insomnia and chronic pain: a pilot randomised controlled trial. *Behaviour research and therapy*, 50(12), 814-821.

Treede R-D, Rief W, Barke A, Aziz Q, Bennett M I. [A classification of chronic pain for ICD-11](#) *Pain*. 2015 Jun; 156(6): 1003–1007. Published online 2015 Mar 14. doi: 10.1097/j.pain.000000000000160

Trompetter H. R., Bohlmeijer, E. T., Lamers, S. M. A., Schreurs, K. M. G. (2016). Positive well-being is required for online self-help Acceptance and Commitment Therapy for chronic pain to be effective. *Frontiers in Psychology*, 7, 353 doi 10.3389/fpsyg.2016.00353

Twiddy, H., [Brown, R. J.](#), & Waheed, H. (2018). [The context of litigation in evaluating physical and psychological outcomes from pain management programmes](#). *British journal of pain*, 204946371882005. DOI: [10.1177/2049463718820056](https://doi.org/10.1177/2049463718820056)

van Middelkoop M, Rubinstein SM, Verhagen AP, Ostelo RW, Koes BW, van Tulder MW. Exercise therapy for chronic nonspecific low-back pain. *Best Pract Res Clin Rheumatol*. 2010;24(2):193–204.

van Oostrom S.H., Driessen M.T., de Vet H.C.W., Franche R.-L., Schonstein E., Loisel P., van Mechelen W., Anema J.R. (2009). Workplace interventions for preventing work disability. *Cochrane Database of Systematic Reviews* 2009:CD006955.

van Tulder M.W., Ostelo R., Vlaeyen J.W.S., Linton S.J., Morley S.J., Assendelft W.J. (2000). Behavioral treatment of for chronic low back pain: a systematic review within the framework of the Cochrane Back Review Group. *Spine* 25, 2688–2699.

van Vilsteren M, van Oostrom SH, de Vet HC, Franche RL, Boot CR, Anema JR. (2015) Workplace interventions to prevent work disability in workers on sick leave. *Cochrane Database Syst Rev*. Oct 5;(10):CD006955

Veehof M.M., Oskam M., Schreurs K.M.G., Bohlmeijer E.T. (2011). Acceptance-based interventions for the treatment of chronic pain: a systematic review and meta-analysis. *Pain* 152, 533–542.

Verbunt J.A., Smeets R.J., Wittink H.M. (2010). Cause or effect? Deconditioning and chronic low back pain. *Pain* 149, 428–430.

Vugts, M. A. P., Joosen, M. C. W., van der Geer, J. E., Zedlitz, A. M. E. E., Vrijhoef, H. J. M. (2018). The effectiveness of various computer-based interventions for patients with chronic pain or functional somatic syndromes: A systematic review and meta-analysis. *PLoS ONE*, 13, e0196467.

Vooijs M, Leensen MC, Hoving JL, Wind H, Frings-Dresen MH. (2015) *Occup Environ Med*. 2015 . Interventions to enhance work participation of workers with a chronic disease: a systematic review of reviews. Nov;72(11):820-6.

Vowles K.E., McCracken L.M. (2008). Acceptance and values-based action in chronic pain: a study of treatment effectiveness and process. *Journal of Consulting and Clinical Psychology* 76, 397–407.

Vowles K.E., McCracken L.M. (2010). Comparing the role of psychological flexibility and traditional pain management coping strategies in chronic pain treatment outcomes. *Behaviour Research and Therapy* 48, 141–146.

Waddell G., Burton A.K. (2006) *Is work good for your health and well-being?* Department for Work and Pensions London: The Stationery Office



Waddell G., Burton A K., Kendall, Nicholas A.S., (2008) Vocational rehabilitation – what works, for whom, and when? (Report for the Vocational Rehabilitation Task Group) TSO, London. ISBN 9780117038615

[Wallace LS](#), [Dhingra LK](#) A systematic review of smartphone applications for chronic pain available for download in the United States. [J Opioid Manag.](#) 2014 Jan-Feb;10(1):63-8. doi: 10.5055/jom.2014.0193

Waller G. (2009). Evidence based treatment and therapist drift. *Behaviour Research and Therapy* 47, 119–127.

Wasiak R., Kim J., Pransky G. (2006). Work disability and costs caused by recurrence of low back pain: longer and more costly than in first episodes. *Spine* 31, 219–225.

Waterschoot, F.P., Dijkstra, P.U., Hollak, N., de Vries, H.J., Geertzen, J.H. and Reneman, M.F., 2014. Dose or content? Effectiveness of pain rehabilitation programs for patients with chronic low back pain: a systematic review. *PAIN@*, 155(1), pp.179-189.

Watson P.J., Main C.J., Smeets R.J.E.M. (2010). The basics: management and treatment of low back pain. In: Mogil J.S. (ed.), *Pain 2010 – An Updated Review: Refresher Course Syllabus*. Seattle: IASP Press.

Wells-Ferdman C., Arnstein P., Caudill M. (2002). Nurse-led pain management program: effect of self-efficacy, pain intensity, pain related disability and depressive symptoms in chronic pain patients. *Pain Management Nursing* 3, 131–140.

Wicksell, R.K., Ahlqvist, J., Bring, A., Melin, L., Olsson, G.L. (2008). Can exposure and acceptance strategies improve functioning and life satisfaction in people with chronic pain and whiplash-associated disorders (WAD)? A randomized controlled trial. *Cognitive Behavioral Therapy* 37, 169–182.

Wicksell, R.K., Olsson, G.L., Hayes, S.C. (2010). Psychological flexibility as a mediator of improvement in Acceptance and Commitment Therapy for patients with chronic pain following whiplash. *European Journal of Pain* 14, 1059.e1–1059.e11.

Wicksell, R.K., Kemani, M., Jensen, K., Kosek, E., Kadetoff, D., Sorjonen, K., Ingvar, M., Olsson, G.L. (2012). *European Journal of Pain* doi: 10.1002/j.1532-2149.2012.00224.x

Williams A.C.de C., Potts H.W.W. (2010). Group membership and staff turnover affect outcomes in group CBT for persistent pain. *Pain* 148, 481–486.

Williams A.C.de C., Richardson P.H., Nicholas M.K., Pither C., Harding V.R., Ridout K.L., Ralphs J.A., Richardson I.H., Justins D.M., Chamberlain J.H. (1996). Inpatient vs outpatient pain management: results of a randomised controlled trial. *Pain* 66, 13–22.

Williams A.C.de C., Eccleston C., Morley S. (2012). Psychological therapies for the management of chronic pain (excluding headache) in adults. *Cochrane Database of Systematic Reviews* 2012, Issue 11. Art. No.: CD007407. doi: 10.1002/14651858.CD007407.pub3.

Wynne-Jones G., Cowen J., Jordan J.L., Uthman O., Main C.J, Glozier N., van der Windt D. (2014) Absence from work and return to work in people with back pain: a systematic review and meta-analysis *Occup Environ Med.* Jun; 71(6): 448–456.

Wynne-Jones G.; Artus M.; Bishop A.; Lawton S. L.; Lewis M; Jowett S.; Kigozi J.; Main C; Sowden G., Wathall S.; Burton A.K; van der Windt, Danielle A.W.M; Hay E.M; Foster N. E. (2018) Effectiveness and costs of a vocational advice service to improve work outcomes in patients with musculoskeletal pain in primary care *Pain.* Jan;159(1):128-138.

Young A., Wasiak R., Roessler R.T., McPherson K., Anema J.R., van Poppel M.N. (2005). Return-to-work outcomes following work disability: stakeholder motivations, interests and concerns. *Journal of Occupational Rehabilitation* 15, 543–556.

# MATCHING PATIENT COMPLEXITY TO LEVEL OF PAIN REHABILITATION REQUIRED

The purpose of this thermometer is to provide a quick visual guide to commissioners, managers and providers of services. It is to be used in conjunction with evidence based documents such as the NICE [“Low back pain and sciatica in over 16s: assessment and management”](#) guidelines (NG59) and the [“National Pathway of Care for Low Back and Radicular Pain”](#) (2017).

<b>Level of Pain Rehabilitation</b>		<b>Patient Complexity, Staff Skills, Number of Professions and Treatment Dose Required</b>
<b>Pain Management Programme</b>	Intensive MDT PMP <b>HIGHEST</b>	
	Standard MDT PMP <b>HIGH</b>	
<b>Combined Physical and Psychological Programme</b>	Multidisciplinary (Two or more professions) CPPP <b>Medium</b>	
	Unidisciplinary CPPP <b>LOW</b>	