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Ms Jill Irvine
Productivity Commission
PO Box 80
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2 April, 2003

Dear Ms Irvine

I wish to register an interest in the public enquiry into National Workers Compensation and Occupational Health & Safety Frameworks.

I am a clinical psychologist who has specialized and worked for many years in the area of pain management and rehabilitation. I am currently a Director on the Australian Pain Society Board, representing Tasmania.

After many years of working with clients not referred until months or years after an injury I have become convinced of the benefit of early intervention to attempt to avoid the transition from an acute pain episode to chronic pain and disability, especially with back pain. As more than 80% of available health and rehabilitation resources will be consumed by the 15% of persons who remain symptomatic and occupationally disabled 6 months after injury, intervention that will minimize the probability of disability following occupational injury will be valuable.

There are emerging trends in secondary prevention of back pain disability that show very encouraging outcomes with high rates of successful return to work (60% to 77%) in injured workers considered at risk for prolonged disability.

It is my view that it will be possible to provide cost effective secondary prevention programs for back pain disability. It may be that pain itself may not be the most important barrier to work reentry and success may lie in shifting emphasis away from the goal of managing or reducing pain to the identification and elimination of psychosocial and workplace factors that contribute to the development and maintenance of disability.

I would welcome the opportunity to make a submission:
Yours Sincerely

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Submission to the Productivity Commission's Inquiry Into National Framework for Workers' Compensation And Occupational Health & Safety.

June, 2003

Early Assessment and Intervention – Can it Prevent the Development of Chronicity and Disability ?

Submitted by:

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Early Assessment and Intervention – Can it Prevent the Development of Chronicity and Disability ?

Most individuals who sustain soft tissue injury to the back, shoulders or neck recover quickly. Approximately 50% of individuals with soft tissue occupational injuries return to work within 3-4 weeks of injury, with or without intervention. Approximately 15% will remain occupationally disabled at 6 months and many of these will become permanently disabled. “More than 80% of available health and rehabilitation resources will be consumed by the 15% of persons who remain symptomatic and occupationally disabled at 6 months after injury”[1].

There are few, if any, medical status variables that can reliably distinguish between individuals who return to work and those who remain disabled following occupational soft tissue injury.

The research literature on risk factors for long term work disability is inconsistent or lacking for many chronic painful conditions except low back pain, which has received a great deal of attention and empirical research over recent years. Most of the known risk factors are psychosocial – the Psychosocial Yellow Flags. There is strong evidence that these factors are related to etiology of a new episode, and in the transition from acute to chronic pain. They are more potent predictors than biomedical or biomechanical factors.

Where guidelines for assessing psychosocial risk factors have been developed they are frequently not well followed and there is seldom an adequate biopsychosocial assessment, perhaps because such an assessment is time consuming and should be quite specific. Effort has been put in to developing easy to administer screening instruments that will identify those at risk.

Is it possible to screen early to predict outcome in acute and sub-acute back pain in a bid to prevent the development of chronicity and disability ?

The Acute Back Pain Screening Questionnaire[12] is a 24 item questionnaire with most items scored on a 0 to 10 scale with some reverse scored.

Acute Low Back Pain Screening Questionnaire

(Linton & Halldén, 1996)

Today's Date __ /__ /__

Name _____ **ACC Claim Number** _____

Address _____ **Telephone** (__) _____ (home)

_____ (__) _____ (work)

Job Title (occupation) _____ **Date stopped work for this episode** __ /__/ __

These questions and statements apply if you have aches or pains, such as back, shoulder or neck pain. Please read and answer each question carefully. Do not take too long to answer the questions. However, it is important that you answer every question. There is always a response for your particular situation.

1. What year were you born? 19__

2. Are you: ☐ male ☐ female

3. Were you born in New Zealand? ☐ yes ☐ no

4. Where do you have pain? Place a ✔ for all the appropriate sites. **2 X count**

   ☐ neck ☐ shoulders ☐ upper back ☐ lower back ☐ leg

5. How many days of work have you missed because of pain during the past 18 months? Tick (✔) one.

   ☐ 0 days [1] ☐ 1-2 days [2] ☐ 3-7 days [3] ☐ 8-14 days [4] ☐ 15-30 days [5]

   ☐ 1 month [6] ☐ 2 months [7] ☐ 3-6 months [8] ☐ 6-12 months [9] ☐ over 1 year [10]

6. How long have you had your current pain problem? Tick (✔)one.

   ☐ 0-1 weeks [1] ☐ 1-2 weeks [2] ☐ 3-4 weeks [3] ☐ 4-5 weeks [4] ☐ 6-8 weeks [5]

   ☐ 9-11 weeks [6] ☐ 3-6 months [7] ☐ 6-9 months [8] ☐ 9-12 months [9] ☐ over 1 year [10]

7. Is your work heavy or monotonous? Circle the best alternative.

   0 1 2 3 4 5 6 7 8 9 10

   Not at all — *Extremely*

8. How would you rate the pain that you have had during the past week? Circle one.

   0 1 2 3 4 5 6 7 8 9 10

   No pain — *Pain as bad as it could be*

9. In the past three months, on average, how bad was your pain? Circle one.

   0 1 2 3 4 5 6 7 8 9 10

   No pain — *Pain as bad as it could be*

10. How often would you say that you have experienced pain episodes, on average, during the past 3 months? Circle one.

    0 1 2 3 4 5 6 7 8 9 10

    Never — *Always*

11. Based on all the things you do to cope, or deal with your pain, on an average day, how much are you able to decrease it? Circle one. **10-x**

    0 1 2 3 4 5 6 7 8 9 10

    Can't decrease it at all — *Can decrease it completely*

12. How tense or anxious have you felt in the past week? Circle one.

    0 1 2 3 4 5 6 7 8 9 10

    Absolutely calm and relaxed — *As tense and anxious as I've ever felt*

13. How much have you been bothered by feeling depressed in the past week? Circle one.

    0 1 2 3 4 5 6 7 8 9 10

    Not at all — *Extremely*

January 1997 edition

14. In your view, how large is the risk that your current pain may become persistent? Circle one.

0 1 2 3 4 5 6 7 8 9 10

No risk — *Very large risk*

15. In your estimation, what are the chances that you will be working in 6 months? Circle one.

0 1 2 3 4 5 6 7 8 9 10

No chance — *Very large chance*

10-x

16. If you take into consideration your work routines, management, salary, promotion possibilities and work mates, how satisfied are you with your job? Circle one.

0 1 2 3 4 5 6 7 8 9 10

Not at all satisfied — *Completely satisfied*

10-x

Here are some of the things which other people have told us about their back pain. For each statement please circle one number from 0 to 10 to say how much physical activities, such as bending, lifting, walking or driving would affect your back.

17. Physical activity makes my pain worse.

0 1 2 3 4 5 6 7 8 9 10

Completely disagree — *Completely agree*

18. An increase in pain is an indication that I should stop what I am doing until the pain decreases.

0 1 2 3 4 5 6 7 8 9 10

Completely disagree — *Completely agree*

19. I should not do my normal work with my present pain.

0 1 2 3 4 5 6 7 8 9 10

Completely disagree — *Completely agree*

Here is a list of 5 activities. Please circle the one number which best describes your current ability to participate in each of these activities.

20. I can do light work for an hour.

0 1 2 3 4 5 6 7 8 9 10

Can't do it because of pain problem — *Can do it without pain being a problem*

10-x

21. I can walk for an hour.

0 1 2 3 4 5 6 7 8 9 10

Can't do it because of pain problem — *Can do it without pain being a problem*

10-x

22. I can do ordinary household chores.

0 1 2 3 4 5 6 7 8 9 10

Can't do it because of pain problem — *Can do it without pain being a problem*

10-x

23. I can go shopping.

0 1 2 3 4 5 6 7 8 9 10

Can't do it because of pain problem — *Can do it without pain being a problem*

10-x

24. I can sleep at night.

0 1 2 3 4 5 6 7 8 9 10

Can't do it because of pain problem — *Can do it without pain being a problem*

10-x

Sum

Scoring of the Questionnaire

Questionnaire scores > than 105 indicate that the patient is at risk[12]

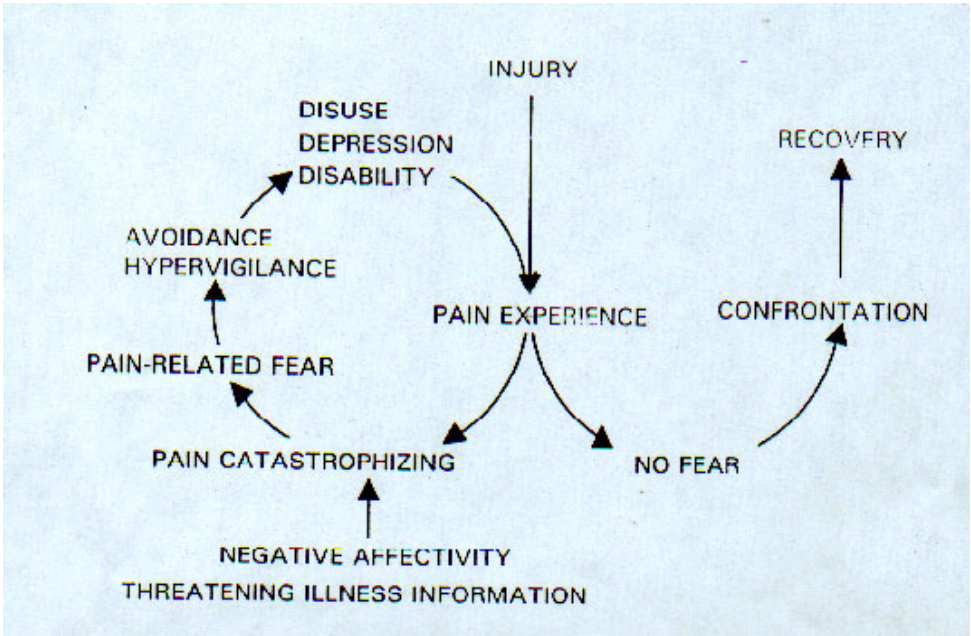
This score produces
- 75% correct identification of those not needing modification to ongoing management.
- 86% correct identification of those who will have between 1 and 30 days off work.
- 83% correct identification of those who will have more than 30 days off work.

Linton and Boersma[5] conclude that this questionnaire is a clinically reliable and valid instrument that may have utility in identifying patients at risk for developing persistent pain problems. Used as a compliment to a medical examination, it may help health care professionals to focus on patients likely to be at risk and may promote the use of appropriate interventions.
These are the patients that should be referred for comprehensive assessment.

Fear/Avoidance Model of Chronic Pain

Recent research has focused more specifically on the particular beliefs and attitudes that appear to be potent predictors of chronicity and disability.
In an attempt to explain how and why some individuals with muscloskeletal pain develop a chronic pain syndrome, the “Fear/Avoidance” model of chronic pain has been formulated.

Fear avoidance model[3]



The central concept of this model is fear of pain. ‘Confrontation’ and ‘avoidance’ are postulated as the two extreme responses to this fear. Confrontation leads to the reduction of fear over time. Avoidance leads to the maintenance or exacerbation of fear, possibly generating a phobic state. The model predicts several ways pain related fear can lead to disability.

1. Negative appraisals about pain and its consequences, such as catastrophic thinking, is considered a precursor of pain-related fear.
2. Fear is characterized by escape and avoidance behaviors, of which the immediate consequences are that daily activities (expected to produce pain) are not accomplished anymore. Avoidance of daily activities results in functional disability.
3. Because avoidance behaviors occur in anticipation of pain rather than as a response to pain, these behaviors may persist because there are fewer opportunities to correct the wrongful expectancies and beliefs about pain as a threat of physical integrity.
4. Longstanding avoidance and physical inactivity has a detrimental impact on the musculoskeletal and cardiovascular systems, leading to the so-called ‘disuse syndrome’ which may further worsen the pain problem. Avoidance also means the withdrawal from essential rei-nforcers increasing mood disturbances such as irritability, frustration and depression. Both depression and disuse are known to be associated with decreased pain tolerance, and thus they might promote the painful experience.
5. Just like other forms of fear and anxiety, pain-related fear interferes with cognitive functioning. Fearful patients will attend to possible signals of threat (hypervigilance) and will be less able to shift attention away from pain-related information. This will be at the expense of other tasks including actively coping with problems of daily life.
6. Pain-related fear will be associated with increased psychophysiological reactivity, when the individual is confronted with situations that are appraised as dangerous.

This fear avoidance model of chronic pain has focused attention on development of more specific assessment of catastrophization regarding pain, fear of pain and re-injury and perceived disability.

CATASTROPHIZING

The term Catastrophizing is used to describe a particular response to pain symptoms that includes elements of
Rumination- excessive focus on pain sensations
Magnification – exaggerating the threat value of pain sensations
Helplessness – perceiving oneself as unable to cope with pain symptoms.

Catastrophizing has been associated with

- heightened pain in clinical and experimental studies in both adults and children
- heightened disability in chronically ill patients
- increased pain behaviour
- increased use of health care services
- longer hospital stays
- increased use of analgesic medication
- higher rates of unemployment

Effective management of catastrophic thinking yields significant and clinically meaningful reductions in pain and pain related outcomes.

FEAR OF PAIN/RE-INJURY

Fear of pain has been defined as a 'highly specific negative emotional reaction to pain eliciting stimuli involving a high degree of mobilization for escape/avoidance behaviour'

Individuals who score highly on measures of fear of pain are[4]:
- less active
- have reduced range of motion
- are prone to discontinuing activities that are associated with pain
- avoid activities that they expect will be associated with pain.
- have a propensity to focus excessively on pain sensations or pain related stimuli.
- Seem to over-predict pain even for activities that do not require involvement of the affected musculature.

These fears can be very potent and we have probably been unaware of their prevalence.

Worries of primary care back pain patients 2 months after first visit[5]:
- I might become disabled – 60%
- something is very wrong – 45%
- wrong movement may cause further problems – 64%

PERCEIVED DISABILITY

Patient's beliefs about their level of disability may be at odds with the degree of disability that would be warranted given the severity of their injury. For a variety of reasons, some patients with chronic pain develop beliefs that the presence of pain reflects a high level of disability. Harm beliefs (the belief that pain signals some form of damage and that activity should be avoided) have been shown to be closely associated with decreased physical functioning and increased pain behaviours. Since beliefs are significant determinants of behaviour, once a person believes that he or she is disabled due to pain, the likelihood of goal setting and goal-directed behaviour is decreased.

There are many reasons people may develop erroneous beliefs;

- pessimistic predictions from health professionals about their ability to return to work
- treatment and recovery experiences
- negative results from diagnostic studies – may think the severity of their condition will be dismissed
- positive results from diagnostic studies – may magnify the meaning
- divergent opinions from professionals
- maintaining the 'acute pain model' – activity reduction, guarding of the injured area. Following an injury pain is a relatively reliable signal of 'harm', and people will wait till pain subsides before resuming regular activities. When pain experience is prolonged, continuing to work on an acute pain model will compromise rehabilitation progress. If the person believes they must wait until the pain goes away before resuming activity, they are not likely to participate in activities related to rehabilitation.

Cognitive/behavioural interventions can effectively change beliefs about level of disability.

Patients must be provided with accurate information to allow them to change their erroneous beliefs. Overly optimistic projections that are at odds with the person's actual experience, or ambiguous information will be likely to maintain erroneous beliefs about the threat of pain symptoms. Information that is consistent with the person's experience that emphasise the benign nature of the symptoms is likely to be beneficial.

DEPRESSION is characterised by:

- emotional distress, negative thinking, motivational deficits, negative symptoms.
- high rates of co-morbidity in depression and pain.
- pessimistic thinking and motivational deficits may compromise progress in rehabilitation and recovery.
- associated with premature termination of involvement in pain management programs.
- depressive symptoms may appear prior to development of chronic pain.

- social and interpersonal consequences of persistent pain may give rise to depressive symptoms – persistent physical distress, reduced involvement in pleasurable activities, reduced social contact, loss of employment, loss of financial security, perhaps even loss of independence.

Cognitive Behavioural Therapy aimed at changing maladaptive cognitions can decrease the severity of depression.
Interventions emphasizing mastery and control have also been shown to impact positively on depression symptoms.

INTER-RELATIONS among Psychological Determinants of Pain and Disability

1. Catastrophising leads to occupational disability by contributing to heightened pain and depression.
2. Fear of pain leads to occupational disability by increasing the frequency of escape and avoidance behaviours.
3. Perceived disability leads to occupational disability by interfering with goal setting.
4. Depression leads to occupational disability by reducing motivation to engage in adaptive activities.

Several easy to administer instruments to assess catastrophizing and various facets of fear of pain and re-injury have been developed

The Pain Catastrophizing Scale[7]
Tampa Scale of Kinesiaphobia[8]
Fear Avoidance Beliefs Questionnaire[9]

SECONDARY PREVENTION PROGRAMS

Early intervention treatments have traditionally focused on activity mobilization, eg back education, physiotherapy, but the magnitude of treatment effects has frequently been disappointing.
Psychological treatment has been under represented in secondary prevention programs for occupational injury. The neglect of psychological factors in the early stages of disability may be one of the reasons underlying these disappointing outcomes. As catastrophizing and fear and avoidance beliefs have been demonstrated to play an important role in the development of chronic pain problems and disability they are important targets in early intervention.

Programs that directly target these psychological barriers to activity are being developed eg.

The Pain Disabilty Prevention Program[10].

This is an individual cognitive behavioral early intervention program, of up to 10 weeks, that aims to increase daily involvement in goal-directed activity and minimize barriers to activity involvement after occupational injury. It assesses Catastrophizing, Fear of Pain/Re-injury, Perceived Disability and Depression and targets these relevant issues for treatment.

Vlayeans group[11] have found that the addition of problem solving therapy to behavioral graded activity had supplemental value in employees with nonspecific low back pain.

Vlayeans et al[13]reported on a program using exposure treatment, the treatment of choice for phobias, to reduce fear of specific movements.

Such secondary prevention programs reveal high rates (60% -77%) of successful return to work in injured workers considered at high risk for prolonged disability.

Traditional approaches to management of pain related disability have tended to focus to a significant degree on pain reduction, and pain severity has been considered a central outcome variable. As a result many of the interventions included in pain management programs have included palliative strategies aimed at minimizing pain and emotional distress. It appears that it may be valuable to focus much earlier on assessing and attempting to minimize psychological barriers to activity mobilization and rehabilitation.

References

1. Sullivan MJL. *Introduction: Emerging Trends in Secondary Prevention of Back Pain Disability.* Clin J Pain 2003:19:2:77-79

2. Linton SJ, Hallden K. *Can we screen for problematic back pain? A screening questionnaire for predicting outcome in acute and subacute back pain*. Clin J Pain 1998:14(3):209-215

3. Vlaeyen JWS. Linton SJ. *Fear-avoidance and its consequences in chronic musculoskeletal pain: A state of the art.* Pain 2000:85:317-332.

4. Sullivan MJL, Thorn B, Haythornthwaite JA, Keefe F, Martin M, Bradley LA, Lefebvre JC. *Theoretical perspectives on the relationship between catastrophizing and pain.* Clin J Pain 2001:17:52-64.

5. Linton SJ, Boersma K. *Early identification of patients at risk of developing a persistent back problem: The predictive validity of the Orebro Musculoskeletal Pain Questionnaire.* Clin J Pain 2003:19: 80-86.

6. Sullivan MJL et al*. Pain-Disability Prevention Program. Clinical Training Protocol and Intervention Related Materials*, Halifax,N.S.:University Centre for Research on Pain and Disability:2001.

7. Sullivan MJL, Bishop S, PivikJ. *The Pain Catastrophizing Scale: Development and validation*. Pyschol Assess 1995;7:524-532.

8. Kori SH, Miller RP, Todd DD. Kinisophobia: *A new view of chronic pain behavior. Pain Management 1990*;Jan/F;:35-43.

9. Waddell G, Newton M, Henderson I, Somerville D, Main C. *A Fear-Avoidance Beliefs Questionnaire (FABQ) and the role of fear-avoidance beliefs in chronic low back pain and disability.* Pain 1993; 52:157-168.

10. Sullivan MJL, Stanish WD*. Psychologically based occupational rehabilitation: The Pain Disability Prevention Program.* Clin J Pain 2003; 19:97-104.

11. Van den Hout JHC, Vlaeyen JWS, Heuts PHTG et al. *Secondary prevention of work-related disability in nonspecific low back pain: Does problem-solving therapy help? A randomized clinical trial.* Clin J Pain 2003:19:87-96.

12. Kendall, NAS, Linton, SJ & Main, CJ (1997). *Guide to Assessing Psychosocial Yellow Flags in Acute Low Back Pain: Risk Factors for Long-Term Disability and Work Loss.* Accident Rehabilitation & Compensation Insurance Corporation of New Zealand and National Health Committee. Wellington, NZ.

13. Vlayeans JWS, Jong J, Geilen M, Heuts PHTG, van Breukelen G. *The Treatment of Fear of Movement/(Re)injury in Chronic Low Back Pain: Further Evidence on the Effectiveness of Exposure In Vivo.* Clin J Pain 2002:18:4:251-261