

*Management Practices,
Medical Interventions
And Return to Work*

Research Report
Prepared for the
Workers' Compensation and
Rehabilitation Commission

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The Research Team

The research *Management Practices, Medical Interventions and Return to Work* was commissioned by the Workers' Compensation and Rehabilitation Commission of Western Australia and represents an initiative between WorkCover WA, the University of Western Australia and Murdoch University.

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Executive Summary

Appropriate management of workplace injury and disease is essential for containing costs and reducing the impact an injury may have on a worker. In the event of workplace injury/disease, employers can expect production to be disrupted unless a number of key parties within the workers' compensation system work co-operatively together to either maintain, or return an injured worker to the workplace.

The involvement of an employer, worker and treating medical practitioner in managing injury is fundamental and when undertaken has the potential to achieve positive outcomes in terms of cost containment and return to work. The importance of the relationship between these central parties has been identified through evidence, gathered from many case studies, demonstrating increased costs, and alienation of parties if co-operation and communication between the three parties does not occur. Achieving this aim, however continues to be one of the major challenges for workers' compensation schemes nationally and internationally.

The current research was commissioned by the Workers' Compensation and Rehabilitation Commission of Western Australia in an effort to provide empirical support for the importance of co-operation and communication between an employer, injured worker and treating medical practitioner and to document the subsequent impact proactive workplace-based policies and practices can have. The research matched a database of general practitioners, employers and injured workers in an attempt to identify the behaviours and subsequent practices of each party that contribute to the cost and duration of workers' compensation claims.

The present study addresses the following core research issues:

- The impact general practitioners have on return-to-work outcomes and claim costs. This includes communication patterns between the general practitioner and employer;
- Employer behaviour regarding injury management practices and perceptions of injured workers regarding the process; and
- The durability of a return to work and the long-term effects of interruptions to workers' career paths due to injury.

The empirical work was based on a mail survey of a matched sample of 96 GPs, 97 employers, 266 workers and 2548 workers' compensation claims. The resulting database offered a unique opportunity to explore hypotheses that are central to important issues on workers' compensation.

General Practitioners and Injury Management

The relationship between general practitioners' (GPs) characteristics, injury management practices, attitudes and the duration and cost of workers' compensation claims was examined, while controlling for the effects of the type of injury. In addition to providing primary medical care and certification, GPs have a pivotal role in the workers' compensation system in that they:

- provide co-ordinated care;
- communicate with parties; and
- assess the need for vocational rehabilitation.

The analysis of the role of GPs in facilitating the return to work of injured workers, and the association between GP interventions and claim costs, are based on a matched sample of 96 GPs and 2548 workers' compensation claims involving patients who have been treated by these GPs. This material sample was used to investigate the relationship between GPs' interventions and attitudes, and the return-to-work and claim cost outcomes of their workers' compensation patients, taking into account the injury and socio-economic characteristics of these patients

The research has focused on a statistical analysis of the following hypothesis:

GPs who accomplish both a medical treatment and workplace based service role in relation to long term workers' compensation claims, secure superior return to work outcomes and lower claims costs.

This hypothesis has been tested by computing the typical return-to-work outcomes and claim costs of patients treated by those GPs who stated that they are proactive in their relations with other stakeholders, and take on workplace-based roles in addition to medical treatment responsibilities. These outcomes were compared with those of passive GPs, who restrict themselves to medical treatment responsibilities and infrequently liaise with other stakeholders.

Based on the findings, two categories of practitioner were distinguished:

- Proactive GPs: those who liaised *very often* or *often* with employers; and
- Passive GPs: those who liaised *not very often*, *rarely* or *not at all*, or who answered *don't know*, or *neither*.

The main finding was that GPs who were proactive in their contact with employers and/or vocational rehabilitation providers secured much better return to work and claim cost outcomes.

Also of importance was the finding that workers' compensation claims characterised by referral to one or more specialist service providers tended to be significantly higher-cost claims and of longer duration.

The findings for claim costs were confirmed by both univariate and multivariate statistical analysis, where the latter controlled for potentially confounding influences. In the multivariate analyses, it was concluded that GPs who liaised closely with either employers or vocational rehabilitation providers when treating protracted cases typically achieved cost savings of \$8,282 per claim.

The three most frequently cited roles and responsibilities of GPs were:

- To provide treatment and primary care;
- To get a worker back to work as soon as possible; and
- To co-ordinate the various parties involved in managing a patient's case.

A significant feature of the responses was the relatively longer duration and the higher cost of workers' compensation claims managed by those GPs who cited medical treatment services (that is, diagnosis and treatment or primary care of patients) as their main responsibility. In contrast, those who cited workplace-based services, such as the co-ordination of relevant parties, providing rehabilitation and getting workers back to work on alternative duties, as the GPs' responsibility achieved more successful outcomes.

There were some interesting differences between proactive and passive GPs. GPs who treated more than the typical number of workers' compensation patients tended to be more proactive; female GPs tended to be more proactive than their male colleagues; finally, GPs who operated in practices that provided allied health services were less likely to be proactive.

The distinction between proactive and passive GPs was also linked with differences in the attitudes of GPs to the workers' compensation system.

The key finding here was that proactive GPs tended to have more positive attitudes to the workers' compensation system. More specifically, it seemed that these GPs were more satisfied with the role played by employers and vocational rehabilitation providers. Furthermore, proactive GPs typically found that employers were co-operative in modifying work duties in order to facilitate a return to work. Their more passive colleagues did not have such a positive impression of employers.

Implications

These findings add to a growing consensus that effective management of workers' compensation claims needs to be workplace-based, and requires communication between the relevant parties, most importantly liaison between GPs and employers. Initiatives in this area aimed at encouraging such liaison can be classified into two groups: systems- and incentives-based approaches.

In the systems-based approach, statutory obligations are imposed on stakeholders that require specified standards of behaviour to be met. The behaviour of stakeholders is then monitored by an independent agency. In an incentives approach, financial inducements are offered that reward stakeholders on the basis of meeting outcome targets or specified standards of behaviour.

A typical example of the systems-based approach is the reform agenda advocated in the recently completed *Review of Rehabilitation (Workers' Compensation and Rehabilitation Commission, 1997)*. The review suggests that GPs be obliged to consult with the employer on issuing the First Medical Certificate to a workers' compensation claimant, and that this consultation must continue whenever Progress certificates are issued.

Other examples of systems-based initiatives include detailed practice guidelines for common workplace injuries that are mandatory and which are designed to ensure appropriate medical treatments and to reduce over-servicing by medical providers. The Department of Industrial Accidents in Massachusetts has developed such guidelines for 20 typical workplace injuries (Brennan & Chirba-Martin, 1996). In a similar vein, Merrill, Pransky, Hathaway & Scott, (1990) refer to an initiative of the US Department of Health and Human Services, which seeks to increase to 75% the proportion of physicians who routinely elicit the occupational histories of workers suffering workplace injuries.

A criticism of the systems-based approach is that it concentrates on due process while ignoring the question of whether target groups, such as GPs, are motivated to behave in the desired fashion. If targeted groups find the desired behaviour is not in their self-interest, perfunctory compliance with statutory obligations can be expected. Evidence from our mailed survey indicates that a majority of GPs do not currently engage actively in workplace-based services, and many have negative perceptions of the workers' compensation system. Statutory obligations alone may be ineffective, unless accompanied by incentives that are designed to align the interests of stakeholders so that they are consistent with the goals of the system.

This critique offers a rationale for incentives-based approaches, and is typified by the policy initiatives canvassed by the Industry Commission (1994). The Industry Commission's starting point is the belief that the strength of each party's financial stake in a return-to-work outcome will be a crucial determinant of the successful management of long-duration work injuries. On examining the situation of GPs and employers, it is evident that both parties have weak financial incentives in regard to the injury management. GPs are reimbursed in relation to services supplied, rather than in relation to any outcome measure, with an employer's workers' compensation insurance meeting all reasonable medical expenses.

The Industry Commission suggests consideration of a shift away from an input-based reimbursement schedule to a case payment system where there would be a payment rate for diagnostic-related injury groups, regardless of services provided. GPs would then have a financial stake in facilitating a return to work. Employers would be given a financial incentive to monitor the treatment and rehabilitation process, if deductible or co-payments were introduced with respect to medical expenses.

Two conclusions emerge from this discussion:

- Initiatives that aim to encourage closer liaison between employers and GPs are justified by the findings in this report; and
- The negative perceptions that many GPs reveal toward the workers' compensation system, and the fact that a majority of GPs do not at present liaise closely with employers, suggest that a systems-based approach alone will be insufficient. Effective, as opposed to nominal, changes in behaviour require the introduction of financial incentives that align the goals of stakeholders with the goals of the system.

Employers and Injury Management

The question of whether employers who exhibit proactive practices with respect to injury management achieve superior return-to-work outcomes, and hence lower claim costs, was investigated.

This hypothesis was tested using responses to the mailed surveys that were completed by a matched sample of employers (n=97, yielding a matched sample of 450 workers' compensation claims) and injured workers (n=255). Employers were asked about their organisational characteristics and injury management practices. Workers were asked about their perceptions of the injury management practices employers applied in connection with their workplace injuries. Are superior return to work outcomes, and hence lower costs, achieved by employers who exhibit proactive practices with respect to injury management?

The present research has focussed on a statistical analysis of the following hypothesis:

Organisational-level variables, as reflected in the presence of human resource practices, influence return-to-work rates and costs.

In terms of specific management practices, the survey sought to identify the important components of injury management with respect to cost and duration, together with the involvement levels of employers in facilitating the return-to-work process.

The questionnaire included 24 questions addressing the methods used by employers in the management of claims. Responses were then subjected to a factor analysis, which highlighted three underlying constructs:

- Active monitoring of claims;
- Active information provided to an injured worker about rights; and
- Active consultation and appropriate referral of the injured worker to professionals in order to facilitate return to work.

From the employer survey responses it was found that individual claim costs and claim duration were related to the following organisational and industrial relations characteristics:

- Size (number of workers) of the organisation;
- Age of the organisation;
- Organisational culture, as reflected in measures of dynamism and competition; and
- The way injury management is undertaken.

Individual claim costs and duration were less if supervisors were primarily responsible for managing the injury management programme. Supervisors therefore played a major role in reducing costs and duration when they were included in the return-to-work plan. The difference in the cost between a claim with an average involvement of the supervisor and one with the highest level of supervisor involvement was estimated to be \$5,102.

Organisations with a dynamic culture had costs and claims duration that were lower than other types of organisations. This may be due in part to the finding that increasing dynamism and competitiveness were associated with a more proactive approach to injury management.

It was also revealed that dynamic organisations have a relatively poor claims record and were more likely to retrench workers and less likely to have workers return to their old jobs.

Older organisations were also found to have less costly claims, but larger organisations were found to have claims that were more expensive.

The organisational culture variable seems to capture several effects present in the descriptive account of the data. First, it captures an industry-sector effect, as organisations in the public sector are likely (but not exclusively) to be less dynamic than those in the private sector.

In addition, dynamic organisations had a relatively poor claims record, and for some this provoked a more active injury management programme. The more proactive the employer, the more successful they were in reducing claims costs and duration. Interestingly, organisational culture seemed to influence the way that injury management programmes were deployed.

Organisations where employers could be characterised as worker-committed were more likely to use supervisors to manage the return-to-work process. When this was done, costs and duration of claims were reduced. Thus it seems that rigorous injury management is effective for certain types of organisations, whereas for others the benefit of such a programme is found in who manages it.

Data from the injured worker survey was to a large extent consistent with the employer data. Rigorous injury management was found to produce benefits in terms of the costs and duration of claims. When the management programme was examined in closer detail, both supervisor behaviour and the active provision of information appeared to be of particular benefit (although their individual effects were not as large as the combined individual management programme effect). The intervention of human resource managers was associated with higher claims costs and duration. This may reflect the culture of the organisation, the attitude to workers, previous claims experience, or possibly injury severity (only the most serious claims may be brought to the attention of the human resources manager).

The effects of proactive behaviour from several other key stakeholders (e.g. GP, vocational rehabilitation provider, trade union, approved insurance company) on claims duration and cost were also examined. While the regression weight of the GP variable was found to be consistent with GP proactivity reported in chapter 2, the variability in this effect was such that it was not statistically reliable.

The involvement of vocational rehabilitation providers, co-ordinators, trade unions and approved insurance companies was also found to be associated with higher costs and duration. The results for providers and co-ordinators were unexpected as, given the other results with regard to injury management programmes, it would have been expected that their effects would have been positive. However, there was no indication of beneficial effects in our data with respect to whether or not injured workers completed a rehabilitation programme with a provider.

This is a point that has proved to be important in earlier research (see Morrison, Wood, Clements & MacDonald, 1995a; Wood & Morrison, 1997). Those who complete programmes have previously been found to benefit significantly from the intervention of a rehabilitation provider. The increase in costs and duration as a consequence of approved insurer and trade union involvement can probably be explained by injury severity effects.

It must be noted, however, that a serious attempt to control statistically for severity of injury was made in the multivariate analysis; union and insurer effects may therefore reflect other influences.

Finally, there was a discrepancy between the level of proactivity espoused by employers and that reported by workers. Employers were asked to indicate what a typical injury management programme would look like, whereas workers were reporting on their own injury. This could account for the difference, or it may reflect either a socially desirable response from an employer or an ignorance on behalf of a worker with regard to how their injury was being managed. It is possible to argue that there is a strong element of truth in the latter point. Certainly it seems that providing information to an injured worker is particularly effective in reducing costs. Also, supervisory involvement and frequency of contact (with the latter being less reliable) seemed to contribute to reduced costs and duration. Hence it is possible to suggest that the psychological engagement of a worker in their return-to-work programme may be an important factor in achieving a positive outcome.

Specialist rehabilitation co-ordinators did not appear to have a direct influence on cost or duration of workers' compensation claims. However, looking simply at evidence from dynamic organisations indicates that proactive referral of claimants to specialised approved rehabilitation providers and liaising with GPs is of benefit in reducing claims costs and duration.

The responses and reactions of workers to their injury management programmes, plus the effects on claims costs and duration, were therefore considered.

On the basis of previous research, the following assumptions were made:

- Return-to-work rates will be higher when workers perceive that return to work will facilitate access to desired outcomes. Desirable outcomes will include access to work-related benefits, such as holiday entitlements and over-award payments, restoration of status and work conditions;
- Return-to-work rates will be higher when re-entry to the workforce is managed in a way that makes it possible for a worker to monitor their own progress (through feedback), and when an explicit, jointly agreed plan has been developed; and
- Return to work will be facilitated when workers perceive that the organisation is making a special effort to assist their return to work.

To assess the attitudes of injured workers, a questionnaire was mailed to 2,548 workers who had been treated by the 96 GPs. A total of 245 workers responded regarding their reaction to return-to-work programmes.

While frequent contact does reduce duration and costs, the content and value of these meetings is also likely to play a vital role in claim cost and duration. The frequency of contact was analysed in conjunction with the general level of *proactivity* of employers. This analysis revealed the benefits of active injury management in terms of costs and duration of claims. Low proactivity yielded an average claim cost of \$6,162, with duration of 66 days, compared with high proactivity, which had an average cost of \$4,750 and duration of 51 days.

Injured workers were asked who they contacted throughout the injury management process. In their responses 30% indicated their supervisor, 17% their manager, 7% their human resource officer, 7% their rehabilitation co-ordinator and 5% others. The duration and cost

of claims was then calculated for each of those contacts. Similar results were obtained to those of the employers' survey. Supervisors were linked to reduced costs and duration of claims.

The average cost and duration of claims involving supervisors was \$3,925 and 41 days, managers \$7,693 and 82 days, human resources \$10,047 and 101 days, and rehabilitation co-ordinator \$11,858 and 138 days.

The Longer-Term Impact of Work Injuries on Workers' Welfare.

The long-term impact of injuries on workers' welfare has not been extensively researched in Australia. In the past research focused on the factors associated with returning the injured worker back to work, without examining what happened afterwards.

The two main dimensions examined in this survey were:

- The stability, or permanency, of employment once the injured worker returned to work; and
- The longer-term impact on career interruption and post-injury earnings.

A questionnaire was distributed to 2,548 workers who had finalised worker's compensation claims between 1991 and 1996. There were 266 respondents. The survey questions included employment details at the date of injury, transition back to work, and employment status at the time of completing the survey. Demographic issues such as gender, marital status, age, education, language and qualification level were also included.

The survey sought to investigate two aspects of workers' post-injury experience:

- Did workers suffer difficulties in establishing a permanent return to work once claims were finalised?; and
- Are the differences between pre- and post-injury earnings systematically related to the length of any interruption to work participation?

Survey findings on the transition path back to work indicate that 15% of the sample were not working at the time of survey, and 14% of the sample experienced multiple absences from work following an initial return to work. On the other hand, almost 80% of the sample experienced a stable transition back to work. These workers tended to be younger, female and hold a degree qualification or higher. There is some evidence to suggest that the probability of a return to work increases as the time period since claim finalisation lengthens. However, this evidence is subject to some important caveats.

Those individuals who were classified as unstable or unsuccessful in returning to work were most commonly married males without a trade or higher qualification. On the other hand, young females with a degree qualification or higher experienced the greatest stability and success when returning to work.

This indicates that nature and severity of injury are not always the factors determining return-to-work outcomes. Factors such as skills and education of the worker and the strength of their attachment to the labour force seem to be influential.

The time elapsed since claim finalisation was another factor examined. All finalised claims (regardless of whether workers were working at the time of finalisation) were grouped into

deciles according to the period of time since claim finalisation. It was found that 84.2% of workers returned to work within 11 months of the claim finalisation, and only 5.3% of workers had not successfully found work after 60 months. Further investigation is required in order to develop a clearer understanding of the impact of time elapsed, once the claim has been finalised, on return to work rates.

Of the 100 workers reporting both pre- and post-injury earnings, 55 workers reported an increase, and 20 reported a reduction in earnings as compared to their pre-injury earnings. The other 25 workers reported no change in earnings. It is important to note that a significant minority of workers suffer longer-term earnings losses that are not necessarily indemnified under workers' compensation insurance arrangements. Workers most likely to experience earnings reductions are:

- those with a relatively short tenure following a return to work;
- females; and
- those whose work participation has been interrupted (due to work injury) for a lengthy period of time.

Earning potential is affected by length of tenure, time elapsed since claim finalisation, gender and marital status. The tenure factor provided surprising results in the sample analysed. It was expected that long tenure would ensure the least reduction in pre-injury earnings. However, the results showed that longer tenure is associated with a higher negative change in earnings. A possible explanation for this is the proportion of workers who had long tenure and remained with the same employer.

The findings on post-injury earnings and tenure were consistent with expectations. A higher percentage of workers with tenure of 10 years or more experienced a \$5 or greater increase in earnings, compared to workers with less than four years tenure. Similarly, workers with tenure of 10 years or more experienced a smaller reduction in earnings compared to workers with tenure of four years or less. It was also noted that workers who had long tenure in their pre-injury jobs tended to have the same employer when they returned to work.

This latter finding is a potentially important one. A fixed-effects model has been proposed with the aim of obtaining an estimate of the rate at which earnings decay with respect to the duration of work interruption. The model estimates indicate that the change in earnings following a work interruption is reduced at the rate of 2.6% for each year of absence from work. This is within the range of estimates obtained by other studies on the effects of work interruptions. However, we believe this to be the first estimate that has been obtained for interruptions occasioned by work injury.

Summary of Findings

A number of key findings and observations of the report were identified:

- GPs who liaised closely with the employer and the approved vocational rehabilitation provider to discuss their patient's medical treatment and return-to-work options secured better return-to-work and claim cost outcomes. Typically claim costs were reduced by \$8,282 per claim;
- Organisational characteristics, such as dynamism, had a great impact on injury management. The level of involvement by supervisors in injury management was especially influential in reducing claim cost and duration;
- Frequent contact with an injured worker was beneficial to the outcome, in particular when the worker was returning to work. The content of meetings was a significant factor in reducing claim costs;
- Factors that influenced the transition back to work included the nature and severity of the injury. The skills, education and tenure of workers appeared to be influential also. Generally, stable transition back to work was greatest among young females with tertiary qualifications; and
- Post-injury earnings were more likely to be lower than pre-injury earnings for female workers with short tenure as a result of lengthy interruptions to work.

CHAPTER 1

Management Practices, Medical Intervention and Return to Work

1.1 Project Overview

Research conducted in Western Australia (WA) has demonstrated that the duration and cost of workers' compensation claims can be predicted on the basis of data relating to worker and injury characteristics (Morrison, Wood, Clements, & MacDonald, 1995; Morrison, Wood, & MacDonald, 1992). In earlier research (Morrison, Wood, & MacDonald, 1992), it was reported that a worker's post-injury experience impacts on return-to-work rates. In this report, the measurement of post-injury experience was restricted to the use of variables such as whether or not injured workers received vocational rehabilitation during their recuperation period, or the date on which the referral for vocational rehabilitation was made. Subsequent research (Morrison et al., 1995) used more refined measures, reflecting differences in the content of rehabilitation programmes, and demonstrated how these programmes influenced the cost and duration of claims.

Apart from the research analysing the impact of vocational rehabilitation programmes on return to work, a substantial proportion of the variation in the costs and duration of workers' compensation claims has remained unexplained. The current project was initiated with the aim of identifying what other important variables might influence return to work and compensation costs.

Previous research, referred to above, relied solely on data routinely collected by WorkCover WA. It is clear that a great deal of relevant information is not contained within these specified data fields. In particular, information regarding the behaviour and perceptions of significant participants in the management of work injury are excluded. The perceptions, attitudes and behaviours of injured workers and their reactions to the injury management process have not been the subject of close scrutiny, despite an abundance of anecdotal information detailing the importance of these factors. It has also been reported that an organisation's industrial relations procedures, organisational climate and culture play important roles in return-to-work behaviour, and ultimately in workers' compensation claims costs.

The way injured workers perceive the processes and attempts to secure an early return to work may be influenced not just by the nature of the work they do, but also by the behaviour of their employer during the recuperation period. Employers, in turn, may behave differently towards injured workers, depending on the industry in which they operate, their philosophy and experience in dealing with workers or representatives, and perhaps even depending on the extent to which they have invested in their worker's training, knowledge and experience.

When a worker is injured, employers can expect production to be disrupted. The extent of this disruption may influence the commitment of an employer to re-engaging an injured worker. The adjustments employers must make due to the absence of an injured worker differ according to the availability of the type of labour required. Additionally, one would expect that the more employers have invested in on-the-job training and skill development, the more desirable it would be for them to have a worker return to work. What an organisation is capable of providing to facilitate a return to work may, however, depend on a range of organisational characteristics, such as the size of the firm. Such variables may account for differences in return-to-work rates.

In addition to injury management, which explicitly seeks to monitor the process of recuperation, there are a range of other organisational influences that may impact on an injured worker's attitude and behaviour. These influences reflect the organisational context, sometimes referred to as the organisational culture or climate. Moreover, organisations who foster commitment and promote higher levels of job satisfaction also achieve better performance in the management of workers' compensation claims. Workers who are committed to their work and their organisation may be especially keen to participate in return-to-work programmes that include active injury management, perhaps through the provision of alternative duties.

In addition to these aspects of the relationship between employers and their workforce, the medical practitioner is an important participant in the injury management process. To date, the role of the medical practitioner in this process has received little or no attention from researchers. This is unfortunate, as the medical practitioner acts as the gatekeeper and is therefore pivotal in the process of injury management and return to work. Little or no data exists regarding the impact that medical intervention may have on claims duration and return-to-work rates. The present research pays particular attention to the interaction between employers and medical practitioners, with a view to estimating the benefits that derive from different styles of communication between medical practitioner and employer.

The final area of concern is the durability of return-to-work outcomes. Research on the outcome of injury management and rehabilitation programmes has not pursued the impact of injury beyond the finalisation of claims. There are at least two dimensions with respect to the durability of return-to-work outcomes that are of interest in the current project. Firstly, the permanence of any return to work is relevant because workers whose injury has resulted in some permanent or persistent functional impairment may be disadvantaged in the labour market, whereby disabled workers are more vulnerable to retrenchment (Kim, 1996; Taler, 1986). The vulnerability of workers who are disabled as a result of a work injury is a question deserving investigation.

Secondly, questions regarding the long-term effects of interruptions to a worker's career path are also relevant because workers' skills tend to decay as a result of protracted workers' compensation cases. Empirical investigation into the effects of career interruptions (occasioned by childbirth and child-rearing responsibilities) has established the existence of this phenomenon (Tharenou & Conroy, 1994). Determining whether the same phenomenon is evident for work injuries is important, particularly in view of the possible stigma that may be experienced by workers who have been the subject of workers' compensation claims in the past.

1.2 Project Aims

The aim of this research project was to investigate some of the intangible features of a workers' compensation system in which injured workers, employers and medical practitioners operate. The research seeks to provide an empirical basis and an evaluation of a number of features of the workers' compensation system that have been reported to us as being influential, but for which there has been little empirical support to date.

Specifically, there were three major areas of study for the current project: (i) the role of medical intervention in facilitating a return to work; (ii) the human resource practices of employers and the perceptions of injured workers with respect to the process of returning to work; and (iii) the durability of return-to-work outcomes.

1. As medical practitioners play a pivotal role in the workers' compensation system, the first aim was to assess the impact medical practitioners have on return-to-work behaviour and claim costs. Communication patterns between employers and medical practitioners were scrutinised to establish their form and effectiveness in reducing claim duration and costs.
2. The second aim was to identify the personnel practices that exist in small, medium and large-size businesses. Particular attention was paid to employer behaviour regarding injury management practices, as well as to other organisational characteristics that reflect the organisational culture and the industrial relations climate. Perceptions of the injury management process from an injured worker's point of view, workers' attitudes toward work, and their subsequent return-to-work behaviour were also examined.
3. The final aim of the project was to examine the durability of return-to-work outcomes. Most research has concentrated on return-to-work outcomes but has failed to pursue the impact of injury beyond claim finalisation. The current project investigates the durability of return-to-work outcomes and the longer-term effects of workers' injuries on earnings.

1.3 Structure of the Report

This report has been divided into six chapters:

- The first chapter provides the overview.
- The second chapter focuses on medical intervention strategies and their role in facilitating a return to work. While it is acknowledged that injured workers may receive primary care from various sources, in this study the general practitioner is viewed as the practitioner most likely to be the primary carer.

The sample for this section was selected randomly from a register of general practitioners currently practising in Western Australia. The participating practitioners were asked to comment about how they typically dealt with workers' compensation cases, rather than commenting on specific cases.

The injured workers treated by these general practitioners within the period from 1991 to 1996 were then matched to the responses on a questionnaire.

- The third chapter presents the human resource management practices, as reported by employers, and their impact on claim duration and cost. The chapter deals with the data collected from a sample of employers who had been identified as employing injured workers who were receiving medical services from the general practitioners included in the sample discussed in the previous chapter. Again, as with the general practitioners, employers were asked to comment on the policies and procedures of their companies with respect to compensation cases in general rather than for individual claims. Employers were also asked to describe their organisation with regard to demographics and organisational culture. The impact of these variables, in terms of costs and duration of claims estimated using multivariate statistical procedures.
- The fourth chapter examines the responses of injured workers who had attended the general practitioners contained in the sample. In this chapter, the experiences of injured workers were matched to workers' compensation claims data. Workers were also asked about their perceptions of the industrial relations climate, and about their work attitudes prior to their injuries.
- The fifth chapter deals with the durability, or permanence, of return-to-work outcomes, and the longer-term impact of sustaining an injury at work. Information regarding the post-claims closure experiences of injured workers is also documented.
- The final chapter of the report extracts common themes from the results of the research programme and highlights potential implications for injury management.

CHAPTER 2

General Practitioners' Behaviour, Claim Duration and Cost

2.1 Introduction

The general practitioner (GP) is in many ways the gatekeeper in a workers' compensation system. The quality of the interaction between an injured worker, the GP and the injured worker's employer has important consequences for the duration of the workers' compensation claim and the prospects for an early return to work.

This study investigates the relationship between the characteristics, injury management techniques and attitudes of GPs on the one hand, and the duration and cost of workers' compensation claims on the other. The method employed was to match GP interventions with the corresponding workers' compensation cases. Using appropriate controls for the nature and type of injury, this method made it possible to gauge whether GPs' characteristics, their injury management techniques and attitudes can be associated with a speedier return to work.

2.2 The Role of GPs In The Workers' Compensation System

In Western Australia, injured workers have the right to choose the medical practitioner, usually a GP, who will be responsible for the medical treatment of their injury. On accepting a patient who has suffered a work injury, the first responsibility of a GP is to complete a First Medical Certificate, which is a pre-requisite to establishing a workers' compensation claim.

On the First Medical Certificate, GPs are expected to provide a medical assessment of disability, the worker's fitness for normal duties, and an indication of whether vocational rehabilitation is likely to be necessary. At present GPs are not required to give a detailed appraisal of the physical and mental capabilities of a worker in relation to their current job. They are, however, obliged to provide relevant information on the patient's condition in response to requests from employers or approved insurers. Injured workers are asked, on the workers' compensation claim form, to authorise their GP to release relevant information to their employer and approved insurer. A refusal to authorise disclosure may result in a delay in the acceptance of a claim. Workers are made aware of this on the claim form. Following the issue of a First Medical Certificate, GPs issue progress certificates at reasonable intervals throughout the course of a claim.

Fees for services provided by GPs are determined in negotiations between the Australian Medical Association (WA Branch) and WorkCover WA. An important aspect of the fee schedule in WA is the inclusion of allowances for time spent liaising with employers or other key stakeholders, whether by personal visits or telephone contact. These allowances are calculated on an hourly basis.

In addition to statutory obligations, there is a guide to the workers' compensation and rehabilitation system, called *A Medical Practitioner's Guide to the Western Australian Workers' Compensation and Rehabilitation System* published by WorkCover WA in collaboration with the WA Branch of the Australian Medical Association and the Insurance Council of Australia. These guidelines emphasise the importance of co-ordinated care, communication between GPs and other stakeholders in the system, and the role of the treating doctor in the rehabilitation of disabled workers. More specifically, GPs are urged to:

- ensure that they agree on vocational rehabilitation programmes (when required), and co-ordinate the medical and vocational rehabilitation services offered to an injured worker;
- liaise with the workplace to identify alternative duties, and communicate with an employer regarding a worker's capacity for alternative duties; and
- indicate, on medical certificates, activities a worker should not perform when partially unfit.

2.3 Literature Review

The literature on general practice and the workers' compensation system highlights three concerns.

1. **Communication.** A range of commentators (De Moss, 1996; Industry Commission, 1993; Merrill, Pransky, Hathaway, & Scott, 1990; Pransky and Himmelstein, 1996; Welsh, 1994; Workers' Compensation and Rehabilitation Commission, 1997) have emphasised the potential importance of communication between a treating GP and the employer. The GP has the advantage of serial evaluations of a patient that can assist in determining the temporal relationship between the injury and employment (Carey & Hadler, 1986). An employer has detailed knowledge of the workplace and how it may be modified to assist a return to work. Liaison between these two stakeholders is therefore likely to yield benefits in terms of facilitating a return to work. Despite widespread recognition of these potential benefits, empirical evidence suggests that liaison between employers and GPs is not common. Research has suggested that medical providers are typically hostile to workers' compensation as it is seen as a bureaucratic system with inadequate reimbursement rates. (Brennan & Chirba-Martin 1996)
2. **Attitude to patients.** Kenny (1995), in her study of occupational rehabilitation in New South Wales, claims that GPs tend to protect their patients and are reluctant to refer patients to other service providers. In the Workers' Compensation and Rehabilitation Commission's *Review of Rehabilitation* (1997) submissions were cited which claim that GPs' diagnoses are invariably based on an uncritical acceptance of a worker's self-reported symptoms. On a similar point, Carey and Hadler (1986) argue that friction between GPs, approved insurers and employers commonly arise because GPs diagnose disability, that is the mental and physical limitations in function resulting from an occupational injury or disease, whereas insurers and employers seek assessments of work capacity, that is, the capacity of an individual to meet certain standards with respect to occupational tasks. The Industry Commission (1993) cites submissions claiming that GPs are ill equipped to certify work capacity due to lack of training and knowledge of specific work tasks.

3. ***Over-servicing and tendency to certify injuries as work-related.*** The Industry Commission's 1993 inquiry into workers' compensation in Australia claims that GPs tend to over-serve patients, and that they unquestioningly accept patients' claims that injuries are work-related.

A number of explanations may be offered in response to the above concerns. Kenny (1995) and the Industry Commission (1993) favour an economic explanation. The former argues that it is the fear of losing a patient, a potential income stream, that causes GPs to adopt a protective attitude toward their patients. The reluctance of a GP to liaise closely with employers and insurers reflects apprehension that patients may perceive their interests and medical needs as not being adequately met. The Industry Commission (1993) identifies that payment systems are primarily fee-for-service, with significant loadings for medical services provided under workers' compensation arrangements, and that this in turn offers economic incentives to over-serve, and to certify injuries as work-related.

Merrill et al. (1990), and Tabershaw (1975) emphasise the strong ethical and moral doctrine GPs are expected to work within. Traditionally, GPs have been expected to work for no purpose other than the benefit of their patients. Privacy is also an important aspect of the GP-patient relationship. The medical records of patients are in the custodianship of their GP, but patients normally have the right to determine when, how and to what extent access to the records may be given. Under workers' compensation arrangements, GPs are often required to deviate considerably from the traditional GP-patient relationship as employers and approved insurers can request access to patient records and request opinions of work capacity. Many GPs regard such assessments, and the accompanying communication with insurers and employers, as an inappropriate use of their time.

2.3.1 Empirical evidence: GPs and workplace-based services

There is a plethora of studies evaluating the effectiveness of medical treatment services with respect to injuries and diseases. In contrast, there is a dearth of studies examining either the prevalence or the efficacy of GPs who supply workplace-based services. In Western Australia, WorkCover (1996a) commissioned a telephone survey to examine GPs' attitudes and behaviour with respect to the management of long-duration workers' compensation claims. One of the principal aims of that study was the measurement of the frequency and nature of liaison between GPs and employers. Within Australia only one published paper was identified that deals with this issue from an empirical perspective (Kenny, 1995).

The WorkCover WA project surveying 200 GPs investigated whether, and how frequently, GPs liaised with employers in the treatment of long-duration workers' compensation cases. Of the 198 who responded, only 52 (26.3%) stated that they liaised often or very often. The remaining 146 GPs liaised rarely or never. This finding is consistent with those obtained overseas. GPs were also asked whether they interpreted their role as one that included assistance in arranging suitable work duties (modified or alternative duties), to enable an injured worker to resume work. Of the sampled GPs, 74% responded to this question in the negative, and 43% viewed this as an employer's responsibility. Many GPs viewed employers as playing an unhelpful role in the workers' compensation system, which is reflected in GPs' opinions on impediments to early return to work. The most commonly cited impediment was employer reluctance to accept injured workers back to work, or to provide modified/alternative duties.

The evidence offered by Kenny (1995) was the product of a postal and interview-based study of injured workers (a sample of 407), employers (a sample of 93), rehabilitation co-ordinators (a sample of 14), rehabilitation providers (a sample of 19), approved insurers (a sample of 14) and GPs (a sample of 9), in the Hunter Valley region of New South Wales. Given the small sample, Kenny's findings in respect to GPs' behaviour and attitudes should be treated with caution. The most interesting finding is that none of the 9 GPs perceived liaison with the workplace as part of their injury management functions. WorkCover WA (1996a) found that GPs have negative views about approved insurers and employers. It is pertinent to note this finding, especially since the stakeholders in Kenny's survey generally felt GPs had inadequate knowledge of vocational rehabilitation or defining modified duties as a transition to normal duties.

In the USA, Merrill et al., (1990), conducted a mail survey of 66 GPs (physicians), from which 55 responses were received. The survey examined the number of workers' compensation patients seen per week, the methods used by the physicians to communicate with employers, the reasons given by the physicians for not communicating by telephone with employers or insurers, the training undertaken in occupational health, and identification of general problems in workers' compensation cases. The principle findings of this mail survey were:

- Few physicians visited the workplace or spoke directly with the employer regarding work-related conditions;
- The time involved, and not knowing who to contact were the most frequently cited reasons for not contacting employers;
- Frustration with paperwork, and unfamiliarity with workers' compensation law were the most frequently cited general problems; and
- Only 17% of responding physicians had received any training in occupational health.

In Britain, Aitken and Cornes (1990) examined the contents of medical reports prepared for medical/legal purposes in relation to insurance claims. The sample comprised 400 consultants who were responsible for 602 medical reports on a representative sample of 203 employers' liability and third-party claimants. The clinical aspects of these medical reports (nature of injury, treatment, response to treatment, examination and prognosis), were generally covered in a thorough manner, and to a high professional standard. Non-clinical aspects such as residual disability, employment handicap and vocational rehabilitation requirements were typically dealt with in a cursory and inadequate fashion. In only 3% of medical reports was referral to vocational rehabilitation recommended, and none of the 602 reports gave consideration to patients' requirements for technical aids to employment, job redesign, or other workplace accommodations. In view of these findings, the authors argue there must be some doubt 'about the capability of traditional clinical case management procedures to provide effective advice on return to work' (p. 440).

In the present context there is growing consensus that effective intervention should be workplace-based and require communication between the relevant parties (that is, between GPs, employers and injured workers). Policy initiatives such as system- and incentive-based approaches seek to encourage this communication and co-operation. In the system-based approach, stakeholders are obliged to meet requirements that identify specified standards of behaviour to be met.

The behaviour of stakeholders is then monitored by an independent agency. In an incentive-based approach, financial inducements are offered that reward stakeholders on the basis of meeting outcome targets or specified standards of behaviour.

2.3.2 Concluding comments

The review of literature indicates that there is a serious deficiency in our knowledge about the behaviour and attitudes of GPs toward workplace-based services. Though there is a growing consensus that such services are desirable, we actually know very little about the effectiveness of such services.

2.4 Data Description

The composition of the sample of GPs was obtained from an earlier study commissioned by WorkCover WA. The sample included GPs from metropolitan and country areas within WA. Following completion of the previous study, GPs who participated in that study were sent letters requesting the release of the results of their questionnaires to the University of Western Australia. One hundred and five responded affirmatively to this request. A list of claims involving these GPs was compiled and submitted to two approved insurers. To identify claimants who had received treatment from this group of GPs, the insurers scanned all processed workers' compensation claims initiated between 1991 and 1996.

Data on cases treated by 96 doctors were obtained from the approved insurers. The remaining 9 doctors either did not submit their form to release details in time, or they did not have any clients lodging claims with these insurers during the specified time frame. One of the 96 GPs was omitted from the analysis as there was an error in the matching process. The analysis was thus based on a matched sample of 95 GPs.

The data made available included details, of the claimant (age, gender, occupation, etc.), of the GP, of the employer, of the claim (injury type, location, disability, etc.) and details of individual claims costs (for example, doctors bills, pharmaceutical and investigative costs, other allied health services and vocational rehabilitation). The claims were then matched against the sample of GPs, so that details about interventions and attitudes (as measured by WorkCover WA, 1996a) could be compared with information provided by the approved insurers (such as duration and average costs).

In total, 2,997 matched workers' compensation cases were identified for analysis. Of these, 287 claims were listed under two GPs' names or were submitted by the approved insurer, although the doctor was not listed as part of the study. As it is impossible to detect the differential effect of one GP over another, these cases were excluded from further analysis.

In addition, 131 claims were removed because the injury had occurred prior to July 1991 and was thus outside the time frame defined for the purpose of the investigation.

Claims without demographic data (such as age, gender) were retained to preserve the size of the sample. To remove all cases which had missing data would have meant the removal of another 300 cases, limiting the sample's usefulness.

Industrial disease claims (31 claims) were excluded from the analysis as these claims are non-recurrent degenerative diseases whose symptoms only emerge years after employment has ceased. They were therefore not relevant to a study that aims to evaluate the effectiveness of GPs' practices in facilitating return to work. Industrial diseases include, but are not restricted to, mesothelioma and asbestosis-related diseases.

This left a total of 2,548 cases to be analysed.

2.4.1 The GP sample

Age varied considerably amongst the sample of GPs. The greatest percentage of GPs (43.2%) were within the 35 to 44-year age bracket. Of the total sample 12.6% were aged 25 to 34 years, 22.1% were between 45 and 54, 14.7% fell into the 55 to 64-year age group and only 7.4% were 65 years and over.

The area of specialisation for each medical practice exhibited little variation across the sample. Only a small percentage of GPs worked in a practice whose main focus fell outside general or family-based practice (8.4%).

GP attitudes were measured with respect to perceived responsibilities within the workers' compensation system. Forty percent of the GP sample were of the opinion that an employer/supervisor is responsible for arranging suitable duties for injured workers. The provider of vocational rehabilitation (27.4%) and the treating GP (25.3%) were also viewed as key parties in arranging suitable duties for an injured worker.

While 60 days is considered by WorkCover WA to represent a long-term claim, a large number of the GPs sampled viewed a long-term claim to be of 15 to 30 day's duration. Only 12.6% of GPs indicated that more than 60 days off work constituted a long-term, with the remaining GPs considered long-term claims lasted less than 60 days. GPs viewed their role in the medical treatment of cases that exceeded (or were likely to exceed) 60 days as primarily to provide treatment, and then to return their patient to work. Providing counselling to an injured worker who after 60 days is still off work, was not considered a priority to the sample of GPs.

2.4.2 The sample of workers' compensation claimants

Table 2.1 shows that the age of claimants followed the normal distribution pattern. Males accounted for 70.0% of all claims. Males tended to have more accidents in the 25 to 34-age group; claims from females peak in the 35 to 44-age group.

Table 2.1 Relative frequency of age groups across gender for claimants¹

Age Groups	GENDER			
	Male		Female	
	No. of Claims	Relative Frequency	No. of Claims	Relative Frequency
15-19	91	5.0%	23	3.2%
20-24	264	14.6%	68	9.3%
23-34	483	26.8%	166	22.8%
35-44	415	23%	234	32.1%
45-54	344	19.1%	170	23.4%
55-64	200	11.1%	67	9.2%
65 +	6	0.3%	0	0%
Total	1803	100.0%	728	100.0%

Most claimants were married (51.3%), with single persons comprising 30.0% of the sample. A significant percentage of the sample had an unknown marital status (18.1%). Most claimants identified English as their primary language (85.6%).

Labourers and related workers, tradespersons, plant and machine operators and drivers² accounted for 71.5% of all claims. There was a relatively low representation of managers, administrators and professionals, accounting for less than 10% of the sample.

An analysis of injury details suggests that the majority of injuries were sustained to the back/neck area (31.4%), lower limbs (17.4%), hand/fingers (14.1%), and upper limbs (13.8%). The types of injury sustained were primarily sprains and strains (53.3%), whilst contusion (11.4%) and open wounds (11.2%) were the only other notable injuries. Accidents had a variety of causes. Body stressing accounted for 38.6%, followed by being hit by a moving object (23.0%) and falls, trips and slips (20.1%). In all, there is a reasonable distribution of claimants across occupation, injury location, injury type, age and gender.

Analysis of distribution by industry group is presented in table 2.2. In the sample, approximately 40% of claimants were employed in government administration. Other industry categories accounting for more than 10% of the sample were manufacturing (14.2%) and health and community services (10.9%). It should be noted that the data provided by one approved insurer was coded such that the majority of claims were classified in government administration.

¹ There were 17 missing cases with respect to gender and age variables.

² Occupation codes were based on the Australian Bureau of Statistics, *Australian Standard Classification of Occupations (1997)*.

Table 2.2 Distribution of claimants' industry at time of accident³

ASIC Major Units	Number of Claims	Relative Frequency
Agriculture, Forestry and Fishing	146	5.8%
Mining	199	7.9%
Manufacturing	358	14.2%
Electricity, Gas and Water Supply	52	2.1%
Construction	100	4.0%
Wholesale Trade	28	1.1%
Retail Trade	59	2.3%
Accommodation, Cafes and Restaurants	23	0.9%
Transport and Storage	120	4.8%
Communication Services	2	0.1%
Finance and Insurance	3	0.1%
Property and Business Services	25	1.0%
Government Administration	990	39.4%
Education	40	1.6%
Health and Community Services	275	10.9%
Cultural and Recreational Services	77	3.1%
Personal and Other Services	16	0.6%
Total	2513	100.0%

2.4.3 The representativeness of the sample of claims

It is important, at this stage, to evaluate the extent to which the sample of claimants is representative of the claims population. With approximately 145,647 reported lost-time claims (at the time of the study) in WA for the period 1991 to 1996, the sample represents around 1.7% of the total population. Several key indicators were used to evaluate the representativeness of the sample with respect to the total claims population. The indicators included industry, occupation, and the nature and location of the injury. The distribution of the population of claims by these indicators has been obtained from the *State of the Work Environment 1995/96* (WorkSafe Western Australia & WorkCover WA, 1997). Although the data for our sample was for the period 1991 through 1996, it serves as a rudimentary comparison.

The demographic and gender data suggests that the age and gender distribution of the sample was broadly representative of the population of injured workers (table 2.3). The initial sample of 2,997 claims was somewhat skewed to older age groups; however, the age groups with the highest proportion of claimants is consistent with the distribution for the population for both males and females.

³ There were 35 missing cases with respect to the industry variable.

Table 2.3 Comparison of the distribution of gender across age groups for both the sample and all workers' compensation claims in 1995/1996 (WorkSafe Western Australia & WorkCover WA, 1997)

Age Group	GENDER			
	Males		Females	
	Population	Sample	Population	Sample
15 – 19	10.4%	5.0%	9.8%	3.2%
20 – 24	17.8%	14.6%	15.5%	9.3%
25 – 34	30.7%	26.8%	21.9%	22.8%
35 – 44	20.6%	23.0%	25.9%	32.1%
45 – 54	13.8%	19.1%	21.5%	23.4%
55 – 64	6.0%	11.1%	5.2%	9.2%
65 +	0.3%	0.3%	0.0%	0.0%
Unknown	0.4%	0.0%	0.0%	0.0%

In terms of occupation comparison, the distribution of claimants across occupations is broadly representative of the population (table 2.4). However, the sample appears to be somewhat biased towards white-collar occupations which is particularly evident with respect to the para-professional and professional categories. Nevertheless, in both the population and the sample, the most important categories are the same, that is, labourers and related workers, and tradespersons.

Table 2.4 Distribution of occupation codes (ASCO) for both the sample and all workers' compensation claims in 1995/1996 (WorkSafe Western Australia & WorkCover WA, 1997)

	Population	Sample
Managers and Administrators	2.9%	1.4%
Professionals	3.2%	7.7%
Para-Professionals	4.6%	10.4%
Tradespersons	31.1%	22.5%
Clerks	2.8%	5.5%
Salespersons and Personal Services Workers	7.2%	3.5%
Plant & Machine Operators and Drivers	14.0%	13.9%
Labourers and Related Workers	34.2%	35.2%

Table 2.5 lists the sample of workers' compensation claims by bodily location of the injury. In the *State of the Work Environment 1995/1996*, bodily location categories differ from those gathered from the insurance records used in this report. Even where comparisons are possible, there are still differences. For example, injuries to the head account for 3.5% of the injury sample, but 10% of the population. Injuries to the upper limbs of the sample of workers are relatively infrequent (13.8%) as compared to the population (33.5%).

Table 2.5 Bodily location of work injury, sample

Bodily Location of Injury	Frequency	Percentage
Back/Neck	799	31.4%
Hands/Fingers	358	14.1%
Lower Limbs	442	17.3%
Upper Limbs	351	13.8%
Eye	113	4.4%
Other/Multiple	154	6.0%
Feet/Toes	91	3.6%
Chest/Trunk	140	5.5%
Head	89	3.5%
Internal Organs	7	0.3%
Unknown	4	0.2%
Total	2548	100.0%

Injury type is representative, with sprains and strains the most common injury type in both the sample and the population. This injury type accounts for 52.7% of all claims in the sample, and 46.1% of the population.

In summary, the claims data can be seen to be reasonably representative of the whole population. However, it should be noted that the comparison population is taken from 1995/1996, whilst the sample was drawn from 1991 to 1996.

2.5 Return-To-Work Outcomes and GP Characteristics, Behaviour and Attitudes

The primary concern of this section was to establish associations between return-to-work outcomes and GP characteristics, behaviours and attitudes. The return-to-work measure is the duration of a worker's compensation claim (i.e., the number of working days lost between initiation of a claim and closure of the claim). A claim is closed when a worker is determined fit for work. In the majority of cases in WA, claims were resolved within four weeks, usually resulting in a successful return to work. However, there are some cases in which the claim was closed without a successful return to work. Unfortunately, it was not possible to identify such cases using our approved insurers' claims database. The measure is nevertheless meaningful, as it reflects the speed with which workers recovered from injury to the point where they were capable of a return to work duties and active participation in the workforce.

A distinction was made between medical treatment services and workplace-based services. Medical treatment services refers to activities associated with the diagnosis and treatment of an injury sustained at the workplace. The term workplace-based services was defined to describe activities designed to facilitate a return to work, by utilising measures such as modifying the workplace, the work duties or skills of an injured worker, and by communicating with an employer and other service providers about such matters.

Of the statistics reported below, the most significant ones address the following hypothesis:

General Practitioners who accomplish both a medical treatment and workplace-based services role in relation to long-term workers' compensation claims secure shorter claim durations and lower claims costs.

This hypothesis was based on the argument that the treating GP is in the best position to assess an injured worker's capacity for suitable work duties, and the risk of an injury recurring in alternative work duties. Close liaison with other stakeholders can then result in more informed decisions about the return-to-work process.

The statistical analysis began by investigating variations in the mean and median duration of workers' compensation claims in relation to characteristics of the GPs, including their past experience in treating workers' compensation claims. The behaviour of GPs was examined in relation to medical treatment services and workplace-based services. The analysis concentrated on establishing whether GPs who stated that they commonly liaise with other stakeholders achieve shorter claim duration.

At the time of the study, common law claims arose from 4.7% of the sample of work injuries. Such claims are commonly of an extremely long duration (due to legal proceedings), and can distort comparisons conducted on the basis of means. All statistical comparisons were therefore conducted on the basis of both mean and median figures. The section concludes with an analysis of the attitudes GPs expressed about the role other participants play in the workers' compensation system.

2.5.1 GP characteristics and return-to-work outcomes

The statistical measures investigate associations between the mean (or median) duration of workers' compensation claims, the GP's age, gender, experience in dealing with workers' compensation patients, and whether the practice provided allied services.

In table 2.6 GPs have been classified into five age groups, and the mean and median duration of patients' claims has been calculated for GPs in each age band. Those GPs in the youngest and oldest age groups were associated with claims of a relatively short duration. There is no consistent pattern, and any conclusions drawn must be qualified by the small number of GPs in three of the five age bands. On collapsing these age bands into just two groups of GPs, below and above 45 years of age, it was found that the younger group achieves a speedier outcome (a mean duration of 50 days) as compared to the older group of GPs (a mean duration of 70 days). The small number of female GPs (13 female GPs) prevented meaningful comparisons by gender.

Table 2.6 Comparison of mean and median claim duration across age groups

Age Group Of Doctor	Duration of Claim (Days)		Compensation Cases		General Practitioners	
	Mean	Median	Number	Relative Frequency	Number	Relative Frequency
25 to 34 Years	34.62	5.00	218	8.56%	12	12.63%
35 to 44 Years	42.10	6.06	920	36.11%	41	43.16%
45 to 54 Years	82.00	12.0-0	653	25.63%	21	22.11%
55 to 64 Years	31.67	5.53	525	20.60%	14	14.74%
65+ Years	33.63	5.00	232	9.11%	7	7.37%

An interesting finding was that experience in dealing with workers' compensation claimants appears to be closely correlated with return-to-work outcomes. Experience was measured as the number of workers' compensation patients treated in the sample period (1991-1996). GPs were ranked, from lowest to highest, according to the number of patients treated. The ranking was partitioned at the median number of patients (15 patients) treated by the sample. Two groups of practitioners were then formed, with one group comprising of GPs who have treated less than the median (the inexperienced group), and a second group who have treated more than the median number of patients in the sample period (the experienced group).

This experience measure should be treated with caution as claim records were sourced from two approved insurers. A GP may have treated relatively large numbers of patients whose claims originate from other approved insurers, but relatively few claims from the two approved insurers that were the source of the claim sample. It was assumed, however, that GP behaviour would remain the same, regardless of the approved insurer.

Figure 2.1 identifies a sizable difference in the mean duration of claims, with the inexperienced group of GPs treating patients whose claims duration average was 64 days before closure, compared with 46 days for experienced GPs. This difference is sufficiently large to warrant further investigation. Later in this section, the question is posed whether the more experienced group are more likely to engage in workplace-based services on behalf of their workers' compensation patients.

By examining who the experienced GPs were in terms of their characteristics, the following comparisons indicate that experienced practitioners were typically older males working in practices that do not provide allied health services:

- 97% of the experienced group were male, while 83% of the inexperienced group were male;
- 59% of the experienced group are aged 45 years or older in comparison to 37% of inexperienced practitioners; and
- 78% of the experienced group work in practices that do not provide other allied services, as compared to 57% of inexperienced practitioners.

At this stage, we can only speculate about the significance of these associations.

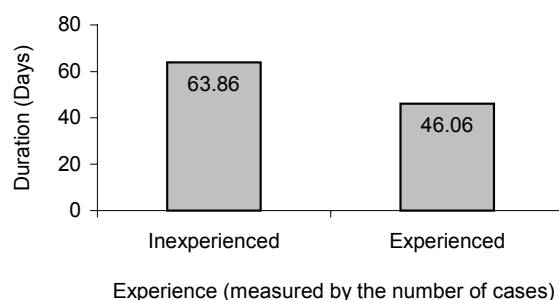


Figure 2.1 Mean duration of claims for GPs with respect to experience.

The database identified whether the practice provided allied services (e.g., physiotherapy) and if so, the type of service(s). Table 2.7 reveals a small difference, with GPs working in practices that do not provide allied services associated with longer claim duration outcomes. Analysis by type of allied service is not meaningful due to the small number of practices offering each service.

Table 2.7 Practices which provide other allied health services generally have quicker return to work

Does practice provide other allied health services?	Duration of Claim (Days)		Compensation Cases		General Practitioners	
	Mean	Median	Number	Relative Frequency	Number	Relative Frequency
Yes	44.33	6.13	635	24.92%	31	32.63%
No	50.24	7.00	1,913	75.08%	64	67.37%

2.5.2 GPs behaviour and return-to-work outcomes

This section analysed the typical experience and behaviour of GPs in liaising with employers and vocational rehabilitation providers. Our principal interest was whether practitioners who were more proactive in offering workplace-based services succeed in returning patients to the workplace relatively faster than those who were not.

Table 2.8 presents the findings on GP contact with employers. The questionnaire asked GPs whether they contact an employer to discuss their patient's medical treatment and return to work in cases where the patient's claim is long term. Five responses were permitted: *very often*, *often*, *neither*, *not very often*, and *rarely or not at all*. Of the GPs who responded, 61.0% contact employers *rarely or not at all* or *not very often*. This group was much less successful, in terms of return-to-work outcomes, than their colleagues who contacted employers *often* or *very often*. The mean duration of claims managed by the latter group of GPs was only 27 days, as compared to 63 days for their colleagues who were less proactive.

Table 2.8 GP contact with employer and the mean and median duration of claims

How often does the GP contact the Employer?	Duration of Claim (Days)		Compensation Cases		General Practitioners	
	Mean	Median	Number	Relative Frequency	Number	Relative Frequency
Very Often	25.07	5.00	386	15.15%	9	9.47%
Often	28.25	5.00	634	24.88%	22	23.16%
Neither	64.90	4.00	65	2.55%	5	5.26%
Not very often	65.24	10.00	1068	41.92%	35	36.84%
Rarely or not at all	58.24	7.00	379	14.87%	23	24.21%
Don't know	43.88	9.47	16	0.63%	1	1.05%

In view of the earlier findings on experience in treating workers' compensation patients, it is relevant to examine whether experienced GPs were more likely to be proactive with respect to employers. This question was addressed by defining two categories of practitioner: proactive GPs, that is, those who liaise very often or often with employers, were distinguished from their more passive colleagues. Table 2.9 demonstrates that the percentage of experienced GPs who were proactive (34%) marginally exceeds the percentage of inexperienced practitioner who were proactive (31%).

Regardless of the experience of the GP in treating workers' compensation patients, being proactive rather than passive had a profound impact on the typical duration of claims.

Table 2.9 Are experienced GPs more likely to liaise with employers?

GP Liaises with Employer Often or Very Often	Duration of Claims		Compensation Cases		General Practitioners	
	Mean	Median	Number	Frequency	Number	Frequency
Inexperienced GPs						
No	73.06	8.53	285	1.19%	33	34.74%
Yes	38.37	6.00	102	4.00%	15	15.79%
Experienced GPs						
No	61.02	9.00	1243	48.80%	31	32.63%
Yes	25.77	4.93	917	36.00%	16	16.84%

In discussing the possibility of arranging alternative work duties, the first person most GPs talk to is the patient (80%). Yet a minority of GPs (21%) who first talked to an employer or approved vocational rehabilitation provider were treating patients who typically returned to work 18 days earlier.

GPs reported mixed experiences in their dealings with employers *willing* to modify work duties so as to facilitate a return to work. Under one-third of the sample (33%) found employers *very willing* or *willing* (see table 2.10), while over one-third (40%) found employers *reluctant* or *very reluctant* to modify work duties. Interestingly, the clients of the former group typically return to work 38 days earlier (see column 1, table 2.10).

Table 2.10 How willing did GPs find employers to accept workers on alternative duties?

How willing are employers to accept workers on alternative duties?	Duration of Claim		Compensation Cases		General Practitioners	
	Mean	Median	Number	Relative Frequency	Number	Relative Frequency
Willing or Very Willing	32.59	5.07	931	36.54%	31	32.63%
Reluctant or Very Reluctant	70.89	10.00	1069	41.95%	38	40.00%
Don't Know	33.11	6.00	548	21.51%	26	27.37%

Are these patterns repeated when GPs experience with, and behaviour toward, approved vocational rehabilitation providers is considered? Tables 2.11 and 2.12 address this question. Of the GPs sampled, 51 (54%) indicated that they contact approved vocational rehabilitation providers very often or often. On examining the mean (and median) duration of the claims, no discernible pattern was apparent. Typically, those GPs who had contact with approved vocational rehabilitation providers *often* or *very often* were marginally more successful in returning patients to the workforce (a mean of 46 days), as compared to those whose contact with providers was *never*, *rare* or *not very often* (a mean of 53 days). The difference almost disappeared when the median rather than the mean was used as the basis for comparison, which suggests that the difference in means is due to distortions introduced by a small number of extreme cases.

Table 2.11 GP contact with approved vocational rehabilitation providers and mean and median duration of claims

How often does the GP contact the Approved Vocational Rehabilitation Provider?	Duration of Claim		Compensation Cases		General Practitioners	
	Mean	Median	Number	Relative Frequency	Number	Relative Frequency
Very Often	24.45	5.71	132	5.18%	9	9.47%
Often	48.28	7.00	1261	49.49%	42	44.21%
Neither	43.42	6.63	56	2.20%	3	3.16%
Not very often	35.03	5.00	590	23.16%	27	28.42%
Rarely or not at all	72.80	11.00	509	19.98%	14	14.74%

Furthermore, there was no relationship between the propensity of GPs to liaise with approved vocational rehabilitation providers and the extent of GP experience in dealing with workers' compensation patients. Both inexperienced and experienced GPs were equally likely to be proactive rather than passive in their relationship with providers.

In the experience of 41 GPs, approved insurers or employers were mainly responsible for referrals to vocational rehabilitation providers. Of the other GPs, 43 indicated that they were mainly responsible for referrals. GPs' statements about responsibility for referrals were not associated with systematic differences in return-to-work outcomes.

In table 2.12, GPs' experiences with delays in referrals for vocational rehabilitation were reported. The majority of the sample (66%) found referrals to be either a little, or a lot later than was really desirable. Yet the mean or median duration of claims treated by GPs who found the timing of referrals to be optimal, was not consistently shorter. Thus, the median duration of claims managed by GPs who found referrals were later or a lot later than was desirable were lower than those of claims managed by practitioners satisfied with the timeliness of referrals.

Table 2.12 GP experience with the timeliness of vocational rehabilitation

Timeliness of Vocational Rehabilitation	Duration of Claim		Compensation Cases		General Practitioners	
	Mean	Median	Number	Relative Frequency	Number	Relative Frequency
As early as required to achieve earliest possible RTW*	56.40	9.00	801	31.44%	25	26.32%
A little later than is really desirable	39.35	6.00	1190	46.70%	48	50.53%
A lot later than is really desirable	77.85	8.00	302	11.85%	15	15.79%
No Response/ Don't Know	34.33	4.47	255	10.01%	7	7.37%

* RTW: Return To Work

In contrast, there was a strong relationship between the frequency of liaison with vocational rehabilitation providers and the timeliness of referrals. Only 10% of GPs who were proactive in relationships with providers found referrals were typically a lot later than is really desirable, while 23% of passive GPs found referrals to be a lot later than desirable.

Table 2.13 Referral to different specialists and the duration of claims

Number of different types of specialist client referred to	Duration of Claim		Number of Claims	
	Mean	Median	Number	Relative Frequency
0	12.73	4.00	1520	59.65%
1	40.58	10.93	760	29.83%
2	228.02	112.25	147	5.77%
3	332.69	274.67	111	4.35%
4	361.80	352.44	10	0.39%

Table 2.13 examines the number of different types of specialist service providers a worker's compensation claimant had been referred to by stakeholders (from insurance claim records). If the insurance records indicated that a payment had been made to a chiropractor, optical or dental practitioner, physiotherapist, non-vocational rehabilitation provider, vocational rehabilitation provider, psychologist or professional vocational services provider, this was counted as a referral to a specialist service provider. The non-vocational rehabilitation provider category seems unusual and it was not clear whether this related to physical rehabilitation, services from non-accredited providers or other types of services. This category adds a significant cost to the claim, as discussed later in the report. The responsibility for referral is not known.

Table 2.13 presents the mean and median duration of claims by the number of different specialist a claimant was referred to. Of the total, 40.4% were referred to one or more specialists. Not surprisingly, the mean and median duration of claims systematically increased with the number of referrals. It is important to interpret this pattern cautiously. It does not necessarily mean that a referral to a specialist service provider was detrimental to return-to-work outcomes. The positive relationship may merely reflect the fact that a claimant was only referred to specialist providers once the claim became protracted. This issue is further examined in section 2.8.

The key finding in this section was that GPs who were proactive in their relationship with employers were associated with superior return-to-work outcomes. This supports the hypothesis that GPs who engaged in both medical treatment services and workplace-based services were more successful in returning patients with long-term work injuries to employment. The evidence regarding the relationship between GPs and vocational rehabilitation providers was not so readily interpretable. The regularity of contact with vocational rehabilitation providers and the timeliness of referrals were not associated with quicker return-to-work outcomes.

2.5.3 GP opinions, attitudes and return-to-work outcomes

This sub-section examines the general attitudes of GPs with respect to their responsibilities in the workers' compensation system, with a view to discovering systematic associations with return-to-work outcomes. A description of GP views on the roles and responsibilities of employers, approved insurers and vocational rehabilitation providers is provided. Moreover, an analysis was undertaken of the links between these opinions/attitudes and the characteristics and behavioural traits of practitioners that were found to be closely associated with successful return-to-work outcomes. It was examined whether more experienced GPs had distinctive attitudes and opinions about their responsibilities, and about the roles played by the other major stakeholders, and whether those who liaised closely with employers and vocational rehabilitation providers had distinctive attitudes and opinions. The findings in sections 2.5.1 and 2.5.2 indicate that the opinions and attitudes of these GPs should be given particular attention.

General attitudes

The questionnaire required respondents to:

- define a long-term worker's compensation claim;
- indicate their responsibilities in the management of long-term claims;
- suggest who should be mainly responsible for arranging suitable duties; and
- list major impediments to their effectiveness in returning long-term workers' compensation claimants to employment.

GPs were offered four alternative definitions of a long-term worker's compensation claim: 14 days or less, 15 to 30 days, 31 to 60 days and 61 days or more. Most (42%) opted for 15 to 30 days (see table 2.14). The 61 days or more alternative was chosen by only 13% of the GPs. Those GPs who defined long-term workers' compensation cases as 30 days or less were more successful in terms of return-to-work outcomes. This was particularly apparent among those GPs who defined a long-term worker's compensation claim as 15 to 30 days.

Table 2.14 GP definitions of a long-term worker's compensation claim

How many days constitutes a long-term workers' compensation claim?	Duration of Claim		Compensation Cases		General Practitioners	
	Mean	Median	Number	Relative Frequency	Number	Relative Frequency
14 days or less	55.93	8.00	613	24.06%	25	26.32%
15 – 30 days	39.46	6.00	1122	44.03%	40	42.11%
31 – 60 days	49.31	6.95	414	16.25%	14	14.74%
61 or more days	72.30	9.80	312	12.24%	12	12.63%
No Response	31.44	4.53	87	3.41%	4	4.21%

The three most frequently cited roles and responsibilities of GPs are:

- to provide treatment and primary care;
- to get a worker back to work as soon as possible; and
- and to co-ordinate the various parties involved in managing a patient's case.

A significant feature of table 2.15 is a relatively longer duration of workers' compensation claims managed by GPs who cite medical treatment services (i.e., diagnosis and treatment or primary care of patients) as their main responsibility. In contrast, those who cite workplace-based services, such as co-ordination of the relevant parties, providing rehabilitation and getting workers back to work on alternative duties as the GP's responsibility achieve more successful return-to-work outcomes.

Table 2.15 GP opinions on their roles and responsibilities in the management of long-term claims

		Duration of Claim		Compensation Cases		General Practitioners	
		Mean	Median	Number	Relative Frequency	Number	Relative Frequency
Try to get employee back to work as soon as possible	No	41.75	5.92	1524	59.81%	60	63.16%
	Yes	59.21	9.00	1024	40.19%	35	36.84%
Co-ordinate stakeholders in claim	No	51.28	7.00	1911	75.03%	65	68.42%
	Yes	41.29	6.63	636	24.97%	30	31.58%
Diagnose patient	No	45.92	6.80	2160	84.77%	73	76.84%
	Yes	64.63	7.19	388	15.23%	22	23.15%
Provide treatment	No	44.07	6.00	1508	59.18%	56	58.95%
	Yes	55.57	8.13	1040	40.82%	39	41.05%
Provide rehabilitation	No	51.22	7.00	2199	86.30%	80	84.21%
	Yes	33.31	5.00	349	13.70%	15	15.79%
Provide counselling	No	45.55	6.00	2333	91.56%	87	91.58%
	Yes	83.72	24.00	215	8.44%	8	8.42%
Get employee back to work on alternative duties	No	51.78	7.00	2243	88.03%	84	88.42%
	Yes	26.63	5.00	305	11.97%	11	11.58%
Refer to specialists	No	49.61	7.00	1896	74.41%	74	77.89%
	Yes	46.31	6.00	652	25.59%	21	22.11%
Other	No	49.05	7.00	2515	98.70%	94	98.95%
	Yes	27.27	2.00	33	1.30%	1	1.05%
No response / don't know	No	49.94	7.00	2394	93.96%	94	98.95%
	Yes	30.53	4.00	154	6.04%	1	1.05%

Most GPs believe that under present arrangements, it is the employers who are mainly responsible for arranging suitable duties for injured workers (table 2.16). 38 of 95 GPs cited employers, compared to 24 who stated GPs themselves, and 26 who indicated vocational rehabilitation providers as being mainly responsible. Those GPs who saw themselves as mainly responsible achieved much quicker return-to-work outcomes than those who thought employers were mainly responsible.

Table 2.16 GPs opinion on who is mainly responsible for arranging suitable duties for the injured worker

Who is mainly responsible for arranging suitable duties for injured workers?	Duration of Claim		Compensation Cases		General Practitioners	
	Mean	Median	Number	Relative Frequency	Number	Relative Frequency
Employer/ Supervisor	61.64	8.93	966	37.91%	38	40.00%
Vocational Rehabilitation	39.93	6.00	599	23.51%	26	27.37%
Treating General Practitioner	43.29	6.00	808	31.71%	24	25.26%
Other	33.17	6.93	175	6.87%	7	7.37%

This is particularly significant in view of GP responses when asked their opinion on major factors impeding their effectiveness in returning long-term patients to employment. Employer reluctance to provide modified duties is cited more frequently (by 22 GPs) than any other impediment. The next most commonly mentioned impediments are the patient's attitude (18 GPs) and lack of access to rehabilitation services (13 GPs).

GPs' attitudes and opinions on employers, approved insurers and vocational rehabilitation providers

The questionnaire also elicited the views of GPs on the assistance offered by employers, approved insurers and vocational rehabilitation providers in facilitating a return to work. A specific question was asked regarding employers, (i.e., whether GPs find employers willing to modify or alter work duties). More GPs stated that employers were generally reluctant or very reluctant (38 GPs), than willing or very willing (31 GPs). GPs had an even more negative opinion of approved insurers, with 47 indicating insurers were rarely or not very often helpful in assisting workers to return to work, as compared to 21 practitioners who found insurers often or very often helpful. In contrast, GPs had a positive view of the effectiveness of vocational rehabilitation providers in achieving the earliest possible return to work; 60 GPs stated providers are often, or very often effective.

In view of these opinions, it is interesting to examine GPs' responses when asked how employers could improve their role. The most frequently cited improvement was that employers should make alternative duties available to long-term workers' compensation patients. The next most frequently cited improvement was that employers should communicate more with injured workers.

Those practitioners who viewed insurers as ineffective were asked to cite their reasons. The most commonly cited reasons were: insurers don't care about the patient; insurers are only interested in reducing costs; insurers cause delays that impede a return to work.

What 'drives' GP opinions and attitudes?

The analysis established that more successful return-to-work outcomes were secured by GPs who:

1. were more experienced in treating workers' compensation patients;
2. were proactive in their contact with employers;
3. found employers more willing to modify work duties;
4. defined long-term workers' compensation cases as falling in the range 15-30 days duration; and
5. cited workplace-based services as part of their management of long-term claims.

The opinions of GPs with these attributes were of particular importance, given their superior return-to-work outcomes. Close attention was paid to the opinions of GPs who were proactive in workplace-based services. A wider definition of proactive was adopted here: a GP is defined as proactive if he or she liaises often or very often with either employers or vocational rehabilitation providers. GPs are defined as passive in the workplace-based services role if they liaise rarely or not very often with both employers and vocational rehabilitation providers.

The relationship between proactive GPs and the key findings 3, 4 and 5 listed above were considered. There was little difference in the opinions of proactive and passive practitioners on what constitutes a long-term workers' compensation claim.

There was a big difference between passive and proactive GPs in relation to their experience of employer willingness to accept injured workers on modified duties. Forty percent of proactive GPs found employers very willing or willing to modify work duties, but only 19% of passive GPs had this experience of employers; indeed, not one of the latter group found employers very willing. Passive GPs were also less likely to cite workplace-based activities as part of their role and responsibilities. The roles of co-ordination, providing rehabilitation and counselling were cited by 31%, 16% and 3% respectively of passive GPs. The corresponding figures for proactive GPs were 32%, 16% and 27% respectively.

A particularly interesting contrast in opinions was evident in GPs' opinions on major impediments to achieving more successful return-to-work outcomes. More than half (56%) of proactive GPs cited employer reluctance to provide modified duties, as compared to only 12.5% of passive practitioners.

The opinions of passive and proactive GPs towards approved insurers were also contrasted. When asked whether the amount of contact between GPs and approved insurers was generally sufficient to ensure the earliest possible return to work, 38% of the proactive group answered yes, as compared to 22% of the passive group. A large proportion of both groups indicated insurers were rarely or not very often helpful in achieving successful return-to-work outcomes. Both passive and proactive GPs with this opinion put forward similar reasons for the ineffectiveness of insurance companies.

There were contrasting opinions on the role of vocational rehabilitation providers among GPs. Proactive GPs were more likely to find that contact with vocational rehabilitation providers was sufficient to ensure the earliest possible return to work. However, in both groups a small minority found vocational rehabilitation inefficient in assisting a successful return to work. There was a difference of opinion on the responsibility for, and timeliness of referrals; 49% of proactive GPs saw themselves as mainly responsible for referrals, compared to only 38% of passive GPs. Not surprisingly, only 10% of proactive GPs found that referrals occurred a lot later than was really desirable, whereas 28% of passive GPs expressed this opinion.

A consistent pattern emerged from this analysis. Proactive GPs, who were typically more successful in achieving return-to-work outcomes, exhibited a greater propensity to both liaise with other stakeholders and accept workplace-based activities as part of their responsibilities. This group of GPs also tended to have a more positive attitude toward, and opinion of, the workers' compensation system. Proactive GPs also had a greater awareness of the importance of modifying work duties to facilitate a successful return-to-work outcome.

2.6 Return-to-work outcomes for Sprain and Strain Work Injuries

It is conceivable that the return-to-work outcomes and the experiences and opinions of proactive GPs reflect the type of work injuries these practitioners typically deal with. Do the shorter claim durations, and the more positive opinions and attitudes, arise because proactive GPs tend to see work injuries that are more readily treatable than those handled by their passive colleagues?

To address this issue, a statistical analysis of a sub-sample of workers' compensation cases involving sprains and strains was undertaken. Sprains and strains were chosen because they were the most common injury type, making up 53.3% of the sample of workers' compensation cases. There were only three practitioners out of our sample who did not treat patients with work injuries involving sprains and strains in the time frame adopted for this study.

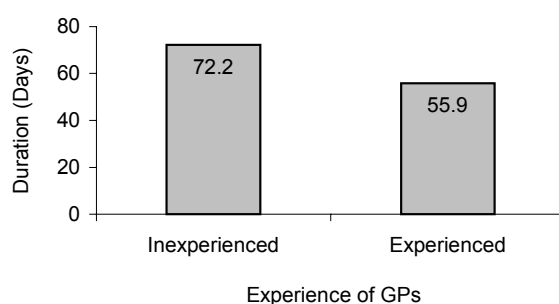


Figure 2.2 Mean duration of sprains and strains, by GP experience

Those GPs who treated more than the median number of workers' compensation patients in the sample time frame (1991 to 1996) obtained more successful return-to-work outcomes (figure 2.2). Typically, experienced GPs succeed in returning patients with sprains and strains to the labour force 16 days earlier than their more inexperienced colleagues.

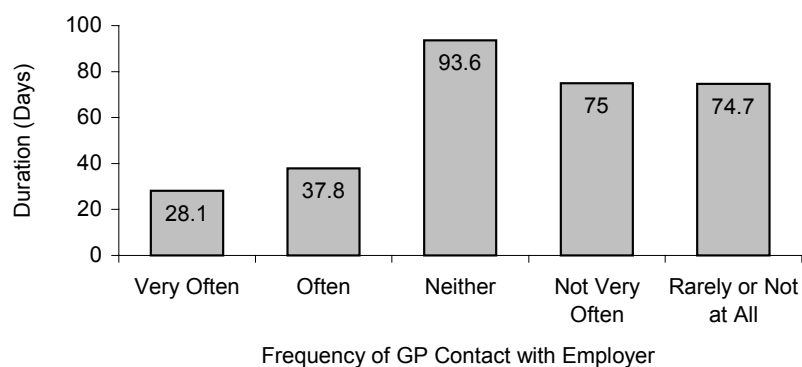


Figure 2.3 Frequency of GP contact with the employer and duration of claims for sprain and strain injuries.

Figure 2.3 examines the behaviour of GPs in terms of liaising with employers. Practitioners who liaised often or very often with employers were associated with a mean duration of claim (34 days) that is less than half that achieved by practitioners who liaised with employers rarely or not very often (74 days). Thus, GPs who were proactive in their relationship with employers achieved more successful outcomes for clients with injuries involving sprains and strains.

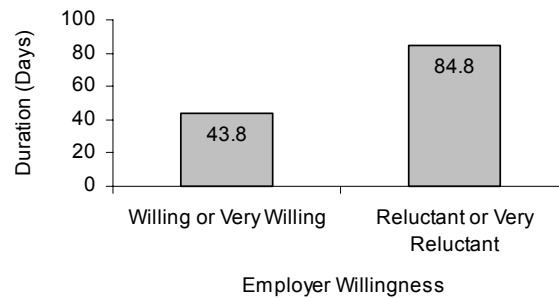


Figure 2.4 GPs' perceptions of employer willingness to accept workers back on alternative or modified duties for sprain and strain injuries

Figure 2.4 confirms the finding that GPs who found employers were generally willing or very willing to modify work duties were associated with much lower claim duration rates. If employers were generally found to be willing or very willing to modify work duties, workers' compensation claimants with sprains and strains returned to work after an average 44 working days. The comparable figure for GPs who found employers reluctant or very reluctant was 84 working days.

Table 2.17 GP contact with vocational rehabilitation provider, and mean and median duration of claims

How often does the GP contact the Vocational Rehabilitation Provider	Duration of Claim		Compensation Cases		General Practitioners	
	Mean	Median	Number	Relative Frequency	Number	Relative Frequency
Very Often	20.35	6.00	82	6.11%	8	8.70%
Often	63.80	9.00	702	52.27%	41	44.57%
Neither	66.78	7.81	26	1.94%	3	3.26%
Not very often	46.69	6.00	308	22.93%	26	28.26%
Rarely or not at all	71.77	7.00	225	16.75%	14	15.22%

There was little evidence that a proactive stance in relation to vocational rehabilitation providers would yield more successful return-to-work outcomes. Table 2.17 shows consistency with findings for all work-related injuries.

GPs who cited workplace-based services as part of their management of long-term injuries achieved more successful return-to-work outcomes for patients with sprains and strains.

The mean working days lost for cases treated by GPs who provide some rehabilitation, coordinate stakeholders in medical treatment services and provide counselling services was 42, 50 and 42 days respectively. The mean number of working days lost for cases treated by GPs who do not see these functions as part of their responsibilities was 61, 62 and 59 days respectively.

Table 2.18 Cross-tabulation of GPs who are proactive (liaise with employer), by GP experience

GP Liaises with Employer Often or Very Often	Duration of Claims		Compensation Cases		General Practitioners	
	Mean	Median	Number	Frequency	Number	Frequency
Inexperienced GPs						
No	74.69	9.00	71	5.29%	45	48.91%
Yes	36.40	6.92	33	2.46%	17	18.48%
Experienced GPs						
No	75.57	10.00	725	53.98%	17	18.48%
Yes	33.91	6.00	514	38.27%	13	14.13%

Table 2.18 shows the duration of claims as a function of the experience of GPs and of their relationship with employers (i.e., proactive or passive). Regardless of the experience of the practitioner, close liaison with employers led to more successful outcomes.

2.7 The Cost of Workers' Compensation and GP Characteristics, Behaviour and Attitudes

The cost of workers' compensation claims is defined as the total cost per claim, that is, the sum of weekly benefits, medical expenses, pharmaceutical, investigative, common law and other allied health services. It was examined whether this total cost figure may vary, or was influenced, or can be predicted, as a function of specific GP characteristics (such as age and gender), or GP behaviour and attitudes. All cross-tabulations were conducted using both mean and median cost figures. The latter is used to ensure that extremely large cost claims, such as those involving common law, do not have a disproportionate impact on comparisons.

2.7.1 GP characteristics and the cost of workers' compensation

The following statistical measures investigate the relationships between the mean and median total cost of workers' compensation to the approved insurer on the one hand, and the characteristics of the treating GPs (age, gender, experience in dealing with workers' compensation patients and whether the practice provides allied services) on the other.

In table 2.19, GP age is classified into five age groups, with the mean and median cost to the approved insurer given for each age group. The 55–64 age group had the lowest median cost (\$967.09). The next lowest cost was found with the 65-years-and-over group. The GPs between the ages of 45–54 years incurred the highest median cost per claim. These practitioners dealt with just over a quarter of the total sample of injured workers.

Table 2.19 Comparison of mean and median total cost of injury across age groups

Age Groups of Doctors (Experience)	Cost to Insurer			
	Mean	Median	Number	Relative Frequency
25 to 34 years	7,710.01	1,148.97	18	8.6%
35 to 44 years	8,676.67	1,173.72	920	36.1%
45 to 54 years	21,954.51	2,198.44	653	25.6%
55 to 64 years	7,014.24	967.09	525	20.6%
65 years and over	8,467.83	972.28	232	9.1%

In terms of experience (where experience is measured as the number of workers' compensation claims dealt with by a GP between 1991 to 1996) the more experienced GPs achieved a lower median cost. However, 80 experienced GPs also dealt with over 80% of the total injured worker sample, which consequently renders this association quite weak.

Table 2.20 presents the mean and median cost for practices with and without other allied health services. When a practice provides other allied health services (e.g., physiotherapy) the mean and median cost was less than in practices that provided no allied health services. These figures may only support a tenuous general relationship, as the services provided varied, and only few GPs offered such services.

Table 2.20 Practices which provide other allied health services and total cost

Does practice provide other health services?	Cost of Claims		Compensation Cases		GPs	
	Mean	Median	No.	Relative Frequency	No.	Relative Frequency
Yes	\$4,162.23	\$549.70	635	24.92	31	32.63
No	\$4,360.57	\$585.90	1913	75.08	64	67.37

2.7.2 GP behaviour and the cost of workers' compensation

The main focus was to establish whether practitioners who liaised closely with employers and who approved vocational rehabilitation providers typically achieved lower cost outcomes. It was found that a more proactive approach was again the most cost-effective way of managing worker's compensation claims.

Table 2.21 Frequency of GP contact with employer, and total cost to insurer

How often does the GP contact the employer?	Cost to Insurer			
	Mean	Median	No.	Relative Frequency
Very Often	\$5,801.10	\$1,036.38	386	15.1%
Often	\$5,773.50	\$902.59	634	24.9%
Neither	\$18,775.42	\$1,050.04	65	2.6%
Not very often	\$16,711.78	\$1,779.66	1068	41.9%
Rarely or not at all	\$11,768.22	\$1,302.42	379	14.9%
Don't know	\$13,641.76	\$1,356.85	16	.6%

When a GP contacted employers not very often or rarely, the mean cost was much higher than when contact was described as very often or often (table 2.21). The highest proportion of the injured workers (41.9%) falls into the not-very-often band which over time would translate into a substantial increase in cost for approved insurers.

GPs have been identified as either experienced or inexperienced, and they were also classified as passive or proactive to describe the approach taken in their contact with other parties. The experience and approach of the GP (passive or proactive) was explored with respect to a comparison of mean and median total costs per claim. With experienced GPs, those who often contact the employer had substantially lower median and mean total cost per claim (see table 2.22).

Table 2.22 Are experienced GPs more likely to have a lower total cost per claim?

How often does the GP contact the employer?	Inexperienced				Experienced			
	Cost to Insurer			Relative Frequency	Cost to Insurer			Relative Frequency
	Mean	Median	Number		Mean	Median	Number	
Often / Very Often	10773.20	1408.99	103	4.0%	5223.54	931.70	917	36.0%
Not Very Often / Rarely	13579.78	1225.71	253	9.9%	15806.24	1695.03	1194	46.9%
Don't Know / Neither	30695.83	3641.01	32	1.3%	9314.36	818.54	49	1.9%

Though inexperienced but proactive GPs achieved a lower mean cost as compared to their passive inexperienced colleagues, the comparison with median costs was reversed. This inconsistency may reflect the relatively small number of clients treated by this subgroup of GPs, as well as the impact of common law claims.

GPs were asked whether they found employers willing to offer alternative work duties to facilitate a return to work. Those who found employers willing to offer their injured workers alternative work duties had a significantly lower total cost (see figure 2.5). Over a third of injured workers were treated by GPs who found employers willing to modify duties to facilitate return to work.

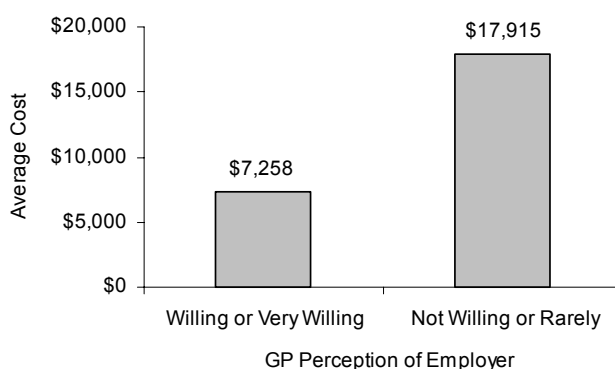


Figure 2.5 GPs' perceptions of employers accepting workers back on alternative duties, and cost to insurer

The following two tables summarise the findings on GP contact with vocational rehabilitation providers (table 2.23) and timeliness of referral for vocational rehabilitation (table 2.24).

Table 2.23 GP contact with vocational rehabilitation providers, and mean and median total cost to insurer

How often do you contact a vocational rehabilitation provider?	Cost to Insurer		Number	Relative frequency
	Mean	Median		
Very often	\$5,259.21	\$1,438.63	132	5.2%
Often	\$10,020.68	\$1,213.12	1,261	49.5%
Neither	\$6,791.73	\$976.71	56	2.2%
Not very often	\$7,036.50	\$942.49	590	23.2%
Rarely or not at all	\$23,152.18	\$2,241.29	509	20.0%

Table 2.24 Timeliness of vocational rehabilitation and the cost to insurer⁴

Timeliness of vocational rehabilitation from point of injury	Cost to Insurer		Number	Relative frequency
	Mean	Median		
As early as required to achieve earliest possible RTW	15,514.19	1,648.12	801	31.4%
A little later than is really desirable	8,805.93	1,169.52	1,190	46.7%
A lot later than is really desirable	15,638.08	1,324.38	302	11.9%
No response/don't know	7,913.74	839.31	225	10.0%

The total mean and median cost of a claim was greater when a vocational rehabilitation provider was contacted very often or often (that is, when a GP took a proactive approach). This is contrasted with the duration of workers' compensation cases in section 2. For 47% of injured workers, vocational rehabilitation took place a little later than was desirable in the view of GPs. This group achieved the lowest cost to the insurer. In contrast, 31% of injured workers who, in the view of GPs, were referred as early as required to achieve the earliest possible return to work, had relatively high mean costs.

2.7.3 GP attitudes and the cost of workers' compensation

The association between GP attitudes on how many days off work constitutes a long-term claim and the mean/median claim cost was analysed in table 2.25. GPs who view 61 or more days as constituting a long-term workers' compensation claim were responsible for the treatment of workers' compensation claimants that were relatively expensive. This was also the case at the other extreme (i.e., when GPs regard 14 days or less as a long-term claim). If a GP defined 31-60 days or 15-30 days as a long-term workers' compensation claim, the mean and median costs were lower.

⁴ There were 30 missing cases with respect to the response for this variable.

Table 2.25 GPs' definition of a long-term workers' compensation claim

How many days constitute a long-term workers' compensation claim	Cost to Insurer		Number	Relative frequency
	Mean	Median		
14 days or less	\$17,132.95	\$1,441.58	613	24.1%
15 to 30 days	\$8,277.12	\$1,200.77	1,122	44.0%
31 to 60 days	\$10,897.44	\$1,085.15	414	16.2%
61 days or more	\$14,428.43	\$1,535.39	312	12.2%
No response/don't know	\$9,701.04	\$783.71	87	3.4%

Table 2.26 lists the roles and responsibilities cited by GPs regarding claims that had exceeded, or were likely to exceed, 60 days. When GPs considered it to be their main role or responsibility to provide medical treatment services, specifically diagnosis and treatment, the cost to the approved insurer was higher per claim than for GPs who defined their role so as to include workplace-based activities.

Table 2.26 GP opinions on their roles and responsibilities in the management of long-term claims

		Cost to Insurer		Number	Relative Frequency
		Mean	Median		
Get employee RTW*	No	\$9,241.99	\$1,047.63	1,524	59.8%
	Yes	\$15,197.11	\$1,558.77	1,024	40.2%
Co-ordinate	No	\$12,763.49	\$1,262.81	1,912	75.0%
	Yes	\$8,243.44	\$1,183.50	636	25.0%
Diagnose Patient	No	\$10,899.15	\$1,218.25	2,160	84.8%
	Yes	\$15,733.14	\$1,464.29	388	15.2%
Provide Treatment	No	\$9,374.65	\$1,186.61	1,508	59.2%
	Yes	\$14,913.13	\$1,442.30	1,040	40.8%
Provide Rehabilitation	No	\$12,398.10	\$1,300.10	2,199	86.3%
	Yes	\$6,828.68	\$1,056.40	349	13.7%
Provide Counselling	No	\$9,749.24	\$1,150.66	2,333	91.6%
	Yes	\$32,100.70	\$7,003.57	215	8.4%
RTW* on alternative duties	No	\$12,248.79	\$1,269.12	2,243	88.0%
	Yes	\$7,123.25	\$1,132.37	305	12.0%
Refer to Specialists	No	\$12,217.29	\$1,311.10	1,896	74.4%
	Yes	\$9,942.71	\$1,088.17	652	25.6%
Other	No	\$11,693.24	\$1,260.70	2,515	98.7%
	Yes	\$7,216.23	\$592.13	33	1.3%
No response/don't know	No	\$11,841.58	\$1,304.11	2,394	94.0%
	Yes	\$8,272.38	\$838.63	154	6.0%

* RTW: Return To Work

In terms of workplace-based activities, when the GP believed their role to be that of co-ordinator of the other stakeholders, and to be responsible for providing rehabilitation and return-to-work options, costs per claim were lower. When providing counselling was believed to be one of the GP's responsibilities, there was a marked increase in the cost per workers' compensation claim. However, there were few injured workers who received this particular form of service.

GPs' opinions on which party was mainly responsible for arranging alternative duties for an injured worker were also elicited and matched with typical claims (see table 2.27). Those GPs who suggested that the employer was mainly responsible for arranging alternative duties had the highest median cost. GPs who held this belief treated 37% of the injured worker sample. When the GP was seen as mainly responsible for organising alternative duties the cost per case was substantially lower. Surprisingly, given the findings on contact between GPs and vocational rehabilitation providers, the median and mean cost was lowest when the GPs saw vocational rehabilitation providers as the party responsible for arranging alternative duties.

Table 2.27 GPs opinions on who was mainly responsible for arranging alternative duties

Who is mainly responsible for arranging alternative duties for injured workers	Cost to Insurer		Number	Relative Frequency
	Mean	Median		
Employer/supervisor	\$15,807.53	\$1,663.10	966	37.9%
Vocational rehabilitation	\$8,457.57	\$1,103.76	599	23.5%
Treating GPs	\$9,953.61	\$1,111.73	808	31.7%
Other	\$7,245.45	\$1,176.70	175	6.9%

2.8 Multivariate Statistical Analysis

A more rigorous statistical analysis of the relationships between GPs' characteristics, attitudes and behaviours and the cost of workers' compensation claims was conducted. A qualification to the findings in section 2.7 concerns differences in the cases of workers' compensation claimants treated by proactive and passive GPs. It is conceivable that the much lower costs obtained by the former group of GPs was due to differences in the type of workers' compensation cases treated. For example, proactive GPs may typically have dealt with injuries of a less serious nature. Alternatively, their caseload may have been dominated by the presence of injured workers whose socio-economic characteristics are associated with an early return to work. Another possible explanation was that proactive GPs had other attributes that resulted in lower cost outcomes (for example, a lower propensity to refer clients to specialists).

These questions cannot be satisfactorily answered by comparing mean or median cost outcomes with respect to different categories of GPs and their patients. Multiple regression models have therefore been estimated by ordinary least squares, with a view to isolating the impact on costs of close GP liaison with employers and vocational rehabilitation providers. This statistical approach has the virtue of estimating the impact on costs while holding other confounding factors, such as the nature of injuries, constant. It also has the advantage of allowing an evaluation of the cost efficacy of alternative treatment patterns that arise as a result of referrals to different specialist service providers. A final attribute of the statistical approach is that model estimates have the potential for use as predictors of expected costs for any given injury type and treatment pattern.

2.8.1 Regression model estimate

The modelling strategy involved estimation of models of increasing generality. In all cases the dependent variable was the total cost of individual workers' compensation claims. The process commenced by estimating two narrowly specified medical models. In the first specification the independent variables were characteristics of GPs and their behaviour:

Medical Model 1. Independent Variables.

1. The number of workers' compensation claims the responsible GP treated between 1991 and 1996.
2. A dummy variable equal to 1 if the treating GP liaised often or very often with vocational rehabilitation providers, otherwise 0.
3. A dummy variable equal to 1 if the treating GP liaised often or very often with employers, otherwise 0.
4. A dummy variable equal to 1 if the treating GP was aged between 35 and 44 years of age, otherwise 0.
5. A dummy variable equal to 1 if the treating GP was aged between 45 and 54 years of age, otherwise 0.
6. A dummy variable equal to 1 if the treating GP was aged between 55 and 64 years of age, otherwise 0.
7. A dummy variable equal to 1 if the treating GP was age 65 or over, otherwise 0.
8. A dummy variable equal to 1 if the treating GP's gender was female, otherwise 0.
9. A dummy variable equal to 1 if the treating GP worked in a practice offering allied health services, otherwise 0.

The co-efficient estimates on the dichotomous dummy variables represented the expected difference in cost between the included category and the omitted category. For example, consider the Model 1 estimates presented in table 2.28. The dummy variable for close liaison with employers had a co-efficient estimate of -8163.2. This can be interpreted to mean that the expected cost of a claim initiated by the patient of a GP who liaised closely with employers was typically \$8,163.20 lower than if the same patient were treated by a GP who did not liaise closely with employers.

The co-efficient estimates on dummy variable processes can be interpreted in a similar manner. Consider the dummy variable process representing the age of the GP. The omitted category was GPs whose age was 34 years or less. Consider the dummy variable GP age 35 to 44 in table 2.28 and Model 1. The estimated co-efficient was 1730.0. If a claimant was treated by a GP whose age was between 35 and 44 years, the expected cost of the claim would typically be \$1730 less than if the same claimant were treated by a GP whose age was 34 years or less.

The co-efficient estimates were subjected to tests of statistical significance by applying tests to each estimated co-efficient to evaluate whether the co-efficient estimate was not 0. This judgement was made on the basis of the t-statistic value that was placed in parenthesis in the tables alongside the co-efficient estimates. A statistic of 1.96 or greater indicated a co-efficient estimate that differs from 0 at the 5% level of confidence. Typically, analysts believe that estimates at this level are a reliable indication that the impact of the variable is non-negligible.

In all model specifications variables 8 and 9 above were statistically insignificant, and were therefore omitted from the results. The key variables were the dummy variables indicating close liaison with employers and vocational rehabilitation providers. In both cases the findings confirm the central hypothesis that GPs who were proactive with respect to workplace-based service roles achieved lower cost outcomes. The co-efficient estimates were statistically significant, and the size of the expected cost reductions were on average \$5,920 if the GP liaised closely with rehabilitation providers, and \$8,163 if the GP liaised closely with employers.

Table 2.28 Regression results

Independent Variables	Model 1	Model 2	Model 3
Constant	14,441.3 (4.7)*	3,707.5 (1.2)	25,712.3 (4.1)*
No. of clients GP has treated (1991 to 1996)	77.5 (3.6)*	84.1 (4.4)*	64.1 (3.3)*
Close liaison with approved vocational rehabilitation provider	-5,920.2 (3.5)*	-5,322.7 (3.6)*	-4,615.2 (3.1)*
Close liaison with employer	-8,163.2 (4.4)*	-4,406.6 (2.7)*	-3,667.9 (2.3)*
GP age 35-44	1,730.0 (0.6)	-755.7 (0.3)	-515.8 (0.2)
GP age 45-54	6,119.6 (1.8)	4,447.4 (1.5)	4,373.7 (1.4)
GP age 55-64	-5,340.0 (1.6)	-3,707.2 (1.3)	-3,572.3 (1.2)
GP age 65 and over	-8,346.4 (2.0)**	-8,137.8 (2.2)**	-5,384.4 (1.5)
Referral to chiropractor		2,887.0 (0.7)	2,312.3 (0.6)
Referral to optician/dentist		7,292.2 (0.9)	5,831.7 (0.7)
Referral to physiotherapy		9,168.8 (6.3)*	11,033.8 (7.1)*
Referral to (non) vocational rehabilitation provider		55,932.1 (18.7)*	55,157.5 (18.5)*
Referral to approved vocational rehabilitation provider		16,765.8 (5.1)*	15,725.6 (4.8)*
Sprain/strain injury			-4,739.8 (3.1)*
Multiple injury			7,237.7 (0.5)
Fracture			6,905.4 (2.5)*
Amputation			9,678.5 (1.3)
Get worker back on alternative duties		-1,634.1 (0.7)	-1,758.9 (0.8)
Provide rehabilitation		-1,197.0 (0.5)	1,122.0 (0.5)
Co-ordinate stakeholders		-3,567.1 (2.0)**	-3,327.4 (1.8)
Part-time worker			-3,904.7 (1.6)
Permanently disabled			-2,4428.7 (5.0)*
Worker gender–female			-2,536.7 (1.6)
Worker age			129.8 (2.1)**
Worker tenure with present employer			-15.8 (1.7)
Primary language - non-English			4,238.9 (2.2)**
\overline{R}^2	0.04	0.30	0.31
F	13.94	73.67	46.5
N	2,548	2,548	2,502

* denotes p<.05, ** denotes p<.01

The other important findings to emerge from the estimation of Model 1 were that the experience of GPs in treating workers' compensation patients was *negatively* related to claim costs, while the age of a GP was in most cases unrelated to cost outcomes. The first of these results was unexpected, given the results obtained from the mean and median comparisons in sections 2.3 to 2.5. A note of caution is warranted here: The sample of claims comes from two approved insurers who may not be the source of most of the workers' compensation claims seen by the GPs surveyed.

Therefore, a measure of experience based on the number of claims met by the two approved insurers, and treated by GPs over the sample period, could form a biased estimate of the number of workers' compensation clients treated by a GP over the sample period.

It had been expected, on the basis of views expressed in the course of conducting this research, that younger GPs would be responsible for lower cost outcomes. The age of a GP turned out not to be an independent influence. It could be that younger GPs were more likely to be proactive, and this issue is further examined later in this section.

Model 2 examines an important aspect of the treatment services offered by treating GPs: the propensity to refer workers' compensation patients to medical and specialist service providers. Model 2 adds to the Model 1 specification dummy variables that take the value 1 if an injured worker was referred to the indicated specialist provider during the course of the claim, otherwise 0. In addition, three dummy variables representing GPs' attitudes to their role and responsibilities with respect to protracted cases were included. Detailed definitions of the new variables in Model 2 are:

Medical Model 2: Additional Independent Variables.

1. Referral to chiropractor. A dummy variable equal to 1 if the workers' compensation patient has been referred to a chiropractor, otherwise 0.
2. Referral to optician/dentist. A dummy variable equal to 1 if the workers' compensation patient has been referred to an optician or dentist, otherwise 0.
3. Referral to physiotherapist. A dummy variable equal to 1 if the workers' compensation patient has been referred to a physiotherapist, otherwise 0.
4. Referral to non-vocational rehabilitation provider. A dummy variable equal to 1 if the workers' compensation patient has been referred to a non-vocational rehabilitation provider, otherwise 0.
5. Referral to approved vocational rehabilitation provider. A dummy variable equal to 1 if the workers' compensation patient has been referred to a vocational rehabilitation provider, otherwise 0.
6. Get worker back on alternative work duties. A dummy variable equal to 1 if the treating GP believed their role included arranging alternative work duties when the workers' compensation claim was protracted, otherwise 0.
7. Provide rehabilitation. A dummy variable equal to 1 if the treating GP believed their role included providing rehabilitation when the workers' compensation claim was protracted, otherwise 0.
8. Co-ordinate stakeholders. A dummy variable equal to 1 if the treating GP believed their role included co-ordination of other stakeholders when the workers' compensation claim was protracted, otherwise 0.

In adding variables to Model 1 there are two issues of interest. Firstly, do the new variables add explanatory power to the regression equation (as indicated by the adjusted R^2 statistic, and the t statistics)? Secondly, were the co-efficient estimates on variables included in Model 1 stable when new variables were added?

On estimation of Model 2 (see column 2, table 2.28) it was found that three of the five specialist dummy variables were statistically significant and the impact on costs was positive and relatively large.

The co-efficient estimate for referrals to non-vocational rehabilitation providers implies that referral to one or more such specialists was associated with a \$55,932 increase in the cost of a claim (see column 2, table 2.28). Of the sample of 2,548 workers' compensation claims, 220 (8.6%) involved referrals to non-vocational rehabilitation providers.

Co-efficient estimates for referral to physiotherapists and approved vocational rehabilitation providers were also positive and statistically significant, but their contribution to claim costs was much smaller.

It is important to interpret the meaning of these coefficients with care. Claims with referrals to such specialists were associated with higher costs, but a causal link has not necessarily been established. Arguably, referrals only occur when injuries were serious, hence a positive relationship was expected in Model 2, which does not include controls for severity of injury.

The other three variables added to Model 2 represent measures of GPs' attitudes toward their role in protracted claims. The measures reflect whether the GP has a proactive interpretation of their role with respect to workplace-based services; as such the co-efficient estimates were of the expected sign, that is negative, but only one of these variables (co-ordinate stakeholders) was statistically significant. Co-efficient estimates for variables retained from Model 1 were stable. Their signs do not change on adding the new variables, and those that were statistically significant in Model 1 retain their statistical significance in Model 2. In particular, the findings confirm the central hypothesis that GPs who were proactive in liaising with employers and vocational rehabilitation providers achieved lower cost outcomes.

The adjusted R^2 increase, from 0.04 in Model 1 to 0.30 in Model 2, represents a sizeable addition to the explanatory power of the regression model. This large increase in the adjusted R^2 measure is an indication of the importance of the association between referral to specialist providers and claim costs.

The matched database allows us to control for the injury characteristics of a claim, and for the socio-economic and demographic attributes of the injured worker who initiates the claim. In Model 3, a number of control variables were added. Definitions of these control variables are:

General Model 3. Additional Variables.

1. Sprain/strain injury. A dummy variable taking the value 1 if the injury was a sprain or strain, otherwise 0.
2. Multiple injuries. A dummy variable taking the value 1 if the claim was due to multiple injuries, otherwise 0.
3. Fracture. A dummy variable taking the value 1 if the claim was due to a bone fracture, otherwise 0.
4. Amputation. A dummy variable taking the value 1 if the injury resulted in the amputation of a bodily part, otherwise 0.
5. Not permanently disabled. A dummy variable taking the value 1 if the injury resulted in no permanent partial or total disability, otherwise 0.
6. Part-time worker. A dummy variable taking the value 1 if the injured worker was employed part-time when the accident occurred, otherwise 0.
7. Worker gender female. A dummy variable taking the value 1 if the injured worker was female, otherwise 0.
8. Worker age. A continuous variable measuring the worker's age in years at the time that the claim was received by the insurance company.

9. Worker tenure. A continuous variable measuring the worker's period of employment (in months) with his or her employer at the time the claim was received by the insurance company.
10. Primary language - Not-English. A dummy variable taking the value 1 if the injured worker's primary language was not English, otherwise 0.

The matched database classified the nature of injuries into 11 categories, and the bodily location of injuries into 10 categories. Preliminary estimation of alternative regression specifications suggest that most of these injury categories had no statistical association with costs. Only the results with respect to injury dummy variables that were either statistically significant or that had sizeable parameter estimates were reported. In addition to these injury categories, the report identified claims that resulted in a permanent partial or total disability. This information was captured in a dummy variable.

Most of the socio-economic and demographic variables have been explored in previous research, with the exception of an injured worker's tenure with their employer at the time of the accident. The longer a worker had been employed at a workplace, the more firm-specific skills and experience the worker possessed. It was therefore assumed that such individuals would be particularly valued by employers. In addition, workers with high levels of experience and firm-specific skills would be keen to continue employment at the present workplace. Therefore, the costs of claims were expected to decline the longer the term of employment.

The results of estimating Model 3 are presented in column 3 of table 2.28. Of the new variables, the dummy variable representing cases involving no permanent disability made the largest contribution to costs (\$24,428). Other notable findings were the statistically significant, positive association between claim costs and workers' age, a primary language other than English and an injury involving a bone fracture. There was a statistically significant, negative association between claim costs and sprain or strain injuries.

Of most importance in the present context was the stability of parameter estimates for variables representing GP interventions and attitudes, given the addition of control variables. Both variables indicating close liaison with employers and vocational rehabilitation providers retained negative and statistically significant parameter estimates. The consistency of these findings across alternative model specifications suggests that GPs who were proactive in this regard obtained lower cost outcomes than their passive colleagues. The parameter estimates indicate that proactive GPs typically achieve cost savings of \$8,282 per claim. The attitudes of GPs toward their role in the treatment of long duration cases turned out to be statistically insignificant when control variables were added to Model 3. In respect to arranging alternative work duties, this finding could be due to the fact that 82% of GPs who view this as part of their role were also proactive in liaising with either employers or vocational rehabilitation providers.

There were interesting differences between the characteristics of proactive and passive GPs. Most notable was the high proportion of female GPs (85%) who were proactive, as compared to their male colleagues (63%). A second important difference emerges when examining whether GPs were employed in practices that provide other allied services.

Among GPs who operate in practices that did provide other allied services, only 58% were proactive, compared to 70% of GPs whose practice did not provide allied services. A potential explanation is that GPs employed in practices providing allied health services may have shown a greater propensity to refer patients to specialist service providers.

2.9 Concluding Comments

This chapter presents the findings of an analysis of the role of GPs in facilitating the return to work of injured workers, and of the association between GP interventions and claim costs. It was based on a matched sample of 95 GPs and 2548 workers' compensation claims involving patients who had been treated by these practitioners. This matched sample was used to investigate the relationship between GPs' interventions and attitudes on the one hand, and return to work and claims cost on the other, taking into account the injury and socio-economic characteristics of their patients.

A statistical analysis of the following hypothesis was undertaken:

General practitioners who accomplish both a medical treatment and workplace-based services role in relation to long term workers' compensation claims, secure shorter claim durations, and lower claim costs.

Main findings:

- GPs who were proactive in their contact with employers and/or vocational rehabilitation providers secured much better return-to-work and claim cost outcomes.
- Workers' compensation claims characterised by referral to one or more specialist service providers tended to have significantly higher costs and a longer duration.
- GPs who liaised closely with both employers and vocational rehabilitation providers when treating protracted cases typically achieved cost savings of \$8,282 per claim. Close liaison with one, but not both, of these stakeholders reduced the cost savings by approximately 50%.
- Practitioners who have treated more than the typical number of workers' compensation patients in the sample time frame tend to be more proactive.
- Female GPs tended to be more proactive than their male colleagues.
- GPs who operated in practices that provided allied health services were less likely to be proactive.
- Proactive GPs tended to have more positive attitudes to the workers' compensation system.
- Proactive GPs typically found employers were co-operative in modifying work duties in order to facilitate a return to work. Their more passive colleagues did not have such a positive impression of employers.

CHAPTER 3

The Effect of Organisational Characteristics and Employers' Behaviour on Workers' Compensation Claims

3.1 Introduction

Return to work following injury is influenced not only by the extent of an injury but also by the way in which post-injury care is administered. For example, delays in referral for rehabilitation have been found to be strongly associated with longer and more expensive workers' compensation claims. Research previously conducted by WorkCover WA indicates that delays in referral can account for up to 20% of the increase in claims payments (Morrison et al., 1992). It has also been suggested (Wood, Morrison, & MacDonald, 1995) that the actual type of rehabilitation an injured worker receives may speed recovery.

Regardless of the motivation of an injured worker, if an employer is not equally motivated to accept injured workers back after injury then the willingness to return to work as soon as possible is to no avail. Thus, the return to work equation has at least two components: the injured worker and the employer. It is therefore a reasonable question to ask whether the motivation of an employer to achieve a return to work, and that of a worker to achieve the same outcome, are acting independently of each other, or whether a reciprocal relationship should be expected between the two parties which acts positively to reduce claim duration. If an injured worker appears motivated to return to work, does that encourage an employer to facilitate this process? In turn, if an employer appears to want his/her worker to return, does that increase the motivation of that individual?

The suggestion is that the wider context in which injured workers find themselves may play a part in how a work injury is perceived, and that this subsequently influences the willingness to return to work and hence claim duration. For example, internal characteristics, such as job hazards, company size and unionisation, have all been related to hazard containment and disability cost containment actions (Sims, 1988). In fact, Askey (1988) argues that over 50% of prevailing workers' compensation costs are directly attributable to a company's internal practices in response to injured workers and their claims. It might be expected that the above scenario is especially likely if there is some residual permanent disability that is a direct consequence of the occupational injury sustained by a worker.

Rising disability costs have clearly increased incentives for employers to develop their capacity to manage work-related injury effectively. Despite an extensive literature search, no papers empirically addressing the questions posed above were uncovered. A small number of studies, including Habeck, Leahy, Hunt, and Chan (1991), have shown that organisational characteristics (including perceived culture, size, extent of unionisation) influence claims rates, but few have offered causal explanations as to why such variables exert such influence.

There is, however, a large body of literature in organisational psychology with respect to how organisational structures, management styles and practices may influence a worker's work motivation, and in particular the motivation to attend work. It is this literature that has been used to guide the research strategy for the current project, with the aim of identifying potential causal mechanisms that facilitate a return to work.

While there is ample evidence to suggest that there is a substantial amount of variability in return-to-work rates between injured workers (see Morrison et al., 1992, 1995), much of the research to date has focussed solely on financial incentives as predictors of return-to-work rates (see Hunt, 1981), or on the financial efficiency of different approaches to rehabilitation, as measured by compensation costs (see Wood & Morrison, 1997). Despite the success of this previous research, there is a significant amount of variation in return-to-work behaviour that has not been explained, and it is with this in mind that our present research proceeds.

This chapter begins with a review of the relevant literature relating to organisational characteristics seen to influence a worker's ability to attend work. This is followed by information describing the sample of employers, and by the analysis of employer behaviour with regard to claims costs and duration.

3.2 Organisational Characteristics that Foster Worker Motivation to Attend

Most theories of motivation (Kanfer, 1990) use the individual as their unit of analysis. One of the problems with theories pitched at this level is that the predictions that follow are difficult to implement on an organisation-wide basis. Thus, while they have a certain amount of predictive validity with respect to individual behaviour, their practical utility in an organisational setting is limited. Consequently, over the past 25 years the study of work motivation has been dominated by research seeking to identify organisational and work design characteristics that influence behaviours and attitudes that reflect the level of motivation present in the workforce (Fried & Ferris, 1987; Hackman & Oldham, 1975). The attitudes that have received most attention in the literature are job satisfaction and organisational commitment. For example, it is often said that satisfied workers are more productive workers (Locke, 1968, 1976), and that workers who are committed to an organisation are less likely to quit and more likely to attend (Mathieu & Zajac, 1990). There is even some evidence that satisfaction is causally related to commitment (Morrison & Savery, 1996; Williams & Hazer, 1986). It follows that the conditions that engender higher levels of satisfaction and commitment should also impact on the desire to return to work after injury.

In the 20th century two basic management models have predominated. The first of these was concerned principally with cost reduction. Consistent with this approach was the development of rigid hierarchies of managerial control, as well as job simplification. Cost-reducing management styles seem to have been most successful when workers are relatively uneducated, when the work to be performed is easily routinised (that is, factory work), and when the operating environment of the organisation is stable. Reductions in cost are often achieved through lower wages paid to unskilled workers which carries with it the added benefit that should workers leave, they are easily replaced, as knowledge and skill requirements are minimal and training can be undertaken on the job.

A more contemporary style of organisation is one that adopts a commitment maximisation approach. Commitment maximisers seek to satisfy the needs of workers while at the same time making the most of human resources. This is realised through management practices that are in some ways antithetical to those of the cost reducers. Research has shown that organisational structure (e.g. number of management levels, Porter & Lawler, 1965) and practices (e.g. patterns of communication, Miles, Hatfield & Huseman, 1991), leadership styles (Evans, 1970; House, 1971) and forms of work organisation (Hackman & Oldham, 1980) have an impact on work attitudes as well as company and individual performance. Instead of seeking to control work behaviour through standardisation and specialisation, the work roles of workers are expanded to incorporate higher levels of autonomy and control, with more immediate access to performance feedback (Hackman & Oldham, 1975). Management in such organisations typically does not seek to achieve success by directive but is more inclined to adopt a more inclusive and collaborative style.

Frequently, when cost reducers and commitment maximisers are compared, the level at which responsibility for decision-making is located is closer to, or on, the shopfloor for commitment maximisers. Typically, workers in such organisations are more flexible, levels of commitment are higher and turnover and absenteeism are lower (Mathieu & Zajac, 1990). Thus, job content and management style are influential in creating beneficial outcomes for the organisation in terms of satisfaction and commitment. Given that there seems to be general agreement that satisfaction and commitment are the greatest determinants of turnover (Arnold & Feldman, 1982; Bluedorn, 1982; Hollenbeck & Williams, 1986), it is a simple extension to hypothesise that these same variables should also be influential with regard to return to work. For practical purposes, it would seem that in order to improve turnover rates, one needs to make adjustments to the variables that influence satisfaction and commitment.

Numerous studies have linked immediate work environment factors to turnover. A negative relationship between satisfaction and supervisory style on the one hand and turnover on the other has been demonstrated consistently (Fleishman & Harris, 1962; Graen & Ginsburg, 1977; Hom & Hulin, 1981; Krackhardt, McKenna, Porter, & Steers, 1981). Although the effect on turnover caused by immediate work environment factors has been studied less frequently, satisfaction with job content (Katzell, 1968; Telly, French, & Scott, 1971), autonomy (Hackman & Lawler, 1971), and role clarity (Hom & Hulin, 1981; Lyon, 1971) have been shown to relate negatively to turnover.

While significant amounts of literature show how job satisfaction and commitment can be directly enhanced by job design interventions (Morrison & Savery, 1996), the evidence for organisational interventions having a direct influence on turnover and absenteeism is rather more scarce. Indeed we know of only three studies (Hulin, 1968; Krackhardt et al., 1981; McFadden & Demetriou, 1993) that have deliberately sought to reduce turnover. The results of each are largely in accordance with those for job satisfaction; that is, providing staff with opportunities for career development and job responsibility, participation in decision-making, and changing supervisory styles towards being more considerate all had beneficial effects on turnover.

According to Huselid (1995), in order to support styles of management that will support higher levels of satisfaction, commitment and low turnover rates, a variety of innovative human resource practices should be present to cover all aspects of worker management.

There is no empirical literature that demonstrates a causal relationship between organisational or human resource practices and return-to-work rates following injury. There are nevertheless a small number of exploratory studies (Hunt, Habeck, & Leahy, 1988; Habeck et al., 1991) that strongly suggest that organisational factors and management practices are important in managing workers' compensation claims rates, costs and return-to-work rates.

Osterman (1987) argued that there should be an underlying logic to a firm's system of human resource management practices, and in 1994 Osterman found, for example, that firms valuing worker commitment are less likely to use temporary workers and more likely to invest in innovative work practices, such as skills training and incentive compensation. Within the workers' compensation domain, employers who use innovative human resources practices are more likely to adopt an approach to injury management that is proactive. Like Habeck, Leahy, Hunt and Chan (1991) suggest, proactive management of injury will involve: (i) accident prevention, (ii) early intervention should an accident occur, and (iii) co-ordinated administrative and injury management strategies.

According to Habeck (1989), the central elements of a proactive approach to injury management include:

- Commitment by top management and supportive policies;
- Education and involvement of workers at all levels, including union participation from the outset;
- A co-ordinated team approach across departments for effective claim management and job placement;
- Active use of safety and prevention strategies to avoid injury re-occurrence;
- Early intervention and on-going monitoring for health risks and disability cases;
- Systematic procedures for the effective use of health care and rehabilitation services;
- An organised return-to-work programme, with supportive policies and modified duty options;
- Use of incentives in benefit design, cost accounting and performance evaluation to encourage participation of workers, supervisors, and managers; and
- An integrated management information system to monitor incidence, benefit use, services, costs and outcomes.

While there are many testimonies that would attest to the efficacy of the above elements, there are few empirical studies that have systematically evaluated the benefits, or otherwise, of each element, singly or together.

Only a few studies have attempted to measure the impact of wider organisational-level factors and practices in the workers' compensation arena. For example, Habeck et al. (1991), Hester & Decelles (1990), and Sims (1988) all report that organisational size has an impact on proactivity in injury management practices. Indeed Habeck et al. (1991), report that organisational size and claims rate are significantly and positively correlated. In a study of 24 hospitals, Rousmaniere (1989) reports that the single-most important cause of variation in the incidence and severity of injury is disability prevention and management.

Using a different dependent variable, company claims rate, Habeck et al (1991) identify six management practices that were found to distinguish companies with high and low claims rates. High claims rate companies were less likely to systematically monitor and correct unsafe behaviour, less likely to train workers on safety, and their leaders were less active in attending to safe behaviour. Low claims rate companies showed greater activity in the promotion of worker health and well-being, used modified duties to facilitate a return to work and involved supervisors in this process.

In a similar vein, Askey (1988) argued that over 50% of prevailing workers' compensation costs are directly attributable to a company's response to injured workers and their claims. He estimated that employers can reduce workers' compensation costs by as much as \$100,000 per 250 workers by systematically incorporating specific injury management procedures and accountability as part of the culture of the firm.

In addition to pinpointing differences between high and low claims rate companies, Habeck et al. (1991) went further by conducting a multivariate analysis of the data. Such analyses estimate the true effect of individual variables on a single dependent variable by simultaneously controlling for the influence of the other variables in the analysis. The variables included in the analysis were those relevant to internal practices; organisational size, extent of unionisation, tenure of workers, the availability of overtime, job rotation and industry sector were also examined. In summary, organisations with low claim status were more likely to be non-unionised, to have desirable practices, to be large in size, to offer overtime and to have fewer workers with less than two years experience.

It is interesting to note that the list of variables identified by Habeck et al., (1991) as able to influence claims could easily be categorised among the high-performance practices identified earlier. Thus, while the research is suggestive, there is little clear evidence that these variables will be just as influential for claims cost, duration and return-to-work rates. A feature of the present research is the measurement of the impact of high-performance variables with respect to their influence on the duration and cost of claims.

3.2.1 Summary and hypotheses regarding organisational-level factors and costs and duration of workers' compensation cases

From the overview of the literature, there are a variety of organisational management practices that could influence return-to-work rates and workers' compensation claims costs. At the organisational level, there are a number of different expectations that one might have with respect to what may influence return-to-work rates:

- Organisations that have a commitment-focussed approach to the management of workers, rather than a cost-reducing approach, will have speedier return-to-work rates and cheaper workers' compensation costs.
- Organisations with higher return rates, as well as reduced cost and duration of claims, will have a people-oriented culture and a set of values that encourages a return to work. They will have:
 - jobs in which decision making is located closer to the shop floor;
 - a participative industrial relations climate;
 - a proactive approach to return to work, reflected in formal return-to-work procedures encouraging regular contact and active monitoring;
 - a process to encourage workers back to work through initiatives such as modified duties, regular contact with medical practitioners and rehabilitation providers; and
 - an explicit and proactive occupational health and safety system.

The outcome of a commitment-focused approach to management is expected to have direct benefits in terms of costs and claims duration, in addition to indirect consequences. These benefits will be seen through worker attitudes towards their jobs, which will also influence return-to-work rates. Therefore, we are hypothesising that:

Organisation-level variables, as reflected in the presence of human resource practices, influence return-to-work rates and costs.

3.3 Sample Description and Employer Questionnaire

Sample

A total of 641 questionnaires were mailed to employers of workers who had lodged workers' compensation claims. The employers were selected from the database of injured workers who had been treated by the 96 GPs who had agreed to participate in the study. Once the GPs and injured workers had been matched, giving a sample of 2,548 injured workers, it was possible to identify their employers.

The 641 questionnaires were mailed to the employers, and a period of two weeks was allowed to elapse before a series of follow-up phone calls were made.⁵

Responses were received from 95 employers. Some employers had returned unusable questionnaires, some did not respond and a further 269 stated that they did not wish to participate. Having identified the employers, the database of 2,548 injured workers was then scoured for matches. This process netted a total of 450 workers who could be matched with their employer.

Employer Questionnaire

The employer questionnaire comprised of ten sections, including:

- demographics;
- employer return-to-work practices, including injured worker management;
- workplace issues;
- organisational values;
- management and industrial relations;
- employer perspectives on GPs;
- employer perspectives on insurance companies;
- employer perspectives on vocational rehabilitation providers;
- training; and
- occupational health and safety.

Part of this research is interested in how workers are managed after injury and how employers' human resource policies influence the cost and duration of workers' compensation claims.

⁵ Please refer to Appendix 4, table 1, for more information on follow-up results.

Before examining the complex relationships between key variables, it is instructive to analyse the data with regard to the extent to which the practices that are expected to influence compensation costs and return-to-work rates are prevalent in the employer population.

3.4 Demographics of the Employer Sample

The average number of workers in each company was surprisingly high at 348 workers. Hence the sample size was skewed by a relatively small number of large employers. The largest employer reported a workforce of 3,900 workers.

The composition of the sample of employer respondents in terms of work sector and industry type is shown below, in figures 3.1 and 3.2.

There are four categories of organisations. The public and private sector categories are fully self evident. However, pilot work revealed that there were several organisations that did not consider themselves to belong to either. Such organisations indicated they would be better described within a community category. The other category arose from the responses to the questionnaire where a small number of organisations felt as though they were not sufficiently described by the public/private/community distinction. A separate *other* category was created for these organisations into which 9 organisations were placed for the purposes of the analysis.

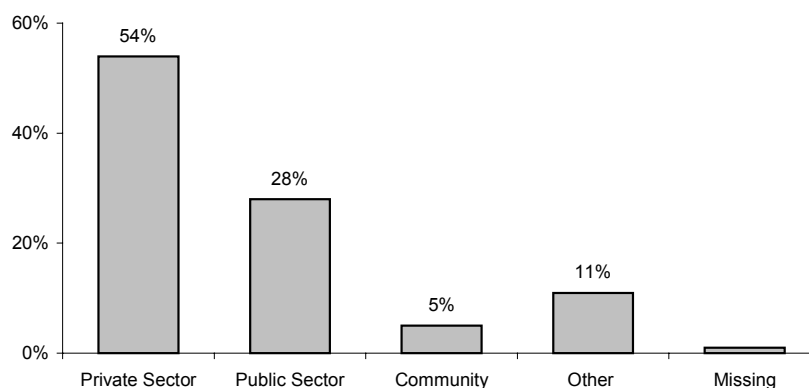


Figure 3.1 The composition of the sample, by sector

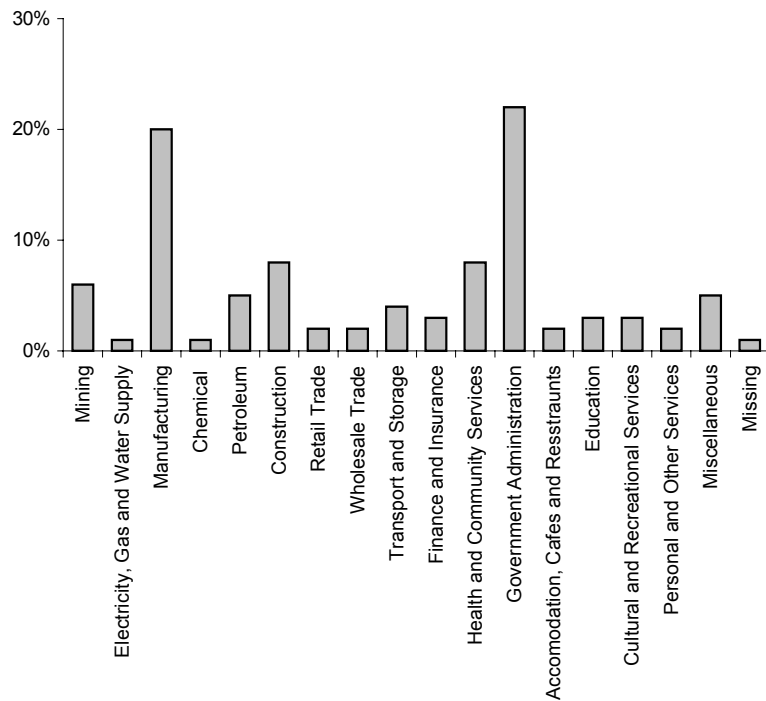


Figure 3.2 The composition of the sample, by industry

The mean rate of workers' compensation claims estimated by employers who responded to the questionnaire is shown for each employment sector (see figure 3.3). The claims rate is measured by asking employers the percentage of the workforce that has submitted a claim in the past 12 months. It is apparent that the claims rate for the private sector is more than double that of the public sector. This may reflect the fact that the private sector sample contains organisations which operate in differentially more hazardous environments.

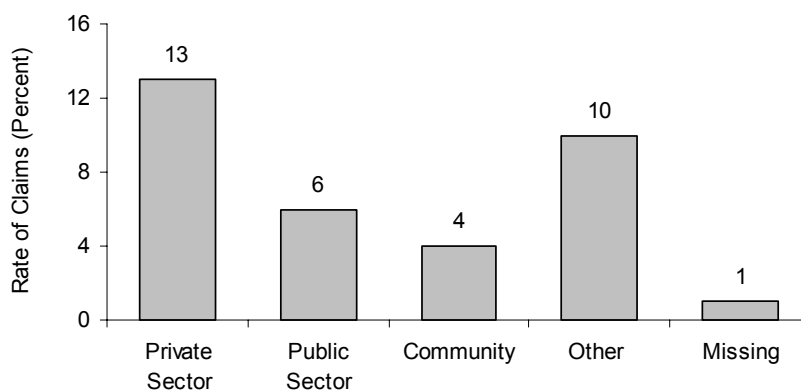


Figure 3.3 The mean rate of claims, by sector

This hypothesis is supported by figure 3.4, which shows the differential claims rate by industry sector. The highest claims rates occur in the mining and manufacturing industries.

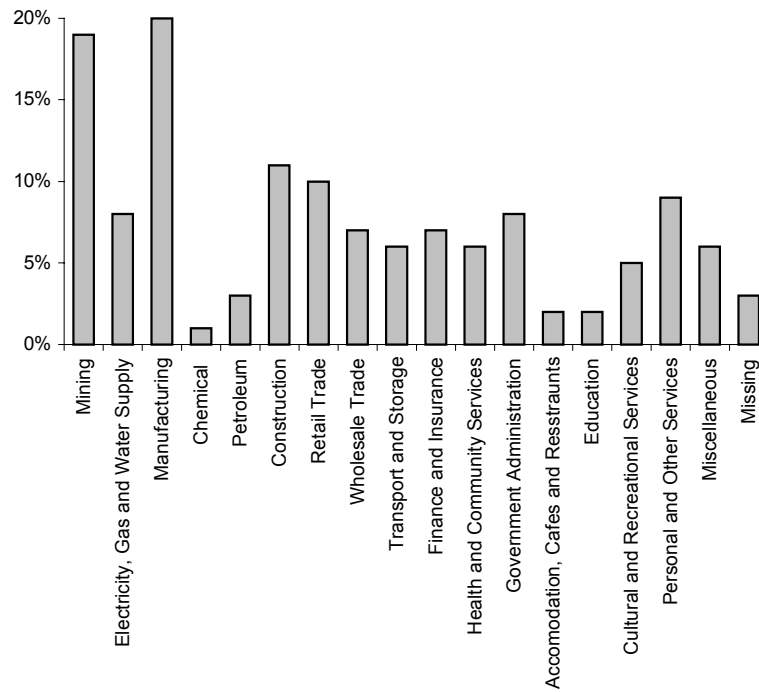


Figure 3.4 The mean rate of claims, by industry

The mean injury duration for the sample was 36 days (median = 7 days), with the mean costs being \$3546 (median = \$562)⁶. Note that these figures are higher than the average duration and costs for all workers' compensation claims found in previous studies (Morrison et al., 1992, 1995). This may reflect a slight bias in the data, with respect to the employers who responded to the questionnaire. cursory inspection of the data did not reveal any obvious source of bias. Nevertheless, it remains possible that the employers who responded to the questionnaire did so because of a series of recent bad experiences.

The differences in claims rates mentioned above were also reflected in duration and cost of claims across sector and industry type. Noticeably the cost and duration of public sector claims were much higher than the private sector counterparts, as seen in figures 3.5, 3.6a and 3.6b.

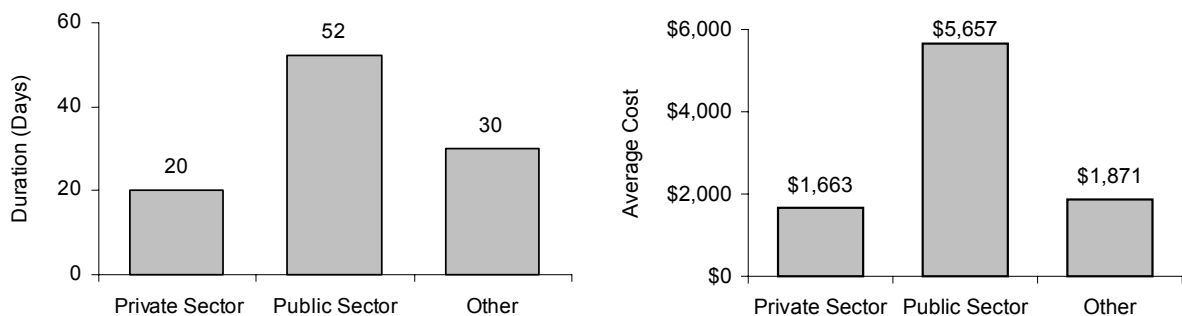


Figure 3.5 Duration and average cost of claims, by sector

⁶ The large difference between the mean and median reflects the fact that a small number of cases have large costs or duration. The pattern of duration and costs was also analysed with extreme cases (SD = 3) omitted. No change in the general pattern was observed and subsequent analyses are therefore based on the complete sample.

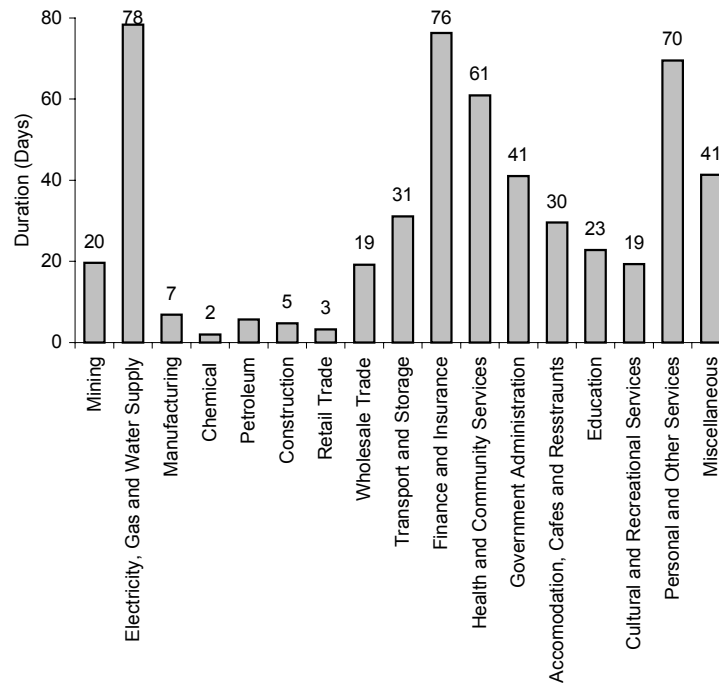


Figure 3.6a Duration of claims, by industry

While the difference in costs may not be unexpected and a consequence of differential pay rates, the consistent difference in duration is surprising, given that similar injuries on average should recover at roughly the same rates. It is possible certain industries are more likely to be associated with certain types of injuries, or that it is impossible for injured workers to return to work because of the nature of the activities performed on-site. Consequently, the average claims duration and costs may be biased unless account is taken of such effects. Indeed, a bias will always be present in simplistic data analyses that rely on figures that are unadjusted for the effects of potential confounds that may cloud the interpretation of the data. Thus, instead of presenting a catalogue of simple analyses that may present at best misleading results, a more subtle approach to the analysis of the data was undertaken.

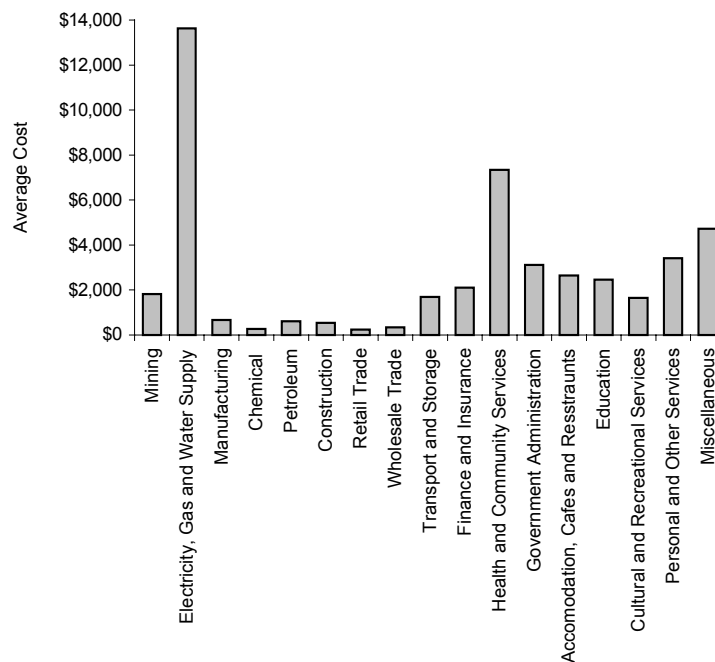


Figure 3.6b Cost of claims, by industry

The use of multivariate statistical techniques, such as multiple regression, allows data to be analysed in ways that simultaneously account for the influence on outcome variables of multiple factors. In so doing, the importance of each variable as a predictor of outcomes, such as duration and cost, can be evaluated in the context of other potential influences. What potential influences should be taken into account when looking at claims cost and duration? Injury type is one variable that should be controlled, as recuperation rates will vary across injuries.

The literature review also suggests a variety of organisational characteristics that should be controlled. For example, larger organisations may have access to resources that are not available to smaller organisations (such as access to specialist rehabilitation co-ordinators and providers) and which influence return-to-work rates and costs. Similarly, organisations that rely on large numbers of casual workers may suffer adversely from a lack of commitment to the organisation. Each of these variables (size and percentage of full-time workers) may serve as an indicator of differences in management practices that are influential in claims management and which can be investigated later.

Figure 3.7 show that organisational size appears to have an adverse effect on both variables. As size increases, so do costs and claims duration. Why claims and costs should increase with organisational size is a puzzle, since one would expect larger organisations to have the capacity to manage occupational health and safety in general, and workers' compensation claims in particular, in a way that reduces costs. Indeed, when the level of contact with an injured worker is examined by organisational size, it is possible to see that size seems to influence the way in which claims are managed.

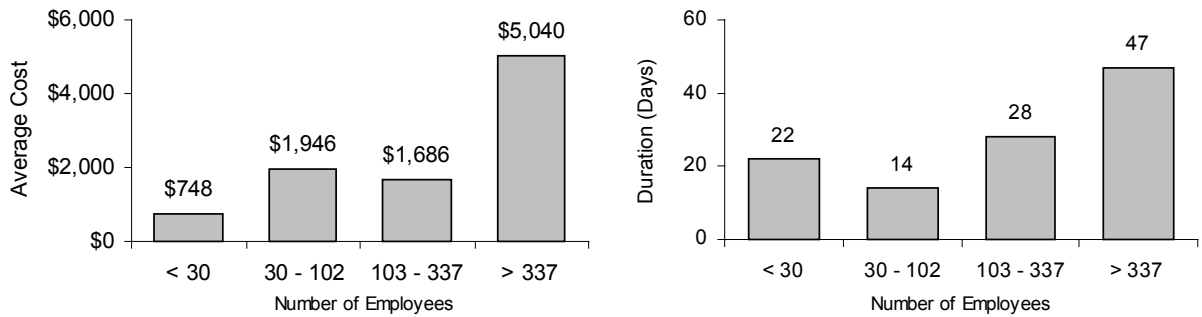


Figure 3.7 Organisational size (number of employees) and claim costs and claim duration

Organisational processes that impact on injury management are also likely to impact on cost and duration. Employers were therefore asked to nominate who they considered to be the major contact person for injured workers. Figure 3.8 shows how the major contact person was nominated across companies by size. For example, it was mostly the smallest organisations (59%) that nominated the manager as the primary contact person. Thirty-five percent of the nominations for the manager as the primary contact came from employers with 30–102 workers, and only 6% from employers who employed more than 337 workers.

Rehabilitation co-ordinators, on the other hand, were most often used (72%) by the largest employers, with 16% and 12% of nominations being made by successively smaller employers. Understandably, the smallest employers did not report the use of rehabilitation co-ordinators.

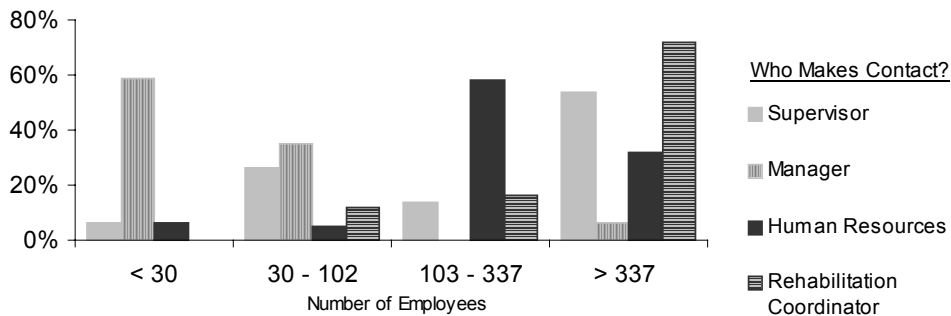


Figure 3.8 Primary contact person and organisational size

Arguably, these figures indicate how injury management practices may impact on claims duration and costs. Further evidence of this can be seen in the frequency of contact with workers following injury (figure 3.9). Smaller organisations contacted their employees more frequently.

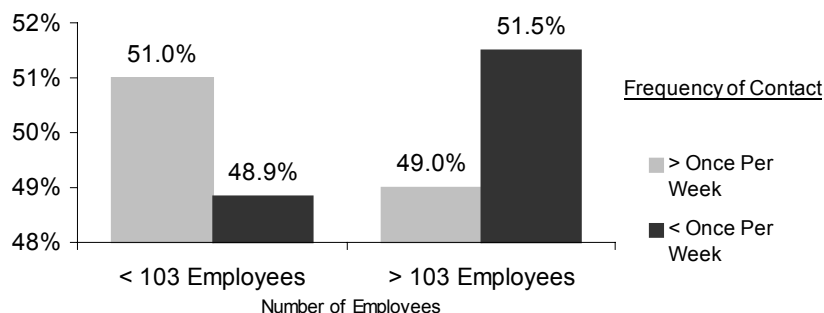


Figure 3.9 Frequency of contact and organisational size

The results presented indicate that organisational characteristics appear to have a large impact on the way claims are managed. As noted earlier, whether such practices translate into statistically reliable differences in claims cost and duration should only be assessed in the context of other important potential influences. This point is reinforced when injury management practices, such as frequency of contact, are considered. The raw data suggests that frequency of contact is associated with higher compensation per claim (figure 3.10). However, given that it is the larger organisations who seem to have less frequent contact it might be suggested that it is the way injured workers are managed and, perhaps, the quality of the care which impacts on costs and duration.



Figure 3.10 Frequency of contact and duration and cost of claims

The above point is reinforced if the data relating to who keeps contact with an injured worker is examined. In figure 3.11, supervisors appears to be especially influential when it comes to reducing costs and duration.

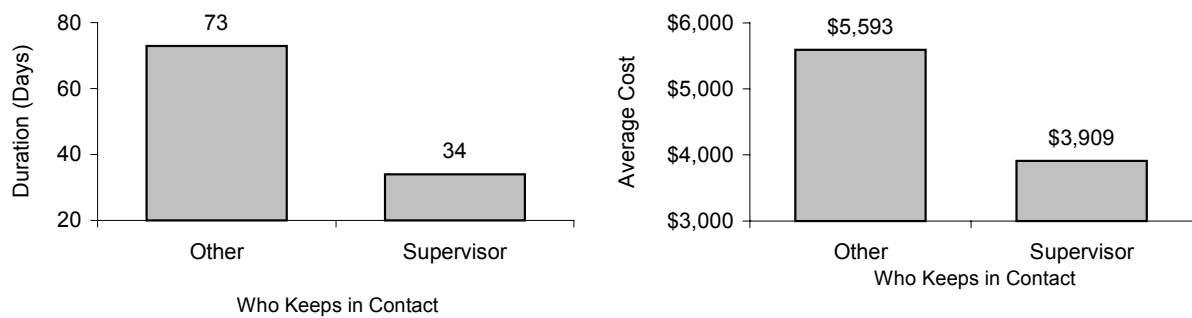


Figure 3.11 The effect of supervisor contact on duration and cost of claims

3.4.1 Specific injury management practices

As part of the questionnaire development process, a number of injury management experts were consulted with regard to what constitutes best practice injury management. In this section, we were concerned with identifying the important components of injury management with respect to cost and duration, as well as how much employers were involved in facilitating the return-to-work process.

Anecdotal information suggests that active management of a claim is important in facilitating a speedy return to work. While it is unlikely that any single action will speed a return to work, it seems plausible that if an employer were to be active in encouraging workers to return to work, then claims would be cheaper and of shorter duration.

The questionnaire that resulted from discussions with industry experts contained 24 questions that asked employers about how a claim was managed in their organisation. The items included in the questionnaire can be seen in table 3.1

A factor analysis was conducted on the responses to the 24 items listed in table 3.1, in order to identify a small number of underlying factors and thereby aid interpretation and data analysis. Factor analysis seeks to identify common underlying themes in the data. Items, or in this case areas of injury management that are highly correlated with each other are identified, and scaled measures can be developed that reflect the underlying constructs identified by the analysis.

Table 3.1 Injury management

Return-To-Work Programmes

Does your Organisation:

- Document evidence of contact with the worker
- Keep clear and concise file notes of case activity
- Give advice on claiming workers' compensation
- Provide the workers' compensation forms to the injured worker
- Provide information on the company procedures for workers' compensation
- Complete the relevant forms
- Organise wages to be paid
- Inform OH&S of the nature and cause

Negotiate with the worker, GP and insurer to

- Determine if a rehab provider is required
- Consider referral to an approved provider
- Make referral to an approved provider

Develop a Return-to-work plan

Does the return-to-work plan

- Identify or negotiate suitable duties
 - Outline tasks of the negotiated job
 - Outline constraints
 - Detail nature and frequency of contacts for support, training and monitoring
 - Set an end goal and sub-goals
 - Determine time frames
 - Set reporting dates
 - Review an individual case
 - Implement monitor revise and review the RTW* plan
 - Organise special equipment
 - Confer with other parties
-

* RTW: Return To Work

Three underlying constructs were tapped by the items in the questionnaire:

- i. active monitoring of a claim;
- ii. active information provided about rights, etc;
- iii. active consultation with, and referral of the injured worker to, professionals that might facilitate a return to work.

Prior to analysing the impact of the different factors on cost and duration, a simple analysis of general proactivity was computed. This measure reflects the number of the items in the questionnaire (see above) that employers profess to utilise with respect to the post-injury management of workers.

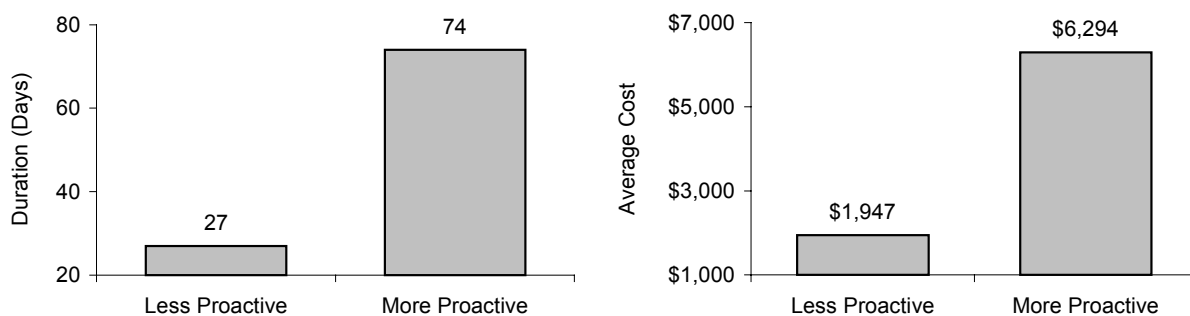


Figure 3.12 Proactivity and duration and cost of claims

Results for a general level of proactivity (figure 3.12) reveal, somewhat surprisingly, that the more proactive the employer, the more costly claims become and the greater the average claim duration. This pattern of results was repeated for two of the individual factors (active monitoring and active information provision) but not for the active referral measure. Those employers who actively referred their injured workers to other specialists, in consultation with the GP, found some benefit in terms of costs and duration, as seen in figure 3.13. This result mirrors chapter 2 findings which reported employer and GP communication was beneficial to costs and claims duration.

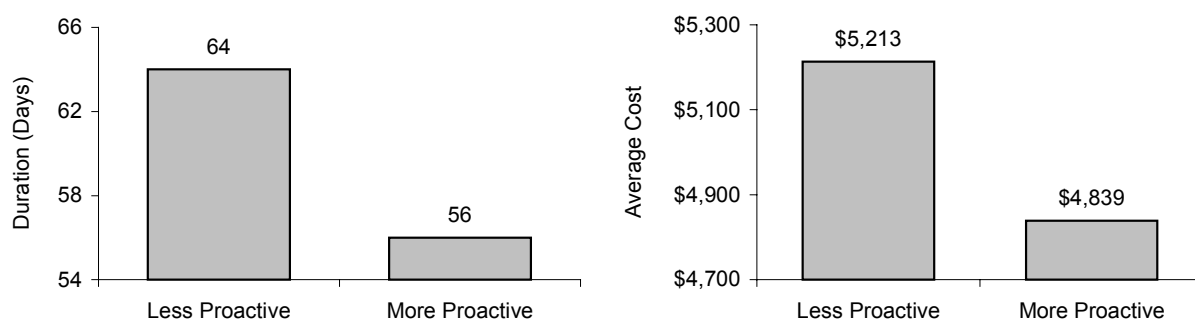


Figure 3.13 The effect of referral to other specialists on duration and cost of claims

Generally the results for the proactivity measures go against what was expected. It appears that proactivity (as measured by the presence of a formal return-to-work plan and the practices of setting of specific goals, negotiating revised duties and setting reporting dates) is associated with longer and more costly claims. There are several possible explanations for these somewhat surprising results.

One is that more proactive employers are found in industries that are prone to long duration accidents (e.g. construction).

A second is that statistically, larger organisations are more likely to have had experience of protracted cases, and that this has prompted a management response which seeks to lower costs *after* workers' compensation claims have occurred.

A third possibility is that workers react to how they are managed. A more rigorous procedure may encourage resentment from workers, especially if the message is that such management practices reflect a cost containment approach, rather than one which reflects a strategy designed to engender worker commitment.

Finally, it is possible that more vigorous injury management programmes are developed by sectors tied to specific employment terms, conditions and standards. It is possible that in these organisations programmes are pursued even in the face of little expectation that the injured worker will be able to return to work successfully. The public sector, for example, shows levels of proactivity way in excess of their private industry counterparts (figure 3.14).

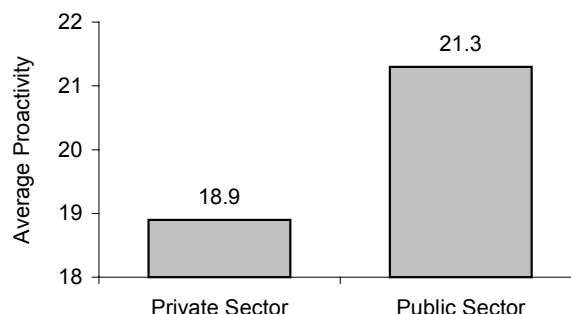


Figure 3.14 Proactivity within each sector and duration of claims

Clearly, the above results go against expectations, but there may be a number of simple explanations for the observed effects. Public sector organisations are required to accommodate injured workers either within their organisation or to pursue re-deployment options. A second explanation for the results is that there are a number of organisations who have had poor claims experience in recent times. As a consequence, they have set up more rigorous management programmes. However, whether or not the programmes have been successful cannot be determined with the current data set, as we are missing vital bits of information, such as (a) the pre-programme level of cost and duration, and (b) the length of time an injury management programme has been in place. Clearly, there may be a lag between the time a programme is implemented and the observable benefits. Hence, the benefits of a programme that was recently implemented, even in the past six months, may not yet be apparent in terms of significant improvements in overall cost and duration of claims.

Summary

To date the results indicate that a number of variables that can be used to characterise organisations and the ways in which they differ have an impact on claims costs and duration. The question remains as to what it is about organisations that differ in size and age and industry sector that might impact on claims cost and duration.

Anecdotally, it is reported that the industrial relations climate and organisational culture impacts on the claims behaviour of injured workers. This comes as no surprise in some ways, as it is known from other areas of research that absenteeism rates and turnover are subject to the influence of such variables. In focusing on these variables, an overview of the measures that were collected is given. The variables used to characterise organisational culture and the industrial relations climate will be then used in a multivariate analysis of the data. Unlike the analysis presented above, the intangible variables are not analysed individually. Instead they are used in the multivariate analysis which follows. Before analysing the data using this technique, the measures are described.

3.5 Organisational Culture and Climate

In this section, we move away from directly observable characteristics of organisations and consider instead the less tangible features of organisational life.

3.5.1 Organisational culture

Organisational culture represents the values, beliefs and expectations that are shared by the members of an organisation that have been developed over a long period of time. An organisation's culture defines what is important for, and expected of, members of the organisation. In order to characterise organisations, employers surveyed were asked to indicate the extent to which their organisations were characterised by a series of 50 statements (such as: 'How characteristic is it of your organisation to be flexible, highly organised, careful, being rule oriented?'). To identify the organisational characteristics that go together and describe different organisational cultures, the response of employers to the 50-item culture scale were factor-analysed. Four factors were revealed by this analysis, and these were labelled: stable, supportive, competitive and dynamic. To further illustrate the composition of these variables, a sample of the items that loaded heavily within the factors is given below:

- | | |
|---------------------|---|
| Stable: | being team oriented, being careful, being predictable, being highly organised, paying attention to detail. |
| Supportive: | security of employment, being reflective, being supportive, being tolerant, being socially responsible, being calm. |
| Competitive: | work long hours, being demanding, being aggressive, high expectations of performance, being precise. |
| Dynamic: | being action-oriented, being informal, confronting conflict directly, being results-oriented, high pay for good performance, being competitive. |

3.5.2 Industrial and workplace relations

It has often been said anecdotally that the industrial relations climate of an organisation has an impact on the return-to-work rates and the cost of workers' compensation claims. The problem is how to measure the industrial relations climate since, like organisational culture, by its very nature it is not something that can be seen, but must be inferred from the attitudes and actions of employers and workers within a given industrial setting. In the survey of employer practices, the industrial relations climate was measured in three ways:

- i. If an employer perceives workers to generally have a poor attitude to return to work, then this might also be expected to predict claims costs and duration. The perceptions of worker attitudes on the part of an employer might in turn be expected to influence his/her behaviour with respect to the level of proactivity in managing a return-to-work programme. Employer experience with, and attitudes to, injured workers was assessed through five items in the questionnaire:
 - co-operative;
 - accessible;
 - willing to co-operate with other parties (e.g., GP);
 - willing to consider options regarding return to work; and
 - interested in returning to work before 100% fit.

- ii. Since the early 1990s, fewer employers in Australia are relying on industrial awards to set wage rates and are developing workplace agreements instead. In addition, there is a move by employers to deal directly with workers rather than through a more formal system that has been developed in collaboration with the trade unions. The industrial relations and workplace relations may be found to impede the return to work of an injured worker where the industrial relations are based on conflict and suspicion rather than on trust and collaboration. These items were selected from the *Australian Workplace Industrial Relations Survey (AWIRS)* (Morehead, Steele, Alexander, Stephen & Duffin., 1997) and included:
 - This organisation devotes considerable resources to having a corporate ethic and culture at the workplace;
 - Management here prefers to deal with workers directly, not through trade unions;
 - Management here thinks that the award system has worked well in the past;
 - Management here believes that negotiation of a workplace or enterprise agreement is important in achieving the organisation's goals;
 - If they had to make a choice, managers in this workplace would choose quality improvements over labour-cost reductions;
 - This organisation currently devotes considerable resources to the management of human resources.

- iii. Another way of examining the industrial climate is to examine that point in the organisation where the apex of power and influence lie. Organisations that have adopted a contemporary approach (i.e., commitment maximisation) to management have in recent years been pushing more decision-making responsibility away from the strategic apex of the organisation. Included in the questionnaire was a series of items that asked at what level various management-type decisions were made.

A factor analysis of employer responses to questions from the AWIRS survey indicate that there were two clusters of questions that were statistically distinct from each other. One of the clusters reflected a preference for using enterprise agreements⁷ and the other reflected the extent to which the organisation was people/commitment-oriented⁸. Rather than using individual items to predict costs and duration of claims, as was done with the organisational culture measures, a reduced set of predictor measures can be derived from the summated scores of items that were found by the factor analysis to cluster together in a meaningful fashion.

3.6 Multivariate Analysis

In this section, the results of a multivariate analysis of the data are given in which the effects on costs and duration of the organisational structural variables (e.g., age size, industry), organisational process variables (e.g., culture and climate) as well as return-to-work process variables are estimated. Simultaneous estimation of the influence of the variables to be included in the analysis will allow the relative importance of each to be determined, having taken into account the effect of all of the other variables in the analysis.

As previously explained, there are several reasons why multivariate analysis of the data presented earlier in the report might be useful. Perhaps the most important reason, however, is that the impact of the variables examined above may be simultaneously assessed. This is useful as it may be, for example, that two variables that impact on duration and claims cost are highly correlated, and hence may be reflecting the same thing about the organisation, or one variable may be acting as a marker for another. For example, the sector in which an organisation operates may appear to influence claims and duration. Additionally, injury type may also impact on duration because certain injuries take longer to heal.

Table 3.2 Variables entered into the multiple regression analysis

Category of Variables	
Individual	Worker age, sex, tenure, marital status, occupational classification (ASCO at single-digit level [*])
Organisational Demographics	Industry classification (ASIC at single-digit level [*]), Organisational size
Injury Characteristics	Bodily location [*] and nature of injury [*]
Organisational Culture	Dynamic, Competitive, Supportive, Collaborative
Employer Attitudes	Commitment-oriented, Cost-oriented, Positive, Flexibility
Injury Management	Active Monitoring, Active Referral to Specialists, Active information-giving, Frequency of visits, Use of specialist rehabilitation co-ordinator [*] , Responsibility for rehabilitation co-ordination (Supervisor, HR Manager, Manager, Rehabilitation Co-ordinator)

^{*} coded as dummy variables

⁷ The item 'management thinks the award has worked well' loaded heavily and negatively on the second principle component, and the item 'management here believes that negotiation of a workplace agreement is important in achieving the organisations goals' loaded strongly and positively.

⁸ Items loading on this component are 'this organisation devotes considerable resources to having a corporate ethic and culture at this workplace'; 'management here prefers to deal with workers directly, not through trade unions'; 'If they had to make a choice management in this workplace would choose quality improvements over labour cost reduction'; 'this organisation currently devotes considerable resources to the management of this workplace's human resources'.

Clusters of certain types of injuries may be more likely to occur in a particular sector of industry. If such injuries are typically of long duration then an examination of industry type without controlling for injury may lead to erroneous conclusions about the effects of industry type on the data. A multivariate analysis allows us to evaluate the impact of industry sector and injury type on cost and duration simultaneously. The variables used in the regression analysis are shown in table 3.2.

The multiple regression analyses were conducted in a hierarchical fashion, which means the order with which predictor variables were entered into the analysis was controlled. The control variables, such as demographic characteristics of an employer, worker and injury characteristics, were entered in the analysis prior to estimating the effects of the injury management, organisational culture, industrial and management relations variables.

As each block of variables is entered into the analysis, the regression analysis estimates the amount of variance in the dependent variable accounted for, as well as the impact of each variable in the equation given all the other variables. In the results tables (tables 3.3b & 3.4b), the column that allows the reader to assess the relative importance of each predictor is that which contains the standardised Beta coefficients. The polarity of the co-efficient indicates the nature of the relationship (i.e., if it is positive, then as the value for the predictor increases, so do the values for the predicted variable). The R column gives the multiple correlation coefficient, and the R-square column the proportion of the variance in the dependent variable that has been accounted for by the variables in the analysis. The different R values and R-square values reflect the changes that have occurred due to the addition of new variables into the analysis.

The initial set of variables used to predict cost and duration were the same in each case.

Initially, an analysis was undertaken that assumed a linear relationship between the predictor and predicted variables. The results of that analysis were disappointing. The possibility that the relations between the variables were non-linear was explored by a \log_{10} transformation of the dependent variables (costs and duration). When this was done, a large increase in the variation in the data was accounted for in both costs and duration.

Table 3.3a Model summary for compensation costs

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
a. Company and individual demographics	.446	.199	.190	.7313
b. Nature of injury	.522	.273	.257	.7008
c. Occupational classification	.539	.291	.271	.6939
d. Organisational culture	.546	.298	.276	.6915
e. Injury management	.556	.310	.282	.6886
f. Responsibility for injury management	.575	.330	.296	.6820

Table 3.3b Regression weights for compensation costs

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std Error	Beta	t	
(Constant)	3.807	.502		7.577	.000
Employee age at injury	8.831E-03	.003	.125	2.622	.009
Age of Orgn in WA	-5.25E-03	.001	-.226	-3.678	.000
Employees in WA	1.376E-04	.000	.222	3.277	.001
Common law been claimed	8.535E-06	.000	.287	6.095	.000
Sprain/Strain	.291	.094	.171	3.081	.002
Contusion	-.289	.144	-.107	-2.011	.045
Fracture	.557	.223	.123	2.496	.013
Amputation	1.774	.719	.115	2.468	.014
Tradespersons	-.203	.122	-.085	-1.665	.097
Plant and machine operators, and Drivers	-.213	.107	-1.00	-1.987	.048
Dynamic work environment	-1.64E-02	.005	-.198	-3.116	.002
Proactivity	1.185E-02	.011	.072	1.068	.286
Frequency of contact	-1.01E-02	.058	-.009	-.172	.863
Extent of supervisor involvement	-2.87E-02	.009	-.240	-3.219	.001
Extent of manager involvement	-1.59E-02	.013	-.074	-1.262	.208
Extent of co-ordinator involvement	-1.27E-02	.009	-.124	-1.399	.163
Extent of HRM involvement	-1.30E-02	.009	-.131	-1.501	.134

^a Dependent Variable: LOGCOMP

Table 3.4a Model summary for claims duration

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
a. Individual and organisational characteristics	.453	.205	.195	.7225
b. Injury type	.532	.284	.266	.6899
c. Occupational classification	.551	.304	.284	.6811
d. Organisational culture	.554	.307	.286	.6802
e. Injury management processes	.562	.316	.289	.6787
Responsibility for injury management	.583	.340	.306	.6705

Table 3.4b Regression weights for claims duration

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std Error	Beta	t	
(Constant)	1.353	.503		2.687	.008
SEX	-.237	.094	-.136	-2.534	.012
Employee age at injury	6.706E-03	.003	.097	2.097	.037
Employees in WA	8.593E-05	.000	.139	2.130	.034
Age of Orgn in WA	-4.08E-03	.001	-.177	-3.078	.002
Common law been claimed	8.680E-06	.000	.289	6.450	.000
Sprain/Strain	.258	.089	.154	2.910	.004
Contusion	-.349	.134	-.134	-2.608	.009
Fracture	.548	.215	.120	2.549	.011
Amputation	1.809	.689	.116	2.624	.009
Labourers and related workers	.194	.076	.118	2.553	.011
Dynamic work environment	-1.40E-02	.005	-.176	-2.975	.003
Active monitoring	3.349E-02	.016	.140	2.146	.033
Active information-giving	.171	.134	.060	1.274	.203
Active referral	-3.41E-02	.031	-.067	-1.093	.275
Supervisor proactivity	-2.40E-02	.008	-.202	-2.945	.003
Manager proactivity	-1.83E-02	.012	-.086	-1.533	.126
Co-ordinator proactivity	-7.01E-03	.009	-.069	-.798	.426
HRM Proactivity	-8.60E-03	.008	-.087	-1.042	.298

^a Dependent Variable: LOGDAYS

The regression analyses account for approximately 30% of the variation in claims duration and cost. The models (i.e., the significant predictors) for both costs and duration were almost identical. In addition to the injury and personal characteristics variables, organisational age and size were both found to predict cost and duration, with the former being associated with shorter claims and lower costs. Organisational culture, especially that of dynamic organisations, also exerted a statistically reliable effect on the data, in a manner similar to that for age. Employer attitudes to workers, and the espoused values of management with respect to commitment-orientation and cost reduction strategies failed to affect claims costs and duration.

Surprisingly the extent of proactive injury management (that is, the active monitoring of claims, active referral and active information provision to injured workers) was not found to reduce claims costs or duration. Indeed, the active-monitoring factor seemed to suggest that proactivity is associated with an increase in duration and costs. It should be recalled, however, that the design of the present study is not able to pick out those organisations who have introduced an injury management programme as a result of poor claims experience. While their claims experience may still be poor, it may be much improved relative to what it was like prior to the introduction of the management programme.

The analysis also does not discriminate between those employers with a relatively well-established injury management programme and those for whom high levels of proactivity are relatively novel. A further explanation for the failure of this variable to predict costs or duration is that there is little variability in the responses that employers gave to this part of the questionnaire.

Of the 23 questions on injury management, the average number of affirmative responses was 20, with a small standard deviation (5). It may be that employers were giving a socially desirable response, or perhaps responding in a way that indicated their ideal injury management programme. In so doing, the statistical estimation of the impact of injury management programmes on claims costs and duration would be compromised. As we shall see below, however, it is possible to suggest that injury management practices vary as a function of organisational culture, and what may occur is that different cultures adopt different practices to positive effect.

An important finding was, however, that if supervisors are nominated as being actively involved in the management of a return-to-work plan, then costs and duration are reduced. In dollar terms the difference between average involvement of the supervisor and the organisation with the highest level of involvement was estimated to be \$5,102. In tables 3.5 and 3.6 the effects for supervisor proactivity were the only ones to reach statistical significance. Supplementary analysis, not reported in detail here, revealed that the influence of the human resource manager may also be important in controlling costs and claims duration.

Exactly how supervisors and human resource managers influence injury management is not made clear from the data, but it is easy to formulate a plausible hypothesis. First, supervisor and human resource manager are probably an individual worker's main point of daily contact with the organisation following injury. It is through these individuals that the organisational culture and performance expectations are transmitted. Research in other settings has demonstrated that supervisors, in particular, frequently have discretion to allocate tasks within their area of operation (Morrison, Cordery & Girardi, in press). It makes sense, therefore, that if a worker is to return to work on alternative duties, then the supervisor is well placed to contribute to the injury management process. In addition, it is also more likely that a supervisor will have a personal relationship with an injured worker and perhaps it is the personal interest taken in the worker that is particularly effective in facilitating the return to work.

Interestingly, supervisors are the least-often used resource in the management of injury. Table 3.5 shows the mean number of injury management items reported for each stakeholder in the injury management process.

Table 3.5 Extent of involvement in injury management for each stakeholder

	Mean	SD
Extent of supervisor involvement	2.9574	5.3540
Extent of HR manager involvement	4.2128	6.5169
Extent of manager involvement	4.4574	7.3743
Extent of rehabilitation co-ordinator involvement	3.7979	6.8149

Based on the results above, there is a clear case for more involvement by supervisors in injury management. Perhaps not surprisingly, where supervisors are involved in injury management, the attitudes of management towards workers are more positive, and the orientation of the organisation is people-focused (figures 3.15).

The attitudes of management to the workforce and to injured workers were estimated from a series of questions regarding overall management philosophy and orientation. For example, managers were asked the extent to which they found employees to be co-operative, accessible, and willing to co-operate with people managing their rehabilitation. Employees indicated the extent to which they agreed or disagreed with statements regarding general management philosophy (or people-orientated in figure 3.15) such as ‘management here prefers to deal with employees directly, not through trade unions’.

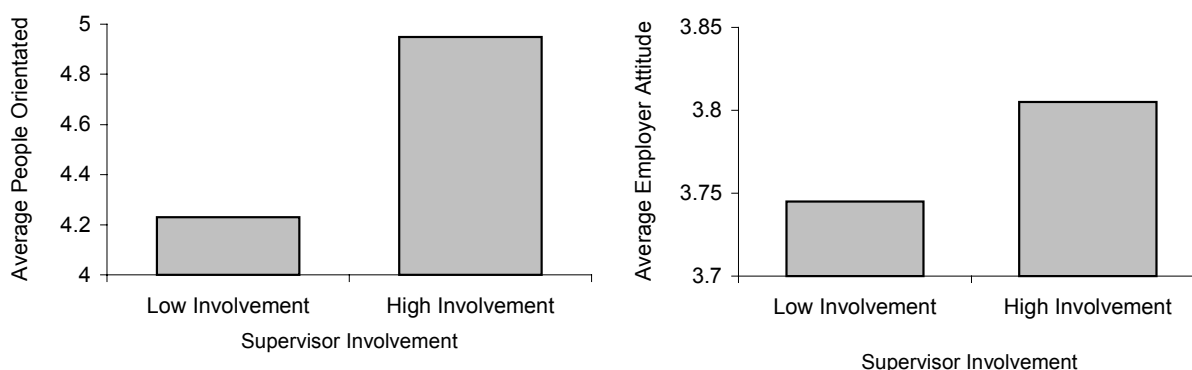


Figure 3.15 Extent of supervisor involvement and average of employer’s attitude to worker and average of people-orientated

The lack of any apparent effect on cost and duration of specialist rehabilitation co-ordinators is also an unexpected result. All the more so as approximately 40% of the employers reported that they employed a rehabilitation co-ordinator. Unfortunately, whether this person also has other duties is not clear from the data collected.

The rehabilitation co-ordinator may fail to have an effect on cost and duration for a variety of reasons. For example, while co-ordinators may be primarily responsible for the development of a return-to-work/vocational rehabilitation plan, they do not necessarily have primary responsibility for managing the execution of the plan on a daily basis. Alternatively, for many organisations, supervisors and human resource managers may perform the role of co-ordinator in addition to being responsible for implementation. The results from the present analysis would suggest, therefore, that supervisors in particular may be effectively used by having more input into an injured workers' return-to-work programme.

Finally, there are three organisational variables that exert statistically significant effects on workers' compensation costs and duration: age and size of an organisation, as well as the existence an organisational culture that is reported to be dynamic.

Both age and the dynamic culture variables make a negative contribution to the cost and duration. That is, older organisations tend to have claims that are shorter and less costly, and those that have a dynamic culture influence claims in the same way.

In dollar terms, for each 30 years of organisational age there was a \$1,039 dollar reduction in claims costs. Similarly, the reduction in claims costs between the organisation reported as being the most dynamic and one that was seen as average is \$3,875.

Paradoxically, additional analysis revealed that dynamic organisations tend to have a poor claims record despite greater proactivity in the rehabilitation of injured workers. The claims rate for very dynamic organisations is significantly greater than for organisations that are less dynamic (figure 3.16). However, additional trend data collected over an extended period of time is needed.

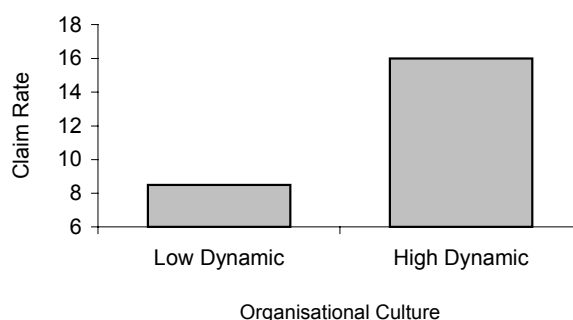


Figure 3.16 Claims experience for dynamic organisations

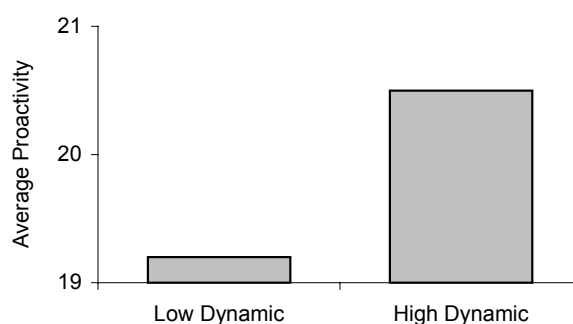


Figure 3.17 Dynamic organisation and average proactivity

It appears that dynamic organisations are more likely to have a poor experience rating with compensation claims rates. In response to this, more rigorous injury management procedures may have been implemented. Whether or not the injury management programmes of dynamic organisations are introduced as a consequence of experience cannot be determined.

However, it is possible to test whether injury management programmes implemented in dynamic organisations vary systematically in effectiveness. If this proves to be the case, then we have one possible explanation as to why dynamic organisations have significantly shorter and less costly claims. Table 3.6 presents the results for such an analysis for each of the different injury management components (active monitoring, active referral and active information-giving). The sample was derived from a median split on the dynamic culture variable that yielded a total of 182 matched cases.

Table 3.6 Analyses of different injury management components

	Unstandardized Coefficients		Standardized Coefficients	t	Sig. (one tail)
	B	Std Error	Beta		
(Constant)	-4,397.072	1,1221.749		-.392	>.20
active monitoring	356.872	340.449	.089	1.048	>.20
active referral	-1,155.501	609.192	-.161	-1.897	<.03
active information-giving	3,652.801	3,938.746	.072	.927	>.20

^aDependent Variable: \$ Compensation paid

From table 3.6 the effect for active referral is significant for a one-tail test (critical $t = 1.64$) indicating proactive referral of claimants to specialist rehabilitation providers and liaising with GPs is of benefit in reducing claims costs and duration. Specifically, for the present sample, the reduction in the amount of referrals for specialist intervention undertaken by an average dynamic organisation and an organisation which arguably utilises what might be labelled as best practice is in the order of \$1,350 per claim.

In reality the relationship between injury management practices and outcomes is likely to be underestimated in the above analysis, since the range restriction on the predictor variables and its effects is likely to be more of a problem with smaller sample sizes and underestimates the true magnitude of the relationships between variables.

Finally, the third organisational characteristic to impact on claims data is organisational size. The larger the organisation, the higher the cost of the claim, although it must be admitted that while the effect is statistically significant, the actual difference in dollar terms per 600 workers is approximately \$226.

3.7 Concluding Comments

This section examined management practices and workers' compensation claims costs and duration. The findings suggest that:

- Management practices do impact on claims costs and duration, both at the level of injury management programme implementation and in terms of organisational culture variables.
- Culture and management are inextricably intertwined.
- On the face of it, the multivariate regression analyses indicated that more involvement from supervisors in injury management and rehabilitation was the major way in which positive results could be achieved through injury management. Indeed the extent to which supervisors are involved remains the most direct (and strongest) evidence that employer behaviour influences claims experience.

Further consideration of the data led us to speculate that the involvement of a supervisor in the management of claims may well be indicative of the culture of the organisation. Increased involvement of supervisors may reflect a devolution of managerial authority which is consistent with contemporary management practices and a commitment-oriented culture.

A re-examination of the employer data confirms this hypothesis, with statistically significant correlations between supervisor responsibility for injury management and worker commitment orientation ($r = 0.11$, $p < 0.05$), willingness to consider return-to-work options ($r = 0.46$, $p < 0.001$) and the extent to which employers have a positive attitude towards workers ($r = 0.26$, $p < 0.001$).

The effects of organisational dynamism were also found to influence claim costs and duration. Specifically, a dynamic culture was associated with shorter and less costly claims. Supplementary analysis of the data suggests that although a dynamic organisational culture resulted in a worse claims experience (i.e. a higher claim rate) the way with which claims are dealt with by organisations that have a dynamic culture is superior. This hypothesis was supported when injury management proactivity levels are examined in detail.

CHAPTER 4

Worker Perceptions, Employer Characteristics and Injury Management

Thus far, the impact of injury management programmes on claims outcomes has been restricted to those aspects which, according to the employers, comprise the management programmes in their organisations. Since employers were not asked to describe injury management programmes that were devised for a particular worker, their descriptions indicate, at best, what happens typically. Since the experience of each worker will be different, the relationships between what is reported to happen and what actually happened in respect of an individual case may well be stronger than observed. In this chapter, we consider in detail the responses and reactions of workers to their injury management programmes, plus the effects on claims costs and duration.

First a brief overview is given of how an individual's intention to work is determined. Again, as in the employer section, we rely on information from an allied field of research to confirm our expectations with regard to the duration of compensation claims. Following this review, a descriptive account of a worker's perception of their injury management experience is undertaken. Finally, and again as was done previously, a rigorous evaluation of the injury management programme and its impact on cost and duration is given using a multivariate statistical procedure.

4.1 Motivation to Return to Work

Existing theories of work motivation offer explanations of behaviour at the individual level with regard to a variety of outcomes, including absenteeism, turnover and effort. There is, however, a dearth of research that specifically addresses workers' compensation and return to work. A brief literature review of individual approaches to work motivation and its implications for injury management is discussed.

4.1.1 Individual-level theories of work motivation

Individual-level theories of work motivation can be roughly divided into two types: those that seek to explain motivation as being driven by a set of needs that an individual worker strives to satisfy, and those that attempt to explain motivated behaviour as a result of a careful evaluation of alternative courses of action. In some ways the latter might, in an over-simplified way, be thought of as trying to explain subjective cost-benefit analyses.

In the work motivation domain, the most popular of the need theories include the need hierarchy theory (Maslow, 1943), the ERG theory (Alderfer, 1969), the need-for-achievement theory (McClelland, 1961), and the two-factor theory (Herzberg, 1968). Those who advocate these theories claim that behaviour is directed by the quest for need fulfillment. Once any particular need is satisfied, behaviour becomes governed by another need.

The order of precedence for different needs is determined differently by each theory. In order to engage a worker in behaviours that are of benefit to the organisation, management must provide workers with the opportunity to fulfil different needs. For example, with Herzberg's theory there are two types of needs: one that is satisfied by the perception that pay and conditions are adequate (extrinsic motivation), and another that is satisfied by opportunity for self-fulfillment (intrinsic motivation). When the former are not satisfied, it is expected that workers may engage in activities detrimental to the organisation. This may include high levels of absenteeism and turnover, or even industrial action as a means of procuring more or better pay. It is argued that it is not until the fundamentals are satisfied that workers will begin to engage in activities to the benefit of the organisation. Workers who are intrinsically motivated are said to be more likely to be of benefit to the organisation as they will be willing to accept more responsibility and be willing to learn and promote work behaviour that benefits performance. Intrinsically motivated workers would be expected to be less likely to go on strike, be absent or to leave.

In the past 30 years there has emerged a different class of theory that has the potential to account for a variety of work behaviours, including motivation to attend. These theories, sometimes referred to as process theories, seek to account for behaviour as a consequence of cognitive evaluation. They seek to explain variation in work-related behaviour in a reward-for-effort framework. Three theories within this framework have predominated: valence-instrumentality and expectancy theory (VIE) (Vroom, 1964), equity theory (Adams, 1975), and goal setting theory (GST) (Locke, 1968).

Goal setting theory and VIE have most in common in that they are concerned with outcome and what an individual must do to achieve it. The important features of VIE theory is that there is a set of behavioural options (for example, return to work, find another job, accept a pension) that are open to an individual. Each of the options has attached to it a subjectively determined level of desirability. The behavioural option selected by an individual is subsequently determined from its perceived desirability, the effort that has to be expended in attaining the outcome, and the probability of attaining the outcome given the effort. Desirability and the performance/reward linkage are determined from past experience. In order to manage worker behaviour effectively, management must determine what the valued outcomes are for workers and then find ways in which the perception of reward for effort is maximised. Goal-setting theory attempts to control behaviour in a different way by defining, *a priori*, what the outcome should be. The theory works best in predicting behaviour when the goals have been set in collaboration with workers and when the goals have been agreed to. In other words, workers commit to achieving the goal. As the goals are often measured in objective terms, workers often receive specific feedback in ways that help them monitor their own progress. Both VIE and GST have been successful in predicting and accounting for around 20% of the variation in work performance.

Equity theory is essentially a social comparison theory where individuals decide (or not) to act in particular ways as a consequence of their perceptions of how comparable others are treated. The theory predicts that if there is a perceived imbalance between the ratio of inputs (effort) to outputs (valued reward) when comparisons are made with a target group, then individuals will strive to achieve equity through changing their behaviour accordingly. If workers feel that they are being unfairly treated, they may exercise their option to restore the balance by withdrawing their labour in a variety of ways including: high levels of absenteeism, tardiness, quitting or, perhaps, delaying return to work after injury.

As with VIE theory an effort/reward assessment is made, but rather than comparisons being made for the individual with respect to behavioural options, the comparison of the relative merit of options is made between individuals. As with the other process theories described above, equity theory has received empirical support but it cannot account for all of the variance in work-related behaviours and attitudes.

4.1.2 Summary and hypotheses regarding worker return to work

To summarise, the potential practical implications of the process theories of motivation, with respect to understanding return-to-work behaviour, are as follows:

- Individuals select between behavioural options (return to work or not) depending on what the predicted outcome of each option will be, and the probability of achieving the desired outcome (job retention, restoration of benefits).
- Individuals will commit to a particular outcome if specific goals are jointly agreed. The setting of specific goals for which feedback is available will help to engage individuals to an outcome that benefits the organisation.
- Individuals monitor the social environment for evidence that they are being fairly treated, and any inequity (positive or negative) will serve as a signal to adjust behaviour accordingly.

On the basis of the above, certain predictions about the circumstances which will foster reductions in return-to-work times are as follows:

- Return-to-work rates will be higher when workers perceive that a return to work will facilitate access to desired outcomes. Desirable outcomes will include access to work-related benefits, such as holiday entitlements and over-award payments, restoration of status and work conditions.
- Return-to-work rates will be higher when re-entry to the workforce is managed in a way that makes it possible for a worker to monitor progress (through feedback), and when an explicit jointly agreed plan has been developed.
- Return to work will be facilitated when workers perceive that the organisation is making a special effort to assist a return to work.

4.2 Sample Description and Worker Questionnaire

Sample

A total of 2,511 questionnaires were mailed to workers who had lodged workers' compensation claims (complete address details were unavailable for 37 cases). These were injured workers who had been treated by 96 GPs who had agreed to participate in the survey. As with the employer questionnaires, two weeks after the mailing of the questionnaires a series of telephone follow-ups were undertaken.

At the time of assessment 254 workers had completed and returned useable questionnaires. A further 426 stated that they did not wish to participate in the survey and a further 800 were untraceable.

Worker questionnaire

The worker questionnaire consisted of nine sections of questions, as follows:

- name and address;
- personal details;
- education;
- labour force status at time of injury;
- transition (return-to-work process);
- current labour force status;
- medical and rehabilitation process;
- perceptions of the injury management process; and
- employer practices with regard to injury management.

The area of principle interest is the return-to-work programmes, and whether they have a positive impact on claim duration and cost. In this light, a worker's reaction to his/her work was viewed in terms of its effect on return-to-work behaviour.

4.3 Frequency of Contact and the Form of Rehabilitation Management: Employer Proactivity

In this section, the effect of the frequency of contact on duration and cost of claims is considered. One form of employer proactivity that can be examined is simply the extent to which employers keep in touch with their injured workers during the injury management process. When this is done it appears that costs and duration of claims are reduced with increasing frequency of contact (figure 4.1).

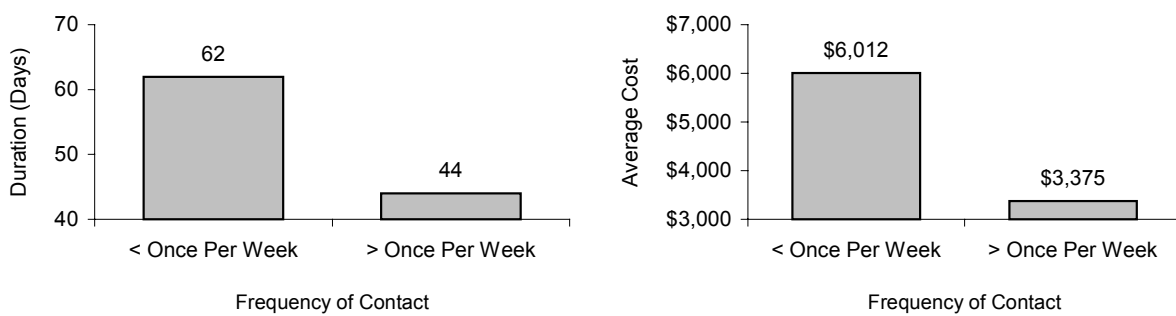


Figure 4.1 Frequency of contact and compensation payments and claim duration

While frequency of contact appears to be effective, one would expect the content of the discussions to be important in facilitating a return-to-work. The content of employer return-to-work programmes was assessed by responses to a similar set of questions in both employer and worker questionnaires. These questions were outlined in table 3.1 of the employer section (chapter 3). From this part of the questionnaire a crude proactivity index was developed, by summing the number of activities that workers reported had occurred while

receiving compensation. Thus, the sum of the responses to these questions gives the score that represents a worker's perception of general employer proactivity in injury management. A simple analysis of the general proactivity measure reveals the benefits of active injury management for costs and duration (figure 4.2).

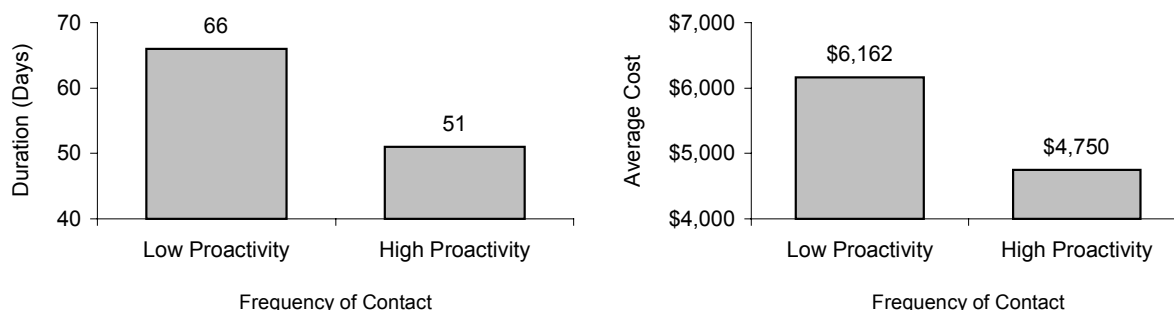


Figure 4.2 Employer injury management and claim cost and days lost

In addition to the proactivity measure, a number of additional features of injury management were examined. These included the extent to which supervisors, human resource managers, specialist co-ordinators and more senior managers have responsibility for managing individual return-to-work programmes. As was done for the employer questionnaire, three sub-scales were developed to reflect different aspects of pro-activity:

- Active information-giving (giving workers the right forms, informing of them of their rights, organising for wages to be paid);
- Active referral (liaising with GPs, vocational rehabilitation providers etc.); and
- Active monitoring (development of a return-to-work plan, setting goals, setting reporting dates, regular review of a case, etc.).

Some preliminary analysis of the data shows the frequency with which different stakeholders are involved in the management of an injured worker, and the ensuing differences in outcomes that are achieved. Figure 4.3 reveals, as with the employer data, that when a supervisor is the main point of contact, claims costs and duration are reduced.

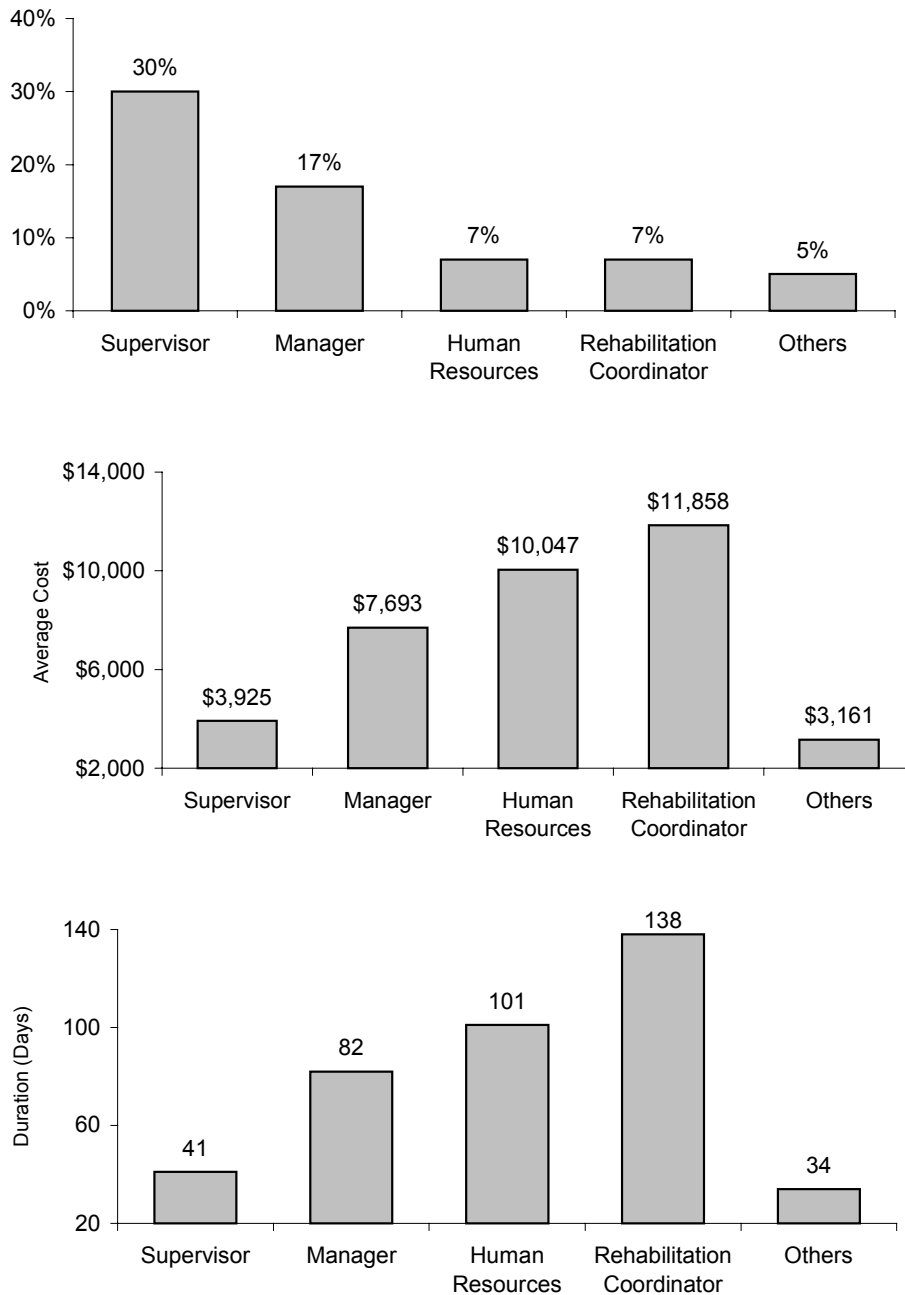


Figure 4.3 Contact person and days lost and claim cost

The above results are encouraging in that they appear to show, as in chapter 3, that supervisors have a dramatic effect on costs and duration. It is possible, however, that supervisors are only allowed to supervise the programmes of certain types of injuries, perhaps those that are less severe. For the current dataset, a simple way to test such an explanation is to assess the impact of supervisor behaviour while statistically controlling for potential confounds. This was done in the section below, where a multivariate analysis of the data, similar to that described for the previous chapter, will be reported. Figure 4.4 shows the impact different levels of proactivity have on cost and duration outcomes for each category of injury management manager.

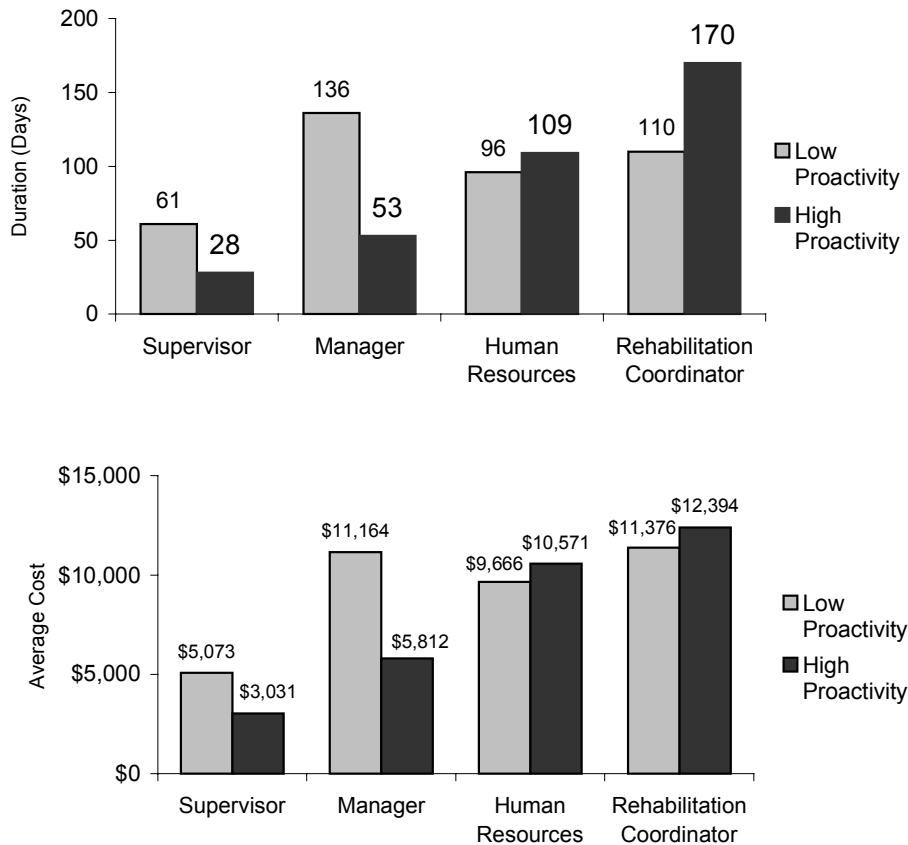


Figure 4.4 The impact of proactivity level of contact person on duration and cost

Clearly, for supervisors and managers there appears to be a substantial benefit to being proactive in the management of injured workers. Thus there appears to be an interaction between who is involved in injury management and what it is that they do.

However, an employer is not the only stakeholder whose actions may influence return-to-work behaviour. The next section looks at the possible influence other stakeholders may have.

4.4 Influence of Other Stakeholders

The presence, and the proactivity of, the GP, the insurance company, the trade union and the rehabilitation providers could be instrumental in the return-to-work process. The questions asked regarding GPs and approved vocational rehabilitation providers are given below, to illustrate the types of questions that were asked of workers with regard to stakeholder behaviour (see tables 4.1 and 4.2).

Table 4.1 Employee perceptions of GP behaviour

Did the treating doctor who was mostly responsible for your rehabilitation:

Give you advice on claiming for workers' compensation?
Give you information on rehabilitation and/or rehabilitation providers?
Talk with your employer or rehabilitation co-ordinator about your injury, suitable duties, and/or when you could return to work?
Visit your employer to discuss alternative duties
Advise you to use your sick leave before making a claim for worker's compensation?
Advise you to wait until you were 100 per cent fit before you returned to work?
Arrange for the treatment you needed?

Table 4.2 Employee perceptions of rehabilitation provider behaviour

Did your rehabilitation provider:

Give you advice on claiming worker's compensation?
Give you information on rehabilitation?
Talk with your treating doctor about suitable duties and/or when you could return to work?
Arrange physiotherapy or specialist medical appointments?
Undertake a vocational assessment to identify suitable duties?
Arrange retraining if you need it?
Have enough understanding of your workplace to implement the necessary changes to allow you to return to work?
Attend your workplace to view the type of work in which you are employed and other work available?
Speak to you about how she/he would help you get back to work?
Do what was set out to help you return to work?
Keep in regular contact with you?
Involve you in all decisions?

Furthermore, as indicated in the previous chapter, it is not an employer's actions and attitudes alone which have an impact on return-to-work behaviour and outcomes. The other side of the equation are workers' attitudes which may result from their experience of working for an employer. Consequently, workers were asked to respond to the items listed in table 4.3, below, with respect to their satisfaction with various aspects of their employment experience prior to their work injury.

Table 4.3 Workers' employment experience prior to work injury

In the main job you held prior to your injury:

How satisfied were you with the work duties that you were doing
How satisfied were you with the workplace (that is, the physical working environment or workstation)
How satisfied were you with your immediate supervisor
How satisfied were you with your employer
How satisfied were you with the people you worked with
How satisfied were you with your pay
How satisfied were you with the level of information provided by your employer on the hazards of your workplace
How satisfied were you with the level of training, especially with respect to safety, that was provided by your employer

Workers were asked to indicate their level of satisfaction on a scale of one to five, one indicating *very dissatisfied*, with the scale increasing to five which indicated *very satisfied*. These responses to the items were then summed, resulting in a score that provided a synopsis of workers' satisfaction. The influence of this variable is considered in the multivariate analysis section that follows. The impact of other stakeholders and worker experience with their employer are analysed next in the context of a multiple regression analysis.

4.5 Multiple Regression Analysis of the Data

In this section, the effect of confounding factors that serve to bias or to hide the true relationships between injury management variables and duration and cost of claims are examined.

As noted earlier, multiple linear regression is used to evaluate simultaneously the contributions of a variety of predictor variables, having extracted that portion of the variance that is not relevant to the current study. The analysis was conducted in a similar manner to that reported in the previous chapter. That is, the effects of individual (sex, age) and organisational characteristics (injury severity, occupational classification) were extracted prior to adding to the analysis measures of injury management (total proactivity), stakeholder proactivity and worker attitudes. Tables 4.4 and 4.5 show the model summaries for duration and claims cost respectively. Note that prior to constructing the tables, the control variables (injury type and location, occupational and industry classification, etc.) that were very weak or unreliable predictors were omitted from the table.

In summary, the multiple regression analysis revealed that:

- worker satisfaction with employers failed to influence costs and duration;
- parties other than supervisors and rehabilitation co-ordinators actually increase costs and duration; and
- the more proactive an employer is seen to be with regard to injury management, the lower are costs and duration of claims.

Table 4.4a Model summary for claims duration

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
Individual characteristics	.725	.525	.515	117.9558
Injury characteristics	.733	.538	.519	117.4254
Occupational and industry classification	.746	.557	.531	115.9800
Stakeholder proactivity	.779	.607	.570	111.0116
Extent of stakeholder involvement	.796	.634	.591	108.2383

Table 4.4b Summary statistics for predictor variables for claims duration

	B	Std Error	Beta	t	Sig.
(Constant)	78.668	42.730		1.841	.067
Common law been claimed	6.255E-03	.001	.568	12.186	.000
SEX	-33.484	14.646	-.099	-2.286	.023
Summed satisfaction scores	-.603	1.327	-.020	-.454	.650
Clerks	82.793	26.451	.133	3.130	.002
Wholesale Trade	46.995	49.786	.039	.944	.346
Injury management programme	-4.897	1.848	-.151	-2.650	.009
Frequency of contact	-1.820	18.138	-.004	-.100	.920
Proactivity of medical practitioner	.491	6.262	.003	.078	.938
Proactivity of rehabilitation provider	9.827	2.700	.192	3.639	.000
Proactivity by insurance company	15.852	7.407	.115	2.140	.033
Rehabilitation co-ordinator proactivity	8.065	5.034	.087	1.602	.110
Union proactivity	6.008	7.509	.036	.800	.424
Extent of supervisor involvement	-.603	1.182	-.023	-.510	.611
Extent of manager involvement	3.979	1.387	.120	2.869	.004
Extent of rehab co-ord involvement	.119	2.273	.003	.053	.958
Extent of HRM involvement	5.791	1.709	.148	3.388	.001

^a Dependent Variable: Duration of Claim (Days)

Table 4.5a Model summary for claims cost

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
Individual characteristics	.613	.375	.362	11575.31
Injury characteristics	.618	.381	.357	11617.19
Occupational and industry classification	.654	.428	.396	11268.19
Effects of stakeholder proactivity	.728	.530	.487	10380.37
Extent of involvement from stakeholders	.740	.547	.497	10274.53

Table 4.5b Summary statistics for predictor variables for claim cost

	B	Std Error	Beta	t	Sig.
(Constant)	2844.989	3375.530		.843	.400
Common law been claimed	.406	.050	.418	8.144	.000
Summed job satisfaction scores	-34.597	126.795	-.013	-.273	.785
Clerks	5598.744	2494.167	.103	2.245	.026
Construction	11808.209	4384.223	.123	2.693	.008
Wholesale trade	15851.951	4751.811	.151	3.336	.001
Frequency of contact	-2226.309	1741.544	-.060	-1.278	.202
Proactivity of medical practitioner	-307.014	571.020	-.026	-.538	.591
Rehabilitation provider proactivity	796.374	257.649	.178	3.091	.002
Proactivity by insurance company	1323.531	685.624	.115	1.930	.055
Rehab co-ordinator proactivity	1070.429	482.596	.132	2.218	.027
Union proactivity	2746.208	717.390	.186	3.828	.000
Injury management programme	-501.926	177.304	-.180	-2.831	.005
Extent of supervisor involvement	-54.003	105.827	-.025	-.510	.610
Extent of manager involvement	214.824	130.657	.075	1.644	.101
Extent of rehabilitation co-ordinator involvement	108.494	215.750	.030	.503	.616
Extent of HRM involvement	424.229	160.066	.127	2.650	.009

^a Dependent Variable: \$ Compensation paid to client

The regression models for claims cost and duration account for 63% of the variation in each respectively. Once the demographics and injury characteristics, plus the occupational and industry classification variables have been extracted, approximately 10% of the variation in cost and duration was accounted for by the proactivity variables. The difference between a worker who was involved in an average-level of injury management intervention and one that had no involvement in injury management was estimated at \$2,766 per claim. The difference between the average amount and injury management of best practice was estimated to be \$1248. In terms of reductions in claims duration, the average level of general organisational proactivity in injury management reaped a 5-day reduction in the claim over organisations that had no injury management (as reported by the injured worker). This effect results in a 25-day advantage for the best practice organisations over and above organisations that provide some level of injury management.

Table 4.6 Summary statistics for the employer proactivity sub-scales

	B	Std Error	Beta	t	Sig.
Active monitoring	275.736	261.059	.090	1.056	.292
Active information-giving	-1186.325	512.087	-.142	-2.317	.022
Active referral	-1112.409	565.198	-.159	-1.968	.051
Extent of supervisor involvement	-156.052	89.213	-.111	-1.749	.082
Extent of manager involvement	223.567	108.215	.124	2.066	.040

^aDependent Variable: \$ Compensation paid to client

Table 4.7 Summary statistics for the employer proactivity sub-scales

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std Error	Beta		
Active monitoring	2.626	2.204	.100	1.191	.235
Active information-giving	-12.676	4.324	-.178	-2.932	.004
Active referral	-4.314	4.772	-.072	-.904	.367
Extent of supervisor involvement	-1.371	.753	-.114	-1.820	.070
Extent of manager involvement	.316	.914	.021	.346	.730

^aDependent Variable: Duration of Claim (Days)

Unlike the employer data, there was little apparent effect of who was responsible for the maintenance of the injury management programme, although the direction of the supervisor involvement variable was similar to that observed previously. Perhaps workers see more than one person during the recuperation period but are unclear who is responsible for monitoring their claims.

This conjecture is partly supported by the level of proactivity and involvement in injury management, as reported by workers and employers. For example, of the 24 components of injury management, employers claim to regularly use 20 components. Workers report, on average, that they were aware of 6 of the components being a part of their injury management programme. Similarly, employers report on average that supervisors were responsible for at least five components, whereas workers recall their supervisors being involved in roughly three aspects of their injury management programme. It might be argued that such differences of opinion reflect memory or some other such bias (for example, giving a socially desirable response).

This is unlikely, however, given that both employers and workers agree on the frequency with which contact between the parties takes place (roughly once per week). Perhaps, then, the transparency of the injury management process is an important component. Indeed, some corroborating evidence can be found for this hypothesis if the costs and duration of those workers who returned to work on alternative duties are examined. Figure 4.5 shows that costs and duration are reduced for those workers who were consulted, compared to those who were not.

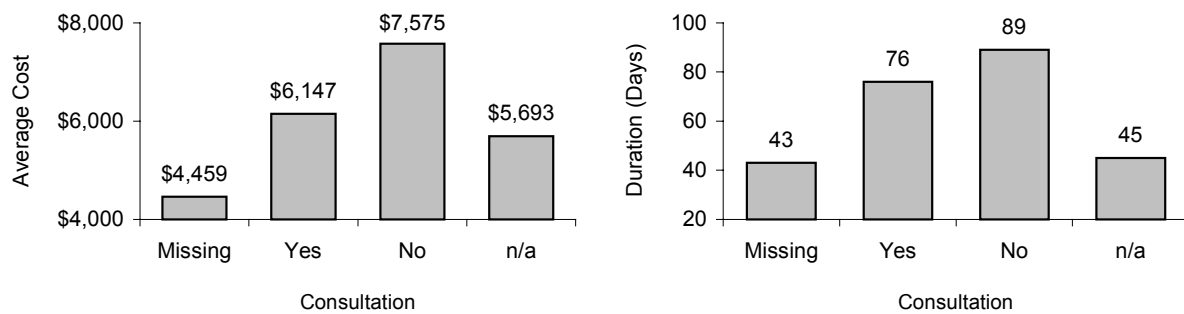


Figure 4.5 The influence of consultation with workers on claim duration and claim costs

When the individual components of injury management were examined, it was shown that active information-giving had a positive effect on both costs and duration (see tables 4.4 and 4.5⁹). Active referral was found to be of positive benefit only for compensation costs. As the mean level of injury management practices was low for the group, there was little point in analysing the sub-components of injury management further. For example, less than 50% of injured workers indicated that they were involved in any of the injury management components listed in table 4.4. The involvement of the supervisor in injury management increased in its importance when the individual injury management sub-scales were included in the analysis. As for the employer data, the more supervisors were involved in injury management, the lower the costs and duration of claims.

Mention should be made, at this point, of the surprising results for the involvement of some other stakeholders (e.g., trade union, insurance company, human resource managers and approved vocational rehabilitation providers) which were associated with increased costs and duration. The results for the approved vocational rehabilitation provider category are especially surprising, but they may reflect some aspect of injury severity. In other words, only the most severe cases may require the services of a vocational rehabilitation provider. Nevertheless, this result should be viewed in the context of the fact at least some of the variance in costs and duration, due to injury severity, would have been partialled out in the multiple regression analysis by other variables associated with severity (e.g., variables reflecting the extent of trade union and insurance company proactivity, number of weeks after which a return to work was attempted).

⁹ Note that the other variables in the analysis have been omitted as they did not add any new information over and above that revealed by the earlier analysis in table 4.1 and 4.2.

This leaves open the possibility that vocational rehabilitation providers and others involved may be ineffective in their efforts to return injured workers to work. Set against this conclusion, however, is the fact only 25% of the present sample report that they were referred to a vocational rehabilitation provider. Our previous research (Wood & Morrison, 1997; Morrison et al., 1995) indicated that there are some benefit to be derived from rehabilitation programmes but, like the effect of GP interventions reported in chapter 2, a vocational rehabilitation provider must engage in workplace-based interventions.

Despite the small proportion of the present sample who were referred to a vocational rehabilitation provider, the practice of undertaking workplace assessments does not, as yet, seem to be routine. In response to the questions ‘Did your vocational rehabilitation provider have enough understanding of your workplace to implement necessary changes to allow you to return to work?’ and ‘Did your vocational rehabilitation provider attend your workplace to view the type of work which you are employed and other work available?’, of those who were referred to a provider, only 42% and 52% respectively were able to answer in the affirmative to these questions. The importance of familiarity with the workplace by the provider is underscored by the fact that when they were seen as being knowledgeable about an injured worker’s job, the compensation costs were reduced (Figure 4.6).

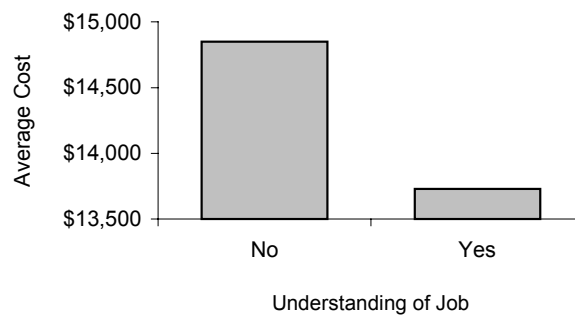


Figure 4.6 The effects of familiarity with the job and claims costs

4.6 Concluding Comments

In this section we have examined the effect of injury management programmes and employer behaviour from the perspective of the worker. This descriptive and multivariate overview of the worker section has rendered some invaluable data:

- High levels of proactivity seem to reduce both the number of days lost and the average amount of compensation paid per claim.
- The descriptive analysis of the data indicated that frequency of contact with an injured worker, in particular, appeared to be beneficial. However, the multivariate analysis showed very clearly that it is the content of the meetings during the return-to-work period that seem to be responsible for cost and claims duration reductions.
- The injured worker data also support the case that content is more important than who is responsible for injury management. While, as was the case for the employer data, supervisors were associated with improved outcomes, the effects were smaller than for the overall injury management programme.
- When comparing an average amount of involvement by the supervisor with a situation in which a supervisor was not involved at all, the benefit was \$562. The maximum benefit estimated from supervisor involvement was \$3,900. This is somewhat less than was estimated from the employer data.

CHAPTER 5

The Longer-Term Impact of Work Injuries on Workers' Welfare

5.1 Introduction

Most previous research on the outcomes of workers' compensation claims, including that of researchers in Australia, has concentrated on whether there has been a return to work on closure of compensation claims. There are at least two other dimensions that have a bearing on the welfare of injured workers which deserve attention.

Firstly, the stability of employment following a return to work has rarely been addressed, yet the small amount of evidence suggests that multiple absences from work are experienced by a significant number of workers' compensation clients. These multiple absences can occur as a result of injury recurrence; in addition, workers who have been the subject of workers' compensation claims can suffer discrimination as employers fear that the hiring of such workers may make them vulnerable to workers' compensation liabilities in the future.

Secondly, the longer-term impact of career interruptions caused by work injuries warrant investigation. Evidence from studies of career interruptions arising as a result of childbirth and child-rearing responsibilities, for example, and from spells of unemployment, suggest that there can be adverse consequences for earnings. Little is as yet known about the longer-term consequences for earnings of interruptions caused by work injuries. Protracted absences from work as a result of work injury may result in the decay of a worker's human capital. The position of injured workers following recovery can then be disadvantaged, and we can expect this to be reflected in earnings profiles.

This section commences with a review of the literature that addresses these issues, and the policy initiatives that governments have adopted in this area. This is followed by a presentation of our findings from a survey of 266 injured workers. The sample frame comprised workers who had been treated by the 96 GPs we surveyed, and who were the subject of workers' compensation claims finalised between 1991 and 1996. This survey elicited detailed information on the employment history of each worker both before and after his/her work injury. The information collected allows analysis of both post-injury employment stability and earnings losses as a result of career interruptions.

5.2 Literature Review

5.2.1 The permanence of a return to work following work injuries

The idea that a return to work may be a potentially misleading measure of the success of injury management interventions was first suggested by two early studies. Johnson, Cullinan and Curington (1979) analysed a sample of permanently impaired workers from five US states who had suffered a work-related injury in 1970. Their employment status was established at the end of 1971 and at the end of 1975.

While most workers were employed by the end of 1971, nearly one-fifth had been out of work for more than a year in 1975. On comparing employed and not-employed groups in 1975, the authors found similar injury patterns; however, the not-employed group were relatively older, and a higher proportion were black or female. Ginnold's (1979) study of workers injured in 1968 in Wisconsin found nearly one-fourth of the workers who initially returned to work were not employed in 1976, as a result of their injuries. Both studies are hampered by the absence of continuous data on spells of employment and work absences from the date of injury to the interview date. Nevertheless, these findings suggest that employment instability due to work injury is a potentially important phenomenon.

The following reasons for employment instability following an initial return to work have been advanced by Baldwin, Johnson and Butler (1996):

- The nature of injury impairments, such as back conditions, are manifestations of a chronic process that causes recurring episodes of pain and other symptoms, and hence may necessitate multiple work absences.
- A return to work before it is safe to do so.
- An employer's failure to make accommodations for injured workers, such as reduced hours, modified equipment or light duties that would ease transition back to normal duties, and help cement the worker's attachment to the workplace.

Though not listed by Baldwin et al. (1996), there is also the stigma that can attach to workers whose employment history includes workers' compensation claims. If the latter is used as a screening device, as the Industry Commission (1994) suggested, employers will be less likely to recruit workers with a record of past claims. The reasons commonly advanced to explain employer reluctance to recruit such workers include fears that investments in training will be wasted in the event of a recurrence, or the possibility of a worsening in the worker's condition.

Liability rules with respect to workplace accidents are also relevant. If liability for a second workplace injury rests with an employer at the time, there is an incentive for employers to discriminate against workers with a history of claims. This incentive can be a strong one, as the combined result of successive injuries will normally be more serious than either of the individual injuries (Flatau, Jefferson, Morrison and Wood, 1997).

The most recent and important study in this area is that reported in Butler, Johnson and Baldwin (1995), and Baldwin et al. (1996). It is based on a survey of 11,000 Canadian workers whose on-the-job injuries occurred between 1974 and 1987. Continuous information on spells of employment and work absences is recorded for periods ranging from 3 to 15 years after injury. Detailed analysis of employment stability is restricted to 1,850 workers who were examined for permanent disability assessment, which means that they have experienced relatively severe injuries.

Of this sample:

- 725 workers (39%) continued to work from their first return through to the interview date (post-injury behaviour is observed for a period of at least 3 years);
- 535 workers (29%) made a first return to work, but subsequently left due to their injury, and had withdrawn from the labour force by the interview date;
- 389 workers (21%) experienced multiple spells of absence due to their injury, but were employed at the date of interview; and
- 204 workers (11%) experienced multiple spells of absence due to their injury, and were not working at the interview date.

Thus 40% of this sample of injured workers were not employed at the interview date; equally importantly, 32% of the sample experienced employment instability. Only 39% of the sample experienced a stable employment profile from the first return to work.

A multinomial logit model was estimated with a view to establishing the determinants of employment instability. The authors find that employment instability is positively related to the age of the worker, being female and suffering a back condition. On the other hand, employment instability is negatively related to higher educational attainment, to being employed in public administration, and to the presence of employer accommodations in the form of reduced hours and alternative work. This latter effect is found to be particularly important. It is also interesting to note that the replacement ratio (measured as the ratio of temporary total disability benefits to time-of-injury wages) is also negatively related to employment instability. This was an unexpected finding as high replacement ratios are generally associated with claims duration moral hazard. It is conceivable that more generous replacement ratios permit a longer initial absence, which results in more complete recoveries and hence a lower incidence of injury recurrence.

In recent years there have been an increasing number of policy initiatives designed to promote the stability of employment following recovery from work injury. There are two main approaches. The first imposes re-employment requirements on employers of accident victims. The second incorporates incentives into benefit structures and insurance premium schedules, which reward both employers who offer job security and workers who readily accept suitable job offers on recovery.

An example of the first approach is used by the Workers' Compensation Authority in Ontario, Canada where all employers (with minor exceptions) are required to observe re-employment provisions for two years following a workplace accident. The second approach is typified by an initiative introduced by the Workers' Compensation Authority in Wisconsin, USA: A two-tier benefit structure is employed for workplace accident victims who suffer partial permanent disability. The benefit structure is complemented by premiums that are based on experience rating. The basic idea is to structure benefits and premiums so that both employers and workers are better off if the employer offers a job at earnings close to pre-injury earnings, and if the injured worker accepts. For details of these and other examples of the above approaches see Flatau et al. (1997).

5.2.2 Interruptions to work experience and earnings

When an injury is severe and absences become protracted, workers can be adversely affected in terms of a reduction in earnings on recovery and return to work. There is a wealth of evidence that demonstrates that career interruption due to lengthy spells of unemployment or child-rearing responsibilities are the cause of wage losses on return to the workforce.¹⁰ In comparison, there is virtually no empirical evidence on the impact of career interruptions occasioned by work injuries.

In principal, earnings losses can eventuate as a result of protracted work absences no matter what the cause of the interruption. This is because work absence will cause a decay of a worker's human capital. The decay can take two forms:

- The atrophy of general human capital: A protracted absence from the labour force will result in loss of experience, training opportunities and promotion opportunities that disadvantage the worker on recovery.
- The atrophy of firm-specific capital: Where the absence from work is accompanied by cessation of employment with the pre-injury employer, a worker loses knowledge and skills specific to that workplace. Being firm-specific, these skills and knowledge have no value in alternative jobs with new employers.

As noted above, there are a growing number of studies that have sought to measure the rate at which human capital depreciates during the course of a career interruption (see footnote 1). The rate of depreciation is measured as the percentage decline in earnings per year of absence from the workplace. Estimates range from 0.6% to 5% per annum (Stratton, 1995). These estimates are commonly obtained from a fixed-effects model in which the difference between pre- and post-interruption earnings is modelled as a function of the length of the interruption. The Stratton (1995) study is typical; a fixed-effects model is estimated using data from the National Longitudinal Survey of Young Women. The survey follows 5,159 women from 1968, when they were aged between 14 and 24, and 1982. Stratton obtained estimates of the rate of depreciation that range from 1.5% to 2.3%. The evidence presented below are estimates of human capital depreciation during the course of career interruptions due to work injuries. These appear to be the first such estimates.

5.3 Survey Results

As part of the research project, 2,548 workers who were the subject of finalised workers' compensation claims between 1991 and 1996 were chosen for a postal survey. These workers were treated by GPs who agreed to participate in the study (see Chapter 2). A response was received from 266 workers, a response rate of 10.4%.

Respondents were asked about their employment details at the date of injury, their transition back to work and their employment status at the time of completing the survey. This information was used initially to investigate the stability or permanence of the return to work following a workplace injury.

¹⁰ See for example Corcoran and Duncan (1979), Corcoran, Duncan and Ponza (1983), Olsen and Frieze (1989), and Podgursky and Swaim (1987).

5.3.1 The permanence of a return to work following work injury

Following Butler et al., (1995) five return-to-work employment patterns can be defined. The first employment pattern is a single absence from work, followed by a successful return to work through to the survey date. The second employment pattern involves absence from the workforce through to the survey date. In the third employment pattern, a worker experiences multiple spells of work absence, but he/she is employed at the survey date. A fourth employment pattern is also characterised by multiple spells of work absence, but the worker is not working at the survey date. Finally, a group of workers were identified whose injury did not require a work absence. These workers have been working through to the survey date.¹¹

Of the 266 respondents, 57 did not provide complete information on their transition back to work and were therefore excluded from the analysis. Table 5.1 lists the number and relative frequency of workers by employment pattern.

The most common employment pattern, with 136 (65.1%) workers, is characterised by a single absence followed by a successful return to work. The next-most common is the fifth employment pattern (31 workers, or 14.8% of the sample), in which there is continuous employment through to the survey date. In total, 15% of the respondents were not working at the survey date; 14% of the respondents experienced multiple work absences. The comparable percentage figures from the Butler et al. (1995) study are 40% and 32% respectively. The different sampling methods used by the two studies are a likely explanation for the discrepancies in these findings. Butler et al. (1995) restrict their sample to injured workers who were examined for a partial permanent disability assessment. The sample frame used for this report is all injured workers who have been the subject of a worker's compensation claim. It follows that the typical worker in the Butler et al. (1995) sample will therefore have a relatively more severe work disability.

Table 5.1 Return-to-work process: employment patterns

Employment Patterns	Number of Cases	Relative Frequency
Pattern 1: There is a single absence from work, followed by a successful return to work through to the survey date.	136	65.1%
Pattern 2: The worker has been absent from the workforce since the date of injury and is not working at the survey date.	13	6.2%
Pattern 3: The worker experiences multiple spells of a work absence, but is employed at the survey date.	11	5.3%
Pattern 4: The worker experiences multiple spells of work absences and is not working at survey date.	18	8.6%
Pattern 5: The worker has never been absent from work, and remained in work through to the survey date.	31	14.8%

¹¹ This group of workers was not relevant to the categories employed by Butler et al, (1995), whose sample is comprised of workers suffering a partial permanent disability.

Of the five employment patterns, the first and fifth are characterised by a stable and successful transition back to work. The other employment patterns involve an unstable transition (multiple spells of work absence), and/or an unsuccessful return to work at the survey date.

The latter group experience longer-term losses as a result of their workplace injury, in the sense that they do not experience a smooth transition back to work once their claim has been finalised. In tables 5.2 to 5.4 the socio-economic and demographic differences between workers who experience different transition paths are investigated. The comparisons conducted in these tables facilitate identification of workers who are more likely to experience longer-term losses as a result of their work injury.

Table 5.2 presents the median age of workers in each of the five return-to-work employment patterns. It is evident that workers who experience a stable and successful transition back to work are typically younger than their counterparts whose transition back to work is unstable and/or unsuccessful. Younger workers recover more quickly from injuries, and are less likely to suffer a recurrence or aggravation of their injury on return to work. The findings presented in table 5.2 are consistent with this interpretation.

Table 5.2 Employment patterns and the age of workers¹²

	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5
Median age (years)	42	49	43.5	49	43

In table 5.3 the sample is classified into two groups. In group 1, workers are included who experienced a stable and successful return to work, i.e., employment patterns 1 and 5. Group 2 comprises workers whose transition path is unstable, and/or ends in an unsuccessful return-to-work outcome. Table 5.3 compares the gender, marital status, education and primary language of workers in these two groups.

¹² See Table 5.1 for definition of patterns.

Table 5.3 Socio-economic factors in the return-to-work process ¹³

	Group 1: Stable and Successful Return to Work	Group 2: Unstable or Unsuccessful Return to Work
Gender ¹⁴		
Male	74.3%	25.7%
Female	85.2%	14.8%
Marital Status ¹⁵		
Married	76.2%	23.8%
Single	88.7%	11.3%
Highest qualification ¹⁶		
Trade certificate	77.3%	22.7%
Trade qualification	79.4%	20.6%
Degree or higher	83.3%	16.7%
School certificate	70.6%	29.4%
First Language ¹⁷		
English	79.9%	20.1%
Other language	80.0%	20.0%
All Workers	79.9%	20.1%

Group 2 workers are more likely to be male, married, and have not acquired higher-level educational qualifications, such as trade qualifications and degrees. These differences appear to indicate that a transition back to work is not solely dependent on the nature and severity of injury. The skills and education of the worker and the strength of their attachment to the labour force seem to be influential.

Table 5.4 examines the trends in return to work outcomes and the time elapsed since the claim was finalised. Workers have been grouped into deciles according to the period of time since claim finalisation. The percentage of workers in each decile who have successfully or unsuccessfully returned to work was then calculated. According to the results presented in table 5.4, the proportion of workers who have successfully returned to work is more or less stable up to 42 months beyond claim finalisation.

The encouraging finding in table 5.4 is the sharp increase in this success rate in time frames beyond 42 months. In the decile greater than 60 months the success rate reaches 94.7%. This suggests that persons not working at the time a claim is finalised have an increasing probability of returning to work as the time period since claim finalisation lengthens.¹⁸ This pattern could reflect a greater willingness to accept lower paid jobs as the time spent without work lengthens. If this is the case, the interruptions to work careers that accompany workplace injuries will be associated with adverse consequences for earnings profiles.

¹³ Group 1 comprises employment patterns 1 and 5. Group 2 comprises employment patterns 2, 3, and 4.

¹⁴ Of the 266 respondents, 57 did not indicate their gender and are excluded.

¹⁵ Of the 266 respondents, 93 did not indicate their marital status and are excluded.

¹⁶ 66 workers obtained a trade certificate, 34 workers obtained a trade qualification, 14 workers obtained a diploma, 30 workers obtained an undergraduate degree or higher, 34 workers obtained no post-school qualification and 88 workers did not indicate their highest qualification obtained.

¹⁷ Of the 266 respondents, 57 did not indicate their first language and are excluded.

¹⁸ This conclusion is subject to important caveats. In particular, it should be noted that this is not a longitudinal study in which the work history of a panel of workers is recorded at different points in time following claim finalisation. Our data is derived from a cross-section of workers whose work history is recorded at one point in time. As a consequence, the characteristics (e.g., age, education, gender) of workers could differ systematically across deciles. These systematic differences may then account for the sharp increase in the return-to-work rate.

Table 5.4 Return-to-work outcome and time elapsed since claim finalised

	Successful Return to Work	Unsuccessful Return to Work
Less than 11 months	84.2%	15.8%
11–15 months	85.7%	14.3%
16–19 months	81.0%	19.0%
20–26 months	82.6%	17.4%
27–32 months	85.0%	15.0%
33–36 months	81.0%	19.0%
37–42 months	81.0%	19.0%
43–50 months	86.4%	13.6%
51–60 months	90.9%	9.1%
Greater than 60 months	94.7%	5.3%

5.3.2 Interruptions to work experience and earnings

Given the evidence from studies of career interruptions, it is interesting to analyse changes in after-tax earnings caused by work interruptions that arise as a result of work injury. Changes in after-tax earnings are computed from questions 23–25 (wages before injury) and questions 47–49 (wages after injury) of the Injured Worker questionnaire (see Appendix 2). In order to avoid attributing changes in earnings to a transition from full-time to part-time positions, wages are calculated on an hourly rate. The difference between the post- and pre-injury wages is the change in earnings after-tax. A matched sample of 100 observations is used for this analysis. In the sample, there are 55 workers who experienced an increase in wages after returning to work, 20 experienced a decrease in wages, while 25 experienced no change in earnings.

It would be reasonable to expect that the mean change in after-tax earnings will increase as the length of employment in a pre-injury job increases. As tenure in the pre-injury job lengthens, workers acquire more firm-specific human capital. An invisible cord will then cement the relationship between employer and worker. The replacement of such a worker will involve recruitment and retraining costs for the employer, while the loss of such a job results in the dissipation of skills for a worker who has obtained firm-specific skills.

However, results in table 5.5a and 5.5b do not show the expected relationship between tenure and change in earnings. The results show that longer tenure is associated with a higher negative change in earnings. The possible reason for such a finding lies with the proportion of workers who have long tenure and remain with the same employer. Table 5.5c considers only workers returning to the same employer. It appears that a greater percentage of workers who have a longer tenure in a pre-injury job obtain a positive change in earnings than others, (excluding tenure less than a year). Only 44.5% of those who have worked for a period of 1 to 5 years experience a positive change in earnings, compared to 48% for those who have worked 10 years or more.

Table 5.5a Tenure in pre-injury job and the change in after-tax earnings

Change in after-tax earnings	Tenure in pre-injury job			
	< 1 year	1 to 5 years	5 to 10 years	10 years or more
< -\$5.00	4.3%	3.6%	9.5%	-
-\$5.00 to \$0.00	21.7%	46.4%	38.1%	53.6%
\$0.00 to \$5.00	65.2%	42.9%	47.6%	39.3%
\$5.00 or more	8.7%	7.1%	4.8%	7.1%

Table 5.5b Tenure in pre-injury job and median and mean change of after-tax earnings

Change in after-tax earnings	Tenure in pre-injury job			
	< 1 year	1 to 5 years	5 to 10 years	10 years or more
Mean	\$1.60	\$0.50	\$0.04	\$1.20
Median	\$3.00	\$2.50	\$3.00	\$2.00

Table 5.5c Tenure in pre-injury job conditional on worker returning to same employer and the change in after-tax earnings

Change in after-tax earnings (same employer)	Tenure in pre-injury job			
	< 1 year	1 to 5 years	5 to 10 years	10 years or more
< -\$5.00	-	-	11.1%	-
-\$5.00 to \$0.00	36.4%	55.6%	44.4%	52.0%
\$0.00 to \$5.00	63.6%	38.9%	33.3%	40.0%
\$5.00 or more	-	5.6%	11.1%	8.0%

The following tables examine the relationship between the length of employment in the post-injury job and the change in after-tax earnings.

Table 5.6a Tenure in post-injury job and the change in after-tax earnings

Change in after-tax earnings	Tenure in post-injury job			
	< 1 year	1 to 5 years	5 to 10 years	10 years or more
< -\$5.00	9.1%	3.1%	5.6%	0.0%
-\$5.00 to \$0.00	36.4%	46.9%	50.0%	32.1%
\$0.00 to \$5.00	50.0%	43.8%	38.9%	57.1%
\$5.00 or more	4.5%	6.3%	5.6%	10.7%

Table 5.6b Tenure in post-injury job and median and mean change of after-tax earnings

Change in after-tax earnings	Tenure in post-injury job			
	< 1 year	1 to 5 years	5 to 10 years	10 years or more
Mean	\$0.30	\$0.60	\$0.30	\$1.90
Median	\$3.00	\$2.50	\$2.00	\$3.00

The results above show that a higher percentage of the sample who have a tenure of 10 years or more experience an increase of \$5 or more in earnings (10.7%) compared to those who have worked for less than a year after injury (4.5%). Likewise, the reverse is true for losses in earnings. The mean change in earnings after-tax increases with tenure (from \$0.30 to \$1.90), except for a slight drop at tenure between 5 to 10 years.

Table 5.7a Gender and the change in after-tax earnings

Change in after-tax earnings	Gender	
	Male	Female
< -\$5.00	1.8%	7.0%
-\$5.00 to \$0.00	38.6%	44.2%
\$0.00 to \$5.00	52.6%	41.9%
\$5.00 or more	7.0%	7.0%

Table 5.7b Gender and median and mean change in after-tax earnings

Change in after-tax earnings	Gender	
	Male	Female
Mean	\$1.10	\$0.50
Median	\$3.00	\$2.00

Table 5.7b shows that the sample population of females in our study experience a lower median change in earnings (\$2.00) compared to their male counterparts (\$3.00). In addition, there is a lower percentage of the male sample population that experiences a negative change in after-tax earnings. Table 5.7a shows that only 40.4% of the male sample incurred a loss in after-tax earnings, compared to 51.2% of their female counterparts. The reverse is true for gains in after-tax earnings.

Table 5.8a Age groups and the change in after-tax earnings

Change in after-tax earnings	Age Groups				
	25-34	35-44	45-54	55-64	65 or more
< -\$5.00	-	-	11.1%	-	-
-\$5.00 to \$0.00	61.9%	30.4%	40.7%	41.7%	-
\$0.00 to \$5.00	33.3%	52.2%	40.7%	58.3%	-
\$5.00 or more	4.8%	17.4%	7.4%	-	-

Table 5.8b Age groups and median and mean change in after-tax earnings

Change in after-tax earnings	Age Groups				
	25-34	35-44	45-54	55-64	65 or more
Mean	\$0.88	\$1.90	\$0.05	\$1.10	-
Median	\$2.00	\$3.00	\$2.00	\$3.00	-

Tables 5.8a and 5.8b explore the relationship between workers' age and change in after-tax earnings. The recuperation period following an injury is likely to increase with age. Thus older workers were expected to experience a lower increase in after-tax earnings. However, these tables reveal no apparent relationship. This could be because the experience older workers have may make them more valuable to employers. They are then less likely to lose their job as a result of work injury.

Table 5.9a Marital status and the change in after-tax earnings

Change in after-tax earnings	Marital Status	
	Married	Single
< -\$5.00	4.0%	2.6%
-\$5.00 to \$0.00	38.0%	52.6%
\$0.00 to \$5.00	52.0%	39.5%
\$5.00 or more	6.0%	5.3%

Table 5.9b Marital status and median and mean change in after-tax earnings

Change in after-tax earnings	Marital Status	
	Married	Single
Mean	\$0.70	\$0.80
Median	\$3.00	\$2.00

There is no *a priori* expectation about the relationship between marital status of an injured worker and change in after-tax earnings. But the results in tables 5.9a and 5.9b show that married people are more likely to obtain an increment in earnings than their single counterparts (58.0% as compared to 44.8% respectively). The median change in after-tax earnings is \$3.00 for a married person and \$2.00 for a single person. This could be because a married person has greater financial obligations than a single person. As a result, married persons tend to return to work earlier so as to minimise the decay of human capital.

Table 5.10a Educational level and the change in after-tax earnings

Change in after-tax earnings	Educational Level		
	Degree and Diploma	Trade cert. and trade qual.	School
< -\$5.00	4.8%	3.3%	6.7%
-\$5.00 to \$0.00	28.6%	43.3%	26.7%
\$0.00 to \$5.00	47.6%	50.0%	60.0%
\$5.00 or more	19.0%	3.3%	6.7%

Table 5.10b Educational level and median and mean change in after-tax earnings

Change in after-tax earnings	Educational Level		
	Degree and Diploma	Trade cert. and trade qual.	School
Mean	\$2.10	\$0.40	\$0.70
Median	\$3.00	\$3.00	\$3.00

It is expected that the higher the level of education attained, the greater will be the change in earnings. Higher education implies a greater accumulation of human capital and thus a greater level of productivity. Therefore, a higher wage will be offered to a relatively more productive worker. On the other hand, workers with higher education are usually given positions that require firm-specific skills, and which will further boost wages on return to work. However, results in tables 5.10a and 5.10b do not give the expected outcome. There is no difference in the median between any of the three levels of education. However, table 5.10c does indicate that those who have obtained a degree or diploma have the highest positive mean change in earnings (as compared to \$0.40 and \$0.70 respectively).

Table 5.11a Weeks elapsed before attempted a return to work, and the change in after-tax earnings

Change in after-tax earnings	Weeks elapsed before attempted a return to work				
	< 5 weeks	5-10 weeks	10-15 weeks	15-20 weeks	> 20 weeks
< -\$5.00	1.9%	-	8.3%	-	20.0%
-\$5.00 to \$0.00	40.4%	30.0%	25.0%	50.0%	60.0%
\$0.00 to \$5.00	48.1%	50.0%	66.7%	50.0%	20.0%
\$5.00 or more	9.6%	20.0%	-	-	-

Table 5.11b Weeks elapsed before attempted a return to work, and median and mean change in after-tax earnings

Change in after-tax earnings	Weeks elapsed before attempted a return to work				
	< 5 wks	5-10 wks	10-15 wks	15-20 wks	> 20 wks
Mean	\$1.30	\$2.00	\$0.20	\$0.70	-\$2.00
Median	\$3.00	\$3.00	\$3.00	\$2.50	\$2.00

There is a proportionately higher percentage of workers experiencing losses in earnings for those who had to recuperate for 20 weeks or more before attempting a return to work. This table indicates that *greater than 20 weeks* has the lowest percentage who gain an increase in earnings. The difference between the mean change in earnings for those whose work participation is interrupted for 5 to 10 weeks, and those of greater than 20 weeks is \$4.00. The former has a gain of \$2.00 while the latter has a loss of \$2.00. These findings confirm that the longer the interruption to work participation, the higher will be the earnings loss.

In order to estimate the depreciation rate, or the rate at which earnings decrease due to work interruptions, a fixed-effect model is estimated. The model is specified as follows:

$$\ln W_{t+s} - \ln W_t = \alpha_0 + \alpha_1 \ln T_p + \alpha_2 \ln T_0 + \alpha_3 \ln R_w + u$$

Where W_{t+s} is after-tax weekly earnings in present employment, W_t is after-tax weekly earnings in employment at the time of injury, T_p is tenure in pre-injury job, T_0 is tenure in post-injury job and R_w is the weeks elapsed before return to work. The results are shown in tables 5.12a and 5.12b. It is expected that tenure in the pre- and post-injury job have a positive influence on log change in earnings.

It is expected that R_w will have a negative co-efficient, because the longer the interruption period lasts, the larger the decay in human capital.

Table 5.12a The fixed-effect model

	Parameters
Constant	0.132**
ln (tenure in pre-injury job)	-0.0095
ln (tenure in post-injury job)	0.0025
ln (weeks elapsed before RTW)	-0.0255

(adjusted R^2 was 0.014)

The estimates presented in Table 5.12a produce the expected findings, except for tenure in pre-injury job. The depreciation rate is found to be 2.6% per annum, which falls within the range of past studies.

Table 5.12b The fixed-effect model, including the variable *employed by the same employer*

	Parameters
Constant	0.0974
ln (tenure in pre-injury job)	0.0096
ln (tenure in post-injury job)	-0.0269
ln (weeks elapsed before RTW)	-0.0264
Same employer	0.0754

(adjusted R^2 was 0.016)

Table 5.12b incorporates the variable *employed by the same employer* as a dummy variable. As a result, the tenure variables change sign. Nevertheless, the depreciation rate remains constant at approximately 2.6%.

Table 5.12c The fixed-effect model (omit the *tenure in pre-injury job*, to control for the existence of multicollinearity)

	Parameters
Constant	0.101
ln (tenure in post-injury job)	-0.0214
ln (weeks elapsed before RTW)	-0.0233
Same employer	0.0834

(adjusted R^2 was 0.018)

Workers who had a long tenure in their pre-injury jobs will tend to have the same employer when they return to work. As a result, both of these variables may capture the same causal mechanism. Table 5.12c addresses the problem of multicollinearity by omitting tenure in pre-injury job variable. However, the tenure in post-injury job variable retains an unexpected negative sign.

5.4 Concluding Comments

In this section we reported the results of a survey of 266 workers whose workers' compensation claims were finalised between 1991 and 1996. The survey sought to investigate two aspects of workers' post-injury experience:

- Did workers suffer difficulties in establishing a permanent return to work once claims were finalised?
- Are the differences between pre- and post-injury earnings systematically related to the length of any interruption to work participation?

The survey findings on the transition path back to work indicate that 15% of the sample were not working at the time of survey, and 14% of the sample experienced multiple absences from work following an initial return to work. On the other hand, 80% of the sample experienced a stable transition back to work; these workers tended to be younger, female and hold a degree qualification or higher. There is some evidence to suggest that the probability of a return to work increases as the time period since claim finalisation lengthens, however, this evidence is subject to some important caveats.

Of the 100 workers reporting both pre- and post-injury earnings, 55 workers reported an increase, 20 workers reported a reduction in earnings as compared to their pre-injury position, and 25 reported no change in their earnings. The workers most likely to experience earnings reductions were:

- those with a relatively short tenure following a return to work;
- females; and
- those whose work participation had been interrupted (due to work injury) for a lengthy period of time.

This latter finding is a potentially important one. A fixed-effects model has been estimated, to obtain an estimate of the rate at which earnings decay with respect to the duration of work interruption. The model estimates indicate that the typical change in earnings following a work interruption is reduced at the rate of 2.6% for each year of absence from work. This is within the range of estimates obtained by other studies of the effects of work interruptions. However, we believe this to be the first estimate that has been obtained for interruptions occasioned by work injury.

Appendix 1 GP Questionnaire

Dear

WorkCover WA is progressing a research project into practices which facilitate an injured worker's return to work. Dr David Morrison (University of Western Australia) and Dr Gavin Wood (Murdoch University) have been commissioned to conduct the research on behalf of WorkCover WA. This research compliments the recent survey on general practitioners' perspectives on workers' compensation conducted by WorkCover in which you kindly participated.

The current research aims to examine management processes regarding return to work. A feature of the project is that information from parties involved in the process of facilitating return to work will be integrated to provide a comprehensive picture of factors that affect return-to-work outcomes. The benefits of the research will be that the processes involved in successfully returning injured workers to work will be identified and contribute to the enhancement of existing injury management systems.

Following your participation in the initial survey mentioned above, you allowed us to use your data for additional research purposes. Since that time a new questionnaire has been developed from the data you provided and from feedback obtained from a pilot survey conducted with the assistance and support of the WA faculty of the Royal Australian College of General Practitioners (RACGP). Enclosed is the new questionnaire which reflects the feedback received from the initial study.

When completing the questionnaire you are not being asked to comment on any individual workers' compensation case, nor will it be possible to identify any individuals in the analyses of the data or subsequent reports that will be written. The research will only refer to aggregated results in any report that is written. On completion of the research a copy of the research report will be made available on request.

We would very much appreciate your assistance with this project by returning the completed questionnaire by mail or facsimile to Ms Gillian Burns at WorkCover on 9388 5550. If you require further information regarding the research please do not hesitate to contact Ms Burns on 9388 5591.

Yours sincerely

H T NEESHAM
EXECUTIVE DIRECTOR
WORKCOVER WESTERN AUSTRALIA

19 August 1997

The Committee for Human Rights at The University of Western Australia and the Human Research Ethics Committee at Murdoch University have given ethics approval for the conduct of this project. If you have any concerns you can contact either the Secretary of the Committee for Human Rights, Registrar's Department, University of Western Australia, Nedlands, WA 6907 (telephone number 9380 3703) or the Secretary of the Human Research Ethics Committee, Research Section, Murdoch University, Murdoch, WA (telephone number 9360 6483).

General Practitioner Questionnaire

Your name (Please print) _____

1. **Post code of your practice** _____
2. **Sex** (Please circle) Male _____ Female _____
3. **Age in years** _____
4. **Country of birth** _____
5. **For how many years have you been practising as a GP?** _____
6. **Do you work in a group practice?** (Please circle) Yes _____ No _____
7. **How many other GP's are there in your practice?** Full time _____ Part time _____
- 8a. **How many patients does your group or single practice see in a typical week?** _____
- 8b. **How many patients do you see in a typical week?** _____
9. **In a typical year, approximately what percentage of your own patient load are workers' compensation cases?** _____ %
10. **Of those Workers' Compensation cases which have become protracted (i.e. have lasted longer than 20 working days), what percentage do you typically refer to a:**

- Physiotherapist _____ %
- Occupational Therapist _____ %
- Rehabilitation Provider _____ %
- Psychologist _____ %
- Other (Please specify _____) _____ %

11. **Of those protracted cases, approximately what percentage do you make contact with the employer by..**

- Medical Certificate? _____ %
- Telephone? _____ %
- Work site visit? _____ %
- Case management meeting? _____ %
- Letter to Employer? _____ %

12. **In your opinion, when a patient is off work for more than twenty working days, how much do each of the following factors typically impede or delay a successful return to work?**
(Please circle only as many as you think are appropriate)

	1 Very few <10%	2 Some <25%	3 About half <50%	4 More than most >75%	5 Nearly all >90%
Termination of employment by employer before recovery	1	2	3	4	5
Work attitudes of the injured worker	1	2	3	4	5
Ineffective rehabilitation programmes	1	2	3	4	5
Severity of injury	1	2	3	4	5
Difficulties with re-training	1	2	3	4	5
Failure of the injured worker to comply with medical advice	1	2	3	4	5
A diagnosis which results in the application of inappropriate medical intervention	1	2	3	4	5
Poor coping strategies of the injured worker in coming to terms with the consequences of their injury	1	2	3	4	5
Poor pain management	1	2	3	4	5
Attitude of the injured workers' employer	1	2	3	4	5
Attitude of insurer	1	2	3	4	5

13. **When you talk to an employer about the return to work of one of your patients, do you find him/her..?**

(Please circle as many as you think are appropriate)

	Rarely <10% of the time	Sometimes about 30% of the time	Often about 50% of the time	Mostly about 70% of the time	About 90% of the time
Willing to assist	1	2	3	4	5
Accessible	1	2	3	4	5
Interested in injured workers	1	2	3	4	5
Willing to consider options	1	2	3	4	5
Only interested in a 100% fit worker	1	2	3	4	5
Suspicious of outside involvement	1	2	3	4	5
Wary of injury aggravation and hence additional liabilities	1	2	3	4	5

14a. **Injuries differ in their recovery rate depending upon a variety of factors such as nature and location of injury, as well as the age of the worker. If you were confronted with a 40 year old manual labourer who had suffered a soft tissue injury to the neck or back, while at work, how long would the reported symptoms need to be present before you would classify the injury as..**

(Please indicate the number of days or circle your response)

- | | | | | |
|-----|--|------------|-------|-------------------------------------|
| i | Chronic | _____ days | Never | Not related to duration of symptoms |
| ii | Requiring referral to a medical specialist | _____ days | Never | Not related to duration of symptoms |
| iii | Requiring vocational rehabilitation | _____ days | Never | Not related to duration of symptoms |

14b. **What other factors would you regard as relevant?**

15. **With reference to the injured worker described in question 14 who should be responsible for..?**

(Please answer a. through to j. You may circle more than one category for each item if you wish.)

	Patient/ injured worker	General Practitioner	Employer	Insurer	Rehab Provider	Union	
a.	monitoring the recuperation of the injured worker	1	2	3	4	5	6
b.	deciding which duties the injured worker can do	1	2	3	4	5	6
c.	developing an alternative duties programme	1	2	3	4	5	6
d.	deciding when the injured worker should return to full duties	1	2	3	4	5	6
e.	encouraging the worker back onto his/her old job with original employer	1	2	3	4	5	6
f.	encouraging the worker to seek a different job with his/her original employer	1	2	3	4	5	6
g.	encouraging the worker back onto his/her old job with a new employer	1	2	3	4	5	6
h.	encouraging the worker to seek a different job with a new employer	1	2	3	4	5	6
i.	encouraging the worker to settle the claim	1	2	3	4	5	6
j.	referring patients to vocational rehabilitation	1	2	3	4	5	6

16a. **Once more, with reference to the injured worker described in question 14, would that case be easier to manage if the same injury was sustained in a non-work setting?**

Yes (please go to 16b)

No (please go to 17)

Don't know (please go to 17)

1
2
9

16b. **Why would that case described (at question 14) be more difficult for you to manage if sustained in a work setting?**

(Please circle more than one number code if relevant)

- Must fill in more forms 1
- Liaise with a greater number of parties 2
- Lengthier consultations with the worker 3
- More time consuming meetings 4
- Worker attitude 5
- Employer attitude 6
- Insurer attitude 7
- Lack of knowledge about my role in Workers' Compensation system 8
- Unfamiliar with Workers' Compensation legislation 9
- Lack of occupational health knowledge 10
- Breach of confidentiality issues 11
- Adversarial nature of cases 12
- Lack of knowledge of work options 13
- Other (please specify _____) 99

17. **Please report whether you completed a medical school elective, or postgraduate training, in occupational health or occupational rehabilitation?**

- Yes 1
- No 2

18a. **To the best of your knowledge, in a worker's compensation case, for which of the services listed below would you be entitled to receive a payment?**

(Please circle more than one number code if relevant)

- Worksite visit 1
- Phone call to injured worker's employer 2
- Phone call to injured worker's insurer 3
- Phone call to injured worker 4
- Phone call to vocational rehabilitation provider 5
- Case management meeting 6
- Writing a report for the insurance company 7
- Writing a report for the rehabilitation provider 8
- Home visit to the injured worker 9
- Other (please specify _____) 19

18b. **Where would you source information about the fee schedule for the services in question 18a?**

19. **What do you think are the current roles of a General Practitioner in the W.A. Workers' Compensation System?**

(Please circle as many as you think are appropriate)

- Medical management role i.e treatment of injury only 1
- Case management role for both medical and vocational rehabilitation activities 2
- Determining return to work options 3
- Having final decision about rehabilitation 4
- Medical management and proactive role in Return to Work program 5
- Liaising with other parties e.g. insurance company and employer 6
- Advising vocational rehabilitation providers 7
- Other (please specify _____) 9

20. **If it were thought desirable for General Practitioners to become more involved in the management of Return to Work Programs for chronically injured workers (i.e. those that last longer than 20 working days), please list up to five improvements to the system which would encourage greater participation from GP's.**

1. _____
2. _____
3. _____
4. _____
5. _____

Thank you for agreeing to participate in this project by completing the questionnaire. It would be appreciated if you would return the completed questionnaire, using the reply paid envelope enclosed, to:

Education and Advisory Section

WorkCover

2 Bedbrook Place

Shenton Park WA 6008

or facsimile (08) 9388 5550.

Appendix 2 Injured Worker Questionnaire

Dear

WorkCover WA is currently progressing a research project into practices which facilitate an injured worker's return to work. Dr David Morrison (University of Western Australia) and Dr Gavin Wood (Murdoch University) have been commissioned to conduct the research on behalf of WorkCover WA. The primary aim of the research is to examine factors that influence return-to-work outcomes, and the longer term impact of work injury on workers. The benefits of the research will be that processes involved in successfully returning injured workers to the workplace will be identified and contribute to the enhancement of existing injury management systems.

This letter is an invitation to participate in this important research. By taking part in the project and completing the questionnaire you will be contributing to the development of more effective procedures for the management of work-related injuries. The study focuses on experiences of injured workers following their work injury, the medical treatment or assistance received from their general practitioner, employer and other parties involved in the process.

Any information you provide will be treated as strictly confidential and no information will be reported that would allow any individual to be identified. On completion of the research a copy of the research report will be made available on request.

We would very much appreciate your participation in the project. Please indicate below whether or not you wish to participate in the study by ticking an option and returning the slip using the reply paid envelope enclosed. Please return the enclosed questionnaire, with the consent slip, even if you have chosen not to participate in the study. If at any time you change your mind about participating (or not) please feel free to contact us.

If you wish to participate please return the completed questionnaire by mail to Ms Gillian Burns at WorkCover. If you have any questions please do not hesitate to contact Ms Burns on 9388 5591.

Yours faithfully

H T NEESHAM
EXECUTIVE DIRECTOR
19 August 1997

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I,

(please print your name above)

wish to participate in the Management Practices and Return to Work project.

I have completed and enclosed the questionnaire.

wish to participate in the Management Practices and Return to Work project.

I have not completed the questionnaire, but would like to arrange a suitable time to discuss the questionnaire.

have not completed the questionnaire for the Management Practices and Return to Work project and do not wish to participate in the project.

.....

Signature

.....

Date

The Committee for Human Rights at The University of Western Australia and the Human Research Ethics Committee at Murdoch University have given ethics approval for the conduct of this project. If you have any concerns you can contact either the Secretary of the Committee for Human Rights, Registrar's Department, University of Western Australia, Nedlands, WA 6907 (telephone number 9380 3703) or the Secretary of the Human Research Ethics Committee, Research Section, Murdoch University, Murdoch, WA (telephone number 9360 6483).

1997

WESTERN AUSTRALIA INJURED WORKERS SURVEY

You are taking part in a survey that looks at **YOUR** experience as an Injured Worker. Questions about the way you received treatment or assistance from your General Practitioner, employer and vocational rehabilitation provider, and the impact of other processes involved in facilitating return to work will be asked. The information you provide will lead to an understanding of the processes involved in successfully returning injured employees to work. By completing this questionnaire you will be contributing to the development of more effective procedures and proactive claims management.

The survey contains eight sections:

- A Name and Address
- B Personal Details
- C Education
- D Labour Force Status at the Time of Injury
- E Transition (The Return to Work Process)
- F Current Labour Force Status
- G Medical and Rehabilitation Process
- H Workers' Compensation
- I Employer Practices

Please read the questions thoroughly before giving your answer and answer as accurately as possible. Please print your answers clearly where required or circle your answer(s) where you have multiple choices. You only need to circle the number code NOT the statement.

Acknowledgements: This questionnaire utilises or adapts questions, response formats and questionnaire design features from The Australian Bureau of Statistics and from the Work and Rehabilitation Survey conducted by the Work and Rehabilitation Research Unit, The University of Sydney for the WorkCover Authority of N.S.W. (Kenny, D. (1995), *Occupational Rehabilitation in New South Wales*, Sydney: The University of Sydney). These persons and organisations are not responsible in any way for any resulting use of their material.

A. NAME AND ADDRESS

1. Your name

	(Surname)		
	(First name)		(Middle Initials)
	(Street number and name)		
	(Suburb/Town)		
	(State)		(Postcode)
	(Home phone number)		
	(Work phone number)		

B. PERSONAL DETAILS

Please circle the number code to the right that corresponds to your answer or print clearly where required.

2. Gender

- Female 1
- Male 2

3. What is your age?

Years

4. What is your marital status? (Please circle the relevant number code)

- Married 1
- De facto 2
- Separated 3
- Divorced 4
- Widowed 5
- Never married 6

5. **What are your current household living arrangements?**
(Please circle the relevant number code)
- I live with my partner/spouse: with children **(please go to Q6)** 1
 - I live alone with my children **(please go to Q6)** 2
 - I live with my partner/spouse: without children **(please go to Q7)** 3
 - I live alone **(please go to Q7)** 4
 - I live with my parents **(please go to Q7)** 5
 - I live with friends/flatmates **(please go to Q7)** 6
 - Other: Specify _____ **(please go to Q6)** 7
6. **How many children are living at home with you?**
7. **In which country were you born?**

8. **If you were not born in Australia, in which year did you arrive in Australia?**
(Please insert year)
 Year
9. **Which language do you speak at home?**

10. **Is English your first language?**
(Please circle the relevant number code)
- Yes **(please go to Q13)** 1
 - No **(please go to Q11)** 2
11. **How well do you now speak English?**
(Please circle the relevant number code)
- Completely fluent 1
 - Sometimes I am misunderstood because of my accent 2
 - I find it very hard to express myself in spoken English 3
 - I often need an interpreter to help with communication 4
 - Not at all 5
12. **Are you able to understand written English?**
- Yes 1
 - No 2
13. **When you were injured did your employer provide information ...**
- in English? 1
 - in the language you speak at home 2
 - not at all 9
- C. EDUCATION**
14. **At what age did you leave school? (Please circle the relevant number code)**
- Never went to school 1
 - Under 14 years 2
 - 14 years 3
 - 15 years 4
 - 16 years 5
 - 17 years 6
 - 18 years or more 7
15. **Since leaving school have you obtained a trade qualification, certificate, diploma, degree or any other qualification?**
(Please circle the relevant number code)
- Yes **(please go to Q16)** 1
 - No **(please go to Q17)** 2

16. Which of these groups best describes the highest qualification you have obtained?
(Please circle the relevant number code)
- | | |
|------------------------------------|---|
| Bachelor Degree or higher | 1 |
| Undergraduate or Associate Diploma | 2 |
| Trade Qualification (e.g. TAFE) | 3 |
| Trade Certificate | 4 |
| Please specify other _____ | 5 |

D. LABOUR FORCE STATUS AT THE TIME OF INJURY

This set of questions refer to your employment position at the time of your work injury or accident.

Please indicate if your injury was sustained at your main job by ticking the box: 1

Please indicate if your injury was sustained at your second or other job by ticking the box: 2

If your current employment position is exactly the same as at your time of injury please go to Q26. Otherwise please continue...

Please refer to the main job you worked in at the time of your most recent Worker's Compensation claim.

17. What was your occupation, classification, or job description in your main job at the time of your last Worker's Compensation claim?
-

18. Is the current employer in your main job the same as the one you had on suffering your work injury? (Please circle the relevant number code)
- | | |
|------------------------|---|
| Yes (please go to Q22) | 1 |
| No (please go to Q19) | 2 |

19. At the time of your injury or accident did you work -
- | | |
|---|---|
| For an employer for wages or salary | 1 |
| In your own business | |
| with employees? | 2 |
| with no employees? | 3 |
| With a business partner as joint owner | |
| with employees? | 4 |
| with no employees? | 5 |
| Without pay in a family business? | 6 |
| For payment in kind? | 7 |
| As an unpaid voluntary worker? (please go to Q26) | 8 |

20. What kind of industry did you work in at the time of your work injury?
(Please circle the relevant number code)
- | | |
|---|----|
| Agriculture, Forestry, and Fishing | 1 |
| Mining | 2 |
| Manufacturing | 3 |
| Electricity, Gas, and Water | 4 |
| Construction | 5 |
| Wholesale Trade | 6 |
| Retail Trade | 7 |
| Accommodation, Cafes and Restaurants | 8 |
| Transport and Storage | 9 |
| Communication | 10 |
| Finance and Insurance | 11 |
| Property Services and Business Services | 12 |
| Government Administration and Defence | 13 |
| Education | 14 |
| Health and Community Services | 15 |
| Cultural and Recreational Services | 16 |
| Personal and Other Services | 17 |
| Other (please describe) _____ | 18 |

21. **Which sector of the economy did you work in at the time of your work injury?**
(Please circle the relevant number code)
- | | |
|---|---|
| Private Firm | 1 |
| Public Sector (e.g. Water Authority, Westrail, Department of Transport, Alinta Gas) | 2 |
| Community Organisation | 9 |

Sequence guide: If you were a wage or salary earner, or you worked in your own business at the time of your injury (that is, at Q19 you responded with 1, 2, 3, 4 or 5) then please go to Q22; otherwise please go to Q23.

22. **How long had you been working for your employer or in your own business prior**
- | | |
|--|-------|
| Less than one year? (record full months 1 to 12) | |
| More than one year? (record number of years) | |

23. **The next three questions are about your pay from your main job just prior to your injury or accident. If possible, it would help to answer this question if you can refer to a typical pay slip from this period.**

What was the approximate amount of pay after-tax, but before voluntary deductions (e.g. mortgage payments, H.B.F., union fees) just prior to your injury or accident?

\$ (round to nearest dollar) \$.....

24. **Over how many weeks was that pay typically for?**
- | | |
|-------|-------|
| Weeks | |
|-------|-------|

25. a. **Approximately how many hours on average per week were you working in your pre-injury main job?**
- | | |
|-------|-------|
| Hours | |
|-------|-------|
- b. **On average, how many hours of paid overtime were you working per week?**
- | | |
|-------|-------|
| Hours | |
|-------|-------|

26. **In the main job you held prior to your injury:**

- a. **How satisfied were you with the work duties you were doing?**
(please circle a number code)
- | | |
|------------------------------------|---|
| Very dissatisfied | 1 |
| Dissatisfied | 2 |
| Neither satisfied nor dissatisfied | 3 |
| Satisfied | 4 |
| Very satisfied | 5 |
- b. **How satisfied were you with the workplace (that is, the physical working environment or work station)?**
- | | |
|------------------------------------|---|
| Very dissatisfied | 1 |
| Dissatisfied | 2 |
| Neither satisfied nor dissatisfied | 3 |
| Satisfied | 4 |
| Very satisfied | 5 |
- c. **How satisfied were you with your immediate supervisor?**
- | | |
|------------------------------------|---|
| Very dissatisfied | 1 |
| Dissatisfied | 2 |
| Neither satisfied nor dissatisfied | 3 |
| Satisfied | 4 |
| Very satisfied | 5 |
- d. **How satisfied were you with your employer?**
- | | |
|------------------------------------|---|
| Very dissatisfied | 1 |
| Dissatisfied | 2 |
| Neither satisfied nor dissatisfied | 3 |
| Satisfied | 4 |
| Very satisfied | 5 |
- e. **How satisfied were you with the people you worked with?**
- | | |
|------------------------------------|---|
| Very dissatisfied | 1 |
| Dissatisfied | 2 |
| Neither satisfied nor dissatisfied | 3 |
| Satisfied | 4 |
| Very satisfied | 5 |
- f. **How satisfied were you with your pay?**
- | | |
|------------------------------------|---|
| Very dissatisfied | 1 |
| Dissatisfied | 2 |
| Neither satisfied nor dissatisfied | 3 |
| Satisfied | 4 |
| Very satisfied | 5 |
- g. **How satisfied were you with the level of information provided by your employer on the hazards of your workplace?**
- | | |
|------------------------------------|---|
| Very dissatisfied | 1 |
| Dissatisfied | 2 |
| Neither satisfied nor dissatisfied | 3 |
| Satisfied | 4 |
| Very satisfied | 5 |

	Very dissatisfied	1
	Dissatisfied	2
	Neither satisfied nor dissatisfied	3
	Satisfied	4
	Very satisfied	5
h.	How satisfied were you with the level of training, especially with respect to safety, that was provided by your employer?	
	Very dissatisfied	1
	Dissatisfied	2
	Neither satisfied nor dissatisfied	3
	Satisfied	4
	Very satisfied	5
i.	Were you provided with personal protection equipment by your employer?	
	Yes	1
	No	2
27.	In your main job, approximately how many people worked for the organisation?	
	less than 10	1
	11-20	2
	21-50	3
	51-100	4
	more than 100	5
28.	Where was your work location?	
	Metropolitan area	1
	Major regional area	2
	Country town	3
29.	Did your workplace have a Safety and Health representative?	
	Yes	1
	No	2
	Don't know	9
30.	Was there a formal Safety Committee established at your workplace?	
	Yes	1
	No	2
	Don't know	9
31.	a. Did your workplace have a formal Occupational Safety and Health induction process?	
	Yes	1
	No	2
	Don't know	9
	b. Was Occupational Safety and Health included in your induction process at your workplace?	
	Yes	1
	No	2
	Don't know	9
32.	a. At the time of your injury did you have a second job?	
	Yes (please go to Q32b)	1
	No (please go to Q33)	2
	b. What was your classification or job description in your second job?	

E. TRANSITION

These questions are about the return-to-work process following your work injury.

- 33.** Approximately how many weeks elapsed before you attempted to return to work?
Weeks
- 34.** Following your injury have you been employed or have you attempted to return to work, at any stage since your work injury?
(Please circle the relevant number code)

- Yes (please go to Q35) 1
 No (please go to Q38) 2

**35. Which phrase best describes your attempts to return to work?
 (Please circle the relevant number code)**

- I tried more than once to return to work but was unsuccessful in getting back into work of any kind (please go to Q36) 1
 I returned to work but could not keep going (please go to Q38) 2
 I returned to work on my first attempt to my old job (please go to Q39) 3
 I returned to work on my first attempt on light duties (please go to Q39) 4
 I stayed at work during my injury (please go to Q39) 5
 Other: specify _____ 6

**36. What was the main reason your attempts to return to work were unsuccessful?
 (Please circle the relevant number code)**

- I was not medically fit enough to return to work (please go to Q37) 1
 My immediate supervisor did not support my return to work (please go to Q39) 2
 My employer did not support my return to work (please go to Q39) 3
 My employer did not have an organised Return to Work Program (please go to Q39) 4
 There were no suitable duties (please go to Q39) 5
 The suitable duties offered were not acceptable to me (please go to Q39) 6
 Other: specify _____ (please go to Q39) 7

37. Why did you return to work at this stage? Please circle the response which corresponds to your view about each reason, then please go to Q39.

	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
I was pressured to go back	1	2	3	4	5
I needed the money	1	2	3	4	5
I feared I would lose my job	1	2	3	4	5
My workers' compensation payments were stopped	1	2	3	4	5
Other: specify _____	1	2	3	4	5

**38. Why did you not keep working or return to work after you were injured?
 Please circle the response which corresponds to your view about each reason.**

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
My injury was too severe	1	2	3	4	5
My treating doctor was not supportive of my return to work	1	2	3	4	5
There were no suitable duties or shorter hours available	1	2	3	4	5
My employer sacked me even though I wanted to return to work	1	2	3	4	5
I did not want to return to work	1	2	3	4	5
Other: specify _____	1	2	3	4	5

F. CURRENT LABOUR FORCE STATUS

This section will ask you about your current employment position.

If you are still off work, as a result of a work injury, please circle number 2 in response to Q39 and go to Q50.

39. Are you currently WORKING in a job? (Please circle the relevant number code)

- Yes (please go to Q40a) 1
 No (please go to Q50) 2

**40. a. Since your injury have you taken on a second job
 (i.e you currently have two separate jobs)?**

- Yes (please go to Q40b) 1
 No (please go to Q41) 2

b. You have taken on the second job because ...

- you are financially worse off than prior to the injury? 1
 the injury has restricted the work that you can do? 2
 Other: Specify _____ 9

41. Please refer to your main job, that is, the job in which you usually work the most hours, when answering the following questions in this section.

What is your occupation, classification, or job description in your main job?

-
42. **In your main job do you work:**
- | | |
|--|---|
| For an employer for wages or salary? | 1 |
| In your own business | |
| With employees? | 2 |
| With no employees? | 3 |
| With a business partner as joint owner | |
| with employees? | 4 |
| with no employees? | 5 |
| Without pay in a family business? | 6 |
| For payment in kind? | 7 |
| As an unpaid voluntary worker (please go to Q49) | 8 |

43. **What kind of industry do you work in?**
(Please circle the relevant number code)
- | | |
|---|----|
| Agriculture, Forestry, and Fishing | 1 |
| Mining | 2 |
| Manufacturing | 3 |
| Electricity, Gas, and Water | 4 |
| Construction | 5 |
| Wholesale Trade | 6 |
| Retail Trade | 7 |
| Accommodation, Cafes and Restaurants | 8 |
| Transport and Storage | 9 |
| Communication | 10 |
| Finance and Insurance | 11 |
| Property Services and Business Services | 12 |
| Government Administration and Defence | 13 |
| Education | 14 |
| Health and Community Services | 15 |
| Cultural and Recreational Services | 16 |
| Personal and Other Services | 17 |
| Please specify other _____ | 18 |

44. **Which sector of the economy do you work in?**
(Please circle the relevant number code)
- | | |
|---|---|
| Private Firm | 1 |
| Public Sector (e.g. Water Authority, Westrail, Department of Transport, Alinta Gas) | 2 |
| Community Organisation | 3 |

In the next two questions we will ask you about your employment history since your injury.

45. **What best describes the relationship between your current work and that you had before you were injured?**
(Please circle the number code of the statement which best describes your current situation)
- | | |
|--|----|
| Same employer, same or better paid job, no modifications to work tasks as a result of work injury | 1 |
| Same employer, same or better paid job, with modifications to work tasks as a result of work injury | 2 |
| Same employer, different job, but not as a result of work injury | 3 |
| Same employer, different job as a result of work injury | 4 |
| Different employer, same or better paid job, no modifications to work tasks as a result of work injury | 5 |
| Different employer, same or better paid job, with modifications to work tasks as a result of work injury | 6 |
| Different employer, different job, but not as a result of work injury | 7 |
| Different employer, different job as a result of work injury | 8 |
| Self employed, same job, no modifications to work tasks as a result of work injury | 9 |
| Self employed, same job, with modification to work tasks as a result of work injury | 10 |
| Self employed, different job but not as a result of work injury | 11 |
| Self employed, different job as a result of work injury | 12 |

Sequence guide: If you are a wage or salary earner, or working in your own business (responses 1, 2, 3, 4 or 5 to Q42) then please go to Q46. Otherwise please go to Q50.

46. **How long have you been working for your present employer or in your own business?**
 Less than one year (record full months 1 to 12)
 More than one year (record number of years)

47. **The next three questions are about your pay from your main job.
 It would help to answer this question if you can refer to your last pay slip.**

**What are you normally paid after tax, but before voluntary deductions
 (e.g. H.B.F., mortgage payments, union fees) are taken out?**

(Do not include workers' compensation payments in your pay.)

\$ (round to nearest dollar) \$.....

48. **Over how many weeks is that pay typically for?**
 Weeks

49. a. **How many hours per week do you usually work in your main job?**
 Hours

- b. **On average, how many hours of paid overtime do you work per week?
 Then please go to Q51.**
 Hours

50. **At any time during the last four weeks have you been looking for full-time or part-time work? (Please circle the relevant number code)**

Yes 1
 No 2

G. MEDICAL AND REHABILITATION PROCESS.

In this section you will be asked about the medical and rehabilitation process surrounding your injury. Firstly you will be asked about the personnel you saw and services you received post injury.

*** Please Note:**

A **Rehabilitation Co-ordinator** is a person who co-ordinates the rehabilitation process for injured workers. They work for an injured worker's employer/organisation on site. Not all organisations have a rehabilitation co-ordinator and usually the tasks he/she carries out are in addition to their normal job. The rehabilitation co-ordinator provides a link for the injured worker to their GP, medical specialists, rehabilitation providers and insurance companies.

A **Rehabilitation Provider** is an organisation, agency or employer based provider, usually independent of injured worker's employer. A Rehabilitation Provider employs professionals such as rehabilitation counsellors or occupational therapists and helps take the injured worker from recuperation to return to work. A Rehabilitation Provider helps the injured worker find suitable duties given their work injury, develops a work plan, suggests changes to the job and visits work places to ensure that job duties do not aggravate work injuries.

51. **Which personnel in the following list did you see? Please circle more than one response if appropriate.**

Your own Doctor/General Practitioner	1
Medical Specialist	2
Nurse	3
Occupational Therapist	4
Physiotherapist	5
Psychologist	6
Rehabilitation Provider	7
Social Worker	8
Insurance Investigator	9
Insurance Company	10
Insurance Company Doctor	11
Insurance Company Rehabilitation Provider (including Psychologist)	12
Employers' Doctor	13
Employer Representative	14
Union Representative	15
Speech Therapist	16
Rehabilitation Nurse	17
Exercise Trainer	18
Rehabilitation Co-ordinator	19
Legal Representative	20
WorkCover Representative	21
Other: specify _____	22

52. **After your work injury or accident, did anyone advise you to ask for help to return to work? Please circle more than one response if appropriate.**
- | | |
|----------------------|---|
| Employer | 1 |
| Doctor | 2 |
| Insurer | 3 |
| Union Representative | 4 |
| WorkCover | 5 |
| Other: specify | 6 |
| No advice was needed | 7 |
| No advice was given | 8 |
53. **After you were injured, were any of the following actions taken?
More than one response can be indicated.**
- | | |
|---|---|
| My employer communicated with my doctor about my injury | 1 |
| I was given different work duties | 2 |
| I was given shorter working hours | 3 |
| I was given special equipment | 4 |
| I was seen by a rehabilitation agency | 5 |
| I was trained at the workplace for another job | 6 |
| I was trained at TAFE or college for another job | 7 |
| No help was needed | 8 |
| No help was given | 9 |
54. **After you were injured, did your company provide you with alternative work duties suitable to your work injury?**
- | | |
|--|---|
| Yes (please go to Q55) | 1 |
| No (please go to Q56) | 2 |
| I did not need alternative duties (please go to Q56) | 3 |
55. **Were you:**
- Consulted about the nominated duties that you could do?
(Please circle the relevant number code)**

Yes	1
No	2
Not applicable	3
 - Were the nominated duties acceptable to you?**

Yes	1
No	2
Not applicable	3
 - Did the nominated duties make your injury worse?**

Yes	1
No	2
Not applicable	3
 - If you were unable to return to your original duties, did your employer offer on-the-job or off-the-job retraining for a new position?**

Yes	1
No	2
Not applicable	3
 - Did your work mates generally support you while you were on alternative duties?**

Yes	1
No	2
Not applicable	3
 - Who nominated the alternative duties?**

Your employer	1
General Practitioner	2
Union	3
Other (please specify _____)	4

56. This question asks about your Rehabilitation Co-ordinator.

Remember a **Rehabilitation Co-ordinator** is a person who co-ordinates the rehabilitation process for injured workers. They work for an injured worker's employer/organisation on site. Not all organisations have a rehabilitation co-ordinator and usually the tasks he/she carries out are in addition to their normal job. The rehabilitation co-ordinator provides a link for the injured worker to their GP, medical specialists, rehabilitation providers and insurance companies.

If you **did not** see a Rehabilitation Co-ordinator please go to Q57.

If you **did** see a Rehabilitation Co-ordinator please answer each section by circling the appropriate number code.
Did the Rehabilitation Co-ordinator:

	Yes	No	Don't know	Not applicable
a. Give you information on workers' compensation procedures?	1	2	3	4
b. Give you information on rehabilitation?	1	2	3	4
c. Speak to your treating doctor about suitable duties and/or when you could return to work?	1	2	3	4
d. Help you to return to work by talking with your superior?	1	2	3	4
e. Have enough authority to make the necessary changes in your workplace to allow you to return to work?	1	2	3	4
f. Remain in contact with you when you returned to work?	1	2	3	4

57. Did the treating doctor who was mostly responsible for your medical rehabilitation:

	Yes	No	Don't Know	Not applicable
a. Give you advice on claiming for workers' compensation?	1	2	3	4
b. Give you information on rehabilitation and/or rehabilitation providers?	1	2	3	4
c. Talk with your employer or rehabilitation co-ordinator about your injury, suitable duties, and/or when you could return to work?	1	2	3	4
d. Visit your employer to discuss alternative duties?	1	2	3	4
e. Advise you to use your sick leave before making a claim for workers' compensation?	1	2	3	4
f. Advise you to wait until you were 100 per cent fit before you returned to work?	1	2	3	4
g. Arrange the treatment you needed?	1	2	3	4

58. In the first month of your injury, approximately how many times did you see your General Practitioner?

Every day	1
2-3 times per week	2
Once per week	3
Once per fortnight	4
Once per month	5

59. After the first month how frequently did you see your General Practitioner?

Every day	1
2-3 times per week	2
Once per week	3
Once per fortnight	4
Once per month	5
Less frequently	6

60.	For the most part who determined the regularity of your visits?	
	You	1
	Your General Practitioner	2

61. This question asks you about your Rehabilitation Provider.

Remember a **Rehabilitation Provider** is an organisation, agency or employer based provider, usually independent of injured worker's employer. A Rehabilitation Provider employs professionals such as rehabilitation counsellors or occupational therapists and helps take the injured worker from recuperation to return to work. A Rehabilitation Provider helps the injured worker find suitable duties given their work injury, develops a work plan, suggests changes to the job and visits work places to ensure that job duties do not aggravate work injuries.

If you were not referred to a Rehabilitation Provider please go to Q66.

If you have been referred to a Rehabilitation Provider who referred you?

My Employer	1
The Rehabilitation Co-ordinator	2
My treating doctor	3
The reviewing doctor	4
My treating Specialist	5
The insurance company	6
A union representative	7
I referred myself	8
Legal representative	9
WorkCover	10
Other: specify _____	11

62. Roughly how long after you were injured were you referred to a Rehabilitation Provider?

1-4 weeks	1
5-12 weeks	2
13-26 weeks	3
More than 26 weeks	4

63. Did your rehabilitation provider:

	Yes	No	Don't Know	Not applicable
a. Give you advice on claiming for workers' compensation?	1	2	3	4
b. Give you information on rehabilitation?	1	2	3	4
c. Talk with your treating doctor about suitable duties and/or when you could return to work?	1	2	3	4
d. Arrange physiotherapy or specialist medical appointments?	1	2	3	4
e. Undertake a vocational assessment to identify suitable duties?	1	2	3	4
f. Arrange retraining if you need it?	1	2	3	4
g. Have enough understanding of your workplace to implement the necessary changes to allow you to return to work?	1	2	3	4
h. Attend your workplace to view the type of work in which you are employed and other work available?	1	2	3	4
i. Speak to you about how she/he would help you get back work?	1	2	3	4
j. Do what was set out to help you return to work?	1	2	3	4
k. Keep in regular contact with you?	1	2	3	4
l. Involve you in all decisions?	1	2	3	4

64. **Were you involved in the development of a return to work plan?**
- | | |
|-----|---|
| Yes | 1 |
| No | 2 |

65. **How useful was the rehabilitation provider in helping you to return to work or to retrain you for another job?**
- | | |
|------------|---|
| Not useful | 1 |
| Undecided | 2 |
| Useful | 3 |

66. **If you have seen a representative from an Insurance Company, please answer the following questions by circling the relevant number code, otherwise please go to Q67. Did the representative from the insurance company:**

	Yes	No	Don't know	Not applicable
a. Give you information on workers' compensation procedures?	1	2	3	4
b. Give you information on rehabilitation?	1	2	3	4
c. Help you with your claim for workers' compensation?	1	2	3	4
d. Organise referral to a rehabilitation provider?	1	2	3	4
e. Pay your workers' compensation payments promptly?	1	2	3	4
f. Pay your medical bills promptly?	1	2	3	4
g. Attend hearings or conferences when arranged without delaying the processing of your claim?	1	2	3	4

67. **If you are a member of a union please answer the following by circling the appropriate number code, otherwise please go to Q68. Did your union:**

	Yes	No	Don't know	Not applicable
a. Give you information on workers' compensation procedures?	1	2	3	4
b. Give you information on rehabilitation?	1	2	3	4
c. Speak to your treating doctor about suitable duties and/or when you could return to work?	1	2	3	4
d. Help you to return to work by talking with your superior?	1	2	3	4
e. Have enough authority to make the necessary changes in your workplace to allow you to return to work?	1	2	3	4
f. Remain in contact with you when you returned to work?	1	2	3	4

H. WORKERS' COMPENSATION

68. **Are you presently on any of the following?**

	Yes	No	Don't know
a. Workers' compensation benefits	1	2	9
b. Unemployment benefits	1	2	9
c. Sickness benefit	1	2	9
d. Invalid pension	1	2	9

69. Please circle only one number code that corresponds to the one person (or organisation) from whom you found out most about your compensation rights.

My employer	1
A union representative	2
The insurance company	3
The rehabilitation co-ordinator	4
The rehabilitation provider	5
My treating doctor	6
My work mates	7
Posters/brochures at work	8
Injured workers support groups	9
My solicitor	10
WorkCover	11
A previous workplace	12
A friend or family member	13
My own efforts	14
Other: specify _____	15

70. Was your claim for workers' compensation disputed?

Yes	1
No, my claim was not disputed at any time	2

71. Have you been involved in legal/court proceedings related to your claim for compensation?

Yes	1
No	2

73. In general, were you mostly satisfied with the way in which your rehabilitation and return to work was handled by your employer?

Yes	1
No	2

I. EMPLOYER PRACTICES

72. After your workplace injury, in terms of general procedure which of the following steps did your employer undertake and who, in practice, was primarily responsible for each step? Please circle the number code corresponding to your replies.

Did your employer:	Yes	No	N/A	Don't Know	The primary responsibility lay with:				
					Supervisor	Manager	Human Resources	Rehabilitation Co-ordinator	Other (please specify)
Maintain personal contact with you	1	2	3	9	1	2	3	4	
If so, how frequent was that contact? (please circle the relevant number code)									
Every day	1				1	2	3	4	
2-3 times per week	2								
Once per week	3								
Once per fortnight	4								
Once per month	5								
Maintain documented evidence of contact with you	1	2	3	9	1	2	3	4	
Keep clear and concise file notes of the case activity	1	2	3	9	1	2	3	4	
Give you advice on claiming for workers' compensation	1	2	3	9	1	2	3	4	
Provide you information on the company's workers' compensation general procedure	1	2	3	9	1	2	3	4	
Complete relevant forms	1	2	3	9	1	2	3	4	
Organise wages to be paid	1	2	3	9	1	2	3	4	
Inform Occupational Safety and Health of the nature and cause of the disability	1	2	3	9	1	2	3	4	
Negotiate with you, your medical practitioner and insurer to									
a) determine if an Approved Provider was required (i.e. a person/company accredited by WorkCover) to provide vocational rehabilitation services to injured employees.	1	2	3	9	1	2	3	4	
b) consider referral to an Approved Provider	1	2	3	9	1	2	3	4	
c) make referral to Approved Provider if required	1	2	3	9	1	2	3	4	
Develop and document a Return to Work Plan	1	2	3	9	1	2	3	4	
Does the return to work plan...									
•identify or negotiate suitable meaningful duties	1	2	3	9	1	2	3	4	
•outline tasks of the negotiated job	1	2	3	9	1	2	3	4	
•outline the constraints	1	2	3	9	1	2	3	4	
•detail the nature and frequency of contacts for support, training and monitoring	1	2	3	9	1	2	3	4	
•determine a time frame and costs	1	2	3	9	1	2	3	4	
•set an end goal and sub goals	1	2	3	9	1	2	3	4	
•set reporting dates	1	2	3	9	1	2	3	4	
•review the individual case	1	2	3	9	1	2	3	4	
Implement, monitor, review and revise Return to Work Plan	1	2	3	9	1	2	3	4	
Confer with you and other parties (e.g. medical practitioner) to confirm medical clearance	1	2	3	9	1	2	3	4	
If appropriate, organise special equipment/aids needed to facilitate return to work	1	2	3	9	1	2	3	4	
If necessary, have the authority to make other changes to the workplace. If so please state the type of change implemented:	1	2	3	9	1	2	3	4	

Appendix 3 Employer Questionnaire

Dear Sir/Madam

WorkCover WA is currently progressing a research project into practices which facilitate an injured worker's return to work. Dr David Morrison (University of Western Australia) and Dr Gavin Wood (Murdoch University) have been commissioned to conduct the research on behalf of WorkCover WA.

The primary aim of the research is to examine factors that influence return-to-work outcomes, and the longer term impact of work injury on workers. The benefits of the research will be that processes involved in successfully returning injured workers to the workplace will be identified and contribute to the enhancement of existing injury management systems.

The role of the employer is fundamental to effective management of work-related injury and disease. Hence, one of the main aspects of the research is on an employer's human resource practices and workers' compensation procedures when an employee is injured at the workplace. The study will investigate the communication processes developed between an injured worker, general practitioner and employer as part of the injury management process.

We would very much appreciate your co-operation and participation in this research as an employer's perspective is essential for a holistic appreciation of the injury management process. Any information you provide will be treated as strictly confidential. No information will be reported that would allow any organisation to be identified and your organisation may at anytime withdraw from the study. On completion of the research a copy of the research report will be made available on request.

Please indicate below whether or not you wish to participate in the study by ticking an option and returning the slip using the reply paid envelope enclosed. Please return the enclosed questionnaire, with the consent slip, even if you have chosen not to participate in the study. If at any time you change your mind about participating (or not) please feel free to contact us.

If you wish to participate please return the completed questionnaire by mail to Ms Gillian Burns at WorkCover. If you have any questions please do not hesitate to contact Ms Burns on 9388 5591.

Yours faithfully

H T NEESHAM
EXECUTIVE DIRECTOR

19 August 1997

✂
I,

(please print your name above)

- wish to participate in the Management Practices and Return to Work project.
I have completed and enclosed the questionnaire.
- wish to participate in the Management Practices and Return to Work project.
I have not completed the questionnaire, but would like to arrange a suitable time to discuss the questionnaire.
- have not completed the questionnaire for the Management Practices and Return to Work project and do not wish to participate in the project.

.....
Signature

.....
Date

The Committee for Human Rights at The University of Western Australia and the Human Research Ethics Committee at Murdoch University have given ethics approval for the conduct of this project. If you have any concerns you can contact either the Secretary of the Committee for Human Rights, Registrar's Department, University of Western Australia, Nedlands, WA 6907 (telephone number 9380 3703) or the Secretary of the Human Research Ethics Committee, Research Section, Murdoch University, Murdoch, WA (telephone number 9360 6483).

Employers: Return to Work Questionnaire

This questionnaire explores the Employer's role in the Worker's Compensation and Rehabilitation System. It aims to determine the relationship between the Employer and other professionals involved in the rehabilitation and return to work process. You will be asked general questions about your organisation as well as particular questions on the organisation's Human Resource Practices. Your help is vital for a better understanding of the current Workers' Compensation and Rehabilitation System. By completing this questionnaire you will be contributing to the development of more effective procedures and proactive claims management.

The questionnaire contains ten sections:

1. General Information Regarding Your Organisation
2. Employer Return to Work Practices in Workers' Compensation Cases
3. Employer Perspectives on General Practitioners
4. Employer Perspectives on Insurance Companies
5. Employer Perspectives and Rehabilitation Providers
6. Work Place Issues
7. Organisational Culture
8. Management and Employee Relations
9. Training
10. Occupational Safety and Health

To obtain the depth of information required we need the co-operation of the most senior person dealing with workers' compensation claims and return to work practices within your organisation. For example, in a bank this may be a Human Resource Manager. It may also be the plant manager or general manager depending on the industry.

Please read the questions thoroughly before giving your answer and answer as accurately as possible.

Please print your answers clearly where required or circle your answer(s) where you have multiple choices. You only need to circle the number code NOT the statement.

Acknowledgements

This questionnaire has been compiled using questions, response formats and questionnaire design features directly from or adapted from:

Centre for Economic Performance, Corporate Performance Project

Human Resource Practice and Organisational Values Survey, April 1995, Australian Graduate School of Management, University of New South Wales.

Humble, J., Jackson, D., Thomson, A., (1994), The strategic Power of Corporate Values, Long Range Planning, 27,6, 28-42.

Western Australia Injured Workers Survey, 1996, Murdoch University.

WorkCover Western Australia- General Practitioners' Survey, 1996, Reark Research Perth.

These persons and organisations are not responsible in any way for any resulting use of their material.

General Information Regarding Your Organisation:

1. **If you have a specific person responsible for dealing with workers' compensation claims and return to work practices after a claim, what is the official title of that person?**

- 2a. **In which sector of the economy does your organisation operate?**

Please circle the relevant number code.

- | | | |
|----|--|---|
| a. | Private | 1 |
| b. | Public Sector (e.g., Department of Transport, AlintaGas, Water Corporation) | 2 |
| c. | Community (e.g., Charities, Multiply Sclerosis Society of WA Inc., St. John Ambulance Australia) | 3 |
| d. | Other (please specify _____) | 9 |

2b. Which industry category best describes your organisation's activities?

Please circle the relevant number code.

Primary Industries (agriculture, pastoral and forestry)	1
Mining	2
Electricity, Gas and Water	3
Manufacturing/Engineering	4
Chemical	5
Petroleum	6
Diversified Industrial	7
Construction	8
Retail Trade	9
Wholesale Trade	10
Transport and Storage	11
Communications	12
Finance or Banking	13
Insurance	14
Property or Business Services	15
Health and Community Services	16
Government Department	17
Hospitality (accommodation, cafés, restaurants)	18
Education	19
Cultural and Recreational Services	20
Personal and other services	21
Miscellaneous	29

3. How long has your organisation been in operation in W.A.? _____

4. Approximately what is the current number of employees in your organisation in W.A. _____

5. What percentage of these employees are employed full time? _____ %

6. In your organisation in W.A., how many of your employees (including yourself) are:

Professionals (i.e. use skills equivalent to a 3-4 year degree in their employment e.g. engineers, school teachers, accountants)	
Para-professionals (i.e. use skills equivalent to a certificate or associate diploma in their employment e.g. technicians, surveyors, police)	
Managers (i.e. persons who determine policy e.g. general production, sales or education managers, directors of nursing)	
Tradespersons (e.g. carpenters, cooks, mechanics)	
Clerks (e.g. mail sorters, secretaries, receptionists)	
Sales and personal service workers (e.g. sales representatives, sales assistants, waiters, tellers)	
Plant and machine operators and drivers (i.e. skilled process workers and those who operate vehicles and other large equipment e.g. forklift operators, furnace operators.)	
Labourers and related workers (i.e. process workers, routine manual duties performed under supervision e.g. trade assistants, cleaners, store person, kitchen hands, construction labourers, factory hands)	

7. If applicable, what is the current approximate number of employees in your organisation across Australia? _____

8. Is your organisation a multinational corporation?

Please circle the relevant number code.

Yes	1
No	2
Don't know	9

9. **The following question asks about the qualifications of the employees in your organisation.
For each employee category relevant to your organisation please circle the appropriate letter indicating the highest level of education (or qualification) generally held by that particular group of employees.**

	Professionals	Para-Professionals	Managers	Tradespersons	Clerks	Sales and personal service workers	Plant and machine operators and drivers	Labourers and related workers
Primary school	a	a	a	a	a	a	a	a
Some secondary school (including up to year 10 school certificate or year 11)	b	b	b	b	b	b	b	b
Completed secondary school (higher school certificate/leaving certificate/matriculation)	c	c	c	c	c	c	c	c
Basic vocational qualification (pre-vocational certificates, other certificates)	d	d	d	d	d	d	d	d
Skilled vocational qualifications (trade certificates, apprenticeships)	e	e	e	e	e	e	e	e
Associate diploma, advanced certificate (1-2 years of full time study or equivalent)	f	f	f	f	f	f	f	f
Undergraduate degree or diploma (3 years full-time study or equivalent)	g	g	g	g	g	g	g	g
Postgraduate degree or diploma	h	h	h	h	h	h	h	h
Other (please specify for each)								

Employer Return to Work Practices in Workers' Compensation Cases

In this section we will ask you about the process of Return to Work after an injury. There are various people we will ask you about. Their roles are defined where applicable.

10. Do you have a written Procedures document or a Policy Statement relating to injured workers in Workers' Compensation situations?

Please circle the relevant number code.

- | | |
|------------|---|
| Yes | 1 |
| No | 2 |
| Don't know | 9 |

11. Under what circumstances are injured workers referred for rehabilitation?

Please circle more than one number code if relevant.

- | | | |
|----|---|---|
| a. | At the recommendation of the General Practitioner | 1 |
| b. | After an employee request | 2 |
| c. | The employer thinks it appropriate | 3 |
| d. | At the recommendation of the Insurance Company/Broker | 4 |
| e. | Other (Please specify _____) | |

Please note: the following question will ask you about a Rehabilitation Co-ordinator.

A **Rehabilitation Co-ordinator** is a person who co-ordinates the rehabilitation process for injured workers. They work for an injured worker's employer/organisation *on site*. Not all organisations have a Rehabilitation Co-ordinator and usually the tasks he/she carries out are in addition to their normal job. The Rehabilitation Co-ordinator provides a link for the injured worker to their GP, medical specialists, Rehabilitation Providers and insurance companies.

12. Does your organisation employ a Rehabilitation Co-ordinator?

- | | |
|---------------------------------------|---|
| Yes (Please go to question 13) | 1 |
| No (Please go to question 14) | 2 |
| Don't know (Please go to question 14) | 9 |

13. If your organisation has a Rehabilitation Co-ordinator ...

- | | Yes | No | Don't know |
|---|-----|----|------------|
| a. is there a rehabilitation plan drawn up which involves consultation with the General Practitioner? | 1 | 2 | 9 |
| b. does the rehabilitation plan involve in-house provision of rehabilitation services? If Yes, see below, otherwise please go to question 14: | 1 | 2 | 9 |
| c. does the plan detail objectives to manage the injury and facilitate Return to Work? | 1 | 2 | 9 |
| d. does the plan detail the nature of interventions (e.g. light duties etc.)? | 1 | 2 | 9 |

14. What percentage of your employees have submitted a workers' compensation claim in the last year? _____%

15. In general, approximately what percentage of your employees usually return to work for your organisation after a workers' compensation claim? _____%

16. What percentage of these employees in the last year have:

- | | | |
|----|--------------------------------------|--------|
| a. | returned to full-time work with you? | _____% |
| b. | returned to part-time work with you? | _____% |
| c. | did not return to your organisation? | _____% |

17. What has been the average length of claims in the last year? _____ working days

18. Typically, when the injury has been such as it will permanently impair the workers' ability to complete normal job functions,

- | | Always | Sometimes | Never | Don't know |
|---|--------|-----------|-------|------------|
| a. does he/she resume the former position within your organisation without modifications? | 1 | 2 | 3 | 9 |
| b. are duties modified/decreased temporarily? | 1 | 2 | 3 | 9 |
| c. generally would you look to replace the injured worker? | 1 | 2 | 3 | 9 |

19. If the worker is temporarily incapacitated is he or she typically,

- | | Always | Sometimes | Never | Don't know |
|---|--------|-----------|-------|------------|
| a. progressively reintroduced to the job? | 1 | 2 | 3 | 9 |
| b. reinstated in the job only on complete recovery? | 1 | 2 | 3 | 9 |
| c. rarely reinstated to his/her old job but is given another job? | 1 | 2 | 3 | 9 |
| d. retrenched? | 1 | 2 | 3 | 9 |

28. When a General Practitioner is spoken to about the return to work of one of your injured workers, is the GP? Please circle your answer.

	Rarely <10% of the time	Sometimes about 30% of the time	Often about 50% of the time	Mostly about 70% of the time	About 90% of the time
a. willing to assist	1	2	3	4	5
b. accessible	1	2	3	4	5
c. interested in injured workers	1	2	3	4	5
d. willing to consider options	1	2	3	4	5
e. only prepared to certify the worker for return to work if he/she is 100% fit	1	2	3	4	5

29a. In regard to the Workers' Compensation and Rehabilitation system, what do you see as the **major impediment** to General Practitioners being more effective in achieving the earliest possible return to work for workers suffering a long term, or potentially long term, workers' compensation injury?

29b. Do you have suggestions for overcoming these impediments?

Employer Perspectives on Insurance Companies

This section asks you about your organisation's contact with insurance companies.

30. Does your Insurance Company/Broker contact your organisation regularly regarding Workers' Compensation claims? Please circle the relevant number code.

Yes	1
No	2
Don't know (Please go to question 35)	9

31. Beyond routine reports and correspondence, how often does the organisation contact the Insurer/Broker?

Once a week	1
Fortnightly	2
Once a month	3
Less than once a month	4
Don't know	9

32. What type of contact does your organisation have with the Insurance Company/Broker?

Please circle the relevant number code: multiple answers accepted.

Filling in required forms	1
Investigation of claim validity	2
General request for information regarding injuries at the worksite	3
Help with claims management	4
Help with development of rehabilitation strategy	5
Help with Occupational Safety and Health strategy	6
Periodic meeting with Insurance Company	7
Other (Please specify _____)	

33. When the Insurance Company is spoken to about the return to work of one of your injured workers, does the Insurance Company?

	Rarely <10% of the time	Sometimes about 30% of the time	Often about 50% of the time	Mostly about 70% of the time	About 90% of the time
a. keep you informed	1	2	3	4	5
b. ask your advice on referral for rehabilitation	1	2	3	4	5
c. involve you in decision making regarding the rehabilitation process	1	2	3	4	5
d. keep you informed of what is happening regarding the progress of the claim	1	2	3	4	5
e. show interest in your suggestions for getting the employee back to work	1	2	3	4	5
f. have a positive approach to your injured employee	1	2	3	4	5

34. Are you consulted by the Insurance Company when an injured worker is put under surveillance?

Please circle the relevant number code.

Yes	1
No	2
Don't know	9

35a. **In regard to the Workers' Compensation and Rehabilitation system, what do you see as the major impediment to Insurance Companies/Brokers being more effective in achieving the earliest possible return to work for workers suffering a long term, or potentially long term, workers' compensation injury?**

35b. **Do you have suggestions for overcoming these impediments?**

Employer Perspectives and Rehabilitation Providers.

In this section we are going to ask questions about the professionals involved in the rehabilitation process.

The next question asks about Rehabilitation Providers. A Rehabilitation Provider is an organisation, agency or employer based provider, usually independent of the injured worker's employer. A Rehabilitation Provider employs professionals such as rehabilitation counsellors or occupational therapists and helps take the injured workers from recuperation to return to work. A Rehabilitation Provider helps the injured worker find suitable duties given their work injury, develops a work plan, suggests changes to the job and visits work places to ensure that job duties do not aggravate work injuries.

36. **Under what circumstances are injured workers referred for vocational rehabilitation?**

- At the recommendation of the General Practitioner 1
- After an employee request 2
- You as the employer think it appropriate 3
- At the recommendation of the Insurance Company/Broker 4
- Other (Please specify _____))

37. **To the best of your knowledge, what are the main services offered to injured workers by Rehabilitation Providers? You may circle more than one response.**

- Initial assessments 1
- Case management 2
- Counselling 3
- Training and Education 4
- Workplace assessments 5
- The use of aids and special appliances 6
- Job placement activities 7
- Other 8
- Don't Know 9

38. **If you talk to a Rehabilitation Provider about the return to work of one of your injured workers, do you find him/her? Please respond to each of the ten items.**

	Rarely <10% of the time	Sometimes about 30% of the time	Often about 50% of the time	Mostly about 70% of the time	Mostly About 90% of the time
a. willing to assist	1	2	3	4	5
b. accessible	1	2	3	4	5
c. involves you in decisions regarding the rehabilitation plan	1	2	3	4	5
d. consults you with regard to return to work options	1	2	3	4	5
e. keeps you informed of the progress of a RTW programme	1	2	3	4	5
f. provides you with information on costs	1	2	3	4	5
g. provides you with information on services	1	2	3	4	5
h. provides you with information on time frames of RTW programmes	1	2	3	4	5
i. has a positive approach to your injured workers	1	2	3	4	5
j. interested in your suggestions about rehabilitation	1	2	3	4	5

39. **In your dealings with Rehabilitation Providers do you feel they have a good appreciation of the workplace issues. Please circle the relevant number code.**

- Never 1
- Sometimes 2
- Frequently 3
- Always 4

40a. In regard to the Workers' Compensation and Rehabilitation system, what do you see as the major impediment to Rehabilitation Providers being more effective in achieving the earliest possible return to work for workers suffering a long term, or potentially long term, workers' compensation injury?

40b. Do you have suggestions for overcoming these impediments?

Workplace Issues

41. In general, how do you monitor the rehabilitation of the injured worker? By contact with the:

	Sometimes	Frequently	Never
a. General Practitioner?	1	2	3
b. Insurer?	1	2	3
c. Rehabilitation Co-ordinator?	1	2	3
d. Rehabilitation Provider?	1	2	3
e. Employee?	1	2	3
f. All of the above?	1	2	3

42. When you talk to an employee about his/her return to work, do you find him/her?

	Rarely <10% of the time	Sometimes about 30% of the time	Often about 50% of the time	about 70% of the time	Mostly About 90% of the time
a. co-operative	1	2	3	4	5
b. accessible	1	2	3	4	5
c. willing to cooperate with other parties (eg GP)	1	2	3	4	5
d. willing to consider options regarding return to work	1	2	3	4	5
e. interested in returning to work before he/she is 100% fit	1	2	3	4	5

43. In your opinion how much do each of the following factors typically impede a successful return
Please circle the appropriate number alongside the following list of factors

	1 Very few	2 Some	3 About half	4 More than most	5 Nearly all
	<10%	<25%	<50%	>75%	>90%
a. Work attitudes of the injured worker	1	2	3	4	5
b. Ineffective rehabilitation programmes	1	2	3	4	5
c. Severity of injury	1	2	3	4	5
d. Difficulties with on the job re-training	1	2	3	4	5
e. Failure of the injured worker to comply with medical advice	1	2	3	4	5
f. An unclear diagnosis which prevents the application of appropriate medical intervention	1	2	3	4	5
g. Poor coping strategies of the injured worker in coming to terms with the consequences of their injury	1	2	3	4	5
h. Poor pain management	1	2	3	4	5
i. The employer's attitude	1	2	3	4	5
j. The attitude of insurer	1	2	3	4	5
k. The attitude of the GP	1	2	3	4	5
l. No scope for placement in alternative duties	1	2	3	4	5

44. Do you consult with Trade Union work place representatives in Return to Work Programmes that you may have?

Yes	1
No	2
Don't know	9

Organisational Culture

45. An organisation's culture represents the values, beliefs and expectations that are shared by the members of an organisation. An organisation's culture defines what is important for and expected of organisational members. Listed below are a number of qualities that can be used to describe the culture of an organisation.

Please indicate by circling the appropriate number how characteristic each quality is of your organisation's culture:

How characteristic is.....	not at all	slightly	some what	fairly	very
Being flexible	1	2	3	4	5
Being highly organised	1	2	3	4	5
Being adaptable	1	2	3	4	5
Being competitive	1	2	3	4	5
Being stable	1	2	3	4	5
Having a clear guiding philosophy	1	2	3	4	5
Being predictable	1	2	3	4	5
Being results oriented	1	2	3	4	5
Being innovative	1	2	3	4	5
Being socially responsible	1	2	3	4	5
Being quick to take advantage of opportunities	1	2	3	4	5
Having a good reputation	1	2	3	4	5
A willingness to experiment	1	2	3	4	5
Being distinctive-different from others	1	2	3	4	5
Taking risks	1	2	3	4	5
Emphasising quality	1	2	3	4	5
Being careful	1	2	3	4	5
Not being constrained by many rules	1	2	3	4	5
Autonomy (freedom to make decisions)	1	2	3	4	5
Working long hours	1	2	3	4	5
Being rule oriented	1	2	3	4	5
Being enthusiastic about the job	1	2	3	4	5
Being analytical	1	2	3	4	5
Working in collaboration with others	1	2	3	4	5
Paying attention to detail	1	2	3	4	5
Fitting in	1	2	3	4	5
Being precise	1	2	3	4	5
Being team oriented	1	2	3	4	5
Confronting conflict directly	1	2	3	4	5
Sharing information freely	1	2	3	4	5
Low level of conflict	1	2	3	4	5
Emphasising a single organisational culture	1	2	3	4	5
Offering praise for good performance	1	2	3	4	5
Being people oriented	1	2	3	4	5
Security of employment	1	2	3	4	5
Fairness	1	2	3	4	5
High pay for good performance	1	2	3	4	5
Respect for individual's rights	1	2	3	4	5
Opportunities for professional growth	1	2	3	4	5
Being tolerant	1	2	3	4	5
Having high expectations for performance	1	2	3	4	5
Informality	1	2	3	4	5
Taking individual responsibility	1	2	3	4	5
Being easy-going	1	2	3	4	5
Being demanding	1	2	3	4	5
Being achievement oriented	1	2	3	4	5
Being calm	1	2	3	4	5
Being reflective	1	2	3	4	5
Being supportive	1	2	3	4	5
Taking initiative	1	2	3	4	5
Being aggressive	1	2	3	4	5
Being action-oriented	1	2	3	4	5
Being decisive	1	2	3	4	5

Management and Employee Relations

The following are general statements about your organisation's approach to employee relations.

46. To what degree do you agree or disagree with the statements?

Please circle the number that best represents your organisation's approach to employee relations for each of the statements below.

	strongly agree	agree	undecided	disagree	strongly disagree
a. This organisation devotes considerable resources to having a corporate ethic and culture at this workplace.	1	2	3	4	5
b. Management here prefers to deal with employees directly, not through trade unions.	1	2	3	4	5
c. Management here thinks the award system has worked well in the past for this workplace.	1	2	3	4	5
d. Management here believes that negotiation of a workplace or enterprise agreement is important in achieving the organisation's goals.	1	2	3	4	5
e. If they had to make a choice, managers in this workplace would choose quality improvements over labour cost reductions.	1	2	3	4	5
f. This organisation currently devotes considerable resources to the management of this workplace's human resources.	1	2	3	4	5

47. At which point in the hierarchy are important decisions usually made about ...

Please circle the appropriate number: multiple answers accepted.

	Line Supervisor/line manager	Employee relations manager and other managers -jointly	Employee relations manager - at own discretion	The most senior workplace manager	Other senior workplace manager(s)	Management at a higher level beyond this workplace
Dismissals	1	2	3	4	5	6
Changes in general work practices	1	2	3	4	5	6
Return to work practices in workers' compensation cases	1	2	3	4	5	6
Employee training	1	2	3	4	5	6

48. In the last twelve months have you had any industrial disputes involving lost time?

Yes	1
No	2
Don't know	9

49. What has been the rate of absenteeism in the last 12 months?

number of days absent per month

50. What percentage of your employees have quit in the last twelve months?

_____ %

51. What are typical reasons given for departure?

Training

52. In the last year, has any type of training been delivered to your employees which was designed to develop their skills?

Yes (please go to Q53)	1
No (please go to Q54)	2

53. Which group of employees received this training?

Please circle appropriate number, multiple answers accepted.

	Formal on the job training	Apprentice/graduate traineeship	Formal in house instruction or training for which leave of absence is given	Professional skill related training at conferences or workshops paid for by the organisation	Occupational Safety and Health
Top Management	1	2	3	4	5
Middle Management	1	2	3	4	5
Supervisors	1	2	3	4	5
Managers	1	2	3	4	5
Professionals	1	2	3	4	5
Para-professionals	1	2	3	4	5
Tradespersons	1	2	3	4	5
Clerks	1	2	3	4	5
Sales and personal service workers	1	2	3	4	5
Plant and machine operators and drivers	1	2	3	4	5
Labourers and related workers	1	2	3	4	5

54. What percentage of the organisation's total training budget is spent on the following categories of employees:

	%
Top Management	
Middle Management	
Supervisors	
Managers	
Professionals	
Para-professionals	
Tradespersons	
Clerks	
Sales and personal service workers	
Plant and machine operators and drivers	
Labourers and related workers	

- | | Yes | No | Don't know |
|---|-----|----|------------|
| 55. Are employees paid a wage increase for the knowledge and skills they acquire from training, whether or not those skills are used?
Please circle your reply | 1 | 2 | 3 |
| 56. In your organisation are there career advancement opportunities for employees who complete training programmes? Please circle your reply. | 1 | 2 | 3 |

Occupational Safety and Health

57. Does your organisation have a written policy dealing with Occupational Safety and Health?

- | | |
|---------------------------------------|---|
| Yes (Please go to question 58) | 1 |
| No (Please go to question 59) | 2 |
| Don't know (Please go to question 59) | 9 |

58. How are these policies circulated or made known?

Please circle more than one answer if appropriate.

Employees are given a copy when they start work here	1
The policies have been distributed individually to each employee	2
Employees can ask to see the policies if they wish	3
Employees have ready access to policy manuals without having to ask for them	4
The policies are displayed on notice boards	5
Written information has been translated into other languages for employees of non-English speaking backgrounds	6
Information sessions to explain the policies have been held with employees	7
Other (specify)	8
Policies are not circulated	9

- | | Yes | No | Don't know |
|---|-----|----|------------|
| 59. Please circle your reply to the following questions:
Is there a formal induction programme in which Occupational Safety and Health rehabilitation issues and responsibilities are formally discussed? | 1 | 2 | 3 |
| 60. Are there any elected Occupational Safety and Health representatives in your organisation? | 1 | 2 | 3 |
| 61a. Are there any specialist Occupational Safety and Health committees at this organisation? | 1 | 2 | 3 |
| 61b. If you answered Yes to 61a, how many are there? _____ | | | |
| 62. Has this organisation undergone an Occupational Safety and Health audit in the last 3 years? That is, have the Occupational Safety and Health management systems, record and procedures been evaluated (either internally or externally)? | 1 | 2 | 3 |
| 63. In the last year, has this organisation undertaken a formal risk assessment of existing hazards? | 1 | 2 | 3 |
| 64. Does this organisation have a formal injury and/or disease reporting system? | 1 | 2 | 3 |

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