

THE ROLE OF THE WORKPLACE IN RETURN TO WORK

DISCUSSION PAPER FOR THE RTW FUND

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1 INTRODUCTION

1.1 CONTEXT FOR THE DISCUSSION PAPER

The *Return to Work (RTW) Fund* was established by the *WorkCoverSA* Board in June 2008, to implement initiatives that contribute to the improved return of injured workers to work. The objectives of the *Return to Work Fund* are:

- To foster innovation which finds solutions to known barriers to return to work or enhance the effect of factors that support return to work.
- To expand the retraining options for injured workers.
- To develop greater workforce participation options.
- To improve the skills of persons operating in the South Australian workers compensation scheme.
- To establish workplace initiatives which develop and implement sustainable programs to help those sectors with known difficulties in achieving successful and timely return to work outcomes.

The Australian Institute for Social Research (AISR) at The University of Adelaide was commissioned by *WorkCoverSA* to undertake the RTW Fund evaluation. In summary, this formative meta-evaluation recognises that prospective projects vary considerably in terms of duration, size, complexity, topic and proposed outcomes. The AISR have developed an evaluation framework that focuses on the provision of constructive, practical and targeted support to individual RTW Fund project managers to enable them to develop evaluation strategies, plans and performance indicators that meet the needs of individual Projects and the RTW Fund as a whole. This approach has ensured that Projects are fully engaged with the evaluation process, and have a personal investment in the project outcomes. This evaluation will develop, implement, collect and analyse both performance (monitoring) data and outcome and impact (evaluative) data to provide an assessment of the efficiency, effectiveness and appropriateness of the Initiative.

In addition, the AISR are working closely with RTW Fund Management to ensure that higher level targets and goals are met, that *WorkCoverSA* are informed about the progress of the projects, and that they are alerted immediately to any potential risks. This evaluation approach provides a strong evidence-based foundation for the RTW Fund and identifies projects or project elements that make a significant impact on the program goals.

The return to work of an injured worker is influenced by a range of factors – some that relate to the worker, some to the environment outside of the workplace, and some to the workplace itself. This Discussion Paper provides an overview of research findings related to return-to-work (*see Section 1*), and of some guidelines, practical tools and examples considered to be most useful, from those reviewed, for organisations seeking to improve return to work following injury or illness (*see Section 3 for examples drawn from the research literature*).

This paper was originally developed as part of ongoing research on the role of the workplace in RTW, being undertaken by the AISR for *WorkCoverSA*. It is intended that this version of the discussion paper will assist *WorkCoverSA* plan for future rounds of the Return to Work Fund, and for RTW Fund Projects to understand the intrinsic role of the workplace in achieving RTW outcomes and their own goals.

1.2 WHY CONDUCT THIS RESEARCH?

1.2.1 THE CONTRIBUTION OF WORKFORCE HEALTH TO PRODUCTIVITY AND BROADER ECONOMIC RETURN

The importance of workplace factors in determining return-to-work (RTW) is evident in the considerable research literature that has explored the direct correlation between work and health. Health and education are both regarded as key contributing factors to human capital, and human capital is recognised as a key determinant of individual labour market outcomes because of its positive association with workers' productivity (LaPlagne *et al*: 2007; Forbes *et al*; 2010; Brazenor: 2002; Cai: 2007). However, it is only recently that health has been more widely recognised as also playing this role, in contrast to education which has long been accepted as enhancing productivity (Suhrcke *et al*, 2005: 16, 19).

Health has been conceptualised as contributing to economic outcomes (for individuals and for nations) in high income countries through four main channels –

- **Higher productivity** – healthier people can be expected to produce more (physically and mentally) in terms of hours worked, and to be able to make better use of equipment, machinery and technology.
- **Higher labour supply** – good health reduces the number of days lost to illness and increases the days available for work or for leisure. If good health raises life expectancy, individual need for lifetime consumption increases, leading to a higher labour supply.
- **Higher skills due to greater participation in education and training** – more educated people are considered to be more productive, and obtain higher earnings. Children with better health and nutrition tend to achieve higher educational attainment, to have less health-related school absenteeism, and less likelihood of early drop-out. If good health links to higher life expectancy, it is assumed that healthier people have a greater incentive to invest in education and training.
- **More savings available for investment in physical and intellectual capital** – people in good health are likely to have longer life expectancy and an accompanying higher savings ratio compared with those in poor health. This is seen to link to a higher likelihood of investing in physical or intellectual capital (Bloom *et al*: 2001; Suhrcke *et al*, 2005: 21 - 23).

1.2.2 THE HIGH COST OF POOR HEALTH

Just as good health directly affects productivity, so too does poor health bring a range of losses to families, communities and business. The Australian Institute of Health and Welfare (2000) analysed direct health system costs of injury and disease in Australia for 1993-94 and found that the six disease groups accounting for the most health expenditure in Australia were those summarised in Table 1 below. A significant proportion of these costs, it can be argued, could have been prevented through a combination of health-promoting behaviours and education, and increased attention to safety and healthy environments (work and otherwise).

Table 1: Cost of six major illnesses in Australia

Disease	Cost (\$ billion)	% of total health system costs
Cardiovascular	3.7	11.8
Digestive system (includes dental)	3.7	11.8
Mental	3.0	9.6
Musculoskeletal	3.0	9.6
Injury and poisoning	2.6	8.3
Respiratory	2.5	8.0

SOURCE: AIHW: 2000: 248-251

As Table 2 indicates, the conditions studied by the Productivity Commission (LaPlagne *et al*: 2007) - cancer, cardiovascular disease, mental illness, major injury, diabetes and arthritis - all reduce the probability of labour force participation, and having more than one condition further reduces participation. The labour force participation rate for people with two or more health conditions was found to be 52.5% compared with the 75.1% rate for people with one condition. By contrast, people with none of the six identified conditions were found to have an **84.7%** participation rate.

Table 2: Australian labour force participation rates by health condition, 2001-2004

Condition	Cancer %	Cardiovascular %	Mental %	Major injury %	Diabetes %	Arthritis %
Does not have condition	80.3	82.0	80.7	80.2	80.7	82.6
Has condition	68.6	64.0	39.3	60.1	56.6	63.1

SOURCE: Productivity Commission, LaPlagne *et al*, 2007, Table 2.1, page 9

More recent research by the Productivity Commission (Forbes *et al*: 2010), undertaken as part of the COAG National Reform Agenda, explored the impact of health and education on productivity in relation to hourly wages. (Their previous research – LaPlagne *et al* 2007 - had examined the impact of these on broader labour force participation.)

The modelling which they undertook found that the six forms of chronic illness studied (cancer, cardiovascular, diabetes, arthritis, mental illness and major injury) had a negative, but often small, effect on hourly wages earned. The greatest impact related to poor mental health and major injury. These were associated with an average reduction of 4.7 per cent and 5.4 per cent respectively in men’s wages, and 3.1 per cent and 3.5 per cent respectively in women’s wages (ibid: xvi). In other words, illness and injury do not just affect employers, but have a significant impact on the injured person and their families.

The research literature finds two key mechanisms through which ill health or injury reduces a worker’s productivity – one being absenteeism from work, and the other being what is called ‘presenteeism’ – which refers to the impact on other team members’ workload of supporting an ill or injured colleague (Econtech, 2007: ii).

Research by the London Health Commission and the Work Foundation (Coats & Max: 2005) has explored the role of work in improving health, focusing on identifying the features of ‘good’ and ‘bad’ jobs and the

nature of productivity. The research has brought together employers from all sectors, trade unions, policy makers and researchers, underpinned by the goals of identifying how work can be made healthy and how policy makers can support this outcome. In reviewing available evidence, the following *workplace factors* were identified as contributing to ill health –

- Insecurity of employment.
- Monotonous and repetitive work.
- Little autonomy, control and task discretion (*control* in the working environment is particularly significant with research showing that people at the same level in the occupational hierarchy with differing amounts of control have noticeably different rates of disease, with low levels of control being associated consistently with more disease).
- An imbalance between effort and reward so that workers feel exploited or taken for granted.
- An absence of procedural justice in the workplace (Coats & Max, 2005: 18).

Research findings that establish a direct link between work and health include those pertaining to mental health and well being, with a number of researchers identifying the critical impact of psycho-social factors on workers' recovery from injury and return to work (Guy & Short: 2005; Kenny: 1995a, 1995b).

1.2.3 THE COST OF WORKPLACE INJURY AND ILLNESS

There are also a range of costs that workplace injury incurs for employers and more broadly, for society as a whole.

⇒ During the year 2008-2009, *WorkCover SA* paid a total of **\$567 million** to registered claims (*WorkCover SA*, 2010b: 8).

These figures represent part of the total cost of workplace induced injury or ill health. Incurring an occupational injury has many consequences for the injured worker which impact on all domains of functioning. For example, there are **physical consequences** such as pain and reduced performance; **psychological consequences** such as fear, anger, depression or hopelessness; **social consequences** such as loss of colleagues, friends, and strained marital or parental relationships; and **economic consequences** from lost income, dependence on benefits, difficulty in meeting financial commitments, loss of standard of living, and general economic security. Each of these consequences are mutually reinforcing and are multiple in their impact (Kenny, 1998: 7). Comcare (2004)¹ describes costs of workplace injury in terms of an iceberg, with direct impact being immediately apparent but disguising the less direct costs involved, as depicted below.

¹ Comcare (2004) *Cultivating safe and productive workplaces*,
www.comcare.gov.au/data/assets/pdf_file/0016/745/PUB33_cultivating_safe_workplaces_iceberg_feb04.pdf

Table 3: Direct and indirect cost of injury for the workplace

DIRECT COSTS OF WORKPLACE INJURY
Incapacity payments for lost earnings
Medical costs
Rehabilitation costs
Property damage
INDIRECT COSTS OF WORKPLACE INJURY
Cost of investigation reports
Cost of replacement equipment
Time lost from work = lost productivity
Loss of skills, experience and knowledge
Absenteeism, turnover, workplace conflict
Cost of recruitment, replacement and training
Increased workload pressure and uncertainty for co-workers
Damage to the organisation's reputation as an attractive workplace

SOURCE: Comcare (2004)

Quantifying the costs of workplace injury and illness is not a precise science, due to the number of assumptions that can be made and the different methodologies that can be applied. Early research by Australia's Industry Commission (1995) quantified the costs and losses at a national level of work-based injury and illness, noting that every year more than 500 workers died from workplace injury and up to 2,200 from work-based illness – almost double the annual road death toll. Workplace injury and illness also lead to disability, with the Commission estimating that at any one time some 200,000 people are unable to work for this reason, while a further 270,000 are forced to change jobs or permanently reduce their work hours for the same reason. Apart from the personal and social consequences, the annual cost of work-related injury or illness was estimated in 1995 to be at least \$20 billion annually. By contrast, a 10 per cent reduction in injury or illness derived from the work setting was calculated to provide an increase in national gross domestic product (GDP) equating to about \$340 million. The Commission drew these conclusions –

The key to controlling injury and disease at work is to be found in the design and control of the workplace and the activities conducted within it. Only very limited, if any, control is possible by focussing on the behaviour of those who may be injured. Superior risk management requires cultural change at work. Senior management must be dedicated to a 'culture of care'. This commitment must be backed up by a willingness to invest resources in health and safety, and to hold line managers, supervisors and work teams responsible for outcomes in this regard. The full participation of an informed workforce is fundamental – employees usually know most about how to manage better the risks in their own work.

More recently, in 2004, the Australian Safety and Compensation Council (now SafeWork Australia)² revisited these estimates, expanding on the methodology and having these independently reviewed by The Allen Consulting Group and Access Economics. These estimates in the year 2000-2001, calculated an annual national cost of **\$34.3 billion** from workplace injury and illness; this increased by 68% over the five year period to 2005-06, to a total cost of **\$57.5 billion**. The assumptions underpinning these figures have been described as essentially conservative, as were those associated with the Commission's calculation (only available for 2000-2001) of the additional cost of pain, suffering and early death which was estimated at a further **\$48.5 billion**.

The estimation of costs was also undertaken to determine an average cost per work-related incident of injury and illness, separating these by their impact on the worker, their employer, and the wider community. As Table 4 indicates, the average cost to the individual workers in 2005-2006 was much higher for work-related illness (\$87,800) than for injury (\$52,400). The average cost for a work-related incident, borne by all three sources, was **\$97,200** in 2000-2001 and up to **\$125,700** in 2005-06 – an increase of 29% over five years.

Table 4: Average cost per work-related injury or illness incident, Australia, 2000-2001 and 2005-06

Source	Injury - Unit Cost (\$)	Disease - Unit Cost (\$)	Total - Unit Cost (\$)
2000-2001^a			
Employer	2,500	5,400	2,800
Worker	39,100	68,700	42,500
Community	51,100	58,300	51,900
Total	92,600	132,400	97,200
2005-2006^b			
Employer	4,000	7,200	4,800
Worker	52,400	87,800	61,700
Community	57,100	65,200	59,200
Total	113,400	160,200	125,700

SOURCE: a. National Occupational Health & Safety Commission (2004: Table 2.2, p24); b. Australian Safety and Compensation Council (2009: Table 2.2, p24)

Current data provided by SafeWork Australia (2010) for the years 2007-2008 show that –

- There were 131,110 serious³ workers' compensation claims in 2007–08, which equates to **13.5 claims per 1000 employees** or **8.0 claims per million hours worked**.

² On 1 November 2009, *Safe Work Australia* began operating as an independent statutory agency with primary responsibility to improve occupational health and safety and workers' compensation arrangements across Australia.

³ *Serious claims* are those that involve either a death; a permanent incapacity; or a temporary incapacity requiring an absence from work of one working week or more.

- The Transport and Storage industry, Agriculture, Forestry and Fishing industry, Manufacturing, and Construction industries had incidence rates substantially **above** the national rate. Rates for these industries ranged between 21.6 and 24.4 claims per 1000 employees.
- The occupational group with the highest incidence rate of serious claims was Labourers & related workers (37.7 claims per 1000 employees). Intermediate production & transport workers had the second highest rate with 28.2 claims per 1000 employees.
- The most common injury leading to serious claims was *Sprains & strains of joints & adjacent muscles*, which accounted for **43%** of all serious claims.
- Over the six year period 2002–03 to 2006–07, serious claims decreased. Specifically –
 - the number of serious claims **decreased 4%** from 140,305 claims to 134 105;
 - the *incidence rates* for serious injuries **fell 15%**, from 16.5 serious claims per 1000 employees to 14.1; and
 - the *frequency rates* **fell 13%**, from 9.6 serious claims per million hours worked to 8.4 serious claims per million hours worked.
- Over the period 2002–03 to 2006–07 the **median time lost from work** fell slightly from 4.0 working weeks to **3.9**.
- **Median payments** for male employees were **\$6,000** compared with **\$5,500** for female employees in 2006–07. The median payment for all serious claims **rose 18%** from \$4,900 to \$5,800 over the six year period.

A similar **downward** trend is also evident in South Australia. Over the period 1996-97 to 2008-09 there has been an average yearly reduction of 4.8% in total claims for registered employers, and 5.4% for self-insured employers (*WorkCover SA*, 2010a: 12).

1.3 PROFILING WORKPLACE INJURY IN SOUTH AUSTRALIA

1.3.1 THE IMPORTANCE OF TIMELY RETURN TO WORK

Analysis of *WorkCover SA* claim statistics for 2005 underscores the importance of **early RTW** in reducing the duration of claims, as is evident in Table 5. This shows that the longer the time taken off from work, the less likely will be an early return to work. For example, there is a 40% probability of a return within three months when a total of six months is taken off work, compared with the 4% probability of a timely return when four years is taken off.

Table 5: The importance of return-to-work

Time off work	Probability of RTW within 3 months
3 months	50%
6 months	40%
9 months	33%
1 year	25%
2 years	12%
3 years	6%
4 years	4%

SOURCE: Carabelas, T 'What happens when a dispute is lodged in the Workers' Compensation Tribunal?' Presentation to *WorkCover SA Conference, 2007*

1.3.2 PATTERNS IN CLAIMS BASED ON INDUSTRY SECTOR, WORKER AGE, TYPE AND SOURCE OF INJURY

WorkCover SA claims-related data (*WorkCover SA: 2010a, 2010b*) for claims during 2008-2009 reveal the following patterns:

- **Injury rates**⁴ for total claims for both registered and self-insured^[1] were highest in the **Manufacturing and Agriculture, Forestry and Fishing** industries and lowest in the **Finance, Property and Business Services** industry (*WorkCover SA: 2010a, Table 1.13, p 16*).
- The greatest **number of payments** within the registered sector in 2008-09 were made within the industries of **Manufacturing** (23.0% of all payments) and **Community services** (18.5% of all payments). These were followed by the Wholesale and Retail Trade industry (14.3% of all payments) and the Construction industry (13.1% of all payments) (*WorkCover SA: 2010b, Table 5.7, p 8*).
- In terms of **age**, the highest percentage of claims in the registered sector during 2008-09 involved people in the **45-49 age group** (13.2%) followed by the 40-44 year age group (12.3%). (*WorkCover SA: 2010a, Table 1.28, p 21*).

⁴ That is, the no of total claims per \$million of remuneration)

[1] Self-insured employers are registered with *WorkCover SA*, but hold their own liabilities in relation to workers compensation. All State Government agencies are automatically self-insured. Companies with 200 plus employees and \$50 million in tangible assets can apply to become self-insured.

- o The **mechanism of injury** which was most common for both the registered and self-insured sectors was “**body stressing**” (34.7%), while the most prevalent **body location** for claims injuries was **upper limbs** (37.3%). (WorkCover SA: 2010a, Tables 1.37 and 1.38, p 24).
- o The most common **source of injury** during 2008-09 (both registered and self-insured sectors) was associated with the use of **non-powered hand tools, appliances and equipment** (26.4% of all claims) – highlighting the importance of workplace training in their safe use). (WorkCover SA: 2010a, Table 1.39, p 24).

1.3.3 OCCUPATIONS AT MOST RISK OF CLAIM

The individual **occupations** with the highest numbers of total claims in **2008-09** are summarised in Table 6.

Among female workers, it can be seen that there is a concentration of occupations associated with the aged care industry (and the broader health industry) and among male workers, a concentration across a number of industries but with a focus on physical work.

Table 6: Occupations associated with the highest number of claims in 2008-09

Group	Gender, Occupation, and Average Claim Cost			
	Male	Average cost (\$)	Female	Average cost (\$)
Registered	Heavy truck driver	13,671	Personal Care Assistant	5,111
	Storeperson	3,915	Commercial cleaner	5,886
	Fitter	4,547	Kitchen hand	3,648
	Motor mechanic	3,203	Sales assistant (food and drink products)	2,455
Self-insured	Storeperson	2,850	Registered Nurse	5,864
	Police officer	6,778	Personal Care Assistant	4,546
	Engineering production process worker	6,196	Enrolled Nurse	5,602
	Engineering production systems worker	4,827	Primary School Teacher	5,083

Source: *WorkCover SA Statistical Review Part 1, 2008-09, Tables 2.5 and 2.6: page 35*

1.3.4 THE ROLE OF SOCIO-ECONOMIC FACTORS

In 2006, WorkCover SA and the Motor Accident Commission of South Australia commissioned the *Social Health Atlas of Compensable Injury in South Australia* (Glover *et al*: 2006) which mapped workplace and motor vehicle injury against locations (which in turn have identifiable features relating to average income level, health characteristics, occupational and skill level).

The Atlas confirmed that workers’ compensation claims are not randomly distributed across South Australia, but instead, **cluster** with a strong association with **socio-economic disadvantage** (low levels of

skill, occupation, income and education). Other research by the same team through the Social Health Atlas of South Australia has found that people who are socially and economically disadvantaged have higher levels of illness and premature death.

1.4 THE CLAYTON REVIEW

The South Australian government commissioned a review of the workers' compensation system which has come to be known as the *Clayton Review* (Clayton: 2007). At the time of the review, South Australia had the lowest return to work rates of all Australian States and Territories, the highest levy rates paid by employers, and a continuing increase in the number of longer term injured workers, and therefore, of claims (Clayton, 2007: 4-5).

Many of the Review's recommendations reflect research findings which are explored in the following sections of this Discussion Paper. In particular, the Review acknowledges the research evidence base that points to the critical role of the workplace in relation to injury and illness and return to work following these. It acknowledges the powerful role of workplace culture and this is reflected in Recommendation 48 (discussed in *Section 2.2*), the importance of early reporting – reflected in Recommendation 50 (discussed in *Section 2.7.1*) and the importance of organisations employing Return to Work Coordinators – reflected in Recommendations 51 and 52 (and discussed in *Section 2.6*).

The Clayton Review also acknowledges the important work-health relationship discussed in Section 1.2, noting that the South Australian workers compensation system has evolved over time from the focus on compensation benefits in the 1980s, to the emphasis on rehabilitation to achieve effective return to work, to the direction recommended for the 2000s and beyond which focused on health and the broad range of factors that shape worker health. This is a preventive model in that to be effective, it involves developing healthy lifestyles and work habits in people's younger years. We know that the higher injury, illness and claim rates associated with older workers are less a reflection of age *per se* and more a reflection of accumulated poor lifestyle habits and negative working conditions. The model recommended by Clayton addresses the need for a 'whole of life' approach to workforce health.

The last two decades have seen considerable changes in the dominant approach that can be said to characterise such schemes.... there has been a dynamic of change from a concentration upon improved compensation benefits, to an emphasis upon occupational rehabilitation initiatives to improve return to work outcomes to an emerging 'work health' model. The 'work health' model involves collective responsibility, involving all stakeholders, to prevent injury and illness and to mitigate the impact of disability. It is to a large extent a primary prevention model and, where that preventive focus has failed, one that attempts to engage, in a holistic manner, with both the institutions of quality medical care and with the wider labour market to ensure the most effective restoration of injured and ill workers to health and to employment. It is in the direction of a 'work health' model that the recommendations of this Review are pointed (Clayton, 2007: 193-194).

2 WORKPLACE FACTORS THAT AFFECT RETURN TO WORK – RESEARCH FINDINGS

2.1 INTRODUCTION

Section 1 of this paper highlighted the importance of preventing workplace related injury or illness, and of minimising its impact when it occurs. The return-to-work (RTW) after injury can be affected by a range of factors beyond the injury or condition involved, some of which may be mutually reinforcing, and this makes it extremely difficult to isolate the determinants involved and to develop strategies for managing them. However, it is clear that multiple and coordinated solutions will be needed.

There is now a consensus from leading OH&S researchers that workplace injuries are related to a complex set of risk factors, including physical-ergonomic, psychosocial and work-organizational factors. There is also agreement that, in many cases, these injuries can be prevented by adopting certain policies, procedures and practices (Frank, Cullen et al, 2003: 1).

The wide range of factors that can affect RTW are evident in the comprehensive overview of previous research conducted by the Australian Institute for Primary Care (2006). This identified a number of factors that can be grouped into four categories, see Table 7.

Table 7: Factors affecting return-to-work

Worker related	Work- and workplace-related	Injury related interventions	Industrial/Legal context
Age	Physical job characteristics	Medical	Insurance/workers compensation scheme involved
Gender	Psycho-social job characteristics	Occupational rehabilitation	Prevailing legal framework
Type of injury or accident	Size of company	Effectiveness of communication & collaboration between health care providers (eg GPs, rehabilitation specialists) and workplace (eg supervisors)	Involvement of a lawyer
Severity of injury	Type of industry		Involvement of a trade union
Job dissatisfaction prior to injury			
Prior difficulty performing job tasks			
Stress associated with job			
Degree of control over work & rest periods			
	Type of occupation		

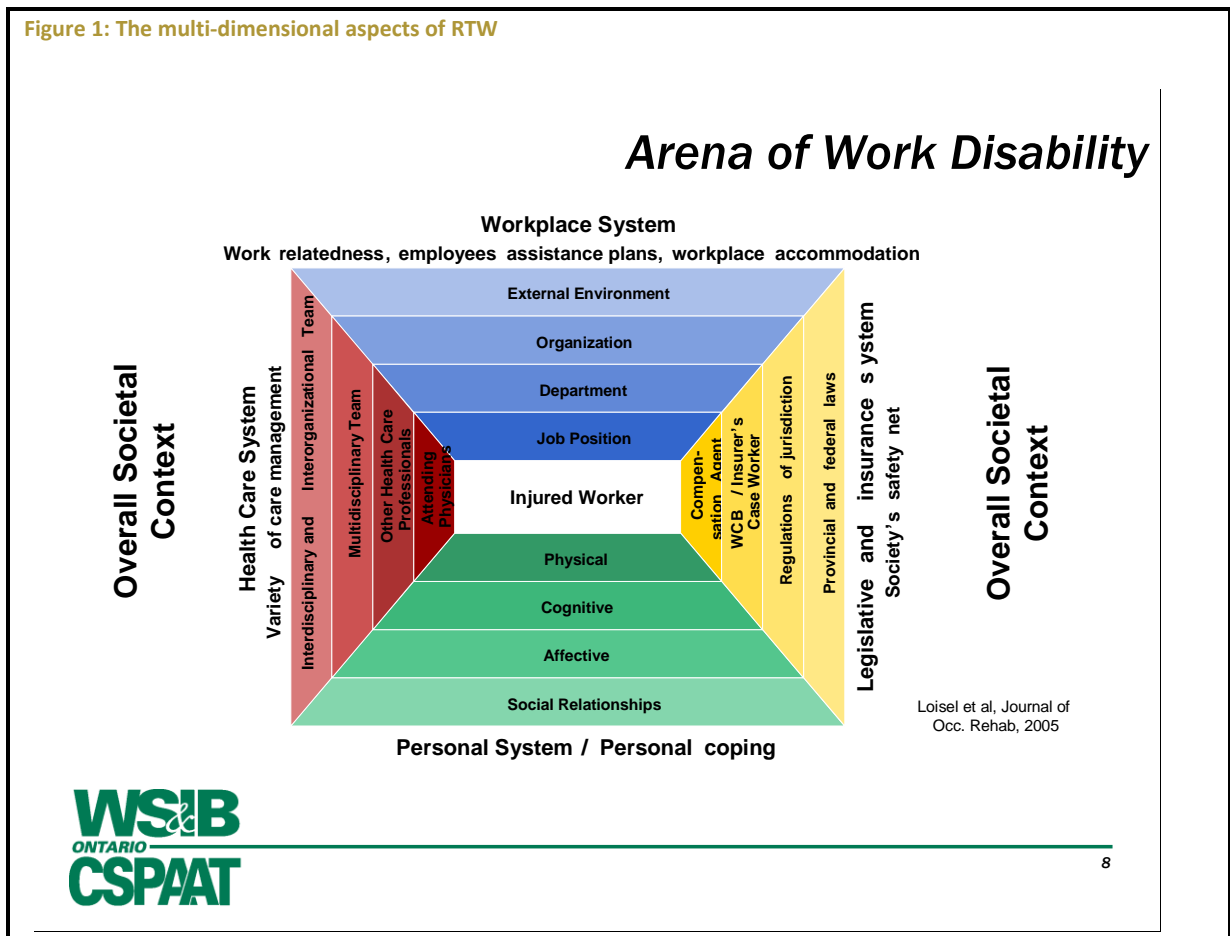
SOURCE: Australian Institute for Primary Care (2006)

The Australian Institute for Primary Care's overview (2006) of the facilitators of and barriers to RTW after injury identified each of the following variables as having some role to play in influencing RTW outcomes, *independently of the underlying medical condition* -

- characteristics of the injured worker
- components of particular medical and occupational rehabilitation interventions
- physical and psychological job characteristics

- workplace factors
- the workers compensation scheme, labour market conditions, and
- the prevailing legal framework (2006: 4).

As Figure 1 demonstrates, the return to work processes has multiple dimensions and operates across workplace, health care, legislative and insurance, and personal systems. It is a complex process involving multiple stakeholders – the injured worker, the employer, health and rehabilitation providers and insurance providers.



In South Australia the response to injured workers through the *WorkCover* scheme involves a range of stakeholders. The worker, the insuring agent, the employer, treating medical experts, rehabilitation providers, work colleagues, friends and family have all been identified as critical elements in the return to work process (Roberts-Yates, 2006: 898). The interactive effect of the different stakeholders involved means that successful RTW will be influenced by more than a single factor. For example, South Australian research has identified these four variables as having the most significant, but combined, impact –

- the treating medical expert
- the nature and severity of the injury
- the emotional and psychological fragility of the injured worker
- and the culture of the workplace (Roberts-Yates, 2006: 905).

A major report from the International Social Security Association (ISSA: 2002) re-analysed and compared the findings of a longitudinal six country study. The *Work Incapacity and Reintegration* (WIR) Project measured the effects of duration of work absence, medical and vocational interventions, labour market policies (such as, the right of injured workers to have their job held open for them) and other social and demographic factors (for example, living alone) on return to work. Focusing on workers with lower back pain, the study found striking differences in return to work rates across the six countries involved in the project (Denmark, Germany, Israel, the Netherlands, Sweden, and the United States).

The most striking finding was the large difference in return-to-work rates among the various national cohorts: from 32% to 73% after one year and from 35% to 72% after two years (ISSA, 2002: 1). In analysing the reasons for such extreme differences, the following factors emerged as critical to achieving effective return to work -

- **early intervention is essential for successful work resumption;** therefore, the **timing** of vocational and medical interventions is critical to successful return to work. **Often the best therapy is early work resumption** and the study found that linking decisions regarding rehabilitation services and the payment of benefits provided the incentive to return the beneficiary to work as quickly as possible. In the Netherlands, such interventions were begun soonest of all six countries, and were associated with higher return to work. (ISSA, 2002: 14, 23, 28-29).
- Although older age and low education levels were found to make return to work more difficult, **workplace modifications and flexible work hours were found to be significant overall determining factors for effective work reintegration.**
- **Job protection** enabling workers to return to their previous position greatly facilitate return to work. The Project included a specific statistical analysis of the findings relating to the Dutch and Danish workers in the study as these two groups had the greatest similarity on a number of features (such as age, educational level, pain intensity, functional limitations and number of years in their current job). The labour protection associated with Netherlands law contributed to a greater return to work success rate of 71.6 per cent, compared to 39.7 per cent in Denmark which lacks such protection for workers. This occurred in the first year after the onset of injury (ISSA, 2002: 26).
- **Flexibility on the part of the employer, including gradual return to work and part time work** (ISSA, 2002: 27).
- **Making work accommodations and adaptations** (ISSA, 2002: 28).
- **Positive employer-employee relationships** (pp 1, 33-34).

It must be considered whether in the rush to dismiss and replace the ailing worker, employers might not be doing both the worker and themselves a great disservice quick dismissal may ... be bad policy from the employer's perspective because of the loss of an experienced worker who, if given more time, might in fact be able to return to work and whose recovery might be aided by working (ISSA, 2002: 25).

2.1.1 THE IMPORTANT ROLE OF THE WORKPLACE

There is growing consensus that while attending to the physical or medical aspects of the work-disabled employee is important, much of the variability in RTW outcomes is accounted for by what takes place at the **workplace** (Butler *et al*: 2007; Australian Institute for Primary Care: 2006; Franche *et al*: 2005; Amick *et al*: 2000; ISSA: 2002; Kenny: 1998). It is clear from the more recent research reviewed that the way in which workplaces are designed, the policies and procedures that are developed for workplace safety and response to injury or illness, and the culture of the workplace, are all recognised by research as being critically important for effective return to work.

An injured worker's level of motivation to return to work is influenced by workplace variables such as the presence (or not) of supportive co-workers, as well as the role played by the severity of the injury and the quality of the treatment received (Aust Institute for Primary Care, 2006: 12; Franche *et al*, 2004: 7-9; Industry Commission: 1995). The Australian Institute for Primary Care has identified a number of workplace factors in the effective management of return to work, with job design being one of two critical factors – the other being workplace support (Aust Institute for Primary Care, 2006: 6, 42-47).

An extensive literature review⁵ undertaken by the Canadian Institute for Work and Health (Franche *et al*, 2004: 5) identified that particular RTW interventions are effective in **reducing the duration** of the period in which a worker remains away from the workplace due to illness and in **reducing the costs** associated with their health care and wage replacement. Based on their review of *quantitative* research studies, the authors found moderate evidence for these three RTW components to significantly reduce duration and costs –

1. **Early contact** with the worker by the workplace.
2. A '**work accommodation**' offer – that is, adjusted to a job, the work environment or the way things are usually done, with the aim of reducing or eliminating workplace barriers to enable an injured employee to return to work.
3. Contact between health care providers and the workplace.

They recommend that these three disability management strategies be regarded as central to workplace-based RTW interventions. They also recommend that these four components be part of RTW strategies, based on the moderate evidence found for their impact –

- **Ergonomic work site visits** – that is, involving design and modification of tools, equipment, materials, work spaces, tasks, systems and environments to match worker abilities, limitations and social needs.
- The involvement of a person with responsibility to **coordinate RTW** interventions.
- **Education of supervisors and managers**, particularly about ergonomic requirements and safety issues.
- **Cooperation** between management and workers (and/or union representatives).

⁵ The Institute searched the published literature from 1990 onwards on interventions for employees with pain conditions who had filed a compensation claim for health care costs or lost time from work. They found 35 studies on this topic of which 10 were considered to be of sufficient quality to be included in the review. They then combined the findings from these 10 studies.

The Institute's analysis of *qualitative* research findings identified several key concepts that need to shape workplace-based RTW –

- ⇒ *Conditions of goodwill and mutual confidence* – derived from building confidence in the RTW process among all parties and from injured workers knowing that their well-being has been considered.
- ⇒ *Developing good relationships among unions, management and health care providers* – acknowledging that these parties may well have competing responsibilities, and developing processes that enable them to work collaboratively.
- ⇒ *Designing a process to maximise effective communication and informed decisions by all parties* – in particular, addressing the likely lack of information by injured workers about compensation procedures, rights and obligations.
- ⇒ *Modified work brings significant social consequences* – it can produce social dislocation and a changed set of routines and relationships in the work setting. For example, co-workers may resent having to assist in their injured colleague's workload or feel that their modified work environment makes their work 'easier'.
- ⇒ RTW requires careful coordination across the different stakeholders.
- ⇒ *Supervisors and managers can play an important role in the RTW process* – therefore, their education about work disability management is crucial in enabling them to manage the RTW work environment, and providing a link between the injured workers and senior managers.
- ⇒ *Rehabilitation and occupational health professionals can be critical to successful RTW* – mainly because they are the link between health care and the workplace (Franché *et al*, 2004: 7-9).

The following sections explore in more detail the individual workplace-related factors that research has identified in shaping return to work outcomes.

2.2 WORKPLACE CULTURE

A number of researchers have identified workplace culture as being critical to the management of successful return-to-work (Roberts-Yates: 2003, 2006; Franché *et al*: 2004; Australian Institute for Primary Care: 2006; Amick *et al*: 2000). Among the workplace culture factors affecting return-to-work are the support offered by supervisors and co-workers, overall organisational climate, and workplace conflict and stress.

The workplace culture and the attitudes of employers, supervisors and co-workers are critical to the management of successful RTW and overall cost containment. It is increasingly recognised that the early identification of barriers to RTW, the attitudes of work personnel, appropriate resources, social support structures, flexible work routines and the identification of key people at work involved in the RTW process are related to successful outcomes (Roberts-Yates, 2006: 103; Franché *et al*, 2004: 7).

Other psycho-social aspects of the workplace that have been shown to be related to poor RTW outcomes include low or inadequate support from supervisors and colleagues (Roberts-Yates, 2006: 24), as well as stressful jobs and low job satisfaction (Aust Institute for Primary Care, 2006: 25). A 'non-adversarial context' has been identified as contributing to effective RTW (Roberts-Yates: 2006).

A major study investigating the effect of workplace organisational factors in preventing and resolving work-based injury or illness analysed workers' compensation claims across 29 industries (including manufacturing and health care services) in Michigan (Amick *et al*: 2000). Three factors were studied –

- a) Health and safety management (including training, safety leadership and integration of safety programs into other company operations.
- b) Management of the return to work process following injury.
- c) The organisation of the company.

Companies with low claim rates were found to report higher average scores for safety training, involving employees in decision making, and making workplace accommodation. A 10% higher rating on health and safety management was associated with a 17% lower rate of lost workdays due to injury. A 10% higher rating on proactive return to work strategies was associated with 7% fewer lost workdays.

The study also investigated the attitudes of workers with carpal tunnel syndrome to their employing company's health and safety processes, disability management and organisational processes. This component of the research found that employees were more likely to have made a timely return to work when they rated the company as having a 'people-oriented culture', good safety strategies and ergonomic practices, and disability management. The following 11 organisational policies and practices were identified in companies with the **lowest workers' compensation claims** –

- Systematic monitoring and correction of unsafe employee behaviours.
- Safety training provided as part of orientation for new and transferred employees.
- Company leaders model and pay attention to safe behaviours.
- Information and communication flows from the top down and from the bottom up.
- A profit sharing program is used as an incentive to and reward of productivity at all levels of employees.
- Modified work duties are used to assist injured workers to return to work.
- An employee assistance program is used to help employees showing signs of problems that may interfere with work (eg stress, personal problems, alcoholism).
- Procedures are used to monitor and encourage supervisors to assist the return to work of injured workers.
- The company provides health and fitness programs and resources to promote employee health.
- Employees are screened for job-related health or disability risks, on a continuing basis.

The Australian Institute for Primary Care's review of the literature identified a number of workplace culture factors affecting return to work, including -

- ⇒ supervisor supportiveness
- ⇒ organisational climate
- ⇒ co-worker supportiveness
- ⇒ workplace conflict and stress
- ⇒ workplace support (Aust Institute for Primary Care, 2006: 42-47).

These and other research findings have clearly informed the *Clayton Review* in South Australia –

The empirical record ... emphatically demonstrates that the strongest correlate to early and durable return-to-work outcomes is a positive and sustaining workplace culture (Clayton, 2007: 13).

Recommendation 48 of the Review recommends that WorkCover SA build upon existing initiatives that foster ‘more supportive workplace cultures’ by both levy paying and self-insured employers, and make this a key part of its regulatory mission and program (Clayton, 2007: 174).

Workplace culture and its associated communication and operational processes will shape the response to an employee’s injury or illness. In an analysis of workers’ compensation files and health care billing records, supplemented by interviews with more than 1,800 workers at the beginning of a claim, and 6 months and 12 months later, US and Canadian researchers (Butler *et al*: 2007) found that employees’ satisfaction with their employers’ responses to their claims was the most important single influence on employment stability after the onset of back pain. This was also more important than their satisfaction with the health care received, and their own expectations about recovery. Good communication between employers and workers was a key ingredient in satisfaction with responses to claims.

A significant finding was that workers who were *dissatisfied* with their employers’ response to their injury were *1.5 times more likely* to have *negative* return to work outcomes after accounting for the impact of other factors (severity of pain, employee gender, employee expectations of recovery, employee choice of doctor and various employer characteristics). Furthermore, workers who were satisfied with the response were more likely to claim only medical expenses and not claim lost time.

2.3 COMMUNICATION PROCESSES

Systematic literature reviews provide evidence that clear communication, cooperation, and establishing common agreed goals between the injured worker, health providers, supervisors and management are critical for positive clinical and occupational outcomes (Aust Institute for Primary Care: 2006; Roberts-Yates: 2006; Franche *et al*: 2004). Researchers have demonstrated that adverse rehabilitation and return-to-work outcomes are inextricably linked with communication failures among injured workers, doctors, employers and insurers. Employers cite poor communication with physicians as a primary obstacle to improved injury management (Pransky *et al*: 2004).

Effective communication processes also underpin information flows, and researchers have frequently identified the need for injured workers to be informed about the compensation process and its associated rights and responsibilities. The Institute for Work and Health’s review of qualitative research studies reinforced the difficulties faced by workers seeking to return to work following injury or illness –

Their navigation through the system is often arduous, marked by a lack of information about process and procedures at a time when they feel vulnerable and less than self-reliant. Workers are usually not familiar with rules about workers’ compensation or the specialized language used by health care and insurance professionals.

We recommend that employers, insurers and health-care providers provide adequate and consistent information when communicating with ill or injured workers about return to work. It is important to

simplify procedures and language around RTW processes and requirements, and to ensure that workers have been fully informed of their rights and obligations (Franche et al, 2004: 8).

2.4 CONTROL OVER WORKING HOURS AND TASKS

Researchers have identified that the degree of control by individual employees over their work (for example, in the ordering of tasks and timing of breaks) is critical to positive health outcomes and is thus important in managing injury or illness, with low levels of control being associated consistently with job strain and ill-health disease (Karasek & Theorell: 1990; Polanyi: 2004; Coats & Max: 2005).

The degree of *trust* in relationships between employers and employees has also been found to be important, as this is found to affect the sense of control workers have over their work and the amount of stress experienced, with attendant health consequences (Coats & Max, 2005: 38).

Researchers in Finland surveyed more than 25,000 full time employees and found that those with low control over their work took 40% more certified sick leave and 10% to 30% more uncertified sick leave than those with a high degree of control. People who did high hours of work per week did not take more sick leave unless they also had low levels of control over the way they did that work. The researchers interpreted this finding as indicative of the importance of having the flexibility to manage competing work and life responsibilities (Ala-Mursala *et al*: 2006). See also *Section 3.2*.

2.5 THE ROLE OF OCCUPATIONAL HEALTH AND SAFETY, AND REHABILITATION POLICIES AND ASSOCIATED PROCESSES

Occupational health and rehabilitation interventions are central to treatment of injury or illness but also provide an important bridge between the workplace and health systems, which has been found to be critical in achieving RTW (Franche *et al*, 2004: 9). Recent research has identified the importance of organisational policies in ensuring employee compliance with safety behaviour, reducing micro-accidents, reducing workplace disability and promoting successful work role functioning (Ossman *et al*, 2005: 18). This includes having policies and procedures specifically associated with return to work.

It is also important that managers and workers are conversant with those policies and procedures. Researchers have frequently identified the need for injured workers to be informed about the compensation process and its associated rights and responsibilities (Franche *et al*: 2004) and that RTW is significantly related to positive perceptions of methods of information dissemination to workers about their rights and entitlements (Kenny: 1998).

In a study of 632 claimants with work-related musculoskeletal injuries Franche *et al* (2007) found that –

- the provision of a ‘work accommodation offer’ (which can include modified or alternate duty, graded work exposure, work trials, workstation redesign, activity restrictions, reduced hours or other efforts to temporarily reduce physical work demands) and
- targeted communication between health care providers and the workplace on re-injury prevention

were significant predictors of shorter duration of work absence, as well as critical factors for effective, early return-to-work (Aust Institute for Primary Care, 2006: 23; Franche *et al*, 2004: 5).

Based on their review of *quantitative* research studies, the Canadian Institute for Work and Health found moderate evidence for the importance of work redesign for injured workers returning to work. This can include modified or alternate duty, graded work exposure, workstation redesign, reduced hours or other efforts to temporarily reduce physical work demands. This finding is supported by other major research studies (Aust Institute for Primary Care, 2006: 23; Pransky *et al*, 2004: 5).

Accommodating the workplace for an injured or ill worker is part of a broader culture that is supportive rather than punitive. Research findings confirm the relationship between effective RTW and supportiveness of supervisors/managers and co-workers to injured workers (Kenny: 1998; Franche *et al*: 2004; Roberts-Yates: 2003, 2006).

2.5.1 EFFECTIVE MANAGEMENT OF STRESS-RELATED ILLNESS AND INJURY

As recognition has grown of the role of job stress on individual and organisational health, there has been an accompanying growth in research on job stress interventions (La Montagne: 2001). Job stress is a commonly reported cause of work-based illness and injury and is rapidly becoming the most prevalent trigger for work-related injury and ill-health. Job strain (involving the combined impact of workers having low job control or autonomy with high job demand levels) has been increasing in Europe in the past ten years (Peter & Siegrist: 2000).

Research evidence confirms that *psycho-social* factors such as workers' fears and beliefs about their conditions and the impact of re-entry to the workplace on their health, are critical domains that need to be included in rehabilitation approaches (Aust Institute for Primary Care, 2006: 19). Psycho-social factors have been found to have a greater impact on recovery from injury and RTW than the physical limitations associated with the injury.

Research findings indicate that failure to address these factors for workers' compensation claimants may negatively affect recovery rates and RTW outcomes. Two key ingredients in addressing psycho-social issues associated with RTW are the use of **a multidisciplinary** treatment approach and **early intervention** (Kenny: 1995a; Guy & Short: 2005; Cohen *et al*: 2000). Other research has found that the productivity gains arising from treatment of depression far exceed the direct costs of treatment (WarrenShepell: 2004, 2005).

2.5.2 APPROPRIATE SUPERVISOR TRAINING

An important factor in effective RTW is the workplace supervisor (Roberts-Yates: 2006; Franche *et al*: 2005; Nieuwenhuijsen *et al*: 2004), and a well structured research study by Shaw *et al* (2006) in the US food

processing industry⁶ found that when supervisors in the meat cutting and packing sector were trained appropriately, disability compensation claims were reduced by 47% and active lost-time claims by 18%. What did 'appropriate' training involve?

- Communication with workers regarding pain and injury – this included proactive, supportive and collaborative communication about work behaviours and workspace design that can cause musculoskeletal pain, and the importance of early reporting and how to respond to injury. Communication skills, including active listening, were also taught.
- Understanding the nature of musculoskeletal pain and discomfort – this was designed to enhance understanding about the management of this form of pain, about variable recovery patterns and the impact of recurring pain, as well as about different treatments available.
- Problem-solving using ergonomic principles – supervisors were taught to solve problems in steps from identifying the problem to evaluating the success of its solution.
- Maintaining communication – this focused on the importance of an initial return to work meeting between supervisor, employee and others, and of planned follow-up discussions about return to work arrangements.

The study demonstrated the importance of supervisor training in reducing injury rates and enabling timely and effective return to work. It has application across industries but specific relevance to workplaces with high physical work demands – common in the manufacturing industry.

2.6 COORDINATION AND THE IMPORTANCE OF A RETURN-TO-WORK COORDINATOR

Given the number of stakeholders involved in the RTW process, coordination of their inputs is essential, and is often facilitated by the appointment of a person designated to achieve this outcome. The presence of a *Return to Work Coordinator* has emerged as one important strategy for facilitating RTW (Australian Institute for Primary Care: 2006; Franche *et al*: 2004).

Coordination is also important because it supports effective *communication* between the various people involved in the return to work process (for example, medical and vocational providers, workplace supervisors, claims management personnel). Research undertaken in New South Wales has identified effective information about workers' compensation processes and entitlements as a significant variable in achieving successful RTW (Kenny, 1998: 6). A coordinated and collaborative approach between all stakeholders has been found to be essential for the effective management of return to work (Aust Institute for Primary Care, 2006: 5; Franche *et al*, 2004: 9; Yassi *et al*, 2002: 75).

⁶ This involved 23 supervisors and 800 employees, divided into 2 groups. Supervisors participated in a four hour training program, delivered to the 2nd group seven months after the 1st group. This enabled the researchers to compare claims data between both groups, and to assess the impact of the training on those claims.

The importance of RTW coordination is also evident in the findings of the same study of injured workers in New South Wales which identified the following four factors as impeding an effective return to work, from the perspective of injured workers:

- difficulty in obtaining the required information about procedures in occupational rehabilitation and about the nature of their injuries;
- lack of assistance from key personnel, such as union representatives and rehabilitation coordinators;
- delay in expediting treatments and claims for compensation; and
- the bitterness and despair experienced by workers who perceived themselves as victims of an uncaring system (Kenny, 1998: 6-7).

Recommendation 51 of the *Clayton Review* (2007: 177-178) advises that South Australia introduce a system of **workplace-based Rehabilitation and Return to Work Coordinators** (RRTWC) to apply to any workplace with 30 or more workers with the aim, after 3 years, to extend its operation to workplaces with 20 or more workers. Furthermore, the position of a RRTWC must be held by an employee at the workplace and must not be contracted out (*Recommendation 52*). This recommendation was implemented as of 1 January 2009.

2.7 EARLY INTERVENTION AND PREVENTION

A number of researchers have found that early intervention is a critical factor in enabling early return to work (Roberts-Yates: 2006; Franche *et al*: 2004; Kenny: 1998). This includes employers acting promptly to obtain appropriate treatment and arrange for suitable duties until workers are fit to resume pre-injury duties (Kenny, 1998: 6-7). Early contact is a crucial component of injury management and RTW programs, and appears to be more critical with older workers. Within a return to work program, strategies including training, finding alternative jobs and considering part-time work as an optimal outcome may be important (Hursch *et al*: 2006). Research evidence also links early notification and treatment to early RTW and reduced costs associated with health care and wage replacement (Franche *et al*, 2004: 5). Other researchers have identified the importance of preventive interventions, including *ergonomic risk prevention* strategies (Australian Institute for Primary Care: 2006).

Drawing on their own and other researchers' findings, the Canadian Institute for Work and Health (Frank, Cullen *et al*: 2003: 7-8) discussed the importance of reducing workplace injury and illness by building on the strengths of traditional primary and secondary prevention approaches, and merging these to create a more effective return-to-work strategy. Noting that the most common occupational injuries (soft tissue sprains and strains including lower back pain and repetitive strain affecting upper limbs) are so common that primary prevention alone will be ineffective, the researchers argue for 'integrated and multi-pronged' programs. These include ergonomic improvements in job design, control of exposure to toxins, disability management through multidisciplinary care teams and a 'cultural change' in workplace approaches to health and safety. In this way primary and secondary prevention is combined and the researchers concluded that –

Combining primary and secondary interventions can yield greater impact than the sum of impacts from separately implemented interventions (Frank, Cullen *et al*: 2003: 9).

2.7.1 REPORTING TO SUPPORT EARLY INTERVENTION

2.7.1.1 TIMELY REPORTING

Early intervention relies on timely reporting (Pransky *et al*: 1999) and the lack of this may compound the seriousness and costliness of injuries (Johnson & Fry: 2002). Australian researchers reviewing unpublished claims agent data have identified that reporting of workplace injury left for between 15 and 21 days typically led to a 19% increase in the duration of the injury compared to reporting that took place within the first seven days following the injury (Johnson & Fry, 2002: 6).

A consistent finding from the research literature, both in Australia and North America, is the importance of early reporting of claims for effective claims and injury management and enhanced return to work outcomes. Late reporting has a clearly demonstrable impact upon claims costs. *Recommendation 50* of the *Clayton Review* in South Australia (2007: 176) provides for an incentive to employers to report claims to the scheme agent within 48 hours of the notification of the claim to the employer.

2.7.1.2 UNDER-REPORTING

Unfortunately, under-reporting has a negative impact on RTW because it leads to missed opportunities for early intervention and therefore, to reduce the costs and time associated with recovery (Pransky *et al*: 1999). The research literature confirms the need for workplace cultures that encourage timely reporting by promoting a climate of safety, trust and support and education of staff in injury prevention and management (Pransky *et al*: 1999; Aust Inst for Primary Care: 2006; Roberts-Yates: 2006; Franche: 2004; Daniels & Marlow: 2005).

Under-reporting is linked to poor safety cultures and inadequate reporting systems and processes, a low level of commitment to safety by management and a lack of knowledge of reporting requirements, and under-developed workforce training and development processes. A review of the literature on reporting of workplace injury (Daniels & Marlow: 2005) identified a trend for work-related musculoskeletal disorders to be heavily under-reported, and for a poor safety culture with inadequate systems for reporting and insufficient management commitment to early reporting to be associated with under-reporting. Their review also identified fear of reprisal, not wishing to be labelled as a complainer, feeling that suffering from symptoms is a sign of weakness, and financial loss as factors influencing under-reporting.

A study focusing on a manufacturing plant in the US with 8,200 employees identified a significant level of under reporting, with only 5% of the 30% of workers with injuries requiring formal reporting having done so. Apart from an unrealistic goal set by the company's safety department regarding injury levels, workers also did not report injuries for fear of losing pay, overtime, respect, bonuses and promotion. However, as the researchers noted, not reporting injuries can prevent early identification and treatment, which can lead to greater disability and greater costs in the long term (Pransky *et al*: 1999).

2.7.1.3 UNDER REPORTING AND BULLYING

Researchers have also identified that workplace bullying is a cause of employees under-reporting accidents and injuries, and that the incidence of injuries related to occupational violence (both verbal and physical abuse) is higher in aged care than in other fields (involving clients as well as workers), despite indications of substantial under-reporting of workplace violence or bullying. Assaulted workers were found to have increased incidences of burnout, absenteeism, and turnover (Daniels & Marlow, 2005: 17).

2.7.1.4 TIMELY RETURN TO WORK

Early intervention should not be confused with *premature* return to work. In a study of injured workers in New South Wales the major reasons cited for failure to sustain initial attempts to return to work were that they came back to work too soon (48.2%), erroneously believing that they were fit (48.8%), or that they felt pressured to return to work before they were ready (32%). This latter group included 10% who feared they would lose their jobs if they did not return promptly. Financial concerns also prompted workers to return prematurely, either because they needed the money (12.2%) or their compensation payments had been stopped (4.9%) (Kenny, 1998: 1–6).

2.8 CLAIM DISPUTATION

A survey of 407 injured workers from the Health, Manufacturing and Retail industries in New South Wales was undertaken as part of a study to identify factors that predict return to work following a compensable workplace injury (Kenny: 1998). Two regression models were developed to assess the relative contributions of injury and worker variables to return to work, and whether these factors could be mediated by workplace characteristics and the response of the workplace to the injury.

Three factors were found to have a significant relationship with effective return to work, one of which was whether the claim for workers' compensation was disputed or not disputed⁷. (The other two factors were perceived high standards in workplace occupational health and safety and in information dissemination to workers about their rights and entitlements).

Disputed claims were found to be more likely if –

- the worker had sustained a more serious injury,
- experienced greater lengths of time lost,
- failed to return to work,
- or in cases involving conflicting medical opinion regarding the extent and severity of the injuries (Kenny, 1998: 1 - 6).

⁷ In South Australia the *Workers Rehabilitation and Compensation Act 1986* enables the disputing of a wide range of claim-related decisions made by claims agents acting on *WorkCover's* behalf.

Disputed claims create stress for both workers and their employers and work against positive workplace culture. Research findings indicate that the nature of employment relationships may change once a worker is involved in a protracted claim, and may work against the commitment of key parties to the rehabilitation process (Roberts-Yates, 2003: 898).

In South Australia there were 2,366 disputes in the year 2006-2007⁸, a reduction of 13.5% from the previous year.

2.9 ORGANISATIONAL SIZE

The findings of researchers that company size is associated with improved return-to-work rates highlights the need for more research into the particular organisational elements that explain enhanced return-to-work achievements (Aust Institute for Primary Care, 2006: 33; Kenny, 1998: 4).

Research findings identify **larger** organisations as being more likely to have structured practices and formalised policies relating to workplace health, safety and disability, as well as staff assigned to carry them out. They are more likely than small size companies to have specialised HR, and occupational health and safety (OHS) departments, which support formalised (as opposed to *ad hoc*) communication of policies and practices throughout the organisation (Ossman *et al*, 2005: 24; Johnson & Fry: 2002).

A New South Wales survey of injured workers found that the two main reasons for return to work not having been sustained were the unavailability of suitable duties or the inappropriateness of duties assigned on returning to work after injury (Kenny, 1998: 3). Larger organisations are more likely to have a range of duties that can be undertaken by injured workers.

⁸ Refer *WorkCover SA Annual Report 2006-2007*

2.10 MANAGEMENT OF THE CLAIM

Although responsibility for claims management lies outside of the workplace, employers can affect some aspects of the process. Two major South Australian studies (McGregor Tan Research: 2006; Roberts-Yates: 2006) have explored the role of claims management in achieving effective RTW, and their combined findings yield the checklist below.

Checklist for Claims Management that leads to Effective RTW

Case Manager

- A case manager who is quick and responsive to the worker's needs
- A case manager who works closely with the worker's doctor, employer and rehabilitation provider.

Communication and Information

- Upfront and open communication and information provided to the worker.
- Respectful ongoing communication between the claimant and the key stakeholders.
- Provision of an information package outlining the rehabilitation and return to work process to be distributed to each worker at the onset of injury.
- Workers are informed about their medical condition and treatment regimes by the treating medical experts in respectful, clear and simple language.

Administrative processes

- The efficient handling of the paperwork relating to the case.
- Prompt processing and uninterrupted payment of expense claims and entitlements.

Treatment and Rehabilitation

- Quality management of suitable return to work placements by the doctor, rehabilitation provider and the employer.
- Treatment of the injury in terms of the whole person.
- A realistic 'Rehabilitation and Return-to-Work' plan.

Underpinning ethos

- Transparency in regard to dispute resolution.
- Fairness to the interests of all parties.
- Education of work-mates and the community in order to promote a non-judgemental response to 'invisible' injuries, and to injuries involving a *WorkCover* claim.

3.1 WORKPLACE FEATURES THAT SUPPORT EFFECTIVE RETURN TO WORK

Research with South Australian employers has identified these eight features of workplaces that support an effective return to work -

- a strong safety culture
- effective leadership
- a culture of trust
- a 'no blame' response to injury
- positive feedback channels
- a range of recovery-focused management strategies
- a variety of flexible appropriate alternative work duties and
- timely delivery of rehabilitation services (Roberts-Yates, 2006: 104).

All the employers studied agreed that communication and an understanding of the social, emotional and financial factors for recovery both within and external to the workplace were pivotal elements to the realisation of a successful return-to-work (Roberts-Yates, 2006: 105). Based on their feedback, the checklist below summarises the factors identified as determining successful rehabilitation, return to work and resultant cost reduction.

Checklist of Factors determining Successful Rehabilitation, Return to Work and Cost Reduction (Employers' perspective)

- early intervention and step-by-step reporting procedures;
- time for case managers to attend to detail and respond promptly at each key step in the claim's process;
- timely diagnosis, the early implementation of treatment protocols and open communication with treating medical practitioners;
- ongoing social/technical and ergonomic support in the workplace;
- high levels of organisational trust and ongoing open communication across the stakeholders;
- a recovery focused management model with allowance for the processing of disputes;
- ongoing training (risk management, safe work practice) across the workforce;
- schedules of incentives to encourage sustained return-to-work outcomes;
- a people orientation management reflecting a culture of shared concern;
- effective relationship management prior to and post injury;
- effective management of information lines (Roberts-Yates, 2006: 118).

Based on their comprehensive review of the research literature (Franche *et al*: 2004), the Canadian Institute for Work and Health (2007) has compiled a set of seven *Principles for Successful Return to Work*, each with a justification based on the research evidence. These are summarised in Table 8.

Table 8: Principles for successful return-to-work

Principle for Successful RTW	Research-based Justification
1. The workplace has a strong commitment to health and safety which is demonstrated by the behaviours of the workplace parties.	Research evidence shows that particular behaviours in the workplace are associated with positive RTW outcomes. These include – <ul style="list-style-type: none"> • investment of company resources and people’s time to promote safety and coordinated RTW; • labour support for safety policies and RTW processes (eg through inclusion in collective agreements); • collaboration between management and unions to develop a RTW program.
2. The employer makes an offer of modified work (work accommodation) to injured or ill workers so they can return early and safely to work activities suitable to their abilities.	Accommodated work has been found to be a core element of injury management, but requires a number of considerations, including – <ul style="list-style-type: none"> • ergonomic work site visits should be considered central; • an awkward fit between worker and the modified work environment can contribute to RTW breakdown; • where possible, it is ideal to return the worker to their own work area where the environment, people and practices are familiar.
3. RTW planners ensure that the Plan supports the returning workers without disadvantaging co-workers and supervisors.	Planning must acknowledge RTW as a ‘socially fragile’ process where co-workers and supervisors may need to quickly adapt to new routines and relationships. If others are disadvantaged by the RTW plan, it can lead to resentment toward the returning worker, instead of cooperation with the RTW process.
4. Supervisors are trained in work disability prevention and included in RTW planning.	Supervisors have been identified as important to the success of RTW due to their proximity to the worker and ability to manage the immediate RTW work environment. Educating supervisors and managers in areas like safety training or participatory ergonomics has been found to contribute to successful RTW. By contrast, omitting supervisors from the RTW planning process leaves them ill equipped to accommodate returning workers.
5. The employer makes an early and considerate contact with injured/ill workers.	Early contact is associated with better RTW results, and ideally should be made by the immediate supervisor. Early contact is most successful when it builds on a workplace culture characterised by a shared sense of goodwill and confidence. Contact should signify that the employer cares about the worker’s well-being and should not discuss injury cause or blame. If the worker perceives the contact as reflecting a concern about finances and not about his/her health, it will disrupt the RTW process. The worker’s perception of their workplace and its concern for workers will influence how s/he responds to employer contact.
6. Someone has the responsibility to coordinate RTW.	Successful RTW programs have been found to involve a RTW Coordinator. This may be undertaken by someone within the organisation or external but involves – <ul style="list-style-type: none"> • providing individualized planning and coordination which is adapted to the worker’s initial and ongoing needs; • ensuring that the necessary communication does not break down at any point; • ensuring that the worker and other RTW stakeholders understand what to expect and what is expected of them.
7. Employers and health care providers communicate with each other about the workplace demands as needed, and with the worker’s consent.	Contact between workplaces and health care providers (eg doctors, chiropractors, ergonomists, occupational therapists, physiotherapists, nurses) reduces work injury duration. Contact can range from a simple report sent to the workplace to more extensive workplace visit/s by a health care provider. The more health care providers understand the worker’s job requirements and the workplace’s ability to provide accommodation, the better they can advise workers and participate in informed RTW decision making.

SOURCE: Institute for Work and Health (2007) *Seven Principles for Successful Return to Work*, Toronto

3.2 CHARACTERISTICS OF HEALTHY WORKPLACE CULTURE AND ORGANISATIONAL PRACTICES

Through a review of research the following ten characteristics of healthy organisational practices are identified (Polanyi, 2004: 2–12) -

- *Clear and achievable work roles* - there is considerable evidence that role ambiguity (that is, when workers have inadequate or misleading information about how a job should be done) and role conflict (when there are competing priorities at work that are not possible to meet) are stress inducing, and are linked to job dissatisfaction, high tension levels, increase in blood pressure, burnout, anxiety, obesity and depression.
- *Reasonable work demands* - research since the 1950s has established that work overload can bring biochemical changes that produce negative health consequences, including elevated blood cholesterol levels and heart disease. Recent research has linked negative health outcomes for workers who work continuously at high speeds, finding about the twice the usual rate of stress, injuries and back, neck and shoulder pain. High levels of psychological demand at work have been associated with heart diseases, mental ill health, cancer and musculoskeletal injuries.
- *Employee job control and decision latitude* - Karasek developed the 'job strain model' following observation that jobs with high demands do not always incur negative impacts on workers, and postulated that the degree of control by individual employees over their work (for example, in the ordering of tasks and timing of breaks) was critical to determining its consequent health impact (Karasek & Theorell: 1990). Autonomy and control can reduce negative health outcomes and a key success factor in preventing stress and ill-health is a participative approach by employer and employee in addressing the health implications of organisational practice. Low levels of control have been consistently associated with job strain and ill-health disease (Polanyi: 2004; Coats & Max: 2005).
- *Workplace social support* - social support and positive relationships have long been identified by researchers as critical to positive health, and the workplace is one setting where this is significant. The moderating effect of social support on stress has been found to bring a range of beneficial health outcomes.
- *Fair treatment and just rewards* - research has also established a relationship between employee health and perceived fairness of treatment in the workplace. An imbalance between what workers invest in their work and what they receive in return has been found to produce negative health consequences, including coronary heart disease.
- *Adequate wages* - living in poverty is associated with increased risk of a number of health problems both because of inadequate access to basic resources and to the stress associated by living with less. Low income people often need to work long hours and in multiple jobs and are exposed to negative working conditions, all factors that are associated with ill health.
- *Satisfactory work hours* - long work hours have been directly linked to negative physical and mental health outcomes as well as to family relationship difficulties. Non standard hours of work (for

example, compressed work weeks, irregular hours, rotating shifts) have been linked with ill health, while the inability to balance work and family responsibilities, exacerbated by long or unpredictable work hours, has been linked with increased stress and other negative health consequences.

- *Job security* - researchers have found an association between job insecurity and poor health. Job insecurity has also been linked to increased sickness-based absence and increased workplace injuries, as well as to job dissatisfaction and higher employee turnover. Downsizing, which is closely associated with job insecurity, has been found to relate to increased workplace accidents and fatalities, musculoskeletal injuries and psychiatric illness.
- *A safe organisational climate* - research has linked a company's safety climate (reflected in workers' perceptions of the priority given to safety in their workplace) to injury rates (Polanyi: 2004). Australian research has found that return-to-work is significantly related to higher perceived standards of occupational health and safety characteristics of workplaces (Kenny: 1998).
- *Healthy employment arrangements* - the increase in the proportion of workers in part-time and multiple jobs, working at home or in casual and temporary positions has occurred with little consideration of the health effects of these arrangements. Labour market changes (including outsourcing, labour shedding, temporary and part-time work) have been found to bring negative impacts on employee health due to increased work demands, inadequate health and safety management and lack of enforcement of labour standards. The job insecurity associated with such work arrangements also brings negative health impacts.

3.3 RED FLAGS GREEN LIGHTS RESOURCE

Canada's Institute for Health and Work is internationally recognised for the quality of its research on return-to-work and recently findings from their research were translated into a practical tool for managing challenging return-to-work situations (Institute for Health & Work: 2009)⁹. *Red Flags Green Lights* is based on a study of Canadian workers with long term compensation claims and identified the factors responsible for delayed return-to-work.

A key finding was that key stakeholders involved in workers' recovery and return to work (eg employers, unions, rehabilitation providers, HR personnel, legal advisors, injured workers) need to make decisions informed fully by workers' situations in order to achieve timely return to work. The *Red Flags Green Lights* guide identifies problems that may develop during a worker's recovery or following return to work ('Red Flags') and provides suggested strategies ('Green Lights') to assist the planning of effective return to work processes.

The guide is divided into four sections based on the context in which a 'red flag' might occur –

- i. Work (workplace based problems that can delay return to work)




⁹ Download from www.iwh.on.ca/rtw-problems-guide (accessed 26/1/10)

- ii. Rehabilitation
- iii. Health
- iv. Claim (including the claim process and communication issues that can prolong the process).





Example from the Guide: Returning to Work (RTW) too early (pp 8 – 9)

“A worker might feel obliged to return too early for fear of damaging working relationships or losing income, employment or compensation benefits. The worker may need to rely on co-workers to keep up with the job, and this can lead to strained and uncomfortable workplace relationships. The worker might also use or overuse medication in order to keep up. Such medication use can contribute to cognitive impairment, making the work dangerous to the worker and others. All of these situations can contribute to a delayed return to work, poor recovery or re-injury.”

Red Flags

-  Immediate RTW following injury
-  RTW with unclear injury
-  Work absences after RTW

Green Lights

-  Later RTW
-  Functional abilities assessment
-  RTW planning
-  Flexible RTW plan.

3.4 CONCLUSIONS

The findings from the research literature are clear in identifying the workplace as having a critical role to play in the RTW process, and in achieving positive RTW outcomes. The studies reviewed in this Discussion Paper have produced a range of specific findings about the features of the workplace that facilitate effective RTW. On closer examination, many of those findings cluster into trends.

In summarising these findings the trends become apparent, and this is presented in *Table 9* below.

The key message from the research literature is that the workplace can be designed to facilitate effective RTW and in the process, to maximise productivity and minimise costs to the organisation, its employees and their families.

Table 9: Summary of the research literature findings regarding workplace-based factors promoting effective return to work

Finding	Source
Employees have a degree of autonomy and control over how they perform their work, when they take breaks, and structure their time	Coats & Max (2005) Polanyi (2004) Karasek & Theorell (1990)
Injured workers informed about the compensation process and its associated rights and responsibilities	Franché <i>et al</i> (2004)
Early contact with the worker by the workplace	Franché <i>et al</i> (2004)*
A 'work accommodation' offer made to injured workers	Franché <i>et al</i> (2007; 2004)* Aust Inst Primary Care (2006)*
Provision of <i>appropriate</i> work accommodation duties	Kenny (1998)
Contact between health care providers and the workplace	Franché <i>et al</i> (2007; 2004)* Aust Inst Primary Care (2006)*
Ergonomic work site visits	Franché <i>et al</i> (2004)*
RTW Coordinator/Coordinated process established	Franché <i>et al</i> (2004)* Aust Inst Primary Care (2006)* Yassi <i>et al</i> (2002)
Education of supervisors & managers re: safety, ergonomics etc	Franché <i>et al</i> (2004)*
Cooperation between management & workers and/or union representatives	Franché <i>et al</i> (2004)*
Good relationships between unions, management & health care providers	Franché <i>et al</i> (2004)*
Conditions of goodwill and mutual confidence	Franché <i>et al</i> (2004)*
A process that maximises effective communication & informed decisions by all stakeholders	Franché <i>et al</i> (2007; 2004)*
The culture of the workplace – including <ul style="list-style-type: none"> • support for injured workers returning to work, from colleagues and supervisors • a strong focus on safety • a culture of trust • open patterns of communication 	Roberts-Yates (2006) Aust Inst Primary Care (2006)* Franché <i>et al</i> (2004)* Roberts-Yates (2003) Pransky <i>et al</i> (1999)*
Provision of effective information to workers about compensation processes, entitlements and obligations	Kenny (1998)
Timely reporting of injury, with reporting processes to support this	Pransky <i>et al</i> (1999)* Johnson & Fry (2002)
A 'non-adversarial' context for RTW processes	Roberts-Yates (2006)
Non-disputed status of claim	Kenny (1998)
Ergonomic risk prevention strategies	Aust Inst Primary Care (2006)*
Appropriate/timely (rather than premature) return to work	Kenny (1998)

* Based on an extensive review of existing research

4 REFERENCES

- AIHW (2000), *Australia's Health 2000, Seventh Biennial Health Report of the Australian Institute of Health and Welfare*, Cat. No 19, Australian Institute of Health and Welfare, Canberra
- Ala-Mursula, *et al* (2006) Long hours in paid and domestic work and subsequent sickness absence: does control over daily working hours matter? *J Occupational & Environmental Medicine*, 63 (9), 608-616
- Amick B, Habeck R, Hunt A, Fossel A, Chapin A, Keller R, Katz J (2000) Measuring the Impact of Organisational Behaviours on Work Disability Prevention and Management, *J of Occupational Rehabilitation*, 10, 21-38
- Australian Institute for Primary Care (2006) *Facilitators and Barriers to Return to Work: A Literature Review*, Report prepared for the South Australian WorkCover Corporation, AIPC, La Trobe University, Victoria
- Bloom, D., Canning, D & Sevilla, J (2001) *The effect of health on economic growth: theory and evidence*, NBER Working Paper 8587, National Bureau of Economic Research, Cambridge – www.nber.org/papers/w8587 and *World Development*, 32 (1) 1-13
- Bound, J., Stinebrickner, T & Waidmann, T (2003) *Health, Economic Resources and the Work Decisions of Older Men*, <http://socserv.socsci.mcmaster.ca/cesg2003/stinepaper.pdf>
- Brazenor, R (2002) 'Disabilities and labour market earnings in Australia', *Aust JI of Labour Economics*, 5, 3, 319-334
- Butler, R *et al* (2007) It pays to be nice: employer-worker relationships and the management of back pain claims, *J Occupational & Environmental Medicine*, 49 (2) 214-225
- Cai, L (2007) *Effects of Health on Wages of Australian Men*, Melbourne Institute Working Paper 2/07, Melbourne (cited in Forbes *et al*, 2010)
- Clayton, A (2007) *Review of the South Australian Workers' Compensation System Report*, Bracton Consulting Services Pty Ltd, PriceWaterhouseCoopers
- Coats, D & Max, C (2005) *Healthy work: productive workplaces – why the UK needs more 'good jobs'*, The Work Foundation and the London Health Commission
- Cohen, M., Nicholas, M & Blanch, A (2000) Medical assessment and management of work-related low back or neck/arm pain, *J Occup Health and Safety – Australia and New Zealand*, 16 (4) 307-317
- Daniels, C & Marlow, P (2005) *Literature review on the reporting of workplace injury trends*, *Health and Safety Laboratory*, HSL/2005/36
- Disney, R., Emmerson, C & Wakefield, M (2003) *Ill-Health and Retirement in Britain: a Panel Data-based Analysis*, IFS Working Paper 03/02
- Econtech (2007) *Economic Modelling of the Cost of Presenteeism in Australia*, Canberra (cited in Forbes *et al*, 2010)

- Forbes, M Barker, A & Turner, S (2010) *The effects of education and health on wages and productivity*, Productivity Commission Staff Working Paper, Productivity Commission, Melbourne, March 2010
- Franche, R-L et al (2007) 'The Impact of Early Workplace-Based Return-to-Work Strategies on Work Absence Duration: A 6-Month Longitudinal Study Following an Occupational Musculoskeletal Injury', *J of Occupational & Environmental Medicine*, 49 (9) 960-974
- Franche, R-L et al (2005) Workplace-based return-to-work interventions: a systematic review of the quantitative and qualitative research literature, Institute for Work and Health, Toronto also in *J Occupational Rehabilitation*, 15 (4) 607-631
- Frank, J & Cullen, K et al (2003) *Preventing Injury, Illness and Disability at Work: What Works and What do we know?*, A Discussion Paper for Ontario's Occupational Health and Safety Community, Institute for Work and Health, Toronto – www.iwh.on.ca/other-reports
- Glover, J et al (2006) *A Social Health Atlas of Compensable Injury in South Australia*, Public Health Information Development Unit (PHIDU), The University of Adelaide
- Guy L, & Short S (2005) 'Rehabilitation of Workers with Musculoskeletal Injury and Chronic Pain', *Health Sociology Review*, 14, pp 77-83 www4.gu.edu.au:8080/adt-root/uploads/approved/.../01Front.pdf
- Hirsch N, Lui J and Pransky G, (2006) 'Maintaining and enhancing older worker productivity', *Journal of Vocational Rehabilitation* 25, 45-55
- Industry Commission (1995) *Work Health and Safety: an Inquiry into Occupational Health and Safety, Volume 1: Report*, Industry Commission Inquiry Report # 47, Productivity Commission, Government of Australia (www.pc.gov.au/publications)
- Institute for Work and Health (2009) *Red Flags Green Lights: A Guide to Identifying and Solving Return-to-work Problems*, Institute for Work & Health, Toronto - www.iwh.on.ca/rtw-problems-guide
- Institute for Work and Health (2007) *Seven 'principles' for successful return to work*. Institute for Work & Health, Toronto - www.iwh.on.ca/products/images/RTW_7_principles.pdf
- ISSA (2002) *Who returns to work and why? Evidence and policy implications from a new disability and work integration study: a summary*, International Social Security Association, Research Program, Geneva
- Johnson, D & Fry, T (2002) *Factors affecting return to work after injury: a study for the Victorian WorkCover Authority*, Melbourne Institute of Applied Economic and Social Research, University of Melbourne, Working Paper 28/2
- Karasek, R & Theorell, T (1990) *Healthy work: stress, productivity and the reconstruction of working life*, Basic Books Inc., New York
- Kenny, D (1998) 'Returning to work after workplace injury: Impact of worker and workplace factors', *Journal of Applied Rehabilitation Counseling*, 29 (1) 13-19

- Kenny D, (1995a) 'Barriers to occupational rehabilitation: an exploratory study of long-term injured workers', *Journal of Occupational Health & Safety – Aust. NZ*, 11 (3) 249-256
- Kenny D, (1995b) 'Failures in occupational rehabilitation: A case study analysis', *Australian Journal of Rehabilitation Counselling*, 1, (1) 33-45
- Kosturjak, A & Wilson-Smith, J (2004) 'The relative decline of manufacturing employment in South Australia', *Economic Issues*, #12, July 2004, South Australian Centre for Economic Studies
- LaMontagne, A (2001) Evaluation of occupational stress interventions: an overview, National Occupational Health and Safety Commission, (NOSH) Symposium on the OHS Implications of Stress. Canberra
- Laplagne, P., Glover, M & Shomos, A (2007) *Effects of Health and Education on Labour Force Participation*, Staff Working Paper, Productivity Commission, Melbourne, May 2007
- Manufacturing Skills Australia (2008) *Environmental Scan*, Manufacturing Skills Australia, Sydney
- McGregor Tan Research (2006) *WorkCover Corporation of SA Injured Workers Research Final Report*, WorkCover Corporation, Adelaide
- National Occupational Health & Safety Commission (now Safework Australia) (2004) *The cost of work-related injury and illness for Australian employers, workers and the community*, Australian Government, Canberra
- Nieuwenhuijsen, K *et al* (2004) Supervisory behaviour as a predictor of return to work in employees absent from work due to mental health problems, *al* (2007) *J Occupational & Environmental Medicine*, 61 (10) 817-823
- O'Neil, M & Lumb, P (2008) *Review of Initiatives into Workforce Re-engagement of Long Term Disengaged Workers, Final Report*, prepared for WorkCover SA by the SA Centre for Economic Studies, Adelaide
- Ossman, J, Amick, BJ, Habeck, R, Hunt, A, Ramamurthy, G, Soucie, V, Katz JN (2005) 'Management and Employee Agreement on Reports of Organisational Policies and Practices Important in Return to Work Following Carpal Tunnel Surgery', *Journal of Occupational Rehabilitation*, 15 (1) 17-26
- Peter, R & Siegrist, J (2000) Psycho-social worker environment and the risk of coronary heart disease, *Intl Arch Occup Environ Health*, 73, 41-45
- Polanyi, M (2004) *Healthy organisational practices: a synthesis of emerging work-health research*, Background paper for Creating Healthy and Productive Workplace Practices, A Multi-Stakeholder Conference, May 11-13, 2004, Canada
- Pransky G, Shaw W, Franche R & Clarke E (2004) 'Disability prevention and communication among workers, physicians, employers, and insurers – current models and opportunities for improvement', *Disability and Rehabilitation*, 26, (11) 625-634
- Pransky, G., Snyder, T., Dembe, A & Himmelstein, J (1999) Under-reporting of work-related disorders in the workplace: case study and review of the literature, *Ergonomics*, 42, (1) 171-182

- Roberts-Yates C (2006) 'Employers' perceptions of claims/injury management and rehabilitation in South Australia', *Asia Pacific Journal of Human Resources*, 44, 1, 102-122
- Roberts-Yates, C (2003) 'The concerns and issues of injured workers in relation to claims/injury management and rehabilitation: the need for new operational frameworks', *Disability and Rehabilitation*, 25, 898-907
- Safe Work Australia (2010) *Compendium of Workers' Compensation Statistics Australia 2007–08*, Commonwealth of Australia – (page vii)
www.safeworkaustralia.gov.au/swa/AboutUs/Publications/CompendiumofWorkersCompensationStatistics.htm
- SafeWork Australia (2009) *The Cost of Work-Related Injury and Illness for Australian Employers, Workers and the Community: 2005-06*, Australian Government, Canberra
- Shaw, W *et al* (2006) A controlled case study of supervisor training to optimize responses to injury in the food processing industry, *Work*, 26 (2) 107-114
- Siddiqui, S (1997) 'The impact of health on retirement behaviour: empirical evidence from West Germany', *Econometrics and Health Economics*, 6, 425-438
- Spiegel, J., Yassi, R., Tate, D & Ronald, L (2002) Cost-benefit of implementing a resident lifting system in extended care hospital, *American Assoc of Occupational Health Nurses JI*, 50 (3) 128-134
- Suhrcke, M *et al* (2005) *The Contribution of Health to the Economy in the European Union*, Health and Consumer Protection Directorate-General, Office for Official Publications of the European Communities, Luxembourg
- WarrenShepell (2005) *Workplace Mental Health Indicators: an EAP's (Employee Assistance Program) Perspective*, WarrenShepell Research Group, 2005 Series, Volume 1, Issue 1, 1-11 –
www.warrenshepell.com?NR/rdonlyres/BBEBFF68-1FCC2-4C88-9D72-004A955C4B84/0/ir_mentalhealthindicators_enreport.pdf (last accessed 28/1/08)
- WarrenShepell (2004) *Organizational Health and Wellness Trends in the Healthcare/Hospital Sector*, WarrenShepell Research Group, 2004 Series, Volume 3, Issue 2, 1-7 –
www.warrenshepell.com/NR/rdonlyres/85675BED-6C11-4FAD-8215-82B5813EE161/0/sr_hospitals_en_REPORT.pdf (last accessed 28/1/08)
- WorkCover SA (2010a) *WorkCover SA Statistical Review Part 1 2008-09* WorkCover Corporation, Adelaide,
www.workcover.com
- WorkCover SA (2010b) *WorkCover SA Statistical Review Part 2 2008-09*, WorkCover Corporation, Adelaide,
www.workcover.com
- WorkSafe Victoria (2002) *Making Health Care Facilities Safer for Staff and Patients*, Safety Development Fund, Partner Fact Sheet, Victorian WorkCover Authority, Melbourne - www.worksafe.vic.gov.au/
- Yassi, A., Ostry, J., Spiegel, G., Walsh, G & de Boer, H (2002) A collaborative evidence-based approach to making healthcare a healthier place to work, *Hospital Quarterly*, Spring, 70-78