

# **Evidence versus ideology: lifting the blindfold on OHS in precarious employment**

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## ***Abstract***

*There is now compelling evidence that the shift of employment in industrialised countries towards small-scale, contract/subcontract/leased labour, casual/temporary, franchised, and other forms of precarious employment has serious adverse OHS consequences. These effects have remained largely hidden because of structural barriers to accurate recording of injury and illness amongst precarious workers. There are both denominator and numerator difficulties that obscure negative OHS effects and associated cost externalities. In the mid to long-term taxpayers will have a heavy burden of support for the work-related chronic injuries and diseases of the (rapidly growing) precarious workforce who are without 'normal' protections of workers' compensation - unless innovative interventions are developed.*

*The growing precarious workforce coupled with historical blinkers on potential negative OHS consequences, as well as policy 'no-go' zones (notably competition policy) is creating a policy 'black hole'. The OHS effects of contingent work are an increasingly prominent topic at international conferences and gatherings of health researchers and (to a lesser extent) health policy makers and administrators. However, thus far this recognition has led to only small policy changes seeking to ameliorate some of the worst effects rather than challenging policies that are the root cause (notably neoliberal policies of promoting competition, outsourcing, privatisation, corporatisation and the like). The blindfold must be lifted so that preventive interventions for precarious workers can be fully developed, workers' compensation innovations designed, and the huge potential future social debts to support chronically injured and ill precarious workers avoided. A series of precarious employment situations are discussed in this paper, and potential remedies based on evidence are recommended.*

## INTRODUCTION

This paper focuses on the impact of changing employment patterns on work-related injury and illness outcomes, the accuracy of data bases recording these, and the appropriateness of current prevention policies and inspectoral strategies. Current OHS policies and programs were initiated and implemented during an era when *permanent* employment in large-scale enterprises was the norm. Permanent employment was never universal but now non-permanent work arrangements are a far more pervasive feature of most industrialised countries. In Australia, as in many other industrialised countries, most new jobs are short-term, contract, or in some other way precarious. Critical if often implicit presumptions underpinning existing OHS policies are now outmoded. Recognition of this has been belated and policy responses (in terms of regulatory and compliance strategy changes) as yet do little more than address some symptoms (such as attempts to improve contractor compliance). In short, an OHS policy black hole has developed.

This policy vacuum is also to a large degree a consequence of ideologically imposed blindfolds. Since the late 1970s neo-liberal ideas have increasingly dominated the policy discourse within industrialised countries bringing with it a array of terms, ideas and policy initiatives with which we are all too familiar. They include the advocacy of small government, self-regulation, reconfigured welfare arrangements and privatisation, globalisation and free trade, enhanced competition (by attacking monopoly/cartel arrangements, advocating competitive tendering and outsourcing) and freeing up the labour market. It is not coincidental that the growing influence of these ideas corresponds to the period where precarious employment has expanded. The growth of precarious employment has in turn led to deterioration in OHS, an increase in non-reported work-related injury and illness, and significant externalisation of the associated costs onto taxpayers. Addressing these problems therefore requires overturning policies that have become sacrosanct, not simply because of ideologically inspired self-delusion but because these policies advantage and will therefore be defended by powerful interest groups. To give a blunt example, while workers may suffer adverse health effects from downsizing and outsourcing, large institutional shareholders can and do gain direct benefits from such restructuring in terms of enhanced share prices and earnings (even if this is only a short-term hit). Similarly, the theoretical prognostications of neo-liberal economics (seldom supported by 'hard' evidence), while portraying itself as neutral science, clearly advantage particular groups. In this respect ideologies are very different to OHS and public health where empirical evidence and an ethical concern for the broader community holds sway.

Further, in our country at least, there have also been recent worrying trends to emasculate dissenting views on the negative OHS consequences from 'freeing up' the labour market. As we have argued separately elsewhere (Quinlan, 2000; Mayhew 2000), substantive OHS research has virtually ceased in Australia, with much government-funded research now outsourced, completed by contractors without

formal research training or qualifications, and perhaps even open to the *perception* of having pre-determined findings through limited select tender advertising. Concomitantly, there has been a restriction of OHS resources available to more independent OHS researchers who may be more committed to the pursuit of objective scientific evidence rather than particular ideological viewpoints.

A grave warning about allowing *ideology* to dominate *evidence* has come from the United Kingdom. The suppression of early scientific evidence about BSE (mad cow disease) during the 1980 Thatcher years has resulted in a multi-million pound legacy for the Blair government and a number of other countries in the European Union (ABC 22/10/2000). A similar liability is possible if warnings about negative OHS consequences from some forms of precarious employment continue to be ignored.

This OHS policy debate is of core importance, and some strategy and regulatory changes *based on evidence* are vital. We argue that an objective re-evaluation of OHS policies and strategies is needed in a way that comprehensively addresses the OHS consequences of the marked shift towards precarious employment. Implementation of new preventive strategies is urgently needed, with a number of potential evidence-based solutions provided in this paper. We have separated the discussion in this paper into four parts:

- (a) Background on changing patterns of employment in Australia and other industrialised countries, and the significant growth of a range of forms of precarious employment
- (b) The likely impacts on OHS from an increase in different types of precarious employment, and potentially useful policy responses that may improve OHS outcomes/restrict the negative consequences
- (c) Explanations of why an increase in the different types of precarious employment may lead to poorer OHS outcomes
- (d) Conclusion

## **1. BACKGROUND: CHANGING PATTERNS OF EMPLOYMENT IN INDUSTRIALISED ECONOMIES**

In the past 20 years there has been a significant growth in those working in self-employment, in micro small businesses, or under casual, part-time, subcontract, franchised, telework or homeworking arrangements in industrialised countries. These employment status groups are now commonly known as contingent or precarious workers. In this paper they will be referred to as precarious workers. This shift has been seen within virtually all OECD countries (less so in Italy, Canada and Luxembourg) with Australia having one of the highest proportions (Ferrie et al, 1999; Quinlan, 1998:7; Walters & James,

1998:9-10; Campbell & Burgess, 1997; Kochan et al, 1994:63). Even the Australian Productivity Commission admits to a growth in 'casuals' from 13% in 1984 to 22% in 1999 – although they argue that all jobs in Australia are now precarious to some degree (Murtough and Waite, 2000:ii,2). The shift to precarious employment has been most marked amongst women and young workers. A comprehensive assessment of new forms of work was completed by Bielenski et al (1999; 1993) who gathered employment data through interviews with 3,520 managers and 1,621 employee representatives in 3,520 establishments across eight European countries. They found that the increase in precarious labour occurred because employers required greater flexibility; because some workers preferred it (e.g. those with domestic duties); and because legislative and social security policies facilitated the new forms of work (Bielenski, 1999: 23; Bielenski et al, 1993:290). In Australia, around 85% of net employment growth is now in precarious employment categories (Burgess & Campbell, 1998a:10; Moorehead et al 1997).

It is important to note that some changes to labour markets may have positive OHS consequences. Positive effects include the shift in employment away from the more hazardous manufacturing industry, improved production technologies with greater automation leading to fewer manual handling injuries, and modern management practices which are eliminating many of the historical risks. In the European Union (EU), precarious workers were found to have better *health and stress*-related outcomes than did full-timers, although they had more musculo-skeletal problems (Benavides & Benach cited Goudswaard et al, 1999:27; EF, 1998a: 1). Similarly Australian analysis has suggested that: '*...work intensification appears to be more pronounced amongst full-time permanents*' (Hall et al, 1998:78). Other positive advances have occurred in OHS education and training as OHS content has been increasingly integrated into TAFE and apprenticeship training programmes, and school-to-work transition programs (see on-line South Australian and Queensland programmes). Thus many new workers (whether precarious or permanent employees) now have OHS content knowledge. The National Occupational Health and Safety Commission (NOHSC) initially played a significant role in encouraging this expansion of OHS in tertiary and vocational training, but *concrete* commitment has stalled since 1996 (Quinlan, 2000), and OHS components in degree course at Australian universities appear to be rapidly contracting. Substantive investigator-initiated OHS research has virtually ceased in Australia.

Overall, available scientific evidence indicates that the growth of precarious labour negatively affects injury and illness, reporting propensity, treatment and rehabilitation, and requires adjustments in regulatory regimes and use of different preventive strategies (Goudswaard et al, 1999:20; Kochan et al, 1994: 71-72). The European Foundation (1998:1) found: '*While poorer working conditions are largely explained by the profile of the jobs concerned, precarious status undoubtedly worsens the work situation*'. Even the rather limited Platt et al (1999:6,97) study found: '*...substantial evidence of significant health*

*impacts associated with current labour market condition...European governments should subject their labour market policies to routine health impact assessment...'. Similarly, Canadian research identified that: '...high levels of job insecurity lowered self-rated health and increased distress and the use of medications...' irrespective of social demographics (McDonough, 2000:453,465).*

A growing body of international research evidence indicates precarious labour is associated with increased fatalities, injuries, illnesses and occupational violence incidents in various industry sectors across a number of countries (Quinlan et al, 2001; Morris, 1999; van Waarden et al, 1997:48-52; Kochan et al, 1994). While the evidence is fragmentary in some occupational groups, in other sectors the patterns are compelling. Self-employed and subcontract workers, in particular, face a significantly higher risk of serious injury and death than do standard employees. In Spain, 60% of work injuries occurred to temporary workers, with the rate nearly three times that of those in permanent jobs (Artiles & Alos-Moner, 1999:5,56). A Dutch report found a major negative impact on OHS (Hesselink et al, 1999:46). In Italy, increased injuries and illnesses were found amongst fixed-term contract workers due to traditional industry risks being exacerbated by increased work intensity (Negrelli et al, 1999:10,44,59,80). A series of Australian OHS studies over the past seven years have systematically compared precarious workers and employees in a number of industries (Mayhew et al, 1996, 2000:81-83, 87-88; Mayhew and Quinlan, 1997, 1999). Nearly all the studies found that OHS outcomes were worse for precarious workers and the presence of many of them on a site exacerbated OHS risks for other employees. In Sweden, Aronsson (1999) surveyed a stratified sample of 1,564 and found weak labour market position dampened criticism of the work environment.

In early 2000 a review was undertaken of scientific published studies on the OHS effects of precarious employment published over the past two decades (Quinlan et al, 2001). Most were published in health, medicine, work sociology, work or health psychology, industrial relations, management or law journals. The 93 research publications located came from a diverse array of countries, covered a wide array of industries and occupations, used diverse methodologies, and assessed a number of indices of OHS outcomes. The main findings are summarised in Table 1 below, with causal factors displayed in column five.

Of these 93 studies 76 (excluding double counts) found a negative association between precarious employment and OHS, 11 were indeterminate (usually because the study lacked a baseline or control group) and 6 studies found either a nil or positive association. That is, of those studies where an effect was measurable over 90% found precarious employment was associated with inferior OHS outcomes. As can be seen in column 5 of Table 1, of the 93 research studies 35 identified that the negative impact came from economic or reward pressures on precarious workers, 44 pointed to disorganisation of some type

**Table 1****Published Research Evidence on the Association between Precarious Work and OHS**

<i>Study focus and Number of studies</i>	<i>Research Methods</i>	<i>OHS indices measured</i>	<i>Negative association with precarious work</i>	<i>Causation</i>
<i>Outsourcing/ home-based work (29 studies)*</i>	Secondary data (6) Longitudinal (1) Cross-sectional (16) Qualitative (6)	Objective OHS measures (13) Subjective OHS measures (11) Sickness absence (1) OHS knowledge & compliance (5) OHS training & policies (5)	Yes=23 No=0 Indeterminate=6	Economic rewards (17) Disorganisation (22) Regulatory failure (12)
<i>Small business/ Self employment (14 studies)*</i>	Secondary sources (4) Longitudinal (0) Cross-sectional (8) Qualitative (2)	Objective OHS measures (3) Subjective OHS measures (5) Sickness absence (0) OHS knowledge & compliance (8) OHS training & policies (1)	Yes=6 No=0 Indeterminate=8	Economic rewards (5) Disorganisation (10) Regulatory failure (8)
<i>Downsizing/ Organisational Restructuring/ Job insecurity (41 studies)*</i>	Secondary sources (6) Longitudinal (23) Cross-sectional (14) Qualitative (1)	Objective OHS measures (13) Subjective OHS measures (29) Sickness absence (9) OHS knowledge & compliance (1) OHS training & policies (0)	Yes=36 No=3 Indeterminate=2	Economic rewards (13) Disorganisation (13) Regulatory failure (1)
<i>Temporary Workers (24 studies)*</i>	Secondary sources (14) Longitudinal (0) Cross-sectional (13) Qualitative (0)	Objective OHS measures (15) Subjective OHS measures (0) Sickness absence (0) OHS knowledge & compliance (4) OHS training & policies (1)	Yes=14 No=2 Indeterminate=8	Economic rewards (7) Disorganisation (13) Regulatory failure (6)
<i>Part-time Workers (6 studies)*</i>	Secondary sources (1) Longitudinal (1) Cross-sectional (4) Qualitative (0)	Objective OHS measures (1) Subjective OHS measures (5) Sickness absence (0) OHS knowledge & compliance (0) OHS training & policies (0)	Yes=1 No=5	Economic rewards (0) Disorganisation (0) Regulatory failure (0)

\*includes some double counting of studies spanning more than one category.

(Source: Quinlan et al, 2001).

from economic or reward pressures on precarious workers, 44 pointed to disorganisation of some type (inadequate supervision etc), and 19 identified some inadequacy in regulation or compliance practices.

Notably, these increased risks for precarious workers were *not* found in a German study, arguably because preventive measures were implemented by OHS experts who were more independent (Deib, 1999:4,21). Similarly in France, Davillerd & Favaro (1995:3) found that increased autonomy for OHS staff was correlated with fewer serious injuries. That is, some strategies may help to contain the increased risks associated with precarious employment, but few of these preventive strategies have been *scientifically* evaluated.

Since completing this review we have identified around 20 further published studies (Kasl and Cobb, 1970, 1980; Oliver and Pomister, 1981; Kasl and Cobb, 1982; Catalano and Dooley, 1983; Knox et al, 1985; Siegrist et al, 1986; Wade et al, 1986; Dooley et al, 1987; Kuhnert et al, 1988; Landsbergis, 1988; Arnetz et al, 1991; Kuhnert and Palmer, 1991; Burchell, 1994; Dekker and Schaufeli 1995; Borg et al, 2000; Francois and Lievin, 2000, McDonough, 2000; and Domenighetti et al, 2000). Almost all of these studies examine the health effects of job insecurity and the results largely serve to reinforce the conclusions drawn from the review, namely that precarious employment is associated with demonstrable adverse health outcomes.

## **2. TYPES OF PRECARIOUS EMPLOYMENT, LIKELY OHS CONSEQUENCES, AND RECOMMENDED EVIDENCE-BASED PREVENTION INITIATIVES**

There is a range of types of precarious employment, and any comprehensive evaluation of the OHS consequences needs to differentiate between categories in order to clearly identify causative variables - and promulgate more appropriate policy responses. While we recognise that the different types of employment discussed below frequently overlap (e.g. many part-timers are casuals), we have separated them wherever possible for clarity in our recommendations.

### **2.1 *Self-employed precarious workers and evidence on associated OHS consequences***

Self-employment is usually defined as an owner/operator with no employees. In the US, the annual National Census of Fatal Occupational Injuries have shown a significantly higher incidence of fatalities amongst self-employed workers. The latter represented around 8% of the total workforce but accounted for between 19% to 20% of all fatal injuries, with the disparity being even more pronounced for particular occupations like construction work (BLS, 1997, 1996,1995; Weeks & McVittie, 1995:395; Toscano & Windau, 1994). In the UK, agriculture and construction employed 30% of self-employed workers, but accounted for over 70% of all work-related fatalities (Standing & Nicolini, 1997:9; HSE, 1996b). In the EU, over 50% of all self-employed workers were found to have problems from the pace of work, including increased psychological risks (Goudswaard et al, 1999:24; Letourneux, 1999). The longer the working hours, the more substantial were the health problems, with the need to meet tight deadlines and high-speed work the major causes (Letourneux, 1999:5; EF, 1997:3,5). In Australia, the self-employed were 10.2% of the Australian workforce in 1991, but appeared to have had 26% of the traumatic fatalities recorded in coronial records (unpublished work-related fatalities study data, Driscoll & Mandryk, 14/10/98). To some extent, these increased risks reflect the fact that more hazardous industries have more self-employed workers.

OHS management systems (OHSMS) have become increasingly common preventive strategies over the last decade e.g. OHSMS are now very common on larger construction sites where extensive vertical and horizontal contracting arrangements exist. Centralised control over risks and contractors appear to be of crucial importance for improving OHS outcomes. In Australia, Gallagher and Teicher (1997) developed a typology of OHSMS: ‘innovative management’, a ‘safe place’ strategy, ‘traditional management’, and a ‘safe person’ approach. However, elaborate OHSMS are unlikely to be readily accepted amongst self-employed, subcontract and micro small businesses labour forces without ‘carrots’ e.g. contract clauses (Mayhew & Quinlan, 1998).

Gunningham and Johnstone (1999) have recommended a two-track strategy of inspection for Australia whereby enterprises/large contracting firms would be offered a choice between the current mode of random inspection (because OHSMS do not suit all organisations), *or* adoption of an OHSMS. The OHSMS track would require: Inspectorate oversight and accreditation, comprehensive Risk Control procedures, performance indicators, regular internal auditing with dissemination of results, worker involvement, and rapid escalation up the enforcement pyramid if abuse of the agreed OHSMS system occurs (Gunningham & Johnstone, 1999:317-9).

Evidence suggests that OHS prevention policies and strategies (which overlap with those recommended for subcontract workers discussed below) would be more effective if:

- (a) Inspectorate injury control strategies were targeted more towards the self-employed.
- (b) OHS clauses in contracts required evidence of past OHS performance in tender submissions, documentation of compliance with regulatory requirements, and specified record keeping practices etc.
- (c) Compliance with formal OHS Management Systems (OHSMS) were enforced on outsourced workers/self-employed/subcontractors by principle contractor/owner-manager (Kinney, 1994; Moir & Buchholz, 1996).
- (d) More extensive *objective scientific* evaluation of the impact of OHSMS on precarious labour was conducted.
- (e) Regulatory changes need to fully recognise the existence of vertical and horizontal contracting and subcontracting and the outsourcing of tasks to self-employed workers. For example, the Workplace Health and Safety Plans requirement in the building and construction industry in Queensland has led to improved OHS outcomes (Mayhew & Quinlan, 2000a; Johnstone, 1999b;



Mayhew et al, 1997). These plans are really formalised Risk Assessment and Control checklists that are specific to industry sub-sectors.

- (f) Some Australian jurisdictions have introduced ‘on-the-spot’ fines. Preliminary assessments of these appear to be favourable, although minor changes have been recommended (see Gunningham, 1999).
- (g) Implementation of the ‘two-track’ model recommended by Gunningham and Johnstone may improve outcomes (1999; 1998).
- (h) Increased company resources may be needed to include precarious workers in OHS committees.
- (i) An ideological challenge for some government authorities is whether those with a poor OHS record should be ineligible to submit tenders for government contracts. Similarly in research-related tenders, some authorities may have difficulty in accepting that substantive evidence-based research experience should be preferred over contractors whose findings may align more easily with government philosophies.

## **2.2 *Contract/subcontract precarious employment and evidence on associated OHS consequences***

The contracting out of non-core tasks has increased substantially during the 1990’s, particularly from larger organisations and the public sector. In Australia, for example, while only 4.6% of all firms engage in outsourcing, 18.6% of organisations with 500 or more employees contract out some tasks (Bickerdyke & Lattimore, 1997). Evidence indicates that jobs dependant on high levels of contracting appear to be higher risk, such as transport, agriculture and construction e.g. in the US surface mining contractors accounted for 16% of working hours but had 46% of fatalities (Rousseau & Libuser, 1997:11; BLS, 1997:5; Kochan et al, 1994). Rebitzer (1995) found outsourcing was associated with major OHS problems in the US petrochemical industry. Outsourced bus drivers in Denmark had increased stress with long-term impacts (Netterstrom & Hansen, 2000). A Finnish cross-industry study found: ‘*Subcontracting increased the accident risk one and a half times...the accident risk of workers employed by subcontractors was higher than that of the workers for main contractors*’ (Salminen et al, 1993:356). The HSE found evidence that contract labour was associated with negative OHS outcomes, although under-reporting was as high as 50% (HSE, 1999a: 25,43,51-52).

A common complaint from contractors/subcontractors is that they do not operate within a ‘level playing field’. That is, if they do the ‘right thing’ by instituting OHS prevention strategies, others who quote for jobs without incorporating OHS measures undercut their tenders. The establishment of minimum OHS

standards through clauses in contracts redresses this inequity. The HSE (1999a: 43) found screening for OHS commitment during the tender and procurement stages was very important.

Evidence suggests that OHS policy and prevention strategies should include:

- (a) Insertion of OHS causes into contracts and use of detailed OHSMS to control risks (as with the self-employed discussed above).
- (b) If injured, improved access to rehabilitation by contract/subcontract and self-employed workers is needed. (The Australian jurisdictions, and their workers' compensation organisations, may need to rethink existing rehabilitation access provisions).
- (c) Larger organisations can reduce risk through becoming a 'high reliability' organisation (like air traffic control) through process auditing, on-going checks, examination of whether reward systems encourage production at the expense of safety, risk awareness enhancement, and ensuring *the person with most OHS expertise* makes key decisions (Rousseau & Libuser, 1997:115).
- (d) There is a need for enhanced commitment from permanent employees to the OHS of precarious workers on site (Artiles & Alos-Moner, 1999:33).
- (e) Improved access to OHS training for contractors and subcontractors (the HSE as well as an OSHA study found levels were inadequate - HSE, 1999a: 27; Kochan et al, 1994:71).
- (f) Inclusion of precarious workers in OHS committees (Kochan et al, 1994:72).
- (g) Use of Duty-of-Care legislative provisions to prosecute major contractors for failing to provide a safe system of work for subcontracted precarious workers
- (h) Adoption and implementation of 'on-the-spot' fines in those Australian jurisdictions which have not yet adopted this strategy, taking note of Gunningham's (1999) scientific evaluation.

### **2.3 *Micro small business precarious employment and evidence on associated OHS consequences***

A significant proportion of the precarious labour force works in, or owns, a small business. NOHSC defines a 'small business' as one with under 20 employees, and a 'micro small business' as one with less than 5 people on site. Micro small business employment is growing in Australia. Firms with less than 10 employees account for around 85% of all firms, but many have a short life with nearly a quarter closing within 3 years (Bickerdyke & Lattimore, 1997:xvi, 10). Micro small business employment is concentrated in four industry sectors: 'Agriculture, forestry, fishing and hunting' (19.79%); 'Finance,

property and business services' (19.33%); 'Retail trade' (16.65%); and 'Construction' (12.3%) (WSA, 1995:11,13).

Small business has often been assumed to be 'safer' because of lower workers' compensation insurance claims. However scientific evidence indicates that small business work is higher risk. The HSE identified that workers in small manufacturing workplaces were twice as likely to be killed or lose a limb (HSE, 1999b: 1). Salminen et al (1993:352) also found that risks were several times higher in small Scandinavian companies than they were in larger ones, as did Davillerd and Favaro (1995:1) and Francois and Lievin (1995:3) in France e.g. fatalities occurred three times more frequently in Swedish companies with 5 to 19 employees (Falk, 2000:2). Similarly a US study of young building workers found that fatal injuries were far more likely in small and non-unionised firms (Suruda & Dean, 1996:58). In the chemical industry, the rate in small firms was more than twice that of large firms (Suruda & Wallace, 1996:425-8). That is, simply focusing on workers' compensation claims as an indicator of levels of risk may lead to erroneous assumptions because *claiming* patterns may vary markedly between larger and smaller organisations.

Small business OHS research has identified barriers that contribute to poorer OHS outcomes: lower levels of OHS knowledge; a tendency to place responsibility with workers; a dislike of generic OHS guidance information; limited access to reliable OHS information sources; resentment of government interventions and staff; the absence of a management system or OHS strategy; and a lack of time and money to devote to 'non-core' tasks like OHS (Mayhew, 2000c; Eakin & MacEachen, 1998; Mayhew, 1997; Lamm, 1995; Eakin, 1992). According to Industry Commission staff, compliance may also be much lower: '*...some overseas evidence to suggest that small firms' compliance rates are lower than larger firms'* (Bartel Thomas & Hopkins cited Bickerdyke & Lattimore, 1997:70). Micro small businesses, in particular, present a significant challenge to OHS prevention efforts e.g. little is known about the OHS risks in the emerging sector of 'new media' cyberspace companies that produce for the internet and CD-Roms (e.g. video games) and outsource much work (NIWL, 1999a).

Evidence indicates that OHS policy and prevention strategies should be re-focused to:

- (a) Leverage through written communication:
  - (i) tailoring information to specific sub-groups;
  - (ii) focusing on concrete, not abstract, OHS problems and solutions;
  - (iii) written materials to be brief and use familiar work contexts and diagrams;
  - (iv) using community newspapers and radio for some industry sub-groups.

- (b) Leverage through industry associations:
  - (i) use of, and support for, OHS mediators trusted by industry sub-groups. (A major study coordinated by David Walters is nearing conclusion in the EU on the effect of ‘intermediaries’ in small business OHS.)
- (c) Economic leverage
  - (i) contracts for service to include mandatory OHS clauses;
  - (ii) lobbying for mandatory OHS preventive training for financial loan approvals; and
  - (iii) clearly outlining the economic benefits of improved OHS.
- (d) Leverage through educational bodies:
  - (i) enhanced OHS content in all TAFE and competency-based training courses; and
  - (ii) basic OHS preventive content in all short small business courses (Mayhew, 1997:150).
- (e) Leverage through regulation:
  - (i) widespread use of ‘on-the-spot’ fines, including strategies to prevent occupational violence in situations where it is a foreseeable risk e.g. pubs, fast-food and convenience stores; and
  - (ii) regulatory requirements re-packaged for industry sub-groups. This may require development of new Industry Codes of Practice/Advisory Standards.

#### ***2.4 Casual and young precarious workers and evidence on associated OHS consequences***

A significant growth in casual, temporary or short-term fixed contract jobs has been observed in many OECD countries although the extent of this form of employment varies widely between countries. In Australia the proportion of the workforce holding temporary jobs doubled from the early 1980s so that by 1997 over a quarter of all workers (25.8%) were casuals – one of the highest figures for any OECD countries. Indeed just over 60% of all new jobs created between 1984 and 1997 were casual with many in clerical, sales, services and labouring occupations (Burgess & Campbell, 1998b: 35, 40). Despite inter-country variations, one feature shared by most OECD countries (with the exception of Canada, Denmark, Greece, Portugal and the UK) has been a significant growth in the proportion of younger workers employed in temporary job. By 1994 the proportion of employed 16-19 year olds holding temporary jobs was 58.7% in Australia, 38.6% in Belgium, 80.8% in France, 74% in Germany, 32.8% in Ireland, 24% in

Italy, 31.7% in Japan, 40.5% in the Netherlands, 87.5% in Spain and 61.1% in Sweden (OECD, 1996:8). Many of these adolescent workers are in school, technical college, university or other forms of training.

While it cannot be assumed that work while in full-time education is necessarily negative, lower training expenditure is associated with the casualisation of work in many countries (Deib, 1999:30; Goudswaard et al, 1999:19; Negrelli et al, 1999:3; Quinlan, 1999:441; EF, 1998a: 6; Denniss, 1997:1-9; Herman & Eller, 1991:56). In Australia, firms who employed mostly full-time workers averaged 6 hours of training per person; in contrast those with more than half their workers employed part-time averaged 2.9 hours of training (Denniss, 1997). Denniss (1997) identified a long-term reduction in the number of apprentices trained in Australia, which means that relying on OHS content during trade training may be of declining marginal utility for OHS prevention knowledge. Even where it is provided, training may not include OHS (Negrelli, 1999:29). In the absence of OHS education incorporated into a school curriculum, or a comprehensive and integrated OHSMS in the employing company, casual adolescent workers can be poorly informed about hazard/risk identification and OHS prevention. Because young casual workers are concentrated in retail, hospitality and other service jobs where the OHS risks are quite different to those faced by their parents in full-time permanent employment in other industry sectors, parental advice on OHS may not be applicable. Further, on-the-job OHS training for casual workers who later move into other career paths will need updating for the different hazards and risks in other industry sectors. Nevertheless, on-the-job OHS training for casuals who remain in the same industry is likely to have long-term benefits.

It is difficult to enumerate casual adolescent workers' injuries and illnesses because the extent of under-reporting is unknown. For example, under-reporting at hospital emergency treatment centres may occur because the primary occupation of the adolescent is a student – with 'worker' status a secondary part-time occupation. A series of studies in the US have identified increased risks for young and inexperienced workers (Suruda & Dean, 1996). As a consequence, the OHS of young workers is receiving increasing attention in the EU, the US, and in Australia (see Mayhew, 2000b; WWA, 1999). Injury levels are also higher for *inexperienced* workers. But because there is usually a lack of basic descriptive information about working conditions at the time of an injury, exactly why the risks are higher is little understood (Landrigan et al, 1994:562; Landrigan et al, 1992:1367; Parker et al, 1994:610; Kinney, 1993:292; Schober et al, 1988:585). Risks may be concentrated in particular groups through a combination of risk factors. Rumsey (1999:9) has argued there is: '*...a consistent international theme that young workers, trainees and apprentices are at a higher risk of injury in the workplace than older workers*'. He states that the higher OHS risks amongst young workers are due to a lack of: OHS information, OHS training, supervision, experience on-the-job, confidence, or assertiveness to refuse unsafe or unreasonable

demands. In addition, over-enthusiasm and bravado, unsuitable job design, non-compliance by employers, and intimidation result in a reluctance to report incidents or unsafe conditions.

Evidence indicates that OHS policy and prevention strategies should include:

- (a) Duty-of-care holders could assess the risks by answering the question: *'How does the system of work take account of the casual workforce on-site?'*
- (b) The EC Directive on the Protection of Young People at Work (94/33/EC; article 6 & 7) requires recognition of both lack of experience and maturity during standard Risk Assessment procedures.
- (c) The incorporation of OHS into Vocational Education and Training (VET) could be further enhanced e.g. data are needed on OHS outcomes amongst school-based workers participating in New Apprenticeships and the VET in schools program. *Scientific* research opportunities that could better inform policy makers include development of benchmarks for OHS training in schools, evaluation of effectiveness of programmes, development of OHS professional's skills to enhance their ability to work with the VET sector, and identification of appropriate OHS supports for small businesses involved with New Apprenticeships and VET in schools.
- (d) The OHS outcomes of young casual workers may be improved through completion of on-line OHS school-to-work programs. Such programmes have been introduced in Queensland, South Australian and Victoria.
- (e) The comprehensive OHSMS that have been integrated into the induction and on-going training programs of some fast-food companies (which employ a significant number of young casual workers) have been correlated with improved OHS outcomes (Mayhew, 2000b; NOHSC, 2000:136-137).
- (f) Casual workers should be included in OHS committees, although it is recognised that this may be difficult to arrange.

## **2.5 Part-time precarious employment and evidence on associated OHS consequences**

The definition of what is part-time work varies greatly, and is usually determined by a set number of hours of paid work per week. Part-time employment often overlaps with casual work, but many part-time workers hold permanent jobs and whether these can be regarded as precariously employed is a moot point (see Quinlan, et al, 2001). The European Foundation identified evidence that proportions were markedly different between countries, for males as compared with females, and that part-time work was frequently lower-grade and poorly paid (Wedderburn, 1995:24). One important precedent ruling from the House of

Lords in the UK is: '*Part-time workers are therefore entitled to the same statutory rights as full-time workers...*' (anon, 1997:22).

The OHS risks for part-time workers are likely to be similar to those for full-time workers in the same industry sector doing similar jobs at the level of appointment. However, knowledge of OHS prevention will be lower if there is a high turnover, if access to OHS training is restricted, and if participation in OHS committees is limited. The European Foundation found that part-time employees were less knowledgeable about working entitlements and protections compared with full-timers (EF, 1998a: 5). Similarly a South Australian ABS (1996:2) survey found that fewer part-timers knew they were covered by workers' compensation (63.6% vs. 81.6% of full-timers), and more were unsure of their coverage (15.1% vs. 3.5%). (We found similar confusion about workers' compensation insurance coverage amongst precariously employed long-haul truck drivers. See Mayhew and Quinlan, 2000a.) It is possible that OHS *prevention* amongst part-time workers will be only marginally more difficult than for full-timers because the OHS provisions covering training and information for full-time workers on site usually apply.

Evidence indicates that appropriate OHS policy and prevention strategy responses are similar to those discussed immediately above for casual workers.

## ***2.6 Itinerant labour precarious employment and evidence on associated OHS consequences***

No scientific evidence on the work-related injury and illness status of itinerant labour, as compared with more permanent workers (or casuals) doing the same or similar jobs, have been found. Protection and improvement of their OHS is a major challenge as these jobs may be geographically dispersed, seasonal, and/or paid purely on piece-rates e.g. tomato or fruit picking in rural areas. However the issue has at least been recognised in the US: in late 1999 NIOSH announced a \$US232,937 grant to a researcher at the University of Texas for injury and illness surveillance amongst migrant farm-workers. When it is available, this report will probably be relevant to the OHS of itinerant farm-workers in Australia. Similarly the recently completed Parker study of Western Sydney NESB small business farm owners provides local *evidence-based* guidance. The key issues for employers of itinerant labour are how to: keep a high turnover workforce trained, maintain records of work exposures, ensure effective risk control procedures are implemented on-site, and ensure their duty-of-care obligations are met. In Australia, there may be a significant level of employment of backpackers on short-term visas engaged in itinerant labour; this means tracking any OHS effects on them will be difficult.

The limited evidence available indicates possible OHS policy and prevention strategies:

- (a) Inspectorates and OHS duty holders can address the risk factors through asking the question: *'How does the system of work take account of the itinerant workforce on-site and their OHS training needs?'*
- (b) Tenders could be called for from experienced scientific empirical researchers to conduct a baseline comparative study of OHS issues for itinerant workers versus more permanent employees doing the same job tasks in 3-4 industry sub-sectors.

### ***2.7 Franchising and precarious employment and evidence on associated OHS consequences***

Franchising is a rapidly growing organisational form in Australia. In Australia there are estimated to be 500 franchises operating from over 30,000 outlets and employing approximately 300,000 people (Tillman, 1998:2). Franchised businesses account for about 2% of micro small business firms; 7% of those with 5 to 19 workers; and 5.7% of firms with over 100 employees (IC, 1997:10). Franchisor companies typically have tightly specified contracts with their franchisees, very detailed product quality control programs, and some require strict adherence to company policies for staff training. The OHS duty-of-care obligations of franchisors to the employees of franchisees may be more extensive in Queensland and Victoria (NOHSC, 2000:13-32; Johnstone, 1999a).

The OHS hazards and risks in franchised operations are likely to be similar to those of other processes of production in the same industry sub-group, except that franchised outlets may face the additional 'normal' difficulties of small businesses e.g. limited access to OHS information etc.

Evidence indicates that OHS policy and prevention strategies should include:

- (a) OHS protective strategies and required outcomes written into franchisor/franchisee contracts.
- (b) Franchisor/franchisee contracts should require adoption and implementation of a comprehensive OHSMS that is tightly integrated into all production tasks and processes, involves extensive risk identification and control procedures, is enforced on franchisees, and has on-going training provision for precarious workers.
- (c) Inspectorate evaluation of OHS requirements in franchisor/franchisee contracts, and formal auditing of implementation of the overall company OHSMS (if one exists).

### ***2.8 Labour hire agency precarious employment and evidence on associated OHS consequences***

Employment through agency/labour hire agencies has been common for years in some occupations (e.g. secretarial services), but in recent times has been extended to other industry sectors e.g. the construction



industry. In the US, while it has been estimated that only 1% of the workforce is employed under these arrangements, the number has risen by 43% over 1989-1994 (BLS, 1995).

An OHS prosecution in NSW is likely to have a significant impact on labour hire companies around Australia. In the case of *WorkCover Authority of NSW –V- Drake Personnel Ltd.*, a plea of guilty by the labour hire firm (the defendant) was accepted by Justice Hungerford of the NSW Industrial Relations Commission to all four charges of breaching the *Occupational Health and Safety Act 1983*. A subsequent appeal heard in 1999 was lost. In this case, an employee of the labour hire company was injured whilst performing work on the site of a company which had engaged the labour hire company to supply staff. The Hungerford decision has clarified the OHS responsibilities of labour hire companies for their employees working on other sites. The defendant (Drake Personnel Ltd.) was found to have failed to: ensure the health, safety and welfare of all employees; provide OHS information; adequately inform the site company of the experience and qualifications of staff sent to work on the premises; provide needed instruction and training; adequate machine guarding; and provide and maintain systems of work that were safe and without risks to health and safety. Another labour hire firm in NSW was fined \$45,000 for three breaches relating to supervision, instruction, and the provision and maintenance of safe work systems (*WorkCover NSW – V- Swift Placements Pty Ltd., NSWIRC 7104, 7105, 7106*). In spite of the Hungerford decision, host company employers continue to have significant OHS responsibilities for agency supplied workers (see ABN, 1999:18-19).

Very little is known about OHS in labour hire, and substantive *scientific* baseline data on the risks, injury patterns, and specific preventive interventions do not yet exist. In France, Francois and Lievin (1995:6) found the presence of two companies on one site could generate ‘unresponsible’ behaviours. While South Australia recently initiated a six-month pilot project to identify injuries experienced by labour hire firm employees, and there are at least two PhD studies in progress in Australia, no substantive independent Australian research studies have been completed to date.

Current and possible OHS policy and prevention strategies:

- (a) The Division of Workplace Health and Safety (Qld) produced *Managing Health and Safety in the Labour Hire Industry* (August 1999).
- (b) The WorkCover Authority of South Australia has produced *Guidelines for Managing Health and Safety in the Labour Hire Industry* which covers OHS requirements and issues in detail, and sets out most of the general areas for which risk assessments need to be completed. This comprehensive document might have to be supplemented with further risk control strategies for specific industry sub-sectors.

- (c) WorkCover Corporation and Workplace Services in South Australia are targeting the labour hire sector in prevention strategies.
- (d) In the Netherlands, organisations that hire agency workers are obliged to give them full employee rights if they work longer than 24 months (Hesselink, 1999:10).
- (e) Some Australian jurisdictions have used of Duty-of-Care provisions to prosecute labour hire agencies for failing to provide a safe system of work for precarious workers (see the Hungerford decision discussed above).

### ***2.9 Teleworking precarious employment, and evidence on associated OHS consequences***

Telework is where people perform work tasks via telecommunications links, with tasks being undertaken either at home or in call centres. It is difficult to obtain accurate data on the extent of telework although it is generally agreed telework has expanded rapidly in industrialised countries. The European Foundation has produced a guide for virtual companies in CD-ROM format that includes background information, opportunities, pitfalls, and routes for electronic decentralisation (EF, 1998b). The *European Guide for Virtual Companies – A Framework for Action* CD-ROM can be purchased. A website called *European Telework Online* has also been established which covers a range of issues, but this has little OHS prevention policy or strategy advice: [www.eto.org.uk](http://www.eto.org.uk)

The cited OHS problems for teleworkers have included musculo-skeletal strains, stress, and emotional reactions to the verbal abuse from customers who believe they have been ‘on hold’ for too long (Ferreira et al, 1997; Amick & Smith, 1992). Evidence has found call centre problems associated with high stress include: high job demands, lack of control, increased task difficulty, inadequate skills, lack of variety, poor supervisory relationships, problems with technology, and job insecurity (NIWL, 1999b; Smith, 1997 cited Platt et al 1999). There have been a few guidelines produced (although OHS content is usually minimal), and the Department of Employment, Workplace Relations and Small Business (1998) has issued general material, as has the ILO (1990), and the Roads and Traffic Authority of NSW (1995). In Germany, researchers at the Federal Institute for Occupational Health and Safety in Berlin have commenced a questionnaire-based study to assess the risks (WHO, 1999:12). A Federal Court decision by Justice Wilcox on 3/9/99 (CPSU vs. Stellar Call Centres) influences job security and conditions for workers in call centres.

Evidence-based recommendations for OHS policy and prevention strategies include:

- (a) Interventions targeted at specific risk factors for teleworkers may be most effective e.g. overuse injury prevention recommended guidelines for those engaged in extensive keyboard/telephone

tasks have included breaks of 15 minutes every two hours (Burton-Taylor, 1999), or 10 minutes off after 50 minutes of work (Ferreira et al, 1997:472).

- (b) In Italy a special law regulating telework has been introduced (no.191/1998) (Negrelli et al, 1999:15). In The Netherlands a new Act covers employee teleworkers - but *not* self-employed teleworkers (see Quinlan, 1999:446).
- (c) Together with colleagues from the University of New South Wales, we are commencing an ARC-funded study of the OHS consequences of precarious employment in a number of industry sectors, including call centres. The findings will be widely disseminated to OHS jurisdictions.

### ***2.10 Homeworking as precarious employment and evidence on associated OHS consequences***

Work at home can take many forms e.g. employee, self-employed or informal; and be in different industry sectors e.g. telework, clerical, or professional. Most homeworkers in Australia, as in Britain and a number other countries, are married women with children whose tasks are concentrated in secretarial, finance/business services, wholesale trade, or small batch manufacturing (Lafferty et al, 1997).

Homeworkers face problems arising from their isolation from unions and regulatory authorities, something that can be exacerbated in cases where recently arrived immigrants or refugees lacking language skills are engaged in enclaves of home-based production (such as clothing manufacture) and are subject to intimidation from 'middlemen' and the like.

While the hazards and risks will vary greatly according to job tasks being performed, many of the problems already identified above for micro small business apply e.g. difficulties in accessing up-to-date OHS information on risk reduction strategies. On-site risk assessment is rare (Budworth, 1998). A Brazilian study found informal work for women was associated with psychological symptoms (Santana et al, 1997:1236). An Australian study which compared OHS outcomes amongst homeworkers with factory-based employees doing the same job tasks found that outworkers had around three times the incidence of injuries (Mayhew & Quinlan, 1998:105, 1999). A South Australian survey found that those whose first language was not English had lower levels of workers' compensation cover (63.3% vs. 77%), and more were unsure of coverage (ABS, 1996:3). A major legal difficulty is that a home is in the private rather than work sphere, and hence the ability of Inspectors to enter is circumscribed (although New South Wales is evaluating remedies as part of the new OHS outworker strategy).

Evidence-based OHS policy and preventive strategy recommendations include:

- (a) Industry-specific guidance is usually better received. However only generalised information tends to be produced e.g. *Working from Home* (WorkCover NSW, 1996) because of the diversity of

industry risks. There are exceptions e.g. the HSE (1997) *Guidance for Employers and Employees on Health and Safety: Homeworking*.

- (b) Line managers and those in supply chains can be trained in Risk Assessment of home working areas (space allocation, electrical supply needs, and load-bearing capacity of floor); and to ensure there are adequate communication channels (Budworth, 1998:12). (Line managers are usually fully aware of production processes.)
- (c) Focused industry-specific Inspectorate teams may be appropriate in some specialised sectors, or where particular language groups are concentrated in specific job tasks (such as clothing manufacture).
- (d) OHS communications may be better accepted and implemented if provided through language-specific community groups. Many homeworkers are subordinate to, and fearful of, dominant employers from within the same language and geographical community (Mayhew and Quinlan, 1999). Thus non-threatening community language groups (who are not usually subjugated to the 'middlemen' or employers) are the most appropriate intermediaries to promulgate OHS prevention advice and strategies.

### ***2.11 Piecework payments, precarious employment, and evidence on associated OHS consequences***

Incentive payment schemes (or 'piecework') include jobs where payment is based solely on the number of articles produced (e.g. clothing outworkers), tasks completed (eg calls taken by a telecall worker) or a bonus payment is made after performance exceeds a certain level or the task is completed before a deadline. Incentive payment systems have been linked to an increase in injury incidence in a number of industry sectors and counties (Sunderstrom-Frisk, 1984; Dwyer, 1991; Mayhew & Quinlan, 1998,1999). The causative mechanism is a point of work intensification beyond which safety rules may be flouted, excessive hours worked, machine guards which impede production removed, or if the pace of production is too fast for safe operation. Arguably, any contract where payment is based on task/item completion, rather than time spent on-the-job, can potentially lead to negative outcomes.

Evidence-based OHS policy and prevention strategies should include:

- (a) OHSMS that specify safe *processes* of production and expected OHS outcomes in all contracts for service.
- (b) In a select few high-risk industries/occupations it may be appropriate to ban the use of piecework altogether e.g. following a multiple-fatality explosion, a Nevada Commission of Inquiry

recommended that piecework payment systems be prohibited for any work involving the manufacture or handling of explosives or explosive devices (Clark, 1998:10-11).

- (c) Regular *independent* Risk Assessment and Control audits need to be scheduled when production bonus payment schemes are in use.

### **2.12 *Portfolio precarious employment and evidence on associated OHS consequences***

In the future it is likely that people will be increasingly mobile between jobs; many will hold more than one part-time job; the place of *primary* employment may be difficult to identify; and actual employment status may be debatable. For example, workers may hold both a part-time job and casual employment at the same time; or be employed under a contract *for* service on one job site and under a contract *of* service on another. As a result, the tracking of long-term cumulative disorders to sources will become increasingly difficult, and workers' compensation coverage – and even OHS duty-of-care responsibility - may be open to some dispute. Enormous difficulties in diagnosis, compensation, measurement, and attributing cause/effect relationships for diseases have already been recognised for permanent employees (Kerr et al, 1996). The difficulties will be exacerbated significantly for precarious workers with multiple concurrent as well as serial job exposures. Inevitably an externalisation of costs onto taxpayer funded supports will occur (see Driscoll and Mayhew, 1999).

Evidence suggests that OHS policy and prevention strategies must include improved record keeping of production tasks/employment/subcontract jobs performed by precarious workers to improve recognition (or rebuttal) of cause-effect relationships for long-latency diseases. This tracking of long-latency disease amongst itinerant and 'portfolio' workers could be an area considered by the Heads of Workers' Compensation agencies; and those responsible for research and policy development within the disability pension allowance section of the Department of Social Security.

While the evidence available is limited, it is already quite clear that substantial cost-externalisation onto taxpayer funded benefits is extensive (Driscoll and Mayhew, 1999; IC, 1995).

### **2.13 *Ageing of the workforce, precarious employment, and evidence on associated OHS consequences***

More workers may delay their retirement in the future as eligibility for publicly funded income support is tightened and self-provision requirements increase. Superannuation and insurance coverage is important if a long-term injury or illness occurs. However, changing employment patterns may affect contributions to superannuation e.g. if only minimal and insufficient compulsory payments are required. The ABS has conducted a 'Survey of Employment Arrangements and Superannuation' (SEAS) which includes a range

of precarious employment status groups (ABS, 1998:8,10; 1999). Workers' compensation coverage, sick leave availability, forms of insurance such as income protection, and injury and illness experiences over the past 12 months were picked up in the SEAS survey (ABS, 1998). (Preliminary results should be available in early 2001.) As a result of increased self-funding of retirement, a greater proportion of older people may need to do part-time work (although lower-skilled older people may have difficulty in obtaining it) (Robertson & Tracy, 1998:86). The Vienna European Council meeting on 11-12 December 1998 highlighted the need to increase labour market participation by older workers, as did the Council of the European Union in 1999. A major conference on 'Active Strategies for an Ageing Workforce' was held in Finland in 1999 and also examined approaches to support the employment of older workers. That is, there is international recognition of an increased need for the employment of older workers.

Older workers generally have lower levels of non-fatal injury than do younger workers. However when they are injured or ill from work, the injuries may require more time-off for recuperation (Robertson & Tracy, 1998: 90). Evidence indicates any loss of motor coordination and slower reactions amongst older workers may be compensated for by improved perceptual skills; the myth of general intellectual deterioration cannot be sustained; and general performance deterioration cannot be consistently observed till after age 70 (Robertson & Tracy, 1998: 87-88). Chronic debilities and diseases of long latency are more common amongst older workers due to past exposures, although some diseases from work will only appear after retirement (Leigh et al, 1998; Driscoll et al, 1998:25, 23; Kerr et al, 1996:26; WorkSafe, 1996:4,67). If people remain working for longer, it is more likely that these long-latency diseases will be recognised prior to full retirement.

There are also specific OHS risks to older workers from shiftwork and nightwork because the ability to adjust circadian rhythms diminishes with age, particularly after 45 to 50. High risk times are at the low point of the circadian rhythm i.e 2 or 3 am (see, for example, the increase in fatal road crashes amongst older contracted truck drivers) (Tenkanen et al, 1997; Knauth et al, 1995; Sanders & McCormick, 1993). The growth of long shift nightwork therefore presents a specific risk factor for older workers. Further, US studies indicate that fewer older workers have had OHS training (Castillo & Rodriguez, 1997:609,617), and hence interventions that decrease risks for older workers may not be widely known or available.

Evidence suggests OHS policy and prevention strategies should recognise the need for:

- (a) Implementation of intervention strategies that reduce and/or prevent diseases of long latency throughout working life.

- (b) Improved surveillance so epidemiologists may be able to more clearly link specific diseases with particular exposures – hence leading to improved prevention strategies.
- (c) Enhanced OHS training for older workers, including specific age-related risk factors.

#### ***2.14 Increased shiftwork, extended hours of work and precarious employment and evidence on associated OHS consequences***

Many people in full-time permanent jobs are working longer hours (Moorehead et al, 1997). Subcontractors and small business owner/managers also work extended (and intensive) hours when orders/contracts need to be urgently filled. In some occupations/industries, 12-hour shifts are becoming very common e.g. health care and mining.

The OHS consequences of shiftwork are well known and documented. Strategies to reduce negative consequences have been implemented by most large organisations, and guides have been produced by most Australian jurisdictions. However the impact of 12 hour shifts has not been extensively *scientifically* evaluated, the long-term consequences are not well known, and appropriate risk control measures have not been fully assessed (e.g. should overtime be prohibited after a 12 hour shift?) (See Knauth et al, 1995). Further, because Threshold Limit Value (TLV) exposure calculations are based on standard 8 hour shifts over a 40 hour week, most TLV values will need to be scientifically re-calculated for 12 hour shifts to protect the health of the exposed workforce.

Evidence indicates that OHS policy and preventive strategies should include:

- (a) Calculation of TLV values for 12-hour shifts.
- (b) Overtime (and second job) bans for those working 12-hour shifts.
- (c) Exposure calculations need to be conducted to ascertain safe exposure times to protect the health of workers; to more clearly assess cause/effect relationships; to assist in diagnoses; to predict future epidemics; and to allow organisations to institute controls that prevent exposure to their workers. Simultaneously companies will probably reduce their potential liabilities from long-latency diseases amongst exposed workers.

#### ***2.15 Other OHS effects associated with precarious employment***

In reality, different employment status categories often overlap e.g. micro small business owner/managers may subcontract out work, or may contract work from larger firms. If more than one of these changes in the labour market occurs to an individual, vulnerability may be heightened e.g. if a subcontract worker

paid under piece rates is routinely working 12 hour shifts, or if a young and inexperienced casual worker performs a new task (Francois & Lievin, 1995:5).

- *Gender*: the movement of women into previously male dominated jobs with a high risk of occupational violence (police, security officers, taxi driving etc) may adversely affect their OHS. Overall, however, violence levels vary by industry and are more common in jobs that involve face-to-face contact with members of the public (especially alcohol-affected) or where the potential for robbery exists. Nevertheless, the available evidence indicates that females may be exposed to higher levels of verbal abuse at work, and males more threats and actual physical violence (Chappell and Di Martino, 1998; Mayhew and Quinlan, 2000c).
- *Organisational re-structuring, re-organisation, and downsizing*: because many of those displaced through organisational re-structuring will find employment in small business, a number will face the OHS risks discussed above. Workplace restructuring that results in job insecurity amongst ‘survivors’ may lead to both poorer long-term physical health, and an increase in clinical symptoms and certificated sick leave, particularly males (Platt et al, 1999:2,15). Stress management interventions may reduce these physical and psychological symptoms (Platt et al, 1999: conclusion). In organisations undergoing downsizing there may also be a loss of corporate memory and experienced OHS personnel so that risk factors, and existing OHS policies and strategies, may not be well known amongst remaining or new staff.
- *Diminished collaboration*: the Robens-based philosophy that underpins the OHS legislative framework in all Australian States and Territories is predicated on a collaborative approach. As a smaller proportion of the workforce has continuing appointments (and more are precarious), the potential for collaboration e.g. through OHS committees, will diminish. Collaboration is further diminished because the precarious workforce is largely de-unionised (Burgess & Campbell, 1998b: 48). That is, an increased precarious proportion in the labour force has the potential to undermine OHS participative structures.

Evidence indicates that OHS policy and preventive strategies should include:

- (a) Independent occupational violence risk audits scheduled for *all* exposed workers.
- (b) Employers, educational establishments and government institutions may need to focus intensive OHS information dissemination/training towards precarious workers.
- (c) Employers who outsource tasks could insert participative arrangements into their contracts and/or OHSMS.



### **3. EXPLANATIONS OF WHY INCREASED PRECARIOUS EMPLOYMENT RESULTS IN POORER OHS OUTCOMES**

There are a number of possible explanations for the poorer OHS outcomes of precarious workers.

Underlying pressures include:

#### **3.1 *Economic pressures***

Economic pressure can negatively effect the OHS of precarious workers because fierce competition for contracts is common, and those who do the OHS ‘right thing’ may be economically penalised if their prices are higher than those who ignore OHS (Mayhew et al 1996). Further, very long hours may be worked when competition is very stiff in order to offset low returns. As has been found in a number of studies, excessive fatigue and chronic disabilities and cumulative disorders can result – particularly amongst older males in physically demanding jobs (Mayhew, 1999).

Evidence suggests OHS preventive strategies should include:

- (a) Jurisdictions to encourage a ‘level playing field’ through baseline OHS requirements – which are enforced.
- (b) OHS clauses in standard contracts that stipulate core procedures to protect human health and safety, OHS performance outcomes, quality controls, and enforcement/penalty provisions. (Contract clauses with OHS content are increasingly integrated into overall OHSMS.)

#### **3.2 *Disorganisation***

As jobs change quite different risks emerge and patterns of injury and illness alter. OHS prevention strategies and training regimes may also need to change. For example, employees trained to detect risks in large-scale manufacturing plants may be unable to adequately perform a risk assessment in a small eco-tourism firm without additional OHS training. Precarious workers may have difficulty in accessing preventive and risk control information, be concentrated in high-risk jobs, be relatively isolated and have limited contact with Inspectorates (Kochan et al, 1994:63).

The presence of numerous independent subcontractors on a worksite can create complexity through both vertical and horizontal contracting arrangements, and increase the demands on management. The competing deadlines or priorities of different contractors/firms can exacerbate risks (Mayhew, et al 1996; Francois & Lievin, 1995:6). This complexity is most obvious on larger construction sites where, notably, poor OHS outcomes are common.

The OHS risks associated with outsourcing and disorganisation are likely to spread across a range of both blue and white-collar jobs. For example, many historically 'safe' white collar and bureaucratic jobs are now being downsized, outsourced, or offered on very short-term contracts - including jobs at management level. In such cases, negative outcomes may only surface some time *after* the short-term manager leaves the organisation (e.g. inappropriate clauses in contracts, very short-term focused views, financial and legal liabilities) which shareholders will have to bear. Yet a significant proportion of the future managerial workforce is likely to be precarious.

Evidence suggests that OHS preventive strategies should include:

- (a) Use of an overall OHSMS that is enforced, includes outsourced labour, is retained for many years (although adapted) and retains core OHS requirements/outcomes/evaluations over time.
- (b) Adaptation of the Workplace Health and Safety Plans requirement (required under Qld legislation by all contractors and subcontractors on building sites) to other industry sectors that employ a significant proportion of contractors/subcontractors (see draft in Mayhew and Quinlan, 2000a).

### ***3.3 Diminished effectiveness of regulatory framework***

The regulatory regime has been designed with larger-scale sites with standard employees in mind, and may fail to address the different situations of precarious labour.

The regulatory apparatus in many countries is ambiguous in relation to subcontracting/piecework, can be difficult to enforce, or may even discourage major contractors from taking a responsible OHS role (Quinlan et al, 2001; Rebitzer, 1995:56; Mayhew et al 1996).

Less regulated environments may lead to adverse OHS outcomes. An assessment for the Netherlands Ministry of Social Affairs predicted a serious deterioration in OHS outcomes unless the regulatory framework was revamped to incorporate changes in the labour market (van Waarden et al, 1997).

Enforcement of OHS protective regulations is more likely on larger sites. Bickerdyke and Lattimore (1997:71) examined OHS enforcement in the US and found: '*...large firms face a higher probability of inspection – so that small companies may face fairly low expected penalties from non-compliance...the probability of inspection of a firm employing 500 persons is around 5 times that of a small firm employing 10 persons*'.

The belief that it is important to comply with regulations may be less strong amongst precarious workers. Wright (1998:1) found that a belief that it is necessary to comply with regulations, and fear of loss of corporate credibility, were the main factors that motivated UK enterprises to improve OHS. In Australia,

a comprehensive article by Johnstone (1999a) examined the extent to which the general OHS duties of care extend over casuals, contractors, part-time workers, outworkers, those employed through labour hire agencies, and those working in franchised operations. Johnstone has also evaluated the obligations of designers, supervisors and clients engaged in construction work in the EU, and OHS legal issues associated with franchised operations (Johnstone, 1999a).

Evidence-based OHS preventive strategies recommended include:

- (a) Some OHS agencies have produced employer guidance material on managing contractors (see the Victorian WorkCover Authority 1996, & HSE, 1997). These should be upgraded and widely disseminated.
- (b) In Denmark, OHS in micro small business has been comprehensively incorporated into compliance programs – in contrast to the US (Quinlan, 1999:444).
- (c) The use of ‘on-the-spot’ fines is increasingly common in some Australian jurisdictions (see Gunningham, 1999).

### ***3.4 Increased demands on Inspectorates***

There is an urgent need to encourage enhanced self-regulation amongst the dispersed precarious workforce. As a greater proportion of the workforce work in small-scale, widely dispersed, constantly changing sites, with limited management systems, and with more casual, part-time and transient employees, the demands on Inspectorates will inevitably increase.

Past jurisdictional strategies have generally revolved around ‘top down’ mass information and advice dissemination, which have been relatively easy to implement amongst large-scale firms with hierarchical structures, lines of responsibility, and a workforce of predominantly full-time employees. New strategies may need to be developed that allow Inspectorates to better deal with the proliferation, dispersion and industry range of micro small businesses and precarious workers.

Resources are likely to remain restricted because the cost of government is of continuing concern to state, territory and national authorities. OHS Inspectorate functions are not immune from cost discussions because many tasks are resource intensive. However income through cost-recovery via penalties for poor OHS performance (e.g. fines following prosecutions) is minimal because prosecutions are very expensive to mount. While user-pays services may be an increasing source of funding (e.g. through licensing, registration), these fees often go into consolidated revenue.

At some point in time the *core business* of OHS jurisdictions, and relative utility of a separation between production of advice publications from duties of OHS policy development and hands-on Inspectorate activities, may have to be evaluated. It may be appropriate to separate Inspectorate duties for advice on prevention strategies and self-regulation, from their prosecutorial duties. This separation would remove Inspectors from some conflict-of-interest situations. Objective and independent evaluations could also be conducted of the cost-effectiveness of greater outsourcing of some functions such as publication of brochures – although content would still need to be subject to expert Inspectorate input and vetting.

Inspectorate skills may need regular updating because Inspectors are required to perform a wide range of tasks. For example, with the increased emphasis on OHSMS, Inspectors may need enhanced auditing/business system skills – rather than traditional *inspecting* skills. Multi-skilling of the OHS Inspectorate may be required; in some jurisdictions divisions between departmental sections are being removed and staff are increasingly required to multi-skill across functional areas e.g. compensation, auditing, and industrial relations. Yet while some government departments may be able to better fulfil their roles with multi-skilled staff, in other situations in-depth technical knowledge is essential. The skills needed may also vary from one jurisdiction to another (because of variations in industry make-up), between highly urbanised states (e.g. South Australia) compared with those with a more dispersed population (e.g. Queensland), or as Inspectors move from rural to urban areas. While competency-based standards for Inspector training have existed for some time (e.g. since 1994 in NSW and VETAB-accredited since 1995), since the development of the National Inspectorate competency benchmark, these will need to be re-configured regularly to ensure Inspectorate capacity to deal with the OHS impact from labour market changes. For example, OHSMS, quality management, environmental, and OHS auditing skills will need to be enhanced for a range of micro small businesses.

Evidence suggests OHS preventive activities should include:

- (a) Integration of OHSMS auditing into the national Inspectorate competency course.
- (b) OHS information dissemination strategies re-aligned to better reach micro small businesses.
- (c) The outsourcing of non-core Inspectorate *preventive publication* duties may have to be re-considered.

### **3.5 Evidence on workers' compensation coverage of precarious labour**

In the following table we present direct evidence from a series of large scale empirical studies of precariously employed workers conducted in Australia over the past decade (Mayhew and Quinlan, 2000b:7).

**Table 2****Percentage of 1,588 precariously employed Australian workers with workers' compensation coverage**

	<i>none</i>	<i>workers' compensation</i>	<i>insurance policy</i>	<i>not sure</i>	<i>other</i>	<i>no response</i>
<i>Long haul transport<sup>1)</sup></i>						
<i>Owner/drivers (n=99)</i>	6.1	38.4	42.4	9.1	6.1	-
<i>Small fleet (n=104)</i>	-	78.8	4.8	15.4	2.9	-
<i>Large fleet (n=85)</i>	-	89.4	12.9	8.2	4.7	-
<i>Other (n=12)</i>	8.3	41.7	8.3	33.3	8.3	-
<i>Young casuals in fast food industry<sup>2)</sup> (n=304)</i>	2	52	-	39.1	8.2	-
<i>Clothing manufacture<sup>3)</sup></i>						
<i>factory-based(n=100)</i>	12	59	2	26	-	1
<i>outworkers (n=100)</i>	72	7	2	13	-	4
<i>Interventions<sup>4)</sup></i>						
<i>Building (n=150)</i>	15.3	19.3	70	0.7	1.3	-
<i>Cabinetmakers(n=150)</i>	19.3	32.7	62.7	2	2.7	-
<i>Demolishers (n=31)</i>	19.3	19.3	58.1	-	3.2	-
<i>Barriers<sup>5)</sup></i>						
<i>Garage (n=73)</i>	20.5	21.9	57.5	-	-	-
<i>Café (n=70)</i>	17.1	61.4	8.6	8.6	-	4.3
<i>Newsagent (n=70)</i>	17.1	44.3	18.6	7.1	5.7	8.6
<i>Printing (n=35)</i>	28.6	42.9	22.9	5.7	-	-
<i>Subcontracting/Outsourcing<sup>6)</sup></i>						
<i>Childcare (n=78)</i>	11	87	3	-	-	-
Employee	51	-	49	-	-	-
outsourced	9	83	-	--	9	-
<i>Hospitality (n=64)</i>	43	27	30	--	-	-
employee	12	88	-	-	-	-
outsourced	27	27	47	-	-	-
<i>Transport (n=32)</i>	-	92	8	-	-	-
employee	11	6	78	-	6	-
outsourced						
<i>Building (n=31)</i>						
employee						
outsourced						

- 1) Mayhew, C. and Quinlan, M (2000a). This study involved face-to-face interviewing of 300 long distance truck drivers. (17 truck drivers interviewed ticked more than one box on their questionnaires.)
- 2) NOHSC (2000). This study assessed OHS amongst 304 young casual workers in company-owned and franchised outlets of a major fast-food chain across 3 states of Australia.
- 3) Mayhew, C. and Quinlan, M. (1998). This research project involved comparison of OHS indices between 100 factory-based employees and 100 outworkers who manufactured clothes from home.

- 4) Mayhew, C. Young, C. Ferris, R. and Harnett, C. (1997). This research project was designed to assess the relative impact of three different prevention interventions on OHS outcomes amongst 331 self-employed and micro small business owner/managers: an intensive mailed OHS campaign, on-site visits by an inspector, and a legal change.
- 5) Mayhew, C. (1997). This study was focused on 248 small business owner/managers comprehension of three major OHS areas: manual handling, OHS legislation, and hazardous substances.
- 6) Mayhew, C. Quinlan, M. and Bennett, L. (1996). Approximately half of those interviewed in this project were direct employees; the others were outsourced. It was found that industry/job task risk was the prime determinant of injury. Outsourcing had an important secondary negative impact on OHS outcomes.

As Table 2 indicates, there are a number of potential consequences for workers' compensation claims - and on workers' compensation-based databases - from a growing precarious workforce (Quinlan and Mayhew, 1999:493-498). In summary, the consequences are:

- (a) The self-employed and contractors/subcontractors are often formally excluded from workers' compensation insurance cover. Only a small proportion may take out adequate private insurance cover when it is not compulsory (Mayhew and Quinlan, 2000b; Egger, 1997:8; Mayhew, 1999:105-115). This means the injured may be reliant on Medicare or social security when off work – and the costs of treatment and support will probably be externalised. One study estimated about 2.7% of all conditions seen by General Practitioners were work-related (Britt et al, 1999:13,24). For example, a survey in South Australia found 76.4% of the working population believed they were covered by workers' compensation, but only 35.7% of those in primary production and mining (ABS, 1996:1). These workers may be concentrated in specific industry sectors.
- (b) Self-employed and contract/subcontract workers covered by private insurance may be reluctant to make claims because of economic pressures to keep working (Mayhew and Quinlan, 1997, 2000a). For example, there may be a two-week (or even six-week) excess period before claims can be lodged. One study found that the *chronic* injuries of self-employed workers were most likely to be under-reported (Mayhew, 1999).
- (c) There is a significant level of non-reporting amongst some groups of precarious workers who *are* covered by workers' compensation insurance (such as casual and part-time workers), sometimes because of job loss fears (Morris, 1999; Mayhew & Quinlan, 1998; Davillerd & Favaro, 1995:4;

Francois & Lievin, 1995:8; DWH&S, 1994). It is possible that people employed by labour hire agencies will be similarly reluctant, however no substantive studies could be identified. The AWIRS study found 17% of workers experienced an injury or illness in the year prior to the survey, although only half took time off work for recovery (NOHSC, 1998b:xi). The South Australian ABS study (1996:1) found 55.1% of those injured did not apply for compensation, most commonly because the injury was minor (1/3 of all injuries and illnesses did not require time off work). Yet some were major injuries: the AWIRS 95 survey found only 61% of those with fractures received workers' compensation (NOHSC, 1998b: 45).

- (d) Workers holding a succession of short-term precarious jobs will find it harder to claim workers' compensation benefits for occupational diseases. Occupational disease is already substantially under-represented in the workers' compensation systems (Kerr et al, 1996). However the complicated work histories of precarious labour make it even more difficult to identify causal links between exposure to hazardous substances and the development of an occupational illness (or over-exertion and development of chronic musculo-skeletal injuries – see Mayhew, 1999).
- (e) The merging of prevention and compensation agencies in some countries (such as Canada) and some states of Australia (e.g. NSW and Victoria) may reduce Inspectorate time with precarious workers. An emphasis on claims management may drive Inspectorate activities towards larger sites with many traditional employees, rather than focusing on multiple small-scale dispersed sites where precarious labour more frequently work. Hence sectors with fewer claims (i.e. with increased precarious employment) may become the 'opportunity cost' in merged agencies and inevitably tend to be ignored in preventive efforts (Quinlan, 1997:42).

Thus as the precarious workforce expands and fewer workers are hired as standard employees, workers' compensation claims statistics will become progressively less representative guides to the *incidence* of injury, illness and fatality across all Australian workplaces (although *patterns/types* of injury may remain similar). Gaps in workers' compensation data are only partly offset by other sources such as hospital admission and general practitioner data –and these are rarely collated with OHS information (see Britt et al, 1999; Mayhew, 1999: 105-115). Hence growth of the precarious workforce will almost certainly exacerbate existing limitations of OHS statistics. However, the development of the National Coronial Information System has the potential to provide a more accurate picture of the true extent of fatalities in the future (see WRFS2).

Evidence suggests that OHS preventive activities should include:

- (a) Interrogation and integration of a wider range of OHS data sources into overall estimates of work-related injury and illness, for example, the ‘OHS in Australia: the overall scene’ mosaic project developed by John Mandryk of NOHSC. This project brought together all data already in the public sphere and integrated it (including work-related injuries treated in hospitals and NDS data).
- (b) Continued support for development of the National Coronial Information System

### **3.6 *Increased cost externalisation with precarious labour?***

In most industrialised societies a significant level of cost externalisation from work-related injury occurs. In Australia, the Industry Commission (now Productivity Commission) estimated employers bore around 30% of the total costs of occupational injury, injured workers and their families about 30%, and taxpayers around 40% (IC, 1995:392-3). In the case of serious injury, the proportionate cost burden on workers and the community was even greater (IC, 1995:102). Because many injured/ill precarious workers fall outside the net of workers’ compensation insurance, more of their OHS costs may be externalised to the state via the social security system and Medicare, and onto the injured individuals (Mayhew, 1999). For example, it has recently been claimed that 1 in 5 of those on disability support pensions are unfit for work because of psychological problems such as stress, or musculo-skeletal injuries (Cumming, 1999:33). With a growing proportion of the labour force being precarious, externalisation of costs is likely to increase.

The growth of precarious forms of labour also contributes to substantial losses in taxation revenue due to an enhanced ability to engage in tax avoidance, and expansion of the ‘black economy’, for example, through cash-in-hand payments. Three years ago the Australian Taxation Office estimated that in the clothing industry alone, the shifting of production to outsourced workers resulted in an annual tax revenue loss of between \$A80-100 million (Quinlan, 1997:51; Mayhew & Quinlan, 1998:21).

Thus a proportionate growth in the precarious workforce is liable to erode the tax base whilst simultaneously increasing demands on revenue sources via the social security and Medicare infrastructure. In Europe, this shifting of the cost burden away from employers and towards taxpayers, injured workers and their families has already been noted (van Warden et al, 1997).

## **4. CONCLUSION**

Changes to employment patterns in industrialised societies over the last two decades present a major challenge to OHS. Governments and their agencies currently address OHS amongst precarious workers through general policy, strategy and enforcement initiatives based on assumptions that were appropriate when widespread *permanent* employment was the norm. However, as the above discussions have



indicated, *evidence* indicates that new strategies are urgently needed because of the marked increase in precarious employment which is poorly addressed by traditional OHS policies and approaches.

The employment pattern changes can be summarised as:

- (a) A change in the size of organisations with fewer large-scale workplaces and more ‘micro’ small businesses;
- (b) increased proportions of self-employed, subcontract, short-term contract, micro small business, homeworkers and outworkers, and casual and itinerant workers;
- (c) increased employment in the services industries and decreased proportions in heavy manufacturing;
- (d) increased demands on Inspectorates through the movement of the workforce to smaller and more widely dispersed sites;
- (e) significant injury costs (and long-term disability supports) externalised on to the public purse;
- (f) an expansion in shiftwork, particularly twelve-hour shifts. Negative consequences will especially impact on older workers;
- (g) a rise in teleworking and homeworking where OHS threats and appropriate risk control strategies may not be widely understood; and
- (h) Inspectorate training geared to historical patterns of employment. Re-training may be needed to ensure Inspectorates are equipped to more accurately assess the risks, and recommend prevention strategies, as labour market changes increasingly impact on OHS.

For some changes in the labour market, reliable evidence-based OHS protective strategies are unknown, for example, there is very little substantive evidence about the specific risks or appropriate control strategies for labour hire agency and itinerant workers.

*The lack of current objective scientific research evidence about the OHS consequences of precarious employment means that OHS policies and strategies are devised in an OHS knowledge ‘black hole’:*

The following five *scientific* OHS research needs are listed in order of priority, based on projected importance (incidence and numbers of exposed workers), and where knowledge/objective information is non-existent or very fragmentary.

- (a) estimation of OHS incidence, evaluation of risks, and identification of effective preventive strategies in labour hire organisations;
- (b) evaluation of the impact of OHS clauses in standard contracts on small businesses in high risk industry sectors;
- (c) estimation of extent of externalisation of costs of work-related injury and illness from self-employed, subcontract, home-based, and other precarious workers;
- (d) evaluation of OHS intervention strategies for home-based workers (including those working in other people's homes) and those telecommuting; and
- (e) re-development and application of OHSMS to micro small businesses in key industry sub-sectors.

**There is now compelling evidence that the shift of employment in industrialised countries towards small-scale, contract/subcontract/leased labour, casual/temporary, franchised, and other forms of precarious employment has serious adverse OHS consequences. These effects have remained largely hidden because of structural barriers to accurate recording of injury and illness amongst precarious workers. There are both denominator and numerator difficulties that obscure negative OHS effects and associated cost externalities. In the mid to long-term taxpayers will have a heavy burden of support for the work-related chronic injuries and diseases of the (rapidly growing) precarious workforce who are without 'normal' protections of workers' compensation - unless innovative interventions are developed.**

**The growing precarious workforce, coupled with historical blinkers on potential negative OHS consequences, as well as policy 'no-go' zones (notably competition policy) is creating a policy 'black hole'. The OHS effects of contingent work are an increasingly prominent topic at international conferences and gatherings of OHS researchers and (to a lesser extent) health policy makers and administrators. However, thus far this recognition has led to only small policy changes seeking to ameliorate some of the worst effects rather than challenging policies that are the root cause (notably neoliberal policies of promoting competition, outsourcing, privatisation, corporatisation and the like). The blindfold must be lifted so that preventive interventions for precarious workers can be fully developed, workers' compensation innovations designed, and the huge potential future social debts to support chronically injured and ill precarious workers avoided.**

**In sum, it is time to examine the evidence objectively without recourse to ideological blindfolds, and with a full commitment to improved OHS outcomes.**

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