Ageing Australian Workforce

Background

Australia's population is ageing. The proportion of people aged 65 years or over is projected to increase from 13 per cent in 2010 to 23 per cent by June 2050. At the same time the proportion of working-age people in the total population is expected to fall by 7 per cent to 60 per cent. As a consequence, Australia's workforce is ageing. More than 80% of Australian workforce growth between 1998 and 2016 is projected to be in those over 45 years (ABS, 1999) and there will be relatively fewer people of working age to support an increasing number of older Australians (Australian Government, 2010).

In view of the ageing population and its associated pressures, the Australian Government recognizes that mature age labour force participation is important for Australia's future economic growth prospects. Australia's mature age work participation rate has increased significantly for men and women over the past decade. Despite these increases, Australia's mature age work participation rate is below that of comparable countries - including the United States, United Kingdom, Canada and New Zealand.

The Government has introduced a number of initiatives to boost labour force participation, including a new 'Work Bonus' as part of its 2009-10 pension reforms, the 'Keep Australia Working Career Advice Line' and the 'Productive Ageing Package' to support mature age participation through practical measures such as retraining and re-skilling (Australian Government, 2010). The Government has also established a consultative forum to inform further policy reform. Anti-age discrimination policies will further increase the number of older workers in the future. As a consequence, Australia's mature age work participation rate is expected to continue to increase over the next few decades.

"Age is a factor of importance in assessing variability in manpower, for it introduces differences not only between individuals at different ages, but also within individuals over time" (Laville, 1989; Ilmarinen, 1991; cited in Laflamme and Menckel, 1995, p145).

Older workers (45+ years) have been observed to have a higher rate and cost of injury than younger workers (WorkCover Authority of NSW, 2004). Older workers tend to have more severe work-related injuries, along with more severe outcomes of injury, such as longer rehabilitation and greater lost work time (Silverstein 2008). While age-related changes in mental and physical function are inevitable, they do not invariably lead to incapacity or reduced performance and productivity at work (Silverstein, 2008). Silverstein (2008) noted that "in some ways older workers are the most skilled and most productive employees, but in others they are the most vulnerable".

Older workers may be less physically active and fit than younger workers and so have reduced work ability. This reduced work ability means they may be more likely to be fatigued at work and as a result are at greater risk of injury (Mackey, 2007). The process of ageing is not uniform across the population and a great deal of variation exists, although an average decline of 20% in physical work capacity has been reported between the ages of 40 and 60 years, due to decreases in aerobic and musculoskeletal capacity. These declines can contribute to decreased work capacity, and consequential increases in work-related injuries and illness (Kenny, 2008).

With a rapidly ageing workforce, there is a need to identify, develop and implement strategies to help older workers maintain good health and productivity. Differences in habitual physical activity

have been shown to greatly influence the variability seen in individual physical work capacity and its components. Well-organized, management supported, work-site health interventions encouraging physical activity during work hours could potentially decrease the incidence of age-related injury and illness. The introduction of more flexible work hours may help with workforce availability, productivity and safety.

Issues relevant to older workers and work environments

Injury rate

A review of the literature over three decades (Laflamme and Menckel, 1995) shed little light on the expected direction and magnitude of the relationship between age and occupational accidents. The *most common* finding is that accident frequency tends to *decrease* as age increases (Laflamme and Menckel, 1995).. However, the results were mixed with some studies finding no relationship and others identifying a higher injury incidence in older workers, a finding consistent with the evidence from WorkCover NSW (2004).The inconsistency in findings appears to relate to a number of confounders (eg. large scale studies vs intra-occupational studies or differences in 'injury' inclusion criteria [i.e. definition of injury or disease and various injury types] and differing age-related accident characteristics [i.e. accident type, body part injured etc]). Some authors have suggested a 'healthy worker effect' to explain the lower injury rate for older workers (i.e older workers who remain in the workforce are healthier thus less susceptible to injury and ill health). Laflamme and Menckel (1995) concluded that the safety problems of older workers may well be restricted to activities that are specifically "age-impaired".

Injury severity

Older workers tend to have more severe work-related injuries, along with more severe outcomes of injury, such as longer rehabilitation and greater lost work time (Silverstein 2008). Although the injury rates are generally low, the impact of workplace injury among older workers has been found to be disproportionately high in most studies (Laflamme, 1995) and while the rates the nonfatal injuries are lower in older workers, fatality rates have been higher (Silverstein, 2008). Silverstein (2008) suggests two reasons for increasing impact of injury with age: (1) The types of injuries sustained by older workers tend to be more severe for the same condition and (2) Older workers experience more severe outcomes including longer recuperation and lost work time.

Decline in physiological reserve

Ageing is accompanied by a decline in the physiological reserve of all organ systems, compromising homeostasis and resistance to disease. Thus, when disease develops in the elderly it has an increased impact on organ systems not directly involved. This places older people at risk for multiple simultaneous pathologies. Treatment often requires polypharmacy, which is often accompanied by drug interactions and with potential adverse reactions. The pattern of sequential and comorbid disease often means that the later years of life are associated with an accumulating toll of disability (Buckley, 2001).

Increased risk of falls

As a person ages there are changes in balance, which could increase the risk of slips trips and falls (Silverstein 2008). Job accommodations and work environment/workspace modifications may need to be considered to reduce risks for older workers. Installation of hand rails and nonslip surfaces are generally low-cost measures. Avoiding activities requiring work at heights, orprovision of additional safety harnesses for work activities at height, should be considered.

Reduced visual acuity

Visual acuity and capacity to differentiate colour often reduces with age (Silverstein 2008). As a result, there must be consideration of adequate lighting for various tasks. Some tasks in which colour differentiation is critical for safety, may be considered inappropriate for some older workers with visual deficits. Reduced visual acuity is often adequately accommodated for individuals performing most work tasks with the use of appropriate prescription contact lenses or spectacles. Some consideration of such factors may be important in relation to supply and use of personal protective equipment such as eye protection.

Reduced hearing

Hearing may be diminished in the older worker, particularly in the higher frequencies. This can be due to accumulated occupational and non-occupational noise exposure and noise-related hearing loss. Reduced hearing may be hazardous in a work environment where noise may potentially impede the workers ability to hear and understand instructions, or react to warning sirens or signals, or other hazards such as moving vehicles. Appropriate work or system design features including visual warning systems, physical barriers or guards and written work or safety system instructions may be used to enhance safety for all workers with reduced hearing.

Cognitive function decline

The potential for reduced cognitive function should be considered in relation to workplace instructions and performance of complex activities with high cognitive demand. Additional explanation, instruction, demonstration, preparation time, trial periods, and test performances would help accommodate such limitations. Schooler, Mulatu and Oates (1999) demonstrated that performance of substantively complex work significantly increased the level of intellectual functioning, particularly in older workers.

Work capacity, previous musculoskeletal disorders (MSDs), physical fitness, age-related degenerative change and chronic disease.

Previous musculoskeletal disorders, reduced mobility, strength and physical fitness, age-related change and chronic disease all have the potential to impact on the work capacity, health and safety of older workers (Silverstein, 2008. As with most chronic diseases, MSDs have multiple risk factors, both occupational and non-occupational (Punnett and Wegmann, 2004).
Older workers may have a decreased capacity for physically demanding or fast work. Insufficient rest or recovery time may negatively impact physical performance or productivity and increase the risk of work-related injury and long-term physical health effects (de Zwart et al., 1995). Good work design including adequate job or task rotation, and flexible work hours can help accommodate individual variations in work ability.

Equal opportunity and discrimination

It is important not to make assumptions about the abilities and limitations of older workers. Issues of equal opportunity and discrimination are important considerations in employment and risk management for older workers.

Shift Work

A recent study by Costa and Milia (2008) found, inter alia, that older workers have increasing intolerance to shift and night-work, with the critical age for such increasing intolerance to be about 45-50 years of age.

Health enhancing physical activity

Most individuals in western society do not achieve the recommended guidelines for health enhancing physical activity (moderate - vigorous physical activity 30 mins, 5 days per week) and so are at increased risk of developing chronic disease such as CVD, some cancers, obesity, diabetes, and other metabolic syndrome spectrum disorders. Older workers are of particular interest as physical activity and fitness decline with increasing age. As individuals spend a large proportion of their working life at the workplace, it (the workplace) should legitimately be seen as having a role in fostering healthy workers. This is also likely to have economic benefits to the employer (lower health costs, less sick leave, increased productivity etc).

Workplace based wellness programs

There is now significant evidence for the effectiveness of workplace based wellness programs (Chau, 2009 and Dugdill et al, 2008). In addition, there is also increasing evidence that sedentary behaviour is deleterious to health and has a distinct set of risks for chronic disease independent of whether individuals are achieving the recommended guidelines for health enhancing physical activity (Healy et al, 2008). That is, the deleterious effects of sitting all day at work, in transport, for meals, and during leisure hours (TV, screen gaming) is not prevented by 30 mins of moderately intense physical activity per day. Workers and workplaces need to structure working life to ensure incidental standing and walking is promoted. Physiotherapists have an important role in educating and facilitating individuals and employers to develop exercise habits/initiatives in line with the physical activity guidelines and also in how to minimise sedentary behaviour at work (e.g. placing printer and photocopier outside room, standing desks). Differences in habitual physical activity have been shown to greatly influence the variability seen in individual physical work capacity and its components.

Well-organised, management supported, work-site health interventions encouraging physical activity during work hours could potentially decrease the incidence and impact of age-related injury and illness.

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