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Summary report

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Summary report

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Background and aims

Workplace psychosocial stressors have been linked to poor mental health in a growing body of scientific evidence (LaMontagne et al, 2010). Stressors with the strongest evidence linking them to poor mental health include job demands, job control (how much say you have over how to do your work), the combination of high job demands and low job control (defined as 'job strain'), job insecurity, low social support at work and effort-reward imbalance.

The job stress intervention evidence, however, also shows that job stressors can be effectively addressed by a combination of work- and worker-directed interventions. This report builds on findings reported in *Workplace Stress in Victoria: Developing a Systems Approach*, which was commissioned by the Victorian Health Promotion Foundation (VicHealth) and developed by a University of Melbourne team led by A/Prof LaMontagne (LaMontagne, Louie, Keegel, Ostry, & Shaw, 2006).

We propose that improved understanding of the economic as well as the health benefits of reducing or eliminating job stress will support expanded workplace stress prevention and control intervention efforts.

In this report, we estimate the potential economic benefits of eliminating job strain-attributable depression for Australian workers, employers and society.

The approach used was to quantify the economic benefits of addressing job strain as a risk factor for depression using epidemiologic and economic modelling. The specific aims were:

1. to estimate the costs in the Australian workforce for job strain-attributable depression versus all other depression, as an indication of the potential economic benefit if job strain-attributable depression could be reduced or eliminated
2. to estimate the costs from three perspectives: societal, employer and individual; where individual costs are approximated from costs for employees who do not have paid sick leave.

Methods

In brief, the methods entail using statistical modelling[1] to capture costs and health outcomes over the shorter-term and longer-term from a societal perspective. Point estimates are presented in this summary. Refer to the full report for confidence intervals and sensitivity analyses.

The data source for the epidemiologic inputs was the 2007 National Survey of Mental Health and Wellbeing. Cost inputs were sourced nationally (e.g. Medicare, Pharmaceutical Benefits Scheme) and from international literature. Types of costs included lost work productivity, health service use and job turnover/employee replacement.

The analysis is prevalence-based and models the future costs and health outcomes for persons that were employed and met criteria for lifetime DSM-IV[2] major depression in the study reference year (2007). The analysis does not include the future health and costs of people who did not have a history of depression at the time of the survey interview but would be at risk of developing depression at some later time.

Results

Depression in the Australian workforce

In 2007, the prevalence of lifetime DSM-IV depression in the Australian workforce was 14.7% (12.0% men, 18.0% women). This is equivalent to 1.54 million people in the Australian population. Of these persons at the time of the survey:

- 21% reported depressive symptoms in the past year and were in treatment
- 17% reported depressive symptoms in the past year and were not in treatment
- 11% were recovered and in treatment
- 52% were recovered and not in treatment.

[1] Refer to full report for detailed methodology [LaMontagne, A, Sanderson, K & Cocker, F. (2010). Estimating the economic benefits of eliminating job strain as a risk factor for depression, VicHealth. Carlton, Australia. 37 pages.]. This report is available on www.vichealth.vic.gov.au\jobstrain

[2] The DSM-IV is a method for categorising mental disorders, published by the American Psychiatric Association and covers all mental health disorders for both children and adults.

Societal cost of depression in the Australian workforce

An estimate of the societal costs for the 1.54 million people with depression in the Australian workforce is shown in Table 1 for the cohort of employed Australians with lifetime depression[3] over two timeframes: one year and lifetime of 2007 population. Costs are presented as the average per person and the total cost in the Australian population. Total cost over one year was estimated at just over $8,000 per person or $12.6 billion in total, with cost over the lifetime of the 2007 population at $138,679 per person or $213.5 billion in total. In this group of people with depression who were currently working, the vast majority of cost related to employment included lost productive time and the cost of replacing an employee from job turnover, rather than from health condition-related costs such as health service use and medication.

Table 1: Societal costs of lifetime depression among employed Australians, 2007

	Cost per person AUD	Total cost[1] AUD (million)
One year		
Lost productive time	2,224	3,423
Job turnover/employee replacement	5,801	8,929
Mental health-related health service use	18	27
Antidepressant medication	137	212
Total	8,180	12,591
Lifetime[2]		
Lost productive time	45,219	69,609
Job turnover/employee replacement	91,857	141,402
Mental health-related health service use	226	348
Antidepressant medication	1,377	2,119
Total	138,679	213,478

1. Based on a weighted population of 1,539,368 people

2. Costs are discounted at 3%.

[3] A person with lifetime depression has experienced at least one major depressive episode that caused significant distress or disability at some point in their life.

Job strain-attributable depression and societal cost

LaMontagne et al (2008) estimated that 13.2% of past-year depression in men and 17.2% of past-year depression in women was attributable to job strain. These population-attributable risks were applied to the present findings to estimate the total cost of job strain-attributable depression in the Australian working population (see Table 2). The attributable fractions were applied to persons with lifetime depression who reported symptoms in past year (38%).

Table 2: Societal costs of lifetime depression among employed Australians in 2007 that is attributable to job strain

	Attributable to job strain		
	No Total cost AUD (million)	Yes Total cost AUD (million)	Total cost attributable to job strain %
One year	11,861	730	5.8
Lifetime	201,676	11,802	5.5

In one year, $730 million (5.8%) of the societal cost of depression in the Australian workforce was attributable to job strain. This provides a starting point for understanding the potential economic gain from reducing job strain in the Australian workforce. Over a lifetime for the 2007 population, $11.8 billion was attributable to job strain, or 5.5% of the total. While these percentages may seem modest, in the context of a total cost of $12.6 billion and $213.5 billion, this is a significant burden on the Australian economy that is potentially avertable.

Distribution of employment-related costs by employer and employee

Of the employees with lifetime depression, 38% reported symptoms in the past 12 months. Of these, 29% were estimated not to have access to paid sick leave entitlements, or 11% of the total population of employees with lifetime depression. Of the total costs due to lost productive time, 22% are attributable to absenteeism.

When the absenteeism costs for employees without sick leave entitlements were attributed to the employee, this gave a total of $85 million in costs from the employee perspective. Based on this analysis, the vast majority of employment-related costs were notionally incurred by the employer.

Summary of main findings

Societal cost of lifetime depression in the workforce was estimated at $12.6 billion over one year, and $213.5 billion over a lifetime of the 2007 population. In this analysis the vast majority of these costs related to employment, in particular lost productive time and job turnover.

The societal cost of depression in employed Australians that is attributable to job strain was estimated at $730 million over one year, and $11.8 billion over the lifetime of the 2007 population. This provides an upper bound for the potential economic benefits if job strain was to be reduced at a population level. These estimates provide added economic incentive for governments and employers to develop and implement a systems approach to job stress in the Australian workforce (LaMontagne, Keegel, Louie et al., 2007; LaMontagne, Keegel, & Vallance, 2007; LaMontagne, Louie, Keegel et al., 2006). Systems approaches have been shown to be the most effective at reducing job stress and its impacts.

Employees without access to paid sick leave are an important component of the Australian labour market (approximately 25% of working Australians have no paid annual or sick leave). This study suggests that absenteeism costs for employees with depression who do not get paid for sick leave incurs a total of $85 million over one year. This is a substantial cost borne by these individuals and may have the consequence of promoting attendance at work when unwell (presenteeism).

While workers without paid sick leave are an important subgroup to consider, this analysis suggests that the vast majority of employment-related costs from depression in the workforce are borne by employers.

This reinforces previous studies showing that employers are already paying a high cost for depression in their workforce. This provides a clear business incentive for employers to invest in mental health-promoting and help-seeking initiatives, as the return on investment is potentially in the tens of millions of dollars.

Limitations

Most limitations of this analysis would lead to an underestimation of costs. Some potentially relevant societal costs were not included as they were beyond the scope of the primary study that informs this project. These include impact on families, loss of leisure time, effect on home-based productions (such as cooking, cleaning and child-raising) and the cost of workers' compensation for job stress-related claims from psychological injury (estimated at $209 million nationally for 2007, a fraction of the one-year costs estimated here for job strain-attributable depression – see full report for further details). Our findings can therefore be considered to be conservative, providing a lower bound for societal cost.

This study only included employees with a lifetime history of DSM-IV depression who were currently working, and therefore does not represent the broader costs of job strain on other psychological outcomes or the costs of persons who already left the workforce.

To produce a comprehensive estimate of the effects of job strain on mental health, other associated mental health outcomes would need to be included, such as anxiety, work-related suicide, and behavioural disorders.

Further, job strain represents only one of several work-related psychosocial hazards. Others that are linked to depression include effort-reward imbalance, injustice at work, job insecurity and bullying. All such hazards would need to be included to estimate the full effect of psychosocial work hazards on depression in particular, and on mental health disorders in general.

Thus, we would argue that the costs associated with the impacts of *all* psychosocial working conditions on depression would be higher than the estimates we have presented, and corresponding estimates for *all* affected mental health outcomes would be higher still.

Commentary

Comparison with other economic studies of depression in the workforce

While most of the evidence attesting to the economic impacts of depression in the workforce originates in the United States, three Australian studies provide an important backdrop to the findings of this report:

1. Based on data from the 1997 National Survey of Mental Health and Wellbeing, we previously estimated that lost productivity due to current mental disorders in the full-time workforce costs $2.7 billion in one year, with a majority of this due to depressive and anxiety disorders (Lim et al, 2000). In the present study, using a different method and including any employee who experienced depression in their lifetime, we found that lifetime depression costs $3.4 billion over one year due to lost productivity. The cost would obviously be much higher with other mental disorders included.

2. Hilton and colleagues (2008) estimated the cost of lost productivity in the workforce as part of a landmark Australian study to evaluate the cost benefit of increasing help-seeking for depression among employees (Work Outcomes Research Cost-benefit 'WORC' study). Their estimate was $2.6 billion in lost productivity from employees with high psychological distress, which includes depression, anxiety disorders, and non-specific distress. This was similar to our lost productivity estimate of $3.4 billion.

3. A recent report by Econtech (Econtech, 2007) commissioned by Medibank Private estimated the cost of presenteeism to the Australian economy for 12 chronic health conditions including depression (based largely on US research). The impact on employers was estimated at $17.6 billion, with depression the leading contributor to this cost along with allergies, both account for 19% of the overall productivity loss (approximately $3 billion each). Our estimate is slightly larger although this also includes absenteeism, and the Econtech study used a much broader definition of depression that included other "mental and behavioural problems".

A systems approach to job stress to reduce the high economic burden of depression in the workforce

These findings further strengthen the evidence base for growing efforts nationally to address the upstream determinants of job stress (working conditions) as well as its downstream consequences (including depression, job turnover and lost productivity).

Recent policy and practice advice in this direction includes recommendations from the Commonwealth government's National Advisory Council on Mental Health to invest in "mentally healthy workplace" studies to "explore how mental health promotion can be embedded in workplace and OH&S legislation", with indicators of success including decreased levels of workplace stress (National Advisory Council on Mental Health, 2009).

The National Preventative Health Taskforce reports also acknowledged job stress as an important preventable determinant of common chronic diseases and poor health behaviours. They recommended the need for, and promise of, new workplace health promotion approaches that integratively target job stress and health behaviours (National Preventative Health Taskforce, 2009). Action on these recommendations depends on the availability of effective intervention strategies to prevent and control job stress.

Recent systematic reviews (detailed in the full report) indicate that systems approaches are the most effective at preventing and controlling job stress. Systems approaches combine individual, or worker-directed, intervention with organisationally-focused, or work-directed, intervention (LaMontagne et al, 2007).

These recent systematic reviews indicate that effective strategies for the prevention and control of job stress are available. However, prevalent practice in Australian workplaces remains disproportionately focused on individual-level intervention with inadequate attention to the reduction of job stressors. Description and explanation of a systems approach to the prevention and control of job stress is provided elsewhere, including examples of specific intervention strategies (LaMontagne et al, 2007).

Workplace intervention strategies that integrate mental health promotion with job stress intervention hold particular promise. They would address depression and other mental illness regardless of cause while simultaneously reducing the work-related contributions (LaMontagne, 2004; Noblet & LaMontagne, 2006). Guidance on these approaches is available from *beyondblue* (www.beyondblue.org.au) and elsewhere (Human Rights Commission, 2010).

The findings of the present report suggest that employers would be the main economic beneficiaries of such efforts, through reduced turnover and improved productivity, while employees would benefit through reduced job stress and improved mental health.

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