

## **ECONOMIC COST OF WORK INJURIES AND ILL HEALTH IN 2011 – A SINGAPORE MODEL**

### **About the Study**

The Workplace Safety and Health (WSH) Institute has conducted a study to better understand the economic impact of workplace safety and health injuries and ill health on employers, employees and the community for 2011. The results highlight the importance of WSH not only for companies, but also for Singapore as a whole, thus providing additional impetus to reduce work injuries and ill health.

### **International Studies**

2 The International Labour Organization (ILO)<sup>1</sup> estimated that about 2.3 million workers die from work-related accidents and diseases worldwide every year. It further estimated that 4% of annual global GDP<sup>2</sup>, or USD\$2.8 trillion, would be lost due to the direct and indirect costs of such accidents and diseases. Other researchers have also reported that about 5% of the burden of *all* diseases and injuries in established market economies could be attributed to work<sup>3</sup>.

3 In the United States, Leigh<sup>4</sup> estimated that the national cost of work-related injuries and diseases in USA amounted to USD\$250 billion (1.8% GDP). Safe Work Australia estimated that the costs of work-related injuries and illnesses for Australia were AUD\$57.5 billion (5.9% GDP)<sup>5</sup> for financial year (FY) 2005 – 06 and AUD\$60.6 billion (4.8% GDP) for FY 2008 – 09<sup>6</sup>.

### **Singapore's model for economic cost of work injuries and ill health**

4 The WSH Institute reviewed the methodologies and cost models from different countries when developing a working model for Singapore. The study methodology was adapted from similar studies done by other countries. Like Australia, our model **measures**

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<sup>1</sup> IXIX World Congress on Safety and Health at Work: Istanbul Turkey, 11-15 September 2011. [http://www.ilo.org/wcmsp5/groups/public/@ed\\_protect/@protrav/@safework/documents/publication/wcms\\_162662.pdf](http://www.ilo.org/wcmsp5/groups/public/@ed_protect/@protrav/@safework/documents/publication/wcms_162662.pdf)

<sup>2</sup> International Labour Organization (ILO). ILO: The Prevention of Occupational Diseases, World Day for Safety and Health at Work 2013 [http://www.ilo.org/safework/info/WCMS\\_208226/lang-en/index.htm](http://www.ilo.org/safework/info/WCMS_208226/lang-en/index.htm)

<sup>3</sup> ILO Governing Body. Occupational safety and health: Synergies between security and productivity. 2006. <http://www.ilo.org/public/english/standards/reim/gb/docs/gb295/pdf/esp-3.pdf>

<sup>4</sup> Leigh JP. Economic Burden of Occupational Injury and Illness in the United States. The Milbank Quarterly 2011;89(4):728–72.

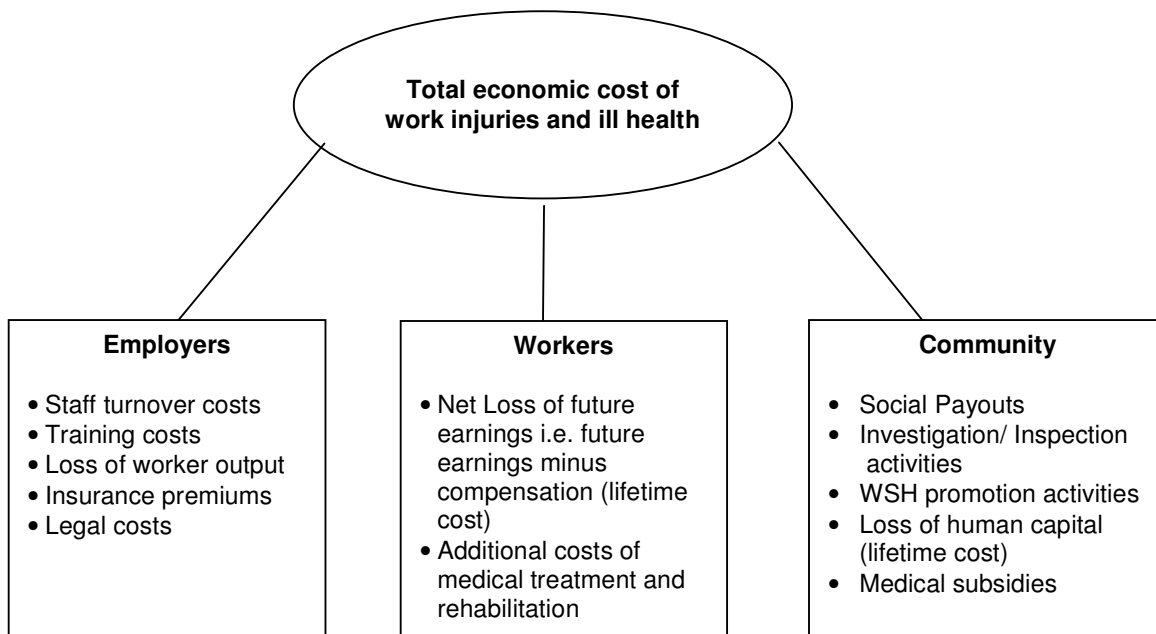
<sup>5</sup> Australian Safety and Compensation Council. The cost of work-related injury and illness for Australian employers, workers and the community: 2005–06. (2009). Retrieved from the Safe Work Australia website: <http://safeworkaustralia.gov.au/AboutSafeWorkAustralia/WhatWeDo/Publications/Pages/SR200903InjuryAndIllness2005To2006.aspx>

<sup>6</sup> Australian Safety and Compensation Council. The Costs of Work-related Injury and Illness for Australian Employers, Workers and the community: 2008–09 (2012). Retrieved from the Safe Work Australia website: <http://www.safeworkaustralia.gov.au/AboutSafeWorkAustralia/WhatWeDo/Publications/Pages/cost-injury-illness-2008-09.aspx>

**human cost** only and does not take into account the cost of property damage, and human pain and suffering. The analysis is based on cost incurred after an incident had occurred. The expected future cost of new cases in the reference year is used as a proxy for on-going cost of cases from previous years.

5 In this model, the Institute determined the cost of work-related injuries and ill health that would be borne by employers, workers and the community (see Figure 1). Cost items linked to staff turnover, training of replacement workers, loss of worker output, insurance premium and legal cost incurred were computed as costs borne by employers. The costs borne by workers included loss of future earnings, additional expenses for medical treatment and rehabilitation, beyond that covered by compensation under the Work Injury Compensation Act. Cost items like social payouts, cost of incident investigation, workplace inspection and promotion activities by the Ministry of Manpower (MOM) and WSH Council, loss of human capital for fatal cases, and medical subsidies were considered as costs borne by community.

**Figure 1: Cost items borne by employers, workers and community**



**Key findings and observations from the study**

6 Excluding lifetime costs, the cost for work injuries and ill health sustained for 2011 is estimated to cost Singapore **\$2.62 billion, with employers bearing 88.2%** of cost, employees 9.5% and the community 2.3%.

7 If lifetime cost is included, i.e., net loss of future earnings and loss of human capital (see Figure 1), the total cost of work injuries and ill health is estimated to be **SGD\$10.45 billion**. The costs borne by different economic agents were estimated to be: SGD\$2.31 billion (22.1%) by employers; SGD\$5.28 billion (50.5%) by workers, and SGD\$2.87 billion (27.4%) by the community.

8 The results provide deeper insights into the potential costs of work-related injuries and ill health in Singapore. As this computation breaks the cost down into individual cost

items (see Figure 1), it provides the evidence for the relevant stakeholders to identify and prioritise potential levers to reduce the cost of poor WSH practices in Singapore.

9 The WSH Institute will produce a study report within the next three months. It will also continue to refine this WSH economic cost model for Singapore, so that the individual cost items and the overall GDP equivalent attributable to work-related injuries and ill health can be more accurately computed. The next study will be conducted in two to three years' time.