Perceptions of occupational injury and illness costs by size of organization

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Background
Little is known about how organizations perceive and monitor occupational injury and illness costs.

Aims
To explore perceptions of injury and illness costs, the extent to which organizations monitor their impact, attitudes towards this practice and views on using cost information in health and safety campaigns.

Methods
Interviews were conducted with 212 representatives from 49 small- and medium-sized enterprises (SMEs) and 80 large organizations from a range of industry sectors.

Results
Health and safety investments were driven by a range of factors, of which cost reduction was only one. Human costs were also considered important. Injuries were perceived to represent a substantial business cost by 10% of respondents from SMEs and 56% of those from large organizations. Most were uncertain about the financial impact of work-related illness. No organizations had attempted to monitor occupational illness costs. Injury costs had been assessed within 3 SMEs and 30 large organizations. Only 12% of SME representatives recognized the benefits of costing health and safety failures and around half were unreceptive to the use of cost information in health and safety promotions. Two-thirds of those from large organizations recognized some benefit in measuring costs, and over three-quarters welcomed the provision of industry-specific information.

Conclusions
Provision of information that focuses solely on the economic implications of occupational injury and illness may be of limited value and agencies involved in the promotion of health and safety should incorporate a range of information, taking into account the needs and concerns of different sectors.

Key words
Business; cost; illness; injury; occupational; safety.

Introduction
The business costs of health and safety failures have been highlighted in a number of campaigns designed to motivate employers to improve health and safety performance [1–3]. Such strategies are based on assumptions that organizations are motivated by economic incentives [4] and that greater awareness of occupational injury and illness costs may improve compliance with health and safety regulations [5].

A range of tools have been developed to help organizations calculate the cost of health and safety failures. A ‘Ready-Reckoner’ (RR) [6] was developed by the Health & Safety Executive (HSE) to help small- and medium-sized enterprises (SMEs) calculate the cost of health and safety failures; the European Agency for Safety and Health at Work published a framework for costing accidents [7] and the National Audit Office [8] recommended the development of an accident costing methodology for National Health Service Trusts. Recently, a Workplace Well-being tool (www.workingforhealth.gov.uk/Initiatives/business-healthcheck-tool) [9] has been launched to enable companies to calculate the business costs of employee ill-health.

Various costing studies have been conducted to demonstrate the business impacts of health and safety failures [10–19]. Although most have shown that accidents result in significant financial losses, others indicate that costs are minimal [20]. Previous research has shown that organizations perceive the cost of employers’ liability insurance as a significant business expense [20]. However, there has
been limited research to assess organizational perceptions of other costs incurred due to occupational injury and illness. The HSE has encouraged organizations to measure their losses, but little is known about levels of costing activity within UK businesses or attitudes towards this practice. In addition, most studies have focused on large organizations, with little evidence to demonstrate the relevance of these issues within SMEs [22].

The objectives of this study were to explore factors influencing investment in health and safety, perceptions of costs incurred due to occupational injury and illness, the extent to which organizations monitor these costs, attitudes towards this practice and views on using financial information in health and safety campaigns. The study also explored similarities and differences between SMEs and large organizations in a range of industry sectors.

**Methods**

Interviews were conducted with representatives from 49 SMEs and 80 large organizations across the UK. A sampling frame was devised, with assistance from HSE economists, to ensure that participating organizations were representative of UK industry. The sampling frame set quotas for recruiting SMEs (<250 staff) and large organizations (>250 staff) from 10 industry sectors (see Table 1).

Organizations were primarily sampled using Thomson Business Search Pro [23] (a database that can search for organizations according to size and sector) and contacted via letters, telephone calls and emails directed to managers with responsibility for health and safety. Other recruitment techniques included emailing members of regional health and safety groups. Efforts were made to achieve wide geographical spread. To examine consistency of opinion within large organizations, interviews were typically conducted with one director and one health and safety professional. Interviews within SMEs were typically conducted with a director, in the absence of health and safety personnel.

A semi-structured interview schedule was designed to provide a standard framework that enabled the collection of targeted data through the use of themes, sub themes and prompts. The schedule was piloted and refined (only slight changes to the wording of some questions were made).

Interviews were carried out on site or by telephone. Each interview (30–90 min duration) was recorded (with participant consent) and fully transcribed. The transcribed data were analysed by sorting verbatim material into themes. Some themes emerged in response to the

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>SMEs</th>
<th>Large organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture/forestry (n = 4)</td>
<td>Growers of salad produce, forestry, landscape gardening.</td>
<td>–</td>
</tr>
<tr>
<td>Manufacturing (n = 22)</td>
<td>Manufacturers of electrical goods, food processing equipment, hydrometers.</td>
<td>Food processing/production; paper mill; manufacturing of precast products, glass fibres, precious metals, engines and packaging systems.</td>
</tr>
<tr>
<td>Construction (n = 10)</td>
<td>General construction, industrial painters, demolition contractors.</td>
<td>Highways, general construction.</td>
</tr>
<tr>
<td>Wholesale/retail/repair (n = 28)</td>
<td>Retail and wholesale; car dealership/repair, maintenance.</td>
<td>Distribution and repair of vehicles/construction equipment; merchandising; mail order/supply; retail of furniture, electronic goods, footwear, drinks; distribution of electronic components; wholesale distribution; timber/builders merchants.</td>
</tr>
<tr>
<td>Catering (n = 8)</td>
<td>Restaurant/bar, take-away restaurant. Haulage.</td>
<td>School and commercial catering, restaurant chains. Cold storage distribution; logistics; parcel delivery; rail operators; ground handling; telecommunications.</td>
</tr>
<tr>
<td>Transport and communication (n = 10)</td>
<td>–</td>
<td>Local councils; fire and rescue services. Further education colleges; universities.</td>
</tr>
<tr>
<td>Local government (n = 7)</td>
<td>Primary school, day nursery, commercial vehicle training school.</td>
<td>Hospital NHS Trusts, Partnership/Combined Healthcare NHS Trusts, Primary Care Trusts, NHS Support Services, Ambulance Service NHS Trusts, health and social care charities. Theme park, waste services, water provision and drainage services.</td>
</tr>
<tr>
<td>Education (n = 10)</td>
<td>General practice surgery, veterinary surgery.</td>
<td>–</td>
</tr>
<tr>
<td>Health and social care (n = 23)</td>
<td>Hairdressers, waste disposal.</td>
<td>–</td>
</tr>
<tr>
<td>Other community services (n = 7)</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
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NHS, National Health Service.  
Interview schedule, while others arose spontaneously during the discussion (emergent themes). The data under each theme were summarized and illustrated with quotes. Reliability was ensured through review of the data by two members of the research team. The work received Loughborough University ethics committee approval.

Results

One hundred and twenty-nine organizations were recruited (49 SMEs and 80 large) and 212 interviews conducted. Respondents comprised 49 SME directors/senior managers, 77 directors/senior managers and 86 health and safety personnel from large organizations. The number of individuals employed within the small companies ranged from 6 to 49, with an average of 30 staff per organization. Annual turnover (where divulged) ranged from £48,000 to £10 m per organization (average £2,719 m). The medium/large organizations employed an average of 4655 staff in the UK, ranging from 75 to 57,000 per organization. Annual turnover or budget (in the case of public sector organizations) ranged from £180,000 to £4,698 m (average £382.6 m). Table 1 summarises the types of organizations sampled and Table 2 summarises the main themes that emerged from the interviews.

Respondents acknowledged that investing in health and safety can moderate the cost implications of occupational injury and illness, but direct cost reduction was only one of a range of factors underpinning commitment to health and safety (Quote 1). Factors influencing investment in health and safety in SMEs and large organizations included protection of staff well-being for moral reasons, compliance with legislation, managing human resources issues, maintaining corporate image and avoiding fines and other legal implications. External pressures in the form of customer/client requirements (commercial companies), government targets (public sector) and the influence of the insurance industry were also considered important drivers. Ultimately, many of these stated reasons for health and safety investments also have economic implications for organizations.

Common injuries occurring within the participating organizations were slips, trips and falls and manual handling injuries. Violence/aggression was highlighted within the health and social care and public transport sectors. When asked to consider organizational costs incurred as a result of injury, most participants focused on lost time or major injuries and their immediate and longer term effects. Around two-thirds of SME representatives reported that their business had not experienced any lost time or major injuries in recent years and many did not associate costs with minor injuries.

The most commonly cited business costs related to staff absence (sick pay/replacement labour), rehabilitation, operational disruption (lost production/revenue), impact on performance, management/investigation time, personal injury (PI) claims, higher insurance premiums and the cost of measures implemented in response to incidents. There were differences in the perceived impact of some costs, depending on the size and nature of the respondents’ business (Quote 2).

| Quote 1 |
| "There’s strong recognition at the highest level that it needs to be done . . . we don’t need to justify health and safety on financial grounds." | [Financial director, medium-sized manufacturing company] |
| Quote 2 |
| "It’s ludicrous that fines aren’t tailored towards turnover. They’re peanuts to big companies, but they really hit us hard . . . if we had another serious fine it could well cause us to close." | [Owner, small restaurant] |
| Quote 3 |
| ‘For payroll purposes we know if people have been off sick and we know the reason from their return to work interview, but it would be labour intensive to run through paper records to gather that information.’ | [HR director, large fruit importer] |
| Quote 4 |
| ‘If people are suffering stress then their performance is going to be affected, which is far harder to quantify than days off sick.’ | [Managing director, local authority] |

Large organizations were more focussed on public relations issues than the financial burden of fines. SMEs, particularly those operating within lower risk industries (e.g. retail), tended to perceive the cost of PI claims and liability insurance as negligible in relation to turnover. However, most respondents from large commercial companies perceived PI claims and rising insurance premiums as the most expensive and visible costs incurred due to injury.

Although few cases of occupational illness were reported within SMEs, stress was considered a particular issue affecting primary school teachers. Commonly cited conditions within large organizations were also stress related, followed by musculoskeletal disorders. In most cases, respondents made anecdotal judgements regarding levels and types of occupational illness due to lack of data within their organizations (Quote 3).

The majority of participants referred to the same underlying costs for occupational illness as they did for injury. However, costs associated with illness were often perceived to be more intangible than injury costs.
A prominent theme that emerged was participants’ concern for the human impact of occupational injury and illness, not only for the individuals concerned but also for their colleagues. Human costs were often perceived to be more important than business costs (Quote 5).

**Quote 5**

‘If a person gets injured we automatically replace them with someone else, so the immediate cost is nil, but the cost to the individual is much greater and more important.’ [Manager, small construction company]

**Quote 6**

‘We say our sickness rate is terrible and it’s costing us a fortune, but we don’t relate that to the cause.’ [Director of strategy and development, ambulance service NHS Trust]

**Quote 7**

‘It’s another string to the bow to make other parts of the company aware of the implications. Once you start talking money then the accountants, commercial people start to take notice.’ [Managing director, large wholesale company]

**Quote 8**

‘Different companies have different motivations ... it’s not primarily the financial aspect that motivates us. Other companies are very focused on complying with the law, while others are focused on the financial side so I don’t think it’s as straightforward as saying, “by improving health and safety you will save money”’. [Safety manager, large water services company]

The vast majority (94%) of participants did not know how much injuries were costing their business. Only 10% of SME representatives and 56% of participants from large organizations felt that occupational injuries represented a substantial cost to their business. Most participants (other than those who reported no cases of occupational illness) were unaware of the occupational illness rate in their business and, as such, were more uncertain about the overall cost impact of occupational illness. Much of this uncertainty related to difficulties in establishing the cause of absence within personnel records (Quote 6).

None of the organizations had monitored the cost of occupational illness. However, 3 SMEs and 30 large organizations had attempted to quantify costs relating to injuries, with large commercial companies around twice as likely to do this as public sector organizations (48 versus 24%). Of all the sectors represented, agriculture and education were the only ones that had not attempted to assess accident costs.

Methods of cost assessment varied widely, ranging from monitoring the cost of PI claim payments only to in-depth costing of all incidents on a continuous real-time basis. However, it was generally acknowledged that the methods applied did not measure all business costs. In most cases, efforts to measure the cost of injury were led by health and safety personnel. The most commonly cited reasons for measuring injury costs were to raise awareness of their impact among managers and raise the profile of health and safety more generally. Other reasons for measuring the financial impact of injury included pressure from external auditors, the production of key

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**Table 2. Summary of themes relating to perceptions of health and safety costs**

<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub-themes</th>
</tr>
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<tbody>
<tr>
<td>Perceptions of the costs and benefits for health and safety</td>
<td>Drivers for health and safety - cost of accidents/work-related illness per se not the only factor—other factors also important</td>
</tr>
<tr>
<td></td>
<td>Other motivations: - already established commitments to continuous improvement/public image/compliance with regulation/moral reasons</td>
</tr>
<tr>
<td>Perceptions of the cost of workplace accidents</td>
<td>Typical injuries Knowledge of actual costs incurred</td>
</tr>
<tr>
<td></td>
<td>- limited knowledge of value of costs incurred Types of costs incurred Human impact considered as important Perceptions of the overall extent of accident/incident costs</td>
</tr>
<tr>
<td>Perceptions of the cost of work-related ill-health</td>
<td>Typical work-related ill-health conditions - identification issues Knowledge of actual costs incurred—very limited Types of costs incurred Perceptions of the overall extent of work-related illness costs</td>
</tr>
<tr>
<td>Measuring the cost of health and safety failures</td>
<td>Extent of costing activity Methods of costing Attitudes towards costing Perceived barriers Limited awareness/use of resources such as HSE RR Awareness of general information and campaigns Attitudes towards cost focussed information</td>
</tr>
</tbody>
</table>
| Awareness of and attitudes towards the use of economic factors in health and safety campaigns |"
performance indicators and to demonstrate the cost-benefits of interventions. Injury cost data had been applied in a range of different ways. In some cases, the information was only reported at board and senior executive levels. In others, it was presented to local management teams as a means of monitoring performance and benchmarking between operational units. Cost information had also been used for in-house training purposes. Most felt their costing efforts had been beneficial in terms of raising awareness of the importance of health and safety. In some cases, it had also been instrumental in driving specific interventions.

The majority of SME representatives (88%) did not feel that their company would benefit from measuring the cost of occupational injury or illness. Most reported that their business had an established commitment to health and safety and that such information would not motivate them further. Around two-thirds of respondents from large organizations recognized the value of measuring costs. Potential benefits related to budgeting, raising the profile of health and safety, benchmarking and justifying investments in health and safety (Quote 7).

Only a small minority of SME participants (8%) were aware of the HSE RR. The general consensus was that it would be unrealistic for SMEs to spend time using such a tool. Despite frequent use of the HSE Website, less than a quarter of participants from large organizations (n = 38) were aware of the RR and many were sceptical about applying it within their own business. Participants were asked if they viewed the use of cost information in health and safety promotions as a useful strategy for motivating investment in health and safety. Of the SME representatives, only 12% (n = 6) felt that their own company may benefit from such information, and just under half (n = 22) were unreceptive to this type of initiative. Others felt that alternative methods of promoting the benefits of health and safety within SMEs would be more effective than highlighting the cost of health and safety failures. Over three-quarters (n = 127) of participants from large organizations felt that it would be useful to provide businesses with accurate cost information. However, most felt that it needed to be industry-specific information rather than broad national figures. Some respondents felt that rather than adopting a ‘one-size fits all approach’, consideration should be given to the stage at which different organizations are at in terms of their motivations for preventing health and safety failures (Quote 8).

Discussion

The findings indicated that health and safety investments were driven by a range of factors, of which cost reduction was only one. Human costs were also considered important. Injuries were perceived to represent a substantial cost by 10% of respondents from SMEs and 56% of those from large organizations. Most organizations were uncertain about the financial impact of work-related illness and none had attempted to monitor these costs. Injury costs had been assessed within 3 SMEs and 30 large organizations. Only 12% of SME representatives recognized the benefits of costing health and safety failures compared with two-thirds of those from large organizations.

The findings of this study demonstrate an appreciation of the importance of health and safety within many organizations. This view was expressed in organizations of varying size and industry sector and was supported by those from small companies where the cost of compliance with health and safety legislation was perceived to be high. Although it was acknowledged that effective health and safety systems can moderate the negative implications of occupational injury and illness, direct cost reduction was cited as only one of a range of factors driving health and safety. These findings provide support for previous research demonstrating that few organizations are motivated to improve health and safety solely for the purpose of reducing costs [21,22].

Although most participants reported that their organizations had incurred a range of costs in relation to occupational injury, around two-thirds of those from SMEs were unable to cite any costs. Most felt that individual incidents were costly in terms of time and money. However, levels of impact were perceived differently by those from SMEs and large companies. Overall, 90% of SME respondents did not feel that occupational injury represented a substantial business cost, while just over half of those from large organizations did. Occupational illness was perceived as more expensive than injury, but judgements were often anecdotal due to lack of central systems to capture reasons for staff illness and absence. In addition, costs associated with occupational illness were perceived as more intangible than those related to injury. A prominent theme that emerged was participants’ concern for the human impact of health and safety failures, not only for the individuals concerned but also their colleagues.

Three SMEs and 30 large organizations had assessed the financial impact of injury, but none had assessed occupational illness costs. Large commercial companies were twice as likely to have measured injury costs as public sector organizations. Due to the wide-ranging methodologies applied, it was not possible to make any comparisons between the outcomes of these costing exercises. Despite being launched as an aid for SMEs, and distributed to around half a million SMEs across the UK [6], less than a 10th of SME representatives were aware of the HSE’s RR.

The vast majority of SMEs’ representatives did not recognize the benefits of measuring injury and illness costs.
Most felt that the effort involved would outweigh the benefits, and many reported that as their company already had an established commitment to health and safety, such information would not motivate them further. This provides support for Shearn [24], who suggests that small businesses would not be receptive to the business argument used to highlight the impact of health and safety failures. Around two-thirds of those from large organizations did acknowledge some benefit of monitoring occupational injury and illness costs, and around three-quarters did acknowledge some benefit of monitoring occupational injury and illness. Around two-thirds of those from large organizations reported that they would welcome industry-specific information that they could apply to their own occupational injury and illness rates, whereas two-thirds of large organizations recognized some benefit in measuring organizational costs.

While most SMEs in this study were aware of the potential cost implications of occupational injury and illness, few had experienced them first hand. Therefore, the provision of information outlining the cost of health and safety failures was often perceived as inappropriate. Alternative suggestions included the provision of targeted practical information about how to address issues and the benefits of investing in health and safety.

Although a higher proportion of representatives from large organizations reported that they would welcome industry-specific information that they could apply to their own occupational injury and illness rates, the vast majority of respondents reported that cost reduction was only one of a range of factors that influenced their health and safety agenda. This suggests that agencies need to adopt a wider approach to tap into the range of other factors motivating organizational commitment to health and safety, including the provision of information outlining the human impact of occupational injury and illness.

A limitation of this study is that while participants were open in their discussions about health and safety failures, the study relied on volunteers and it may be that participating organizations were those with more favourable attitudes towards health and safety. However, this interview survey does provide insight into perceptions of occupational injury and ill-health costs and the perceived importance of this information across a broad range of industrial sectors within SMEs and large organizations.

In conclusion, the direct cost of health and safety failures is only one of several factors that motivate organizations to improve health and safety management, and many organizations are unresponsive to the idea of monitoring injury and illness costs. Provision of health and safety information that focuses primarily on the economic implications of occupational injury and illness may be of limited value and promotion of health and safety should incorporate a range of techniques and carefully targeted practical advice. Focusing on human costs as well as financial costs may be beneficial in promoting awareness of the importance of health and safety within organizations.

**Key points**

- Injuries were perceived to represent a substantial business cost by 10% of respondents from small- and medium-sized enterprises and 56% of those from large organizations. Most were uncertain about the financial impact of work-related illness.
- The vast majority of small and medium enterprises did not recognize the benefits of measuring injury and illness costs, whereas two-thirds of large organizations recognized some benefit in measuring organizational costs.
- A prominent theme was participants’ concern for the human impact of occupational injury and illness, not only for the individuals concerned but also for their colleagues.

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**Conflicts of interest**

None declared.

**References**


