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Perceptions of the cost implications of health and safety failures

Prepared by the **Institute of Work, Health
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RESEARCH REPORT 403



Perceptions of the cost implications of health and safety failures

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This report presents findings of research undertaken within organisations of varying size and sector to explore perceptions of costs incurred due to health and safety failures. Preliminary focus groups and interviews were conducted to gain insight into the issues of interest, followed by 283 interviews conducted with managers, health and safety personnel and workers' representatives within 129 organisations. Approximately 25% of organisations had attempted to measure accident costs, none had systematically quantified work-related illness costs, and most participants were unaware of how much health and safety failures were costing their business. Concern for the cost of health and safety failures tended to relate to general sickness absence, employers' liability claims and premiums. Accident costs per se were not perceived as a primary motivator for health and safety. The third phase involved organisations collecting real time records of accident/incident and work-related illness cost data. Forty individual case studies illustrating the immediate costs incurred by the organisations are presented. Follow-up interviews indicated that participation in phase 3 was instrumental in changing perceptions and behaviour with regard to incident costing within some of the organisations. The findings are discussed in light of implications for future health and safety information provision and related research.

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EXECUTIVE SUMMARY

PROJECT AIMS

A number of UK health and safety initiatives have incorporated economic data regarding the cost of accidents and work-related ill health in an attempt to motivate employers to improve their health and safety performance. Recent attempts have also been made to encourage and facilitate organisations to start actively measuring the costs that they incur due to health and safety failures. However, there has been limited research conducted to establish organisations' perceptions of the costs they incur due to accidents and work-related ill health or their attitudes towards, and experiences of measuring these costs. Therefore, the aims of this study were to:

- Explore knowledge and awareness of the costs incurred due to workplace accidents/incidents and work-related ill health
- Investigate the extent to which organisations measure the cost of their health and safety failures and explore their attitudes towards, and experiences of, measuring these costs
- Provide organisations with a tool for assessing the cost of accidents/incidents (including both injury and non-injury events) and work-related ill health in real time to obtain a measure of the immediate costs incurred by organisations in a range of industry sectors
- Establish whether providing organisations with a tool for measuring the cost of accidents/incidents in real time influences perceptions and changes working practices
- Examine the implications that the findings have for health and safety information provision and make recommendations for future health and safety initiatives

METHOD

The study design consisted of 3 separate but complementary phases.

Phase 1: Focus groups and individual interviews

Three focus groups and 6 individual interviews were conducted with a convenience sample of managers and directors representing small, medium and large organisations from a wide range of industry sectors (education, manufacturing, wholesale, transport, construction, healthcare). The aim was to obtain some important preliminary insight into the issues of interest.

Phase 2: Case study interview survey

Semi-structured interviews were conducted with 283 directors and senior managers, health and safety personnel and workers' representatives from 129 case study organisations. Participating organisations comprised 41 small (less than 50 employees) and 88 medium/large (50 plus employees) businesses from a variety of industry sectors (agriculture/forestry, construction, manufacturing, retail/repair, catering, transport, public administration, education, health and social care and other community services). In addition to providing general verification of the information obtained in phase 1, the case study interview survey was designed to examine similarities and differences in the views and experiences of representatives from different types of organisations, and provide further details of accident and work-related ill health costing processes and procedures used within the case study organisations.

Phase 3: Real time costing of accidents/incidents

All of the organisations that participated in phase 2 were invited to collect accident/incident and work-related ill health data over a minimum 4-week period using a cost assessment tool provided by the research team. The aim of the cost assessment was to identify the immediate cost implications (including both financial and opportunity costs) relating to all accidents/incidents occurring over a specified survey period. A total of 40 organisations provided data. Nine small companies that participated in phase 3 had no incidents occur during their costing period. Individual cost inclusion periods ranged from 4 to 16 weeks.

Semi-structured follow-up telephone interviews were conducted with key contacts within this sub-sample of organisations between 1 and 2 months after the final receipt of data, or at the end of the data collection period for companies that had no incidents reported. The follow-up interviews were designed to examine the impact of collecting cost data in real time on general perceptions of costs incurred, and behaviour in relation to costing activity.

FINDINGS

Phase 1

Most organisations were concerned about potential cost implications of major incidents, but were less concerned about actual costs incurred as a result of more frequent, minor events. The majority of respondents reported that they did not know how much either accidents or work-related illnesses were costing their business. Few attempts had been made to quantify the cost of health and safety failures. Limited time and resources, perceived complexity and lack of expertise were the most commonly cited barriers to conducting accident/work-related ill health cost assessments.

Most health and safety specialists recognised the value of costing accidents and work-related ill health as a means of motivating senior managers/directors to deal with health and safety issues more proactively. However, others regarded the exercise as a non-value added activity due to an established commitment to health and safety at all levels within their business. Low incident rates, particularly within small businesses, were also related to less appreciation of the benefits of incident costing. A number of other non cost-related factors were cited as useful justifications for health and safety improvements, including: potential legal exposure, benchmarking health and safety performance, and being able to demonstrate other business benefits.

Phase 2

Perceptions of the costs and benefits of health and safety

The avoidance or reduction of accident and work-related ill health costs per se does not appear to be the primary motivating factor for effective health and safety management. A combination of other interlinked factors emerged as being more influential in driving the health and safety agenda in most organisations, including: avoidance or reduction of liability claims; potential legal exposure; concern over the cost of insurance premiums; external pressures from insurance companies; maintenance of corporate image and reputation; customer and client expectations; government targets; moral obligations; staff morale; absence, recruitment and retention, and impact on productivity, efficiency and quality of service delivery. However, it was generally acknowledged that health and safety failures might ultimately impact on the financial performance of an organisation through any of these higher level factors.

Most organisations were perceived as having an established commitment to continuous improvement and therefore required no additional motivation to improve. However, a range of factors were identified as being potential levers for change, including: demonstration of the cost benefits of interventions, and the financial impact of health and safety failures; reductions in insurance premiums or pressure from insurers; a reduction in claims and legal exposure, and unsatisfactory trends in incident rates.

The cost of health and safety was generally perceived as a necessary and beneficial business expense. In some cases input costs were considered to be low, requiring more investment in terms of time and effort than large financial sums. In others, the cost of compliance with certain aspects of legislation was considered to be high in relation to the perceived benefits. This latter view was most prevalent among small company representatives.

The vast majority of participating organisations had not explicitly demonstrated cost savings as a result of health and safety interventions. Overall there appears to be more of an appreciation of 'softer benefits' (e.g. staff morale, retention, productivity) than hard financial gains.

Perceptions of the cost of workplace accidents

Knowledge of the overall cost of accidents was limited. Only a small number of participants were able to place a value on the costs incurred. Quoted figures ranged from £30,000 to £2 million over a 12 month period. The figures were derived from a range of sources, including: internal cost assessments; subjective estimations made at the time of interview, or published figures. Perceptions of types of costs incurred due to accidents were largely related to lost time injuries and significant accidental damage events (e.g. absence, management and administration time, employers liability claims, insurance premiums). Participants also considered the impact of injury on individual employees and their colleagues.

Perceptions of the overall cost impact of accidents were largely dependent on the context in which the costs were considered (e.g. in relation to annual turnover, number of incidents or general sickness absence rates). The majority of small company representatives did not feel that the cost of accidents was a major business expense due to a low incident rate. However, most participants from medium/large organisations did perceive the cost of accidents to constitute a considerable loss. The majority of organisations were not perceived to be overtly concerned about the cost of accidents. Any concerns at the senior management level tended to be focused on employers' liability claims and insurance premiums, and general sickness absence rates.

Perceptions of the cost of work-related ill health

Most small companies were not thought to have experienced any cases of work-related ill health in recent years. The most prevalent conditions within the medium/large organisations were either musculoskeletal or stress-related. Judgements regarding the prevalence of work-related ill health were largely anecdotal rather than evidence based due to issues of identification (e.g. difficulties differentiating causes of illness within general absence databases). None of the participants, other than those that were confident that work-related ill health was not occurring within their organisations, were aware of how much work-related illness was costing their business.

The same underlying cost elements were identified in relation to work-related ill health as they were for injuries. However, work-related ill health was generally considered to have longer-term cost implications than injury. Additional costs identified for work-related illness included: occupational health and treatment costs, rehabilitation and early retirement costs. There was more uncertainty about the overall cost of work-related ill health than accidents. This was largely due to difficulties experienced in differentiating work-related and general sickness

absence. Some considered the overall cost of work-related ill health to be greater than accidents within their business. Others did not consider the overall cost to be a major business expense.

Measuring the cost of accidents and work-related ill health

Approximately 25% of the participating organisations had made some attempt to measure the cost of accidents (2 small and 31 medium/large). None of the participants were aware of any attempts made to quantify work-related ill health costs. There was wide variation in the methods, frequency and motivations for measuring accident costs between the organisations.

Most small company representatives did not recognise the value of conducting internal cost assessments. Those that did tended to be lower level managers or health and safety personnel who felt that the data may be instrumental in motivating others within the business. Perceived benefits within the medium and large organisations related to using the data for budgeting, benchmarking and business case purposes. Commonly cited barriers to assessing the overall cost of accidents and work-related ill health related to time, resource and system limitations.

Awareness and use of costing tools/resources

The majority of participants that were aware of HSG96, *The Cost of Accidents at Work* publication (HSE, 1997), recalled seeing or using it during NEBOSH certificate or diploma training. In many cases, the resource was considered to be of intellectual interest but of limited practical value. Awareness and use of the HSE Ready Reckoner was relatively rare.

Awareness of and attitudes towards the use of economic factors in health and safety campaigns

Participants cited a range of sources from which they had seen information alluding to the costs of accidents and work-related ill health. Respondents from small companies were generally less aware of such information. Information highlighting the cost of health and safety failures was considered to be most suitably presented as sector specific data. It was also emphasised that such data would need to take account of the differences within industry sectors. In general, case study information was also considered to be more appropriate than broad cost data. The majority of participants did not think that such information would be useful within their own organisations. In some cases, proactive advice was considered to be more appropriate than information about the cost of health and safety failures. In others, providing companies with information about the human impact of injury and ill health for dissemination to employees was considered a useful approach for driving health and safety improvements.

Phase 3

Accident and/or work-related ill health cost data collected in real-time over a period of 4 to 16 weeks was provided by 40 case study organisations. A further 9 small companies who had agreed to participate had no incidents reported during their specified survey period. Some organisations included all incidents occurring throughout the whole company, while others focused on specific areas of the business. Few organisations were able to provide work-related ill health data due to difficulties with existing systems.

A total of 795 accidents of varying type and severity, and 3 cases of work-related ill health were individually cost assessed using the methodology provided by the research team. Individual accident/incident costs ranged from £3 to £20,859 (averaging £195 per incident). The relative contributions of opportunity and financial costs to the overall value of incidents varied according to severity. The value of wages paid to injured employees or the cost of replacement labour during periods of absence were the biggest cost elements in relation to lost time injuries,

which supports the general perception that emerged in phase 2. The total cost of the 3 work-related ill health cases was £3,071, ranging from £210 to £2,174 (£1,024 per case).

It is important to note that only short-term, immediate costs were identified during the individual survey periods. Therefore, the figures may underestimate the total costs incurred by the organisations given the difficulties in predicting potential future losses such as: additional periods of absence, liability claims, or treatment costs.

Follow-up interviews conducted within the organisations revealed that most participants felt that the data provided a true reflection of the actual costs incurred, and that the figures were what they were anticipating. The majority of participants had either already utilised the information collected or had plans to do so in the future (e.g. using the costs in health and safety reports or training sessions). Participation in the costing process had not led the majority of participants to either start measuring the cost of accidents, or adjust their existing costing methodologies. However, some were considering doing so in the future. In a small number of cases, participants had actually continued with the costing process, or had incorporated the findings or methods into their established cost assessment procedures.

IMPLICATIONS

Future provision of cost information

- Providing organisations with information regarding the economic implications of health and safety failures may be of limited value in many organisations
- Future information outlining the cost implications of accidents or work-related ill health would be most suitably presented in the form of sector specific case studies, and should take account of differences within industries
- Providing organisations with guidance about how to collect meaningful cost data would be more beneficial than providing predetermined values
- Any guidance and suggested methodologies would need to take account of time, resource and system limitations

Alternative ways of promoting health and safety

- It may be appropriate to use more proactive measures in relation to small companies, rather than highlighting the negative consequences of health and safety failures (particularly as most have experienced relatively low incident rates)
- Highlighting the human impact of work-related injury and ill health may be a useful alternative for raising awareness of the implications of health and safety failures at all levels within organisations

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1. INTRODUCTION

1.1 BACKGROUND

The cost to employers of workplace injuries, work-related ill health and accidental damage events has been estimated to be between £3.5 billion and £7.3 billion a year (HSE, 1999a). These figures have been highlighted in a number of campaigns designed to demonstrate the business case for improving health and safety performance. Such economic arguments are assumed to be effective in generating and maintaining managerial interest in workplace health and safety. This strategy is based on the assumption that organisations are primarily motivated by economic incentives (Carter, 1992; Dorman, 2000) and that managers will pursue better health and safety management if they believe it will benefit their business to do so (Wright, 1998).

A number of UK health and safety initiatives have incorporated the economic approach in an attempt to motivate employers to improve their health and safety performance. The Health and Safety Commission's, *Revitalising Health and Safety Strategy Statement*, for example, includes plans to motivate employers by highlighting the economic benefits to industry of a good health and safety regime (Action point 1) and drawing public attention to trends in prosecutions, convictions and financial penalties imposed by the courts (Action point 8). The *Good Health is Good Business Campaign* (Health and Safety Executive, 1999b) also attempted to drive home the message that investing in good health risk management can be a major contributor to business success by reducing costs and improving efficiency and performance.

Although such campaigns have led to some improvements in the management of health risks, few organisations in the UK report making improvements to occupational health and safety due to concerns about the potential cost implications, or business impacts, of occupational ill health (Wright et al, 2000). Wright et al's survey of 1800 employers revealed that only 10% of firms felt that evidence of the business impacts would prompt them to do more to manage work-related ill health factors, with the majority being prompted by regulations, awareness of hazards and moral duties. A review of empirical research regarding factors that motivate health and safety improvements more generally, also found that there is little evidence in the UK to suggest that management are motivated to improve health and safety performance due to financial reasons (Wright, 1998). Other researchers on the other hand have indicated that the economic argument is an important motive for the introduction of accident prevention measures (e.g. Grimaldi and Simonds, 1984) and that in order to improve compliance with health and safety regulations there needs to be a greater awareness of the costs associated with injury and ill health (Lancaster et al, 2001).

A large number of costing studies have been conducted in an attempt to demonstrate the business costs of workplace accidents (e.g. Veltri, 1990; Brody et al, 1990; HSE, 1997; Niven, 1999). There has been considerable variation between the studies in terms of: classification of costs (e.g. direct/indirect, insured/uninsured, financial/opportunity); inclusion criteria (i.e. types of incidents); methods of data collection and costing; industry sectors, company size and countries of origin. While the majority of these studies appear to demonstrate that health and safety failures can result in considerable costs that constitute a significant loss to the organisations concerned, others have shown that such costs are not substantial in relation to the total running costs of a business (e.g. Laufer, 1987; Monnery 1999). Monnery (1999) concluded that the total cost of workplace accidents and work-related ill health within a cheque-clearing department of a financial services organisation in the UK was not substantial and unlikely to be key motivating factor for improving health and safety management.

Rikhardson & Impgaard (2004) have highlighted a number of problems with regard to the practical application of the costing methods applied in previous research. Although they acknowledge that previous costing studies have added valuable insight into the different costs of occupational accidents, it is argued that research studies have largely been conducted with no specific focus on developing cost analysis methodologies for practical use in businesses. Dorman (2000) also proposed a number of reasons to account for why many companies do not calculate the costs of health and safety failures. He suggests that: measuring costs can be difficult and expensive and many firms may not have the trained staff or resources this task requires; managers may have a limited ability to absorb new information and their attention is often taken up by existing proposals and reports, leaving little surplus attention to devote to health and safety costs; and that the ability of health and safety departments to effectively bring the results to the attention of top management depends in part on where they are in terms of the firms overall hierarchy.

A number of attempts have been made to encourage and facilitate organisations to start actively measuring the costs that they incur due to health and safety failures. The Health and Safety Executive (HSE), for example, launched a Ready Reckoner, a web based tool designed to explain the associated costs of workplace accidents and work-related ill health and help businesses calculate how much such incidents are costing them. The European Agency for Safety and Health at Work (1999) also published a practical tool to help businesses evaluate the true impact of accidents. In addition, one of the recommendations made in a report by the National Audit Office (2003) advocated the development of a robust costing methodology for assessing the financial impacts of accidents and work-related ill health within NHS Trusts.

As illustrated above, much of the previous costing research has focused on demonstrating the potential cost implications of workplace accidents and work-related ill health. Although more recently it has been shown that companies perceive the cost of employers' liability insurance to be a significant business expense related to occupational accidents and ill health (Wright and Marsden, 2002), relatively little attention has been paid to their perceptions of other, uninsured costs, that they incur due to health and safety failures. In addition, recent promotional campaigns and reports have urged organisations to start measuring their own costs in attempt to raise awareness of losses that could be prevented through further investment in health and safety risk management. However, limited research has been conducted to establish either organisations' attitudes towards or experiences of calculating these costs.

1.2 RESEARCH AIMS

The objectives of this research were to:

- Explore knowledge and awareness of the costs incurred due to workplace accidents/incidents and work-related ill health
- Investigate the extent to which organisations measure the cost of their health and safety failures and explore their attitudes towards, and experiences of, measuring these costs
- Provide organisations with a tool for assessing the cost of accidents/incidents (including both injury and non-injury events) and work-related ill health in real time to obtain some measure of the immediate costs incurred by organisations in a range of industry sectors
- Establish whether providing organisations with a tool for measuring the cost of accidents/incidents in real time influences perceptions and changes working practices

- Examine the implications that the findings have for health and safety information provision and make recommendations for future health and safety initiatives

1.3 REPORT FORMAT

The study design consisted of 3 separate but complementary phases:

1. A series of initial focus groups and one-to-one interviews conducted with a small number of health and safety professionals and company Directors to gain some initial insight into the issues of interest
2. A case study survey of organisations involving in-depth interviews with Directors, personnel with responsibility for health and safety and workers' representatives to explore, in greater depth, the issues raised in phase 1
3. Real-time costing of accidents/incidents within a sub sample of the case study organisations in order to obtain a measure of the immediate costs incurred by organisations in a range of industry sectors. Follow up interviews were also conducted with this sub sample to explore whether providing organisations with a tool for measuring the cost of accidents/incidents in real time influences perceptions and working practices

This report provides details of each of the 3 stages of the research.

Section 2 will summarise the methods used in each phase, including: the research approach, the participants, the research instruments and methods of data analyses.

Section 3 presents the findings from phase 1, including a summary of the participants and the main themes that emerged from the focus group and interview discussions.

Section 4 will present the findings from the case study survey. This will be presented in the following order: a summary of the individual participants according to their job role; a summary of the participating organisations according to size (defined by number of employees), industry sector and geographical location, and a summary of the main themes derived from the interview transcripts highlighting any obvious similarities or differences between different groups of respondents (i.e. according to the size and sector of the organisations that they represent).

Section 5, the findings from phase 3, will include: a breakdown of the participating organisations according to size and industry sector; presentation of the individual case studies detailing the costs incurred by each of the participating organisations; an overall analysis of accident/incident cost data collected in real-time, and a summary of the findings from the follow-up interviews conducted within the participating organisations.

Section 6 presents an overview of all of the findings.

Section 7 considers the implications of the findings for future information provision and research initiatives.

2. METHODS

2.1 PHASE 1: INITIAL FOCUS GROUPS AND INDIVIDUAL INTERVIEWS

2.1.1 Research Approach

A qualitative approach, combining focus groups and individual interviews, was used to obtain some initial insight into the experiences, attitudes and opinions of a convenience sample of Directors and Managers with responsibilities for health and safety. This method enabled the collection of targeted data through the use of themes, sub themes and prompts within the discussion schedules (described below).

2.1.2 Participants

Individuals with primary responsibility for health and safety within organisations were invited, via letters and follow-up telephone calls, to take part in a focus group. Over 100 organisations were contacted in order to achieve the final sample for this initial phase of the research. Three focus groups were conducted with a total of 17 health and safety professionals representing medium (50-249 employees) and large (>249 employees) organisations. Six individual interviews were also carried out with Directors and Senior Managers from small (0 – 49 employees) and medium sized firms, who were unable to attend a focus group due to work commitments. The participants were drawn from a variety of industries, including: education, healthcare, manufacturing, distribution, transport and construction.

2.1.3 Research Instruments

A focus group schedule was developed to explore a range of issues, including: awareness of the costs incurred due to workplace accidents/incidents and work-related ill health; the extent to which these costs are measured; barriers to assessing cost, and attitudes towards measuring these costs (appendices page 164). The focus group schedule was also used to structure the individual interviews to ensure that the same topics of interest were addressed throughout. This also enabled the combined analysis of the qualitative data obtained from the focus groups and individual interviews. The focus group and interview schedules were piloted refined in light of the pilot studies (slight changes to the wording of some of the questions were made). At the beginning of each discussion, participants were provided with the definitions that were adopted in the study of a work accident and case of work-related ill health. An accident was defined as *'any unplanned event that results in injury of people, damage or loss to plant, materials or the environment or loss of a business opportunity'* (HSE, 1999a). Work-related ill health was defined as *'any illness, disability or other physical or mental problem that is caused or made worse by one's work'* (HSE, 1999a).

2.1.4 Data Analysis

Each focus group discussion (lasting approximately 90 minutes) and interview (lasting approximately 30 minutes) was recorded on tape, with the permission of the participants, and fully transcribed. Both the focus groups and individual interviews generated rich and detailed qualitative data. This data was analysed by the sorting of verbatim material into emergent themes using the method described by Dey (1993). The findings are summarised under the various themes and sub-themes that emerged from the focus group and interview discussions, along with illustrative quotes. The initial insight gained from phase 1 was used to inform the development of an in-depth interview schedule for use in phase 2.

2.2 PHASE 2: CASE STUDY INTERVIEW SURVEY

2.2.1 Research Approach

A series of semi-structured interviews were conducted with directors and senior managers, health and safety personnel and workers' representatives from 129 case study organisations. In addition to providing general verification of the information obtained in phase 1, the case study interview survey was also designed to: examine similarities and differences in the views and experiences of representatives from different types of organisations, and provide further details of accident and work-related ill health costing processes and procedures used within the case study organisations. The semi-structured interviews were designed to provide a consistent and standard framework through which the issues of interest could be explored in further detail. This again enabled the collection of targeted data through the use of themes, sub themes and prompts within the interview schedule (described below).

2.2.2 Participants

The HSE technical project manager provided the research team with a sampling frame which outlined the types of organisations that were to be targeted and invited to participate in the research. The sampling frame was considered to be representative of the profile of organisations operating throughout the UK according to both size (i.e. number of employees) and Standard Industrial Classification (SIC) code (Office for National Statistics, 2002) at the time.

A range of recruitment techniques were used to make contact with organisations, including mail shots, telephone calls and emails directed to personnel with responsibilities for health and safety. Organisations were primarily sampled from the Thomson Business Search Pro Directory (2003), a database which allows the user to search for organisations according to criteria such as number of employees, SIC code and type of business. Other means of recruitment included: emailing members of open access discussion forums and regional health and safety groups; presenting to health and safety personnel attending professional training courses; and making use of established contacts.

The selection procedure involved quota sampling to ensure that the final sample comprised two size categories: small (0-49 employees), and medium/large organisations (50 plus employees), across a range of industrial sectors. The sectors were: agriculture and forestry (SIC A and B); manufacturing (SIC D); construction (SIC F); wholesale, retail & repair (SIC G); hotels, restaurants and catering (SIC H); transport, storage and communication (SIC I); public administration and defence (SIC L); education (SIC M); health and social work (SIC N), and other community, social and personal service activities (SIC O). Recruitment was carried out on a continuous basis until the quotas for company size and industry sector were reached. Efforts were also made to ensure that participating organisations were located throughout England, Scotland and Wales in order to achieve a wide geographical spread across the UK. Contact was made with approximately 2000 individual organisations using the techniques outlined above in order to achieve the final sample of 129 companies.

A key contact was established within each participating organisation. This was generally the most senior person with day to day responsibility for health and safety. Contacts within small companies tended to be a director or senior manager, while health and safety personnel were generally the key contacts within medium and large organisations. Between 1 and 4 individual interviews were carried out within each organisation, depending on the size and complexity of the business. Interviews within small companies were carried out with the most senior person available for interview. In addition to interviewing health and safety personnel within medium and large organisations, an appropriate director/senior manager and workers' representative

(e.g. health and safety rep or Union representative) were also identified and invited to take part in an interview in order to examine consistency of opinion.

2.2.3 Research Instruments

The interview schedule (appendices section page 168) was designed to explore the main issues of interest and build upon the themes identified in phase 1. The interview schedule was piloted and refined in light of a pilot study (slight changes to the ordering and wording of some questions were made). Each of the participants received the same interview schedule with some of the questions rephrased according to the employees' job role. Each interview consisted of a standard set of questions which covered:

- Perceptions of the costs and benefits of health and safety measures
- Perceptions of the cost of workplace accidents/incidents and work-related ill health
- Measuring the cost of accidents/incidents and work-related ill health
- Awareness of costing tools/methods
- Awareness of and attitudes towards the use of the economic argument in health and safety campaigns

Interviews were carried out either on site or by telephone during working hours, depending on the availability of the individual participants. Each interview lasted between 30 and 90 minutes and was recorded on tape, with the agreement of the respondent. Participants were assured that any information provided by them would be presented anonymously and that they were able to withdraw from the interviews at any time.

2.2.4 Data Analysis

The recorded interviews were fully transcribed and analysed by the sorting of verbatim material into emergent themes similar to the procedure followed in phase 1. Similarities and differences that emerged between different groups of respondents, according to the type of organisation they represent, were also highlighted. A range of verbatim quotes are presented to illustrate the themes being described.

2.3 PHASE 3: REAL-TIME COSTING OF ACCIDENTS/INCIDENTS

2.3.1 Research Approach

Each organisation that participated in phase 2 was also invited to collect accident/incident cost data over a minimum period of 4-weeks using a cost assessment tool developed by the research team. The cost assessment tool was based on a total loss approach, covering the cost (to the business) of all injury, non-injury and damage events. The aim of the cost assessment was to identify the immediate cost implications of all accidents/incidents occurring over a specified study period (ranging from 4 to 16 weeks per organisation). The cost impact of each individual accident/incident was examined in terms of both opportunity and financial losses. The definitions of 'opportunity' and 'financial' costs adopted in this study are provided below. A small number of work-related ill health cases were also cost assessed using the same methodology.

Follow-up telephone interviews were conducted within this sub-sample of organisations to examine whether collating cost data in real time influenced their perceptions of the cost of workplace accidents/incidents and work-related ill health.

2.3.2 Research Instruments

Accident/incident and work-related ill health cost assessment forms

A generic accident/incident cost assessment form was developed by the current research team, based on previous HSE costing methodologies (e.g. HSE, 1997 and the Ready Reckoner). Both paper and electronic (Microsoft Excel) versions of the form were made available and were accompanied by comprehensive guidance sheets to aid completion. The cost assessment form and accompanying guidance (see appendices, page 175) were designed to provide a structure and prompt for individuals completing the form to seek out and record information on every cost arising out of an accident/incident.

All incidents meeting the following definition were intended to be included in the study: *‘Any unplanned event that results in injury of people, or damage or loss to plant, material or the environment or loss of a business opportunity’* (HSE, 1997). This wide definition encompasses all personal injury events, including acts of violence and aggression in the workplace. It also includes all accidental damage events, regardless of whether personal injury was involved.

Similar forms were also designed to gather information on: costs relating to all new cases of work-related ill health conditions that are identified during the designated survey period, and continuing costs of work-related ill health cases per-dating the start of the survey period (e.g. an employee is absent from work due to work-related ill health before the start of the survey but does not return to work until the third week of the survey period) (see appendices, page 189). The costing forms and guidance were designed to capture every possible cost relating to an incident, including both financial and opportunity costs.

Opportunity costs were defined as *‘the costs of lost opportunities, either through people having to stand idle or not being able to produce at their regular job by virtue of being redirected to deal with the consequences of an accident/incident’* (HSE, 1997) (e.g. value of payments made to injured/sick employees during periods of absence, downtime and management investigation time). Financial costs were *‘the additional costs incurred to return the situation to what it was before an accident/incident happened and includes both material and labour costs’* (e.g. the cost of overtime and agency fees paid to cover absence in order to ensure that work is still completed, and the cost of hiring or replacing damaged equipment, materials or products) (HSE, 1997).

The accident/incident cost assessment form consisted of 9 sections. Section 1 was intended to be completed for every incident. However, the nature of the individual incident determined which additional sections (2-9) should also be completed. Each of the following sections addressed both opportunity (i.e. time) and additional financial costs: 1) details of accident/incident; 2) initial response to incident (i.e. immediate action); 3) details of any personal injury sustained; 4) costs associated with unplanned absence and replacement labour; 5) details of property damage and associated costs (e.g. repair or replacement costs); 6) details of material or product damage/loss; 7) impact on work/production; 8) time spent by managers/supervisors etc on accident/incident related activities (e.g. time spent investigating and reporting incidents) and 9) other costs (e.g. reactive costs/rectification measures to prevent reoccurrence of incidents).

The work-related ill health costing forms comprised the following sections: 1) details of the work-related ill health condition; 2) costs associated with unplanned absence and replacement

labour 3) impact on work/production; 4) time spent by managers/supervisors etc on tasks relating to the work-related ill health case, and 5) other costs.

The cost assessment forms were piloted within 3 individual organisations and refined in light of the pilot studies (slight changes were made to the ordering and wording of some of the prompts).

Follow-up interview schedule

Semi-structured follow-up telephone interviews were conducted with each of the key contacts within this sub-sample of organisations approximately 1 month after the final receipt of data. The interview was designed to examine:

- Whether recording accident/incident and work-related ill health costs in real time influenced their general perceptions of the costs incurred
- General responses to the information collected
- Whether participating in the costing exercise led to a change in their approach/attitude towards costing incidents
- Use/intended use of the information within the organisations
- Any difficulties encountered during the costing process

2.3.3 Participants

Each of the key contacts within the 129 case study organisations were invited to participate in phase 3 of the research. After conducting the initial interviews for phase 2, the researchers provided participants with a detailed explanation of the processes involved in the costing study. The organisations then either volunteered to take part or declined the offer to participate.

2.3.4 Data Analysis

The majority of participating organisations provided detailed cost data on a range of incidents. The method of analysis adopted in the current study was similar to that of HSE (1997) in terms of the appropriate inclusion of opportunity and financial costs. For example, if efforts are made to replace injured employees during absence by means of paid overtime etc, it is generally assumed that no loss of production would have occurred and therefore only the financial cost of replacing the absent employee would be counted. Alternatively, if only a proportion of the absence is covered, then it may be assumed that there were opportunity losses during the period of absence that was not covered.

Individual case studies have been prepared to summarise the cost data provided by each of the participating organisations. Each of the case studies present the following information: description of the organisation and business unit of focus; description of the costing methodology according to the length of the study period and processes adopted for gathering the relevant information; number and severity of accident/incidents reported and cost assessed; types of accidents/incidents that occurred; nature of injuries sustained, and a breakdown of the costs incurred (including a summary of both opportunity and financial costs).

Each of the individual accident/incident costs have also been collated, analysed and presented in an overall summary of the data obtained in phase 3. In addition to summarising the number and

severity of accident/incidents that were cost assessed, the types of accidents/incidents that occurred and the nature of injuries sustained, this analysis also provides an indication of the type and extent of costs that are commonly incurred due to different types of incidents (according to incident severity).

Within the scope of the current research project it was only possible to obtain a measure of the short-term or immediate costs that were present during the individual survey periods. Therefore, it is important to note that the figures are likely to underestimate the total cost of accidents/incidents. They do not, for example, take account of any potential costs that may be incurred in the future, such as additional periods of absence relating to the injuries sustained, liability claims, future treatment costs incurred by the organisations (e.g. physiotherapy), retraining or permanent replacement costs. However, they do provide detailed information on the types of costs that many organisations do not systematically monitor.

Key themes will be drawn from the follow-up interviews and presented along with illustrative quotes.

3. FINDINGS FROM PHASE 1: FOCUS GROUPS

This section presents the findings from the phase 1 of the research. These findings are summarised under the various themes and sub-themes that emerged from the focus group and interview discussions, along with illustrative quotes. The profile of the 23 participants is shown in Table 1 below.

Table 1 Summary of phase 1 participants

<i>Group</i>	<i>Job Title</i>	<i>Size</i>	<i>Sector</i>
Focus group 1	Safety & Radiation Protection Officer	Large	Education
	Quality Environment Health & Safety Controller	Med	Manufacturing
	Facilities Manager	Med	Manufacturing
	Health & Safety Manager	Med	Wholesale
	Health Safety & Environmental Manager	Large	Manufacturing
	Safety & Environment Manager	Large	Manufacturing
Focus group 2	Business Safety Health & Environment (SHE) Manager	Large	Manufacturing
	Health Safety Environment & Quality (HSEQ) Manager	Large	Manufacturing
	Safety Health & Environment (SHE) Training Advisor	Large	Manufacturing
	Environment Health & Safety Advisor	Large	Manufacturing
	Health & Safety Officer	Large	Transport
	Health Safety & Environment (HSE) Advisor	Large	Manufacturing
	Health Safety & Environment (HSE) Manager	Large	Manufacturing
Focus group 3	Health Safety & Environment Manager	Large	Manufacturing
	Group Health & Safety Officer	Large	Education
	Safety Training & Environment Manager	Med	Construction
	Health & Safety Manager	Large	Healthcare
Individual interviews	Quality & Environmental Manager	Med	Manufacturing
	Environmental, Quality & Safety Manager	Med	Manufacturing
	General Manager	Small	Manufacturing
	Director	Small	Manufacturing
	Director	Small	Distribution
	Contracts Director	Small	Construction

3.1 KNOWLEDGE OF COSTS INCURRED DUE TO ACCIDENTS AND WORK-RELATED ILL HEALTH

Three of the respondents were able to quote figures for the cost of workplace injuries occurring within their organisations. A Health, Safety and Environment Manager for a large manufacturing company had estimated that accidents were costing his organisation around £230,000 a year, while an Environmental, Quality and Safety Manager for a medium sized printing firm placed a figure of approximately £10,000 on the annual cost of accidents. Both of these participants based their figures on previous cost assessments that they had conducted. A General Manager for a small manufacturing company also estimated that lost time injuries had cost his business £3,500 over the previous 15 months. However, this figure was based on a rough calculation carried out at the time of the interview. None of the participants were aware of how much work-related ill health was costing their organisations, other than a Health and Safety Manager for a NHS hospital who had seen regular figures relating to the amount paid out in claims for work-related illness.

3.2 AWARENESS OF TYPES OF COST IMPLICATIONS

Although the majority of participants stated that neither they nor their organisations were aware of how much workplace accidents or work-related illnesses were costing, they were all aware of at least some of the types of costs incurred as a result of health and safety failures. Representatives from small companies tended to refer to their experience of lost time injuries when considering the types of costs they had incurred, focusing specifically on the cost implications of absence. Although participants from medium and large organisations also considered the cost of absence, they tended to focus more on costs related to liability claims and insurance premiums, and the opportunity cost of management time spent dealing with incidents after they occur.

The cost of absence was referred to in the context of paying injured employees during periods of absence and either the cost of replacement labour (financial cost) or the loss of production and efficiency due to the absent employees' work not being completed (opportunity cost). A Contracts Director for a small construction company, for example, described the impact of absence within his organisation. In this case, absence could have one of two cost implications, depending on the way in which the situation is managed. The company would either accept loss of output and therefore incur the cost of lost production, or incur the financial cost of hiring replacement labour in order to maintain productivity at a higher cost.

'We have two knock on effects, one is loss of productivity or, if we do get somebody in to cover for them it will probably cost us double what we're paying the guys that we employ on the books.'

In addition to the impact of absence on production, participants also commented on the cost of lost production in relation to restrictions imposed by external agencies as a result of major incidents. A Safety, Health and Environment Manager for a large chemical manufacturer described how a major injury event had resulted in the temporary closure of a production facility in his company:

'I remember a guy lost a couple of fingers in the manual handling facility and the system shut down for a month. There was no production on that particular bagging line for a month. That's a bigger cost than the cost of sick pay and I think that's when it starts to escalate.'

The majority of participants from medium and large organisations commented on both the cost of employer's liability insurance premiums due to the increasing number of claims being made against them and the time spent by them and other managers on tasks related to incidents (e.g. time spent responding, investigating and reporting).

A Health and Safety Manager for a medium sized wholesale company described how a rise in the number of claims made by employees injured at work had led to a substantial increase in the cost of their annual insurance premium:

'Litigation following injury or ill health ... at the end of the day that reflects back to the company because the insurance premium is going to go up. At this moment that is the biggest cost for us and it's getting bigger and we are struggling, there's no doubt, because of the litigations.'

A Safety, Training and Environment Manager for a medium sized manufacturing firm also commented on the increasing number of claims being made against his company. In this case, claims were being made by employees with ill health conditions that were largely related to their previous working environments:

'One of the problems of being in industry up round here is miners ... we've got 4 guys now on the books that were ex miners that are now claiming through us for vibration white finger.'

A number of participants from larger organisations highlighted the differences that they perceived between their companies and smaller firms in terms of the types and extent of costs incurred. A Safety, Health and Environment Manager for a large manufacturing company talked about the difference in terms of the level of investigation carried out and the impact of claims:

'The investigation costs are significant for us because we report even near misses and things like that, so you're talking 100's per year, so there's significant costs associated with that. One thing that's definitely on the increase for us is claims, civil claims by people for the incidents that have occurred and you might think, oh well that's covered by insurance, but in practice premiums will go up depending on your claims history ... I suspect in larger organisations perhaps the costs are higher because of the greater level of investigation and even perhaps compensation.'

In addition to costs related to absence, claims and insurance, participants also talked about the 'significant' cost of ill health retirements in the context of work-related illness.

'It's significant under our retirement rules ... if someone retires through ill health whether work-related or not, you have to top up their pension and give them a few extra years, so typically I think you're looking at, at least a quarter of a million per case, so it's a significant cost, it has been a significant cost for our business' [Business SHE Manager for a large manufacturing company].

3.3 CONCERN FOR THE COST IMPLICATIONS

The majority of respondents felt that their organisations were concerned about the cost implications of workplace accidents and work-related ill health to a certain extent. However, this concern tended to focus on either the tangible cost of liability claims and insurance premiums or potential large-scale losses arising from major events. Uninsured costs actually incurred as a result of more frequent incidents (e.g. absence relating to accidents and work-related ill health and management time) were generally not considered.

An Environment, Quality and Safety Manager from a medium sized printing company explained how he viewed his Director's concern for the cost of health and safety failures:

'They are interested in the costs involved especially when it comes to the times when insurance premiums are up for renewal ... that's the time when they start looking at the costs ... often I believe that the directors are just concerned that I'm managing the systems properly so they don't get bitten. Managers, directors in particular, certainly with respect to corporate involvement in accidents and things like that, they're aware of the fact that they can be stung with respect to a £20,000 fine or two years in prison if something goes wrong, so their only interest really is that I'm managing things satisfactorily to, you know, to cover their backs.'

Other areas of concern included awareness of the potentially damaging effects of major incidents on company reputation, particularly with regard to customer and client relations, as this Safety, Training and Environment Manager for a small construction firm explained:

‘A thing for us which is definitely in the forefront of directors and senior managers minds is our credibility because we’re working on very big public building sites with very big contractors. If we killed somebody on a project we wouldn’t work for half the companies that we work for again. That would be it, we just wouldn’t win tenders if we had that sort of record behind us. Likewise, if we’ve got a reputation as being careless, reckless, accident prone, we wouldn’t win tenders, they wouldn’t have us working on their sites. So its not really a cost as such its more of a future cost in terms of lost business opportunities, that would be a massive impact on us and that is certainly an important thing.’

Others felt that their organisations were not particularly concerned about the cost implications of health and safety failures. In a number of cases, the cost was not considered to be problematic due to low incident rates within the organisation.

‘I don’t think our place really considers the cost of accidents as being a significant issue because we haven’t had anything much that has been particularly expensive or disruptive. There’s the low level of chronic problems but they are at such a low level that they are not seen as a significant cost.’ [University Safety Officer]

3.4 MEASURING THE COST OF HEALTH AND SAFETY FAILURES

Five participants reported that they had carried out some form of assessment of the cost of health and safety failures within their current organisations. A retrospective methodology was adopted in all cases, although the types of costs measured and the motivation behind the procedure varied somewhat between the respondents.

A Health, Safety and Environment Manager for a large manufacturing company, who had been calculating the cost of accidents for the past three years, reported that he was keen to demonstrate his claim that health and safety is a ‘value added’ activity, strategically aligned to the business needs. In this case, highlighting the cost of accidents had contributed to him receiving ‘£34,000 for a behavioural safety improvement programme.’

‘It was costing us £234,000 just in accidents, 20 reportable lost time injuries and 560 minors ... we knew how many minor injuries we had the year before and we put £238 pounds on every minor and for a reportable lost time injury we put £3600. I highlighted that to senior management and they said they didn’t realise how much it was costing them.’

An Environmental, Quality and Safety Manager for a medium sized printing company also reported that he had been quantifying the cost of injury accidents for the past three years. The key reason for conducting the annual assessment was to enable his Financial Director to budget for the cost of accidents occurring within the company. The three main costs included in the assessment were: the cost of sick pay, the cost of claims, and his salary cost.

A Safety and Environment Manager for a large healthcare manufacturing company described how the occupational health department within his organisation had conducted a one-off assessment of the cost of absence related to work-related ill health in order to ‘justify an additional nurse on site.’

‘We simply looked at how many people were off in a set month. A study by our own Occupational Health Service had established that something like 6% of all absence was due to work in some way, so 6% multiplied by a basic average salary base. It was very broad brush but at least it gave us an idea for the exercise we were doing.’

Two of the participants explained that they were still in the very early stages of trying to assess the cost of their health and safety failures. Both of the participants were keen to identify an average uninsured cost that could be applied to the total number of accidents occurring within their organisations.

'We forgot about the insurance side. Before we always concentrated on being sued etc, so we forgot that side of it and just looked at the uninsured cost ... we're going back through the entire year and looking at all the injuries and all the time off that's occurred through work injuries and hopefully doing a full report on that. What we've tended to do is look at all the accident reports for the last year. We've got an average time of how long it takes to report it, to find out how we can stop that occurring and basically work on an average cost of that, depending on how many people are looking at the problem.' [Quality and Environmental Manager for a medium sized manufacturing company]

A Health Safety and Environmental Manager for a large manufacturing company also explained how he had recently started to retrospectively analyse the cost of accidents occurring within his organisation.

'We have started to try and look at the costs of accidents, not very successfully at the moment. What we did is we took an accident and we tried to cost all of the consequences of that. We took an accident which we thought would have cost about £3,000 in time and effort but actually when we worked it out it was probably nearer £40,000 when we went into detail of things like time and effort, equipment and machinery, replacement cover and overtime.'

Five health and safety representatives were aware that the HSE's Ready Reckoner was available to help companies calculate the cost of accidents and work-related ill health. However, only three of the respondents had ever looked at the information in detail and attempted to apply it in the workplace. A Group Health and Safety Officer for a large college reported that he had attempted to use the figures provided by the Ready Reckoner's annual accident calculator to work out the cost of accidents occurring within his organisation. Although he recognised the benefits of applying 3 basic figures to the cost of accidents he did not feel that he could relate them to the cost of accidents occurring within the education sector.

'I'm keen on the concept of the three numbers but I think you can only do that against your own industry ... I'm staring at numbers that the HSE have created and cannot see how I can apply them to education, it doesn't work, or it doesn't feel it works and that's where there's got to be some sort of bespoke bit to it so that I can take it to the governors with some sort of tangible feel to it as opposed to some random number generated by the HSE.'

3.5 BARRIERS TO ASSESSING THE COST

In addition to the perceived difficulties associated with applying standard national figures to the cost of incidents occurring within different types of organisations, participants commented on a range of other problems associated with assessing the cost of workplace accidents. The main barriers included: lack of time and resources and the complexity involved in assessing the more intangible, opportunity costs. One of the most commonly cited reason for not measuring the costs of health and safety failures was the time and effort that it would take to perform such a task. A Director for a small distribution firm, for example, described the situation within his company:

'We haven't got time to be honest with you. If you were to speak to 20 small businesses, they would say yes it is costing me money but you'd never have time to sit down and work out how much its costing you, you wouldn't be able to gauge it. Bigger companies, they have human resources people but not within a company of this size.'

A Safety Training and Environment Manager for a construction firm also commented on the problem of time constraints:

'I think it would take too much time for me to do it, too much paper work. I would say there are other things that have got higher priority for me to look after, deadlines to meet rather than running around after the event. I think they (the directors) would probably want to see me try and avoid it happening again rather than going backwards and seeing how much it cost. They would say that would be a better way of me spending my time and their money.'

The complexity involved in quantifying the cost was also referred to by a number of participants as a barrier to assessing the financial impact of accidents and work-related ill health. A Group Health and Safety Officer for a large college reported that he is particularly keen to find out how much work-related accidents and ill health are costing his organisation. However, the difficulties he has encountered in trying to quantify some of the more intangible costs have prevented him from doing so successfully. In this case, quantifying the hidden financial impact of an employee being absent from work due to injury or ill health is particularly problematic.

'I'm keen to find out a way of trying to equate cost from the world of education, it's a really difficult task. I've tried and failed ... what I have a problem with is that I can't cost loss of output because if a member of staff is not here the load is spread so its not a number or its not an obvious number ... its those hidden costs which are really tough for me to get my head round. It's such a complex issue.'

A number of participants indicated that the task of measuring the cost of work-related ill health may be even more problematic given the difficulties associated with identifying the extent of work-related ill health within their business. Common issues included: lack of information to identify the link between work and ill health, lack of differentiation between work-related and general ill health within central databases, and lack of reporting and acceptance among employees.

3.6 ATTITUDES TOWARDS MEASURING THE COST IMPLICATIONS

Bringing the cost of accidents and ill health to the attention of Managers and Directors was well recognised by several health and safety representatives from medium and large companies as a means of justifying health and safety improvements within their organisations. A Health and Safety Manager for a medium sized wholesale company explained why he was in favour of assessing the cost of accidents and work-related illness within his company:

'Very often it's justifying expenditure. If you've got facts and figures to prove how much it's costing it makes it much easier to implement those recommendations or implement actions on your risk assessment. At the end of the day they've got to spend a lot of money to implement some of the recommendations that our risk assessments are going to make, so that gives us some ammunition.'

In addition to bringing the cost of health and safety failures to the attention of boards of directors and senior managers, participants also discussed the benefits of highlighting the cost of failure to middle management, as a tool for driving health and safety improvements.

'Higher up, I think they know instinctively the cost of accidents, I think they realise what the cost of accidents are and that's why they're willing to support the health and safety community. The problem I have is at the lower level, local managers not realising the cost of the accidents. I don't think they realise everything that goes on behind that accident, I don't think they see it. I can show them the claims that come in and I can list the things that go on, but I don't think they can grasp how much it costs the company, how much it costs their department to have people off injured and that's where I'd like to get, to be able to give them something that they can tangibly see and they can then realise why we're doing health and safety.' [Health Safety and Environment Manager for a large manufacturing company]

A number of participants from small, medium and large companies did not feel that their organisations would benefit in any way from assessing the cost of health and safety failures. The majority of participants from small companies did not feel that it would be necessary due to the low levels of failure currently occurring within their organisations. A General Manager for a small manufacturing company, for example, explained that at the current level, the cost of accidents and work-related illness was not perceived as a serious issue worthy of being quantified.

'It's not something we've gone into, I think if accidents were occurring in an increased manner then we'd have to, but because we've done everything we can and its so limited now and very rare, then I would think no, we wouldn't have any need to do that.'

A Director of a small furniture manufacturing company also explained why she would not be motivated to assess the costs of accidents occurring within her company. In this case, they were more concerned with the cost of complying with health and safety regulations rather than the cost implications of accidents and work-related ill health.

'I think we've got a healthy respect for health and safety, we've got systems in place that monitor more dangerous aspects of the business and obviously that is a cost to us, the administration of it. We have always had a good safe place to work and I think because of that attitude then we're more likely to monitor the cost of administering health and safety rather than the odd major accidents that we've had. The way we look at the costing of it, more is spent on the administration of health and safety, that side of things.'

Participants from larger firms who did not recognise the value of costing accidents and work-related ill health often felt that their organisations were already at a stage where they acknowledged the importance of health and safety as a high business priority.

'I think where you look for the costs is going to depend on the level that the company's at. For a company that's having a lot of injuries, costing the injuries is going to be important to drive management to focus on health and safety improvements but I think for companies who have been into having a high focus on health and safety for a longer period of time, you've got to look at the other things as well. To work out the cost of an injury would just be another cost of the injury. If it's not going to be a useful parameter to use to drive your HSE management system, then you don't need to do it.' [Health, Safety, Environment and Quality Manager for a large manufacturing firm]

A Safety, Health and Environment Manager for a large chemical manufacturing company described the longstanding approach towards the prevention of accidents and ill health within his organisation. In this case, the benefit of knowing the cost of failure would be limited given that they are already committed to the prevention of all accidents and ill health, regardless of the cost involved:

'We as a company believe in the right Safety, Health and Environment behaviours and a reduction to zero injuries and zero ill health problems. It's actually not important what that cost is, right from the board level down, we're committed to that target and there's never been any question about whether what we are doing is good value for money.'

3.7 OTHER DRIVERS FOR REDUCING HEALTH AND SAFETY RISKS

Although many of the participants did recognise the potential benefits of using the cost of accidents and ill health as an incentive for making improvements, several participants also commented on other arguments that are effectively used to justify investment in preventive measures. One of the most common arguments used by the health and safety representatives related to the potential legal implications of health and safety failures. For others, benchmarking health and safety performance against that of competitors was considered to be a powerful tool for persuading managers to make improvements:

'I think that the environment I work in, being a large publicly accountable organisation, reputation is really one of the most important drivers to it and the university sector is very good at benchmarking across a whole range of things. In health and safety we benchmark lots of things against other universities so one of the arguments you use is that benchmarked against similar institutions, we're not meeting best practice and the university is keen to be seen to achieve best practice.' [University Safety Officer]

In addition to highlighting the 'cons' of not preventing injury and work-related ill health, a number of participants from larger organisations also highlighted the potential of illustrating the 'pros', or business benefits associated with health and safety improvements:

'Very often there's benefits, when you correct health and safety problems, there's cost benefits in operational aspects as well which is something you must take into account, for example, we identified a problem in our warehouse, we ship out products in bags and in bulk and we were concerned about safety issues, all of the vehicles tended to arrive at the same time in the morning and then they're all lined up waiting to go and there were vehicle hazards associated with the marshalling of all these vehicles and we moved to a time slot system that they come at certain times during the day and its been better not only for health and safety but also for the operational activities in the warehouse.' [Safety, Health, Environment and Quality Manager for a large manufacturing company]

The majority of participants felt that their organisations' attitudes towards the prevention of health and safety failures had improved in recent years. However, none of the participants referred to the cost incurred as a result of injury and work-related ill health as a reason for this shift in attitude. The main factors were considered to be: increased awareness about corporate responsibility and fear of prosecution; concern for the image and reputation of the business; increased awareness due to training; learning from the previous experiences of new employees joining the organisation, and genuine care for the health and well-being of employees.

'Both the company I'm with now and my previous company are pretty small so everybody knows each other and I would say that there's less of a spotlight on the cost of the accident and more examination of the personal injury and the personal feelings that go with it. If somebody in our place gets injured and goes to hospital everybody knows it, including the Managing Director because he's always out in the factory so its like a friend getting injured ... the cost of it doesn't really come into it ... they're not really thinking in terms of the financial side, they're thinking, blimey, this guy, he's

worked here 10, 15 years, he's a good mate and he's injured, that's bad news ... the cost of it is definitely looked at more as a personal thing rather than an instant pound symbol coming up behind the managing directors eyelids.' [Safety Training & Environment Manager for a small construction firm]

Table 2 Summary of themes relating to perceptions of the cost of workplace accidents and work-related ill health

<i>Themes</i>	<i>Sub themes</i>
Knowledge of costs incurred	Limited knowledge of the actual value of costs incurred Knowledge of cost based on: <ul style="list-style-type: none"> - Retrospective cost assessments - Rough calculations/estimations at time of discussion - Value of liability claims paid
Awareness of types of cost implications	Small companies focused primarily on impact of absence: <ul style="list-style-type: none"> - Payments made to employees during absence - Replacement labour costs - Lost production/reduced efficiency Medium and large companies also focused on: <ul style="list-style-type: none"> - Employers liability claims and insurance - Management time - Ill health retirements Perceived differences between smaller and larger firms
Concern for the cost implications	Perceived concern for: <ul style="list-style-type: none"> - Tangible liability insurance and claims costs - Potential large scale losses related to major events Uninsured costs actually incurred not generally considered No concern related to relatively low incident rates
Measuring the cost of health and safety failures	Majority of companies had not quantified the cost Cost assessments that had been carried out: <ul style="list-style-type: none"> - Generally retrospective assessments - Variations between companies in terms of costs included and motivation behind procedure Limited awareness and use of HSE's Ready Reckoner
Barriers to assessing the cost	Concerns over applying standard national figures to companies own accidents Barriers to conducting internal cost assessments: <ul style="list-style-type: none"> - Lack of time and resources - Complexity involved in assessing opportunity costs - Problems associated with identifying the extent of work-related ill health
Attitudes towards measuring the cost implications	Recognised benefits of measuring cost: <ul style="list-style-type: none"> - A driver for investment in health and safety when highlighted to senior managers and directors - Useful tool for motivating middle management Reasons for not considering the process in small firms: <ul style="list-style-type: none"> - Low incident rate and therefore no perceived benefits - Compliance costs considered more relevant Lack of perceived benefits in larger organisations related to: <ul style="list-style-type: none"> - Established appreciation for the importance of health and safety as a high business priority - Quantifying the cost of accidents viewed as an additional cost
Other drivers for reducing health and safety risks	Justifications for investment: <ul style="list-style-type: none"> - Legal implications of not preventing injury/ill health - Benchmarking against performance of competitors - Demonstrating business benefits (not purely financial) Levers for change: <ul style="list-style-type: none"> - Increased awareness about corporate responsibility - Fear of prosecution - Maintenance of image and reputation of organisation - Increased awareness due to training - Learning from previous experiences of new starters - Genuine care for health and well-being of staff

4. FINDINGS FROM PHASE 2: CASE STUDY INTERVIEWS

A total of 283 individual interviews were conducted with various levels of personnel within 129 case study organisations, including:

- 120 directors and senior managers with responsibility for health and safety (either nominated with overall responsibility for health and safety within the organisation, or the most senior person with responsibility for health and safety available for interview)
- 95 employees with responsibility for health and safety on a day-to-day basis (either Health and Safety Managers/Officers/Advisors with full-time responsibilities or personnel for whom health and safety is one of a number of key roles)
- 68 workers' representatives (e.g. union reps, health and safety reps/committee members, and general workers' representatives)

The number and types of individuals interviewed within each organisation varied according to the size and complexity of the business. In small companies the key respondent was the most senior person with responsibility for health and safety available for interview (ranging from Managing Directors down to senior/middle managers). The key respondents in larger companies tended to be a director/senior manager, personnel with responsibility for health and safety on a day-to-day basis and a workers' representative.

The interviews were conducted within small, medium and large companies across a wide range of industry sectors. The companies were selected using a sampling frame designed to reflect the profile of organisations operating throughout the UK, according to Standard Industrial Classification (SIC) code and size (number of employees). The sampling frame comprised 2 size categories, small (less than 49 full-time equivalent employees) and medium/large (50 plus employees).

The number of individuals employed within the small companies ranged from 6 to 49, with an average of 30 staff per organisation. Annual turnover (where divulged) ranged from £48,000 to £10m per organisation (average £2.719m). The medium/large organisations employed an average of 4,655 staff in the UK, ranging from 75 to 57,000 per organisation. Annual turnover or budget (in the case of public sector organisations) ranged from £180,000 to £4,698m (average £382.6m). Table 3 provides a breakdown of the types of organisations that participated in phase 2 according to SIC code and size category.

Table 3 Breakdown of participating organisations according to sector and size

<i>SIC Code</i>	<i>Sector</i>	<i>Number of small companies (<49 staff)</i>	<i>Number of medium/large organisations (>50 staff)</i>
A/B	Agriculture, Forestry, Fishing	4	-
D	Manufacturing	4	17
F	Construction	6	3
G	Wholesale, Retail, Repair	9	18
H	Hotels, Restaurants, Catering	2	6
I	Transport, Storage, Communication	2	8
L	Public Administration and Defence	-	6
M	Education	6	6
N	Health and Social Work	5	20
O	Other Community/Social Services	3	4
Total		41	88

Table 4 presents the range of business types that were represented within each of the broad SIC codes.

Table 4 Breakdown of business types sampled within each SIC code

<i>SIC Code</i>	<i>Small businesses</i>	<i>Medium/large organisations</i>
A/B	Landscape gardening Forestry Growers of lettuce products	-
D	Manufacturing of: food processing equipment; hydrometers; metal products; vehicle trailers	Manufacturing of: modular buildings; hydraulic systems; pre-cast products; electrical goods; advanced materials; engines; packaging systems Printing Food processing/production Paper mill/paper manufacturer
F	Installation of warehouse racking Onsite mixing services Roofing contractors General construction contractors Industrial painters Demolition contractors	Builders Highways construction/maintenance General construction
G	Hardware retailer Car dealership Wholesale of art and craft materials Wholesale and distribution of glass products Wholesale and distribution of chemicals Nursery wholesalers Printing works and distribution Repair of road fuel tankers Maintenance of catering equipment	Car dealership/distributors Commercial vehicle dealership Merchandising Mail order/supply Retail of: furniture; electronic goods; footwear; drinks Electronic components distributor Import and supply of fruit Suppliers of headsets Distribution/repair of construction equipment Wholesale distribution Timber/builders merchants
H	Bar/restaurant Take away restaurant	Caterers (e.g. commercial and school based) Restaurant/fast food chains
I	Road haulage and distribution	Cold storage distribution Logistics Delivery Rail operators Ground handling Telecommunications
L	-	Housing association Local councils Fire and rescue services
M	Primary schools Day nursery Commercial vehicle training	Independent preparatory school Further education college Universities
N	Residential care home GP surgeries Veterinary surgery	Hospitals NHS Trusts Partnership/Combined Healthcare NHS Trusts Primary Care NHS Trusts NHS support service Ambulance Service NHS Trusts Charities - provision of health and social care
O	Leisure centre Hairdressers Organic waste disposal	Theme park Waste services Drainage services

The participating organisations were located across the UK, providing coverage of all of the main geographical regions as illustrated in figure 1. The limited number of representatives from the North East may be accounted for by the location of large company head offices. In general, they did not tend to be positioned in this region of the UK. Despite efforts to recruit more small companies from this region to account for the shortfall, few organisations were willing to participate.

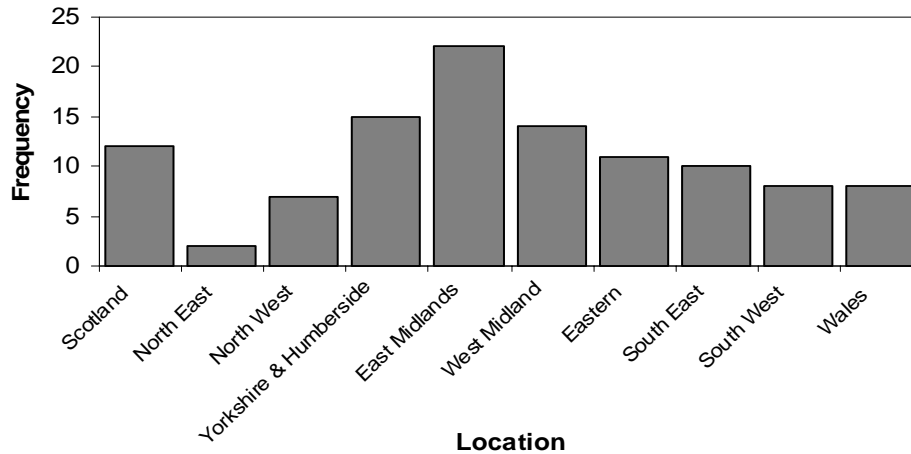


Figure 1 Regional location of companies across the UK

4.1 PERCEPTIONS OF THE COSTS AND BENEFITS OF HEALTH AND SAFETY

4.1.1 Current drivers for health and safety

All of the participants considered effective health and safety management systems to be integral to the commercial success or performance of their organisations and crucial to the efficient running of operations. The majority of participants acknowledged that financial issues often play a role in health and safety related business decision making. However, the cost of accidents and work-related ill health per se was not considered to be the key motivating factor for ensuring health and safety risks are managed effectively, as this Human Resources Director for a NHS Trust explained:

‘I don’t think necessarily sticking pound signs in front of something will make the health and safety agenda any more credible, its not about that. I think there is always a perception that decision making in business is based on cost-benefit. Cost-benefit is always part of it, but sometimes the cost isn’t a direct cost and I think managers are more comfortable with, don’t make decisions based on that ... we make decisions on all sorts of things, so the pound sign isn’t always the most important part of it.’

Most participants felt that a combination of other, higher level and interlinked factors were currently more influential in driving health and safety within their organisations. Respondents referred to a range of motivating factors which were either current (e.g. wanting to reduce levels of absence) or potential (e.g. avoidance of negative impact) issues for the organisations concerned. The majority of participants also cited external pressures as motives for health and safety within their organisations (e.g. client expectations/requirements). The main drivers related to: claims; legal exposure (e.g. litigation, fines, enforcement action); liability insurance premiums, pressure from insurance companies (and NHS litigation authority in the case of NHS Trusts); corporate image and reputation; customer and client expectations; government targets;

moral obligations to staff and service users; staff morale; absence, recruitment and retention; impact on productivity, efficiency and quality of service delivery.

Health and safety performance was considered to be an important factor in maintaining corporate image and reputation (customer, public and employee perceptions) across all of the industry sectors. For many of the private sector organisations, a reputation for good health and safety management was considered to be vital for achieving a competitive advantage, as this Human Resources Director for a large logistics company explained:

'It's a very competitive marketplace ... if your reputation is for good management and a good safety record it goes a long way to winning business.'

The General Manager of a large theme park also explained how health and safety was crucial to the commercial success of his business in terms of the public's perception of the company:

'If there were a serious failure and we were found to be negligent there would be a massive implication in terms of our guests not coming ... it's the highest strategic priority.'

In addition to recognising the benefits of a good health and safety management in terms of promoting reputation, and increasing the ability to win tenders or attract customers, many of the participants highlighted the fact that having effective health and safety management systems in place was a contractual stipulation for many of their existing clients.

'It's a core requirement for working offshore. If you don't have a robust health and safety management system, not just the incident reporting but the whole pro-activity around safety management systems then you don't get business offshore ... so it becomes a prerequisite for doing business and it also becomes a unique selling point.'
[Group Health and Safety Manager for a large commercial catering company]

The most commonly cited driver for health and safety amongst the small companies also related to client expectations or requirements. Respondents explained how a poor health and safety record could impact negatively on the ability of their companies to secure future contracts.

'In this area, especially in refineries, it will reflect very badly on the company and we just wouldn't get invitations to tender for the work. If you're not a safe company with a safe record then they don't want to know.' [Quality Assurance Manager for a small industrial painting company]

Whilst participants from commercial organisations recognised client expectations as being important influences for health and safety within their business, public sector representatives tended to refer to the influence of national targets, such as absence management within local government and star ratings and operational targets within the NHS. Other external influences within the public sector, particularly within the NHS, related to pressures from the NHS Litigation Authority and Risk Pooling Scheme for Trusts, as this Health and Safety Advisor for a combined healthcare trust explained:

'At the moment we're being assessed by the risk pooling scheme for trusts, we have to produce evidence of our health and safety arrangements ... we have controls assurance standards, there are so many bodies making us do things and they're all coming externally.'

Insurance companies were also considered as external driving forces for health and safety for many of the commercial organisations (both small and large), either through overt pressure from individual insurers, the cost of employers' liability insurance, or potential increases in

premiums. A large mail order company, for example, was advised to employ a full-time health and safety specialist to proactively deal with health and safety issues in order to prevent further increases in their employers' liability insurance premium. Pressure from an insurance company also factored in a small glazing company's decision to improve their health and safety management system:

'... we have only stood up and taken notice because of the insurance company who said that otherwise the premiums are going to go up, so then straight away you have to do something about it.' [Glazing Manager for a small glazing company]

Human resource issues were also regarded as important reasons for ensuring that a good health and safety performance is maintained. This issue was considered important in both small and medium/large organisations across the range of industry sectors. Various factors were considered by the participants, including: the impact of absence on productivity, efficiency and service delivery; staff retention, and the ability to recruit new employees. A Managing Director of a small forestry firm explained the potential impact injury related absence could have on his firm:

'Our operators are paid high salaries. If one goes off ill with an accident, I cannot phone up the job centre and get another operator, I have a quarter of a million pound machine doing nothing.'

A Group Health and Safety Manager for a large logistics company described how health and safety was important to the reputation of his company and the ability to retain and recruit staff:

'There is a national shortage of qualified lorry drivers. If you have a good reputation and a good health and safety record you become an employer of choice. Its easier to recruit ... its nothing to do with finance ... we're up against a lot of other people who want to do the same thing and therefore we have to be able to offer something over and above people in the same job market. This all comes before hard financial figures.'

Many of the respondents reported that their companies were genuinely keen to protect the health and well being of their staff from a moral and corporate social responsibility perspective. Lack of care in this area was considered to have potentially negative affects on staff morale, which may in turn lead to performance and retention problems for the company. The Managing Director of a small landscape contractor explained how he viewed the issues within his business:

'There's a moral obligation ... if people feel that they aren't cared about then they won't look after things, like the way the job is done, the way the equipment is looked after ... everything just collapses.'

The Operations Director of a medium sized car dealership also talked about how he personally felt obliged to ensure the safety of his staff:

'I would not like to be held responsible, knowingly, that that I could have stopped somebody seriously injuring themselves. I think that's the driving factor for me. I think from a company perspective it wouldn't be very good for us to end up in the press being prosecuted, but its more my personal feeling. I wouldn't like to think that I was responsible and could have done something about it.'

Legislation was also considered one of the key drivers for health and safety by a large number of participants. Most indicated that they were fully aware of the potential legal implications of non-compliance with health and safety regulations and were keen to ensure that neither they nor their companies were exposed to the risk of being fined or prosecuted. Although the majority of

these concerns were based on general awareness of the issues, a small number of participants reported that their organisations had been issued improvement notices or had experienced enforcement actions, fines or prosecutions. In addition to avoidance of legal action, many of the companies were keen to minimise their risk of exposure to liability claims made by employees and the public. A Human Resources Director for a small landscape gardening company, for example, described how his company had been motivated to update their training in response to a claim by an injured employee:

'... that (ladder training) has purely been because of the action that led to compensation which our insurers paid out ... I guess if that hadn't have happened we probably wouldn't have done as much in the way of training and continuous assessment and evaluation that we do now.'

Although accident and work-related ill health costs per se were not considered to be key in driving health and safety management, most of the participants did acknowledge that health and safety failures may ultimately impact on their organisations' financial performance through any of the higher level factors outlined above (e.g. negative impact on reputation leading to loss of contracts and sales, increased absenteeism resulting in loss of production or increased labour costs, non-compliance with legislation leading to fines and prosecutions, increased injury rate leading to claims and higher insurance premiums etc).

'Cost comes into it. Anything that reduces absence from work is clearly a cost saving. We have below average absence for most groups of staff, but anything that brings it down further is helpful, but I don't think cost is that main factor in terms of health and safety specifically. The fear of being in court is a big one and reputation as a good employer is another.' [Principal of a further education college]

4.1.2 Future motivations

When asked to consider what factors they thought would motivate their companies to make further improvements to health and safety, the majority of participants felt that their organisations were already very committed to health and safety for the reasons outlined above. Many of the health and safety specialists commented on the support they receive from the executive level within their organisations to illustrate this.

'Our MD is very supportive ... the fact that he's the responsible director for H&S maybe spurs that support on.' [Manager of Training and Development Division for a large ground handling company]

'Without the commitment of the line management staff, particularly the MD, health and safety would go downhill within the company in no time. The MD is absolutely 100% behind health and safety and he supports me in whatever I do.' [Health, Safety and Environment Advisor for a large construction company]

A number of respondents (including Directors, health and safety personnel and workers' representatives from small and medium/large organisations) felt that their organisations were committed to continuous improvement and that nothing, other than changes in legislation which they are obliged to comply with, would have any effect in increasing their current focus on health and safety. A Human Resources Director for a NHS Trust and the General Manager of a theme park explained how they perceived their organisations' attitudes towards health and safety:

'I don't think we can be any more motivated, that is different to meeting a new legislation which requires action, that's not motivation. We want people to be fit and healthy.' [NHS Trust HR Director]

'It's difficult to imagine the focus being higher ... it's a strategic goal to focus first and foremost on health and safety. Any board or exec meeting starts with health and safety, even the weekly meetings I have with my staff, they all start with health and safety. You can always do better but the level of focus couldn't be higher.' [General Manager of a Theme Park]

However, others referred to a number of factors that they thought may be instrumental in driving health and safety forward in the future. The most commonly cited factor related to demonstrating a range of potential benefits, including cost benefits, from investing in health and safety measures.

'If they could see viable commercial benefits, that is the carrot as opposed to legislation which is the stick.' [Head of Corporate Risk Management for a large drinks retailer]

'There's lots of guidance out there that shows there's hidden costs, but unfortunately, most NHS organisations, which are struggling financially, need something more positive to show that there is a benefit by investing in these things.' [Health and Safety Advisor for a NHS Trust]

In addition to demonstrating the positive benefits of investment in specific health and safety measures, a number of participants also referred to the potential benefits of highlighting the impact of health and safety failures on financial performance. This potential motivating factor was most commonly cited by health and safety personnel who are experienced in putting business cases forward. A Safety, Health and Environment Manager for a large commercial catering company described the positive effects he recognised from being able to demonstrate the cost of accidents within his business.

'The only way you can catch the attention of a regional director or divisional MD is by showing him the cost consequences of not actually implementing and I think in the main they are very appreciative of it, now that its going on their bottom line.'

Other potential levers for change: further reductions in insurance premiums or pressure from insurers; increases in, or being able to reduce, levels of liability claims; reducing risk of liability and legal exposure, and unsatisfactory trends in adverse incident rates or experience of a serious incidents. A Health, Safety and Environment Manager from a drainage services company summarised his views towards future drivers for health and safety:

'There's no other positive pressures from the market. Insurance companies pay no attention to your health and safety performance despite what the industry should be doing. Clients, once you've passed the tender generally don't pay attention to your health and safety, so there's very few, and certainly no external financial incentive there ... not like the environmental market where you may get reduced VAT or enhanced capital allowances or anything like that. There's no positive financial push, so it's all really protecting yourself against private or public litigation.'

A number of participants from small companies acknowledged that they were still relatively reactive in terms of their approach to health and safety and therefore, would only be prompted to make necessary improvements if increases in accidents highlighted weaknesses in their systems, as this Partner in a small bar/restaurant explained:

'It's sad to say but more accidents. They always make us pull up our socks quickly ... we don't tend to look at things until they have actually caused an accident. That's a bit reactive I suppose but there's a business to look after and we're often not made aware of the hazards until somebody's hurt themselves.'

4.1.3 Perceptions of the cost of compliance and preventative measures

The vast majority of the participants considered health and safety expenditure to be a necessary and beneficial cost to their business. However, although they recognised the benefits of investing in health and safety, they did stress that it is often a balance that needs to be weighed up carefully and presented as a business case. Adopting a pragmatic approach towards health and safety was considered to be particularly important in small companies, charitable organisations and public sector services.

'It's an interesting question in charities. People want to see where every penny goes, so you have to come down to what's reasonable, there are solutions for everything.' [Health and Safety Advisor for a palliative care hospice]

'At the end of the day any money that we spend on health and safety is less money invested into patient care. It's not a business, we have fixed funds to treat patients and so what the Trust does is bring service money from the capital programme and from that we have targets to meet like improving health and safety ... the Trust sits down and decides how much should be invested.' [Director of Facilities for a NHS Trust]

A number of participants felt that input costs had been relatively low and had been successful in reducing or preventing accidents from occurring, and improving efficiency within the business. The Managing Director of a small wholesale company explained how he viewed the cost of health and safety in relation to the overall turnover of his company:

'The 2 main costs we incur are the £1,400 a year to the consultancy, and I think we have a subscription to Croner [Provider of business information] at about 2 or 3 hundred pounds ... keeping first aid kits up to date, first aiders, first aid certificates, forklift truck certificates, all this sort of thing, you're probably talking about £2,000 a year. With a £5million turnover, that's not a lot. We consider it important, the actual cost is not a lot.'

Some of the participants felt that meeting certain aspects of legislation was very expensive, and often less beneficial in overall terms than other measures that are implemented over and above legal requirements. Such interventions tended to focus more on behavioural initiatives and required investing time and effort as opposed to large financial sums.

'Many health and safety improvements are very cheap or nil cost. It's just changing the ways people work generally as a low cost option. There are exceptions to that, fire safety costs can be very, very high and in order to comply with the current standards required we have to go a long way with that ... in many cases the costs are fairly minimal.' [Head of Safety Services for a University]

A Production Director for a small lettuce growing company described the difficulties he has faced in trying to find a cost effective way of dealing with asbestos directives:

'At the moment my gut reaction is that the benefits are not as good as the expenses we are putting into it. For example, the asbestos directive, I would suggest that we are minimally affected by asbestos in this business but because we are so diverse in buildings etc, the quotes that I've had for site inspections, samples taken of all the different materials is £8,000 and that is just to check and come back with the view that you have one place with an asbestos problem ... my gut reaction is that is unreasonable and so I'm looking at alternative ways to try and deliver that information, so it's expensive.'

The Financial Director of a small recycling company also described how she felt that some of the compliance costs associated with health and safety were somewhat high, particularly for small businesses:

I think it does hit the small company harder because it's almost a blanket cost for whatever size of the business, so it does hit, per employee, the smaller company more than the larger one, but its got to be done, its part of the business and you've got to build it into the costs somewhere.'

4.1.4 Ability to demonstrate the benefits of investments in health and safety

The vast majority of respondents recognised the cost-benefits of investing in health and safety as a means of moderating the potential financial implications of health and safety failures. However, none of the respondents from small companies were aware of any cost-benefit analysis that had taken place within their organisations to demonstrate these benefits. The vast majority of participants from medium/large organisations also reported that their organisations rarely conducted formal cost-benefit analyses to assess the effectiveness of interventions. However, a small number of participants reported that they had been able to demonstrate the financial savings relating to specific measures such as manual handling training or the provision of treatment to accelerate recovery and rates of return to work after injury.

Many of the participants referred to the difficulties associated with being able to measure tangible gains from investment in health and safety, as two participants explained:

'You never quite know where it's going to benefit because the benefits of health and safety improvements are often never seen except in the fact that you haven't had an accident. If you have a very good accident record and you do something extra, you never know if it's saving you money or not.' [Managing Director of a commercial vehicle training company]

'I think the difficulty is that if you prevent work-related ill health and accidents, you can't then say you're saving all this money for something that you can't count because its not happening, so you're actually trying to evaluate a negative.' [Health and Safety Officer for a large charitable care organisation]

Most methods of analysis used to demonstrate the benefits of investments were based on monitoring general accident/incident trends, and in some cases days lost due to injury. Some organisations also conducted staff satisfaction surveys to monitor the impact on staff attitudes and experiences. In general, participants highlighted that there was more of an appreciation of the 'softer benefits' associated with health and safety within their organisations (e.g. staff morale and productivity) than hard financial gains, as the Head of Health and Safety for a NHS support organisation explained:

'Benefits can be measured in terms of cost but I think there are far more subtle metrics in terms of good will, what people actually feel about improving health and safety ... measured by staff attitude surveys. I think people sometimes get too fixed on tangible costs.'

4.2 PERCEPTIONS OF THE COST OF WORKPLACE ACCIDENTS/INCIDENTS

4.2.1 Typical injuries

The majority of small companies had experienced very few, if any, lost time or reportable accidents within recent years. The most common types of injuries involving staff were very minor ‘bumps’, ‘knocks’, ‘scrapes’, cuts and burns. In many cases, such incidents were considered to be very infrequent, particularly amongst staff within the school environment. In others, very minor injuries tended not to be recorded or monitored formally within the companies and were often considered to be ‘part and parcel of the job.’ A Practice Manager for a small veterinary surgery described the frequent nature of injuries within his business:

‘We don’t record every single scratch that staff get because we’d spend more time filling in the accident book than we would doing any work.’

Typical incidents occurring within the medium/large organisations were reported to be manual handling related injuries or slips, trips, or falls. Violence and aggression was also highlighted as a prominent issue within the health and social care sector. However, it was emphasised that violence and aggression towards staff was not always intentional, particularly within organisations that specialise in caring for individuals with challenging behaviour or mental health conditions.

‘It’s a difficult one because its not always wilful violence and aggression like you might get in the health service ... its because of the challenging needs of the people we support, but the outcome of it is still the same for our staff and we have to try and do more.’ [Health and Safety Manager for a large social care charity]

Some of the participants from medium/large organisations were confident that the majority of incidents were reported by staff. However, others suspected that there was a degree of underreporting, particularly in terms of minor injuries and near miss incidents, as this Occupational Health and Safety manager for an ambulance service explained:

‘They are told to report everything but they will often make their own judgement about it ... there’s an awful lot of cultural stuff that needs addressing ... its about how easy we make the forms, how accessible they are, we are planning to put them on line to make it easier for people to report.’

4.2.2 Typical non-injury events

Accidental damage events were generally thought not to occur within the majority of small companies. Those that were aware of such incidents mainly referred to minor events involving vehicles both on and offsite (e.g. HGV’s, tractors, forklift and pallet tucks).

A small number of medium/large organisations were considered to have very rigorous processes in place for monitoring non-injury incidents involving damage to plant and equipment, as this Managing Director of a large ground handling company explained:

‘That comes from the airport. All people working on aircraft know that if you see or cause damage it is reported. You are not beaten for it because if a plane goes up with damage the risks are so great, so there is an actual culture of reporting damage. Our incident reporting in this business is probably the best I’ve ever seen with regards to people’s willingness to do so.’

However, others revealed that either they had no official reporting procedures in place for accidental damage incidents, or they did not feel that such incidents were being systematically

reported by staff. The Group Safety and Compliance Manager for a large wholesale distribution company explained his company's approach to monitoring damage incidents. In this case, although incident reports were monitored at the local site level, it was not considered feasible or valuable to collate the records centrally.

'We have what's called safety action reports where branches would report damaged equipment but also there's a lot which isn't reported so we don't keep any worthwhile figures on that at all, that's left to the branch to monitor and sort out.'

4.2.3 Knowledge of actual costs incurred

The vast majority of participants from small companies either did not know how much accidents had cost them over the past 12 months, or considered the cost of minor incidents to have been 'negligible.' Three of the participants estimated the cost at the time of the interview, based either on lost time injuries or significant damage events. An After Sales Manager for a car dealership, for example, described the costs relating to one incident in which a vehicle was written off by a member of staff:

'The cost to the insurance company for the excess was £500, the cost it took me to sort out all of the problems, a couple of days labour ... the hire of another vehicle, £500 ... the total cost to the company I would say, no more than £1,500.'

Table 5 provides a summary of the participants from medium/large organisations that were able to quote accident cost figures at the time of the interview. These figures were either based on estimations made at the time of the interview or on calculations that had been made previously within the organisations.

Table 5 Summary of quoted accident costs within medium/large organisations

<i>Type of business</i>	<i>Job role</i>	<i>Severity levels, value & inclusion period</i>	<i>Basis of judgement</i>
Manufacturing	Health and Safety Manager	All accidents - £30,000 over previous 12 months	Average costs applied to accidents of varying severity
Bakery	Health and Safety Coordinator, Production Director and workers' rep	All accidents - £80,000 over previous 7 months	Average costs applied to accidents of varying severity
Construction	Health, Safety and Environment Advisor	Lost time injuries - £96,460 over previous 8 month period	Application of standard accident cost values to all lost time accidents
Car dealership	Operations Director	'Significant' accidents - £30K over previous 12 month period	Estimated at the time of interview, based on potential loss of revenue and damage associated
Car distributor	Health and Safety Coordinator	All accidents - £77,000 over previous year	Application of standard cost units applied to all accidents
Timber merchants	Health and Safety Manager	All accidents - £0.5-£4.8m over previous year	Based on figures derived from HSE Ready Reckoner annual incident calculator
Commercial vehicle dealership	Health and safety Officer	Lost time injuries - £46,000 over previous year	Based on average salaries of employees and potential revenue loss
Commercial catering	Divisional Managing Director	Claims – over £2 million for previous year	Total value of liability claims against the company
Ground Handling	Managing Director	Lost time injuries - £130,000 over previous year	Based on average operator salary costs
Combined	Health, Safety and	Lost time injuries -	Application of average daily rate

Healthcare NHS Trust	Risk Manager	£94,760 over previous year	to incorporate sick pay and other hidden costs
Drainage services	QUENSH Manager	All accidents £145,000 over previous year	Application of HSG96 figures to annual accident rate

A number of participants (most commonly senior managers and directors) also either knew, or were able to estimate the total cost of sickness within their organisations, but were not aware of the proportion of work-related lost time in relation to the overall absence figure (i.e. due to injuries sustained at work).

4.2.4 Types of costs incurred

When asked to consider the types of costs incurred by their companies as a result of accidents, the majority of participants tended to focus on memorable lost time injuries or damage incidents. Most of the participants from companies that had not experienced lost time, reportable or significant damage accidents for a number of years (if at all) did not consider their companies to have incurred any costs in relation to the minor incidents that did occur on a more regular basis. A Manager of a Doctor's Surgery, for example, shared her thoughts on the impact of minor injuries within her practice:

'It's not particularly a cost here because its on tap to a certain extent ... like when a member of staff scalded her hand, the practice nurse looked at it, dressed it and she was back at work within 15 minutes, so its not quite the same, because we've got the people and equipment to do something about it fairly quickly.'

The small number of participants that did associate minimal costs with minor injuries tended to refer to the cost of first aid supplies and short periods of downtime when injured staff stop work to receive first aid treatment and log their injuries. Some of the participants, particularly those representing smaller companies, focused primarily on the cost of preventative measures as opposed to considering costs incurred in relation to minor injuries. For these companies, the major financial outlay related to prevention as opposed to failure.

'They're insignificant, the main costs we have are training costs ... also on the positive side is protecting and monitoring people's health, the negative side is protecting ourselves against accusations.' [Managing Director of a small onsite mixing construction company]

Participants referred to a range of both immediate (sick pay, replacement labour, loss of productivity) and longer-term effects (claims, liability insurance premiums, and reputation) in the relation to lost time injuries and significant accidental damage events. The most common cost elements referred to by participants from small, medium and large organisations were: absence related costs (sick pay, replacement labour and/or lost production or revenue); management time spent dealing with the consequences of incidents, and employers' and public liability claims and insurance premiums. In addition to the cost implications for their business, a number of participants also referred to the negative impact of accidents on injured employees and their colleagues. Perceptions of the most significant cost elements associated with accidents were dependent on the severity and outcome of individual incidents (e.g. whether they result in claims against the organisation).

'The lost time, because not all accidents would result in an investigation of a claim. If anyone's accident is serious enough for a claim then that would far outweigh any costs for lost time. However, in general, looking at the number of accidents that we have, it would be the lost time.' [Operations Director for a large construction company]

4.2.5 Lost time costs

Although the vast majority of participants referred to costs relating to lost time injuries, their consideration of the impact of absence tended to vary according to the role of the injured employee and nature of the business. The majority of organisations reliant on front line staff to deliver services (e.g. healthcare, education, catering) tended to focus on the payment of sick pay and replacement costs.

‘Because of the nature of the work we do, we have minimum staffing levels that we have to achieve in terms of the care commission and things like that so we never have the luxury of having additional staff ... if someone goes off work we have to replace them immediately, so staff cover costs is a major one for us ... its a major problem for us if someone goes off sick.’ [Health and Safety Manager for a large social care charity]

In addition to the financial costs of replacing injured employees, participants also referred to the potential impact of temporary labour on quality of service delivery, as this Managing Director of a large ground handling company explained:

‘The sick pay is important but I’m far more concerned with the fact that the replacement is more expensive than the person that you’ve already got ... and also because they may not actually be the best person for the job, there’s a customer service cost that’s not measurable.’

In other cases, staff absence was considered to impact on the effective delivery of services. A Safety Manager for a large fast food restaurant chain described the impact of staff shortages within his business.

‘Normally, at least for the first day that each individual is off work they will struggle to get somebody else to come in and cover their shift which leaves them short staffed, which means you’re not going to be serving the customers as quickly. Some people will come in and look at the queue and turn around and walk out, so lost sale for sure ... labour is always going to be the biggest cost in the restaurant industry because its labour intensive.’

Many of the participants reported that their organisations often choose not to replace injured staff. In such cases, outstanding work is either left until the injured employee returns to work, or distributed amongst existing staff. Respondents working within the vehicle repair trade also highlighted that it is often not possible to replace specialist technicians and therefore shortages of staff tend to result in loss of revenue for the business.

‘The biggest loss we suffer is the loss of revenue as a result of injury with that person being away from work ... we’re desperately short of engineers so if we lose one for whatever reason we can’t replace them, we can’t subcontract anyone out, so it is a loss. The business just doesn’t come back, a lot it just can’t wait.’ [Health and Safety Officer for a large distributor of construction equipment]

4.2.6 Management and administration time

Participants expressed a range of differing views on the contribution of management time spent on accidents-related matters to the overall cost of accidents. Most participants, including Directors, health and safety personnel and workers’ reps, recognised the opportunity costs associated with dealing with the consequences of incidents, as this Operations Director of a large cold storage distribution explained:

'There is opportunity cost in that management time and energy is so finite, so the extent to which you are spending time on health and safety you're not spending on other things.'

In some cases, this was considered to be a major factor in the overall cost of accidents. The Health and Safety Manager for a large water services company, for example, described how opportunity costs had emerged as the biggest cost factor in a costing study conducted within his organisation:

'When we did the cost of accidents survey the administrative costs of dealing with accidents was probably one of the biggest costs, especially for all the small accidents, by the time you've done a accident investigation, you've got the remedial costs, those are all significant costs, there's ongoing training costs once you've identified the issues, there's a whole wealth of them.' [Health and Safety Manager for a large water services company]

The Health and Safety Manager for a charitable care organisation described how the implementation of new investigation procedures had indirectly contributed to an increase in the overall cost of accidents:

'There is an irony there because when we didn't have management procedures in place managers weren't spending time investigating accidents but of course now that we have managers investigating accidents, we are actually increasing the costs because it's requiring people to fill out forms, to investigate, for these to be held centrally for trend analysis and this sort of thing, so its all added to the cost if you like'

In other cases, management involvement in the investigation of accidents was not perceived to be a measurable accident related cost. This view was most prevalent amongst non-specialist health and safety personnel.

'I tend to look at it as what could we save if we didn't do this and we wouldn't save half a manager if the accidents and injuries went away.' [Director of Strategy and Development for an ambulance service]

'Managers have to deal with all sorts of things that crop up and that's part of your role, it might be an accident one day and a complaint another, so you have to take those things in your stride really.' [Director of a hospice]

4.2.7 Liability claims and insurance premiums

A number of comments were made in relation to employers' and public liability claims. Unlike some of the immediate costs (e.g. sick pay and replacement labour), which are often 'lost' amongst general operating costs, longer terms effects such as claims were considered to be more visible in terms of having a direct link to individual events. A large number of participants from medium and large organisations referred to the increasing number of claims being made against their companies by employees and members of the public.

'The greatest impact ... I'm tempted to say that it's the cost of the claim against the company which is increasingly brought by the individual who's had an accident ... we're getting 40% of the number of reportable accidents coming through as claims. Certainly for a lot of them the legal costs are actually more than what the guy actually gets, there are phenomenal legal costs associated with all this. Insurers, insurance premiums are all driven by it. So I think that's the most direct and most significant cost.' [Operations Director for a large cold storage distribution company]

However, others did not consider the current level of claims against their business as being particularly high.

'We don't get a huge number of claims ... we're probably talking about a dozen a year, which for a worker population of 5,500 its not a huge number and a lot of the claims aren't that high in terms of the total cost either.' [University Safety Manager]

A Health and Safety Manager for a large charitable organisation described the differences he perceived between the claims culture within charities and other organisations.

'I don't think we get many claims, we don't tend to have a culture of making claims against the organisation ... its not like in some parts of the public sector ... people like working here and they value the fact that it's a charity so I think it's a very different culture.' [Health and Safety manager for a large social care charity]

A number of participants also referred specifically to employers' and public liability insurance premiums as accident related costs. Respondents from some of the lower risk businesses (e.g. GP surgeries, education), did not consider the cost of their company's liability insurance premiums to be particularly problematic at their current levels. However, others recognised liability insurance premiums to be a significant cost to their business, as this Health and Safety Manager for a large logistics company explained:

'Our insurance bill is in the region of £20 million ... we are paying out nearly twice as much in insurance costs that we are making profit.'

A variety of different insurance arrangements were in place within the participating organisations. In some cases, companies were self-insured and therefore met the cost of all successful claims brought against them. Other companies were presented with an overall insurance bill rather than having to deal with individual claims internally, while the majority of organisations reported that they were required to meet to cost of all claims up to a certain excess level. Most participants, regardless of their organisations' insurance arrangements, acknowledged that any successful claims made against the company are likely to reflect in the cost of future premiums.

'...It's not settled yet but the insurance was hiked up just short of £10,000, just pending one accident, so that is a cost straight away to the company that you cannot do anything about.' [Director of a small racking installation company]

However, this was not always considered to be the case, as the Safety Manager of a University explained:

'I don't think the insurance company really are applying the rule, because you've cost us x amount then we're going to increase your insurance by x amount, which is a pity because if they would, that might focus the managers' attention.' [Safety Manager for a University]

In addition to claims impacting on liability insurances, participants also referred to the influence of health and safety management systems and accident rates on the cost of premiums. Some companies had experienced reductions in their premiums as a result of being able to demonstrate improvements in their management of health and safety risks.

'Our insurance premiums are coming down. That's associated with the numbers of accidents and the way we manage our business.' [Health and Safety Manager for a large construction company]

However, others did not feel that their organisations' proactive approach to health and safety had reflected favourably in the cost of their premiums. In such cases, premiums were considered to have increased substantially regardless of performance, as this Managing Director of a small forestry company explained:

'Our risk assessments haven't saved us anything in terms of the insurance industry. Our efficiency and care doesn't help at all.'

4.2.8 Impact on injured employees and their colleagues

A key theme that emerged from discussions with the participants was their appreciation of the human cost of work-related injury, not only in terms of the impact on the injured person, but also on their colleagues.

'It's the sort of psychological effect on people that concerns me even more than the financial cost.' [HR Director for a NHS Trust]

'The one that strikes me most recently is where a service user became extremely violent and assaulted a member of staff to the point that she's now been off for 2 weeks. The entire team were impacted by that, the shock involved, they were extremely upset by it ... the costs to everyone will be significant.' [Health and Safety Manager for a social care charity]

In addition to the negative impact of injury on staff morale and industrial relations, reference was also made to the additional pressures that are placed on existing employees that are expected to cover the work of their injured colleagues. A Unison Branch Secretary employed within a NHS Trust explained how additional pressures may put existing staff at increased risk of injury or ill health.

'It puts additional strain on other staff who are picking up the jobs that people are not here to deal with. It creates another health and safety problem for other staff.' [UNISON Branch Secretary for a NHS Trust]

The General Manager of a small transport company also referred to the particularly devastating effects of a fatality that had occurred within his previous organisation:

'Three years prior to my leaving my previous company, which was an extremely good company, a driver was killed on site ... unfortunately it was his own fault but these things happen under the best of circumstances. That sort of thing really does make you think ... I knew the guy extremely well and it was just such a shock, it does bring it home ... the guy was killed instantly, I can still see his face.'

4.2.9 Perceptions of the overall extent of accident/incident costs

Although most of the participants acknowledged that any costs relating to accidents represent an unnecessary business expense, the vast majority of participants from small companies did not consider the overall impact of accidents to be a major cost to their business. This was mainly due to the low incident rates occurring within the companies at the time of the interview. However, most were aware of the potential costs that could arise if a major incident were to occur. Of the few participants that did consider the current costs to be a significant business expense, two based their judgements on the cost of their liability insurance premiums, one on the fines and associated costs incurred due to a RIDDOR reportable injury, one on the total cost of claims against the company over the previous 12 years, and one on the general cost impact of accidents on profits.

'It does eat into your profits ... the industry that we're in won't allow you to have too many overheads so you need to keep your overheads to a minimum and these accidents, you don't need because it hikes everything up and again it comes from the company's bottom line, you can't reclaim it from anywhere. [Director of a racking installation company]

Perceptions of the overall extent of accident costs amongst participants from medium and large organisations tended to vary according to the context in which they considered the costs. The vast majority of participants from all industry sectors felt that accidents constituted a large cost to their business. This view was most commonly expressed by health and safety personnel and workers representatives as opposed to those at the director and senior manager levels. The remaining participants either had no idea about the extent of the cost, or felt that accidents were not particularly costly to their business in overall terms. The only sector in which most participants did not recognise accidents costs as being a major issue was education.

Participants who held the view that accidents constitute a significant cost to their business based their judgements on a number of factors, including: the cost of claims and insurance premiums; the effect of absence and replacement costs; the extent of opportunity costs incurred by individuals dealing with the consequences of incidents; the cost of accidental damage, and loss of revenue relating to accidents. In other cases, judgements were based on general accident rates and the cumulative effect of a variety of cost implications.

'I think the number of incidents is relatively small but if you look at the staff attitude survey you'll see that there are a lot of accidents happening that we don't get to hear about. If you analysed the reported incidents the cost wouldn't be too high, but I think if you could get behind those figures and analyse the actual number of incidents then the cost would be significantly higher than they appear to be at the moment,' [Human Resources Director of a NHS Trust]

Some of the participants referred to the results of their own accident cost calculations, while others considered published accident cost figures (e.g. HSG96), when considering the overall impact of accidents.

'We know that based on HSE guidance that the likelihood of the overall cost is somewhere in the region of 2% of turnover, now that's a big number.' [Safety Standards Director for a rail company]

A Director of a social care charity explained that any accident costs have a big impact on his organisation given its charitable status:

'As we are a charity everything is significant because we have a public obligation to spend our money appropriately,'

Common reasons for not considering the overall cost of accidents to be a major issue, included: a low incident rate; low levels of absence; relatively low insurance premiums, and consideration of the cost in relation to a high annual turnover or budget.

'It depends on what you compare it with. We've got such a high operating budget in terms of capital expenditure which runs into several billions of pounds, even if you take a budget of roughly a million it pales into insignificance.' [Health and Safety Manager for a water services company]

4.2.10 Perceptions of the organisation's view of the overall extent of accident/incident costs

The majority of participants from small companies did not feel that their organisations were particularly concerned about the overall cost of accidents. In many cases this perception related to having a low incident rate and the issue never having been raised within the organisation. Most perceived their organisations as having a very high focus on health and safety and the reduction and prevention of accidents per se as opposed to being focused on subsequent costs. However, a partner in a bar/restaurant business explained how being fined had substantially increased their focus on the potential cost of accidents. In addition, this participant highlights how fines are likely to impact hardest on small businesses:

'Now they are seen as potentially a very large drain on the business, and if we had another serious one it could well cause us to close ... I think it's ludicrous that the amount of fine isn't really tailored towards your turnover. I mean they're peanuts to these big companies but they really hit us hard.'

The vast majority of medium/large organisational representatives reported that their organisations were not overtly concerned about the overall cost of accidents. However, most felt that there was a strong recognition of the cost implications rather than the actual value of costs incurred.

'I think there is an understanding that it costs but there isn't an understanding of how much, so they don't know the clear implications.' [Health, Safety and Environment Director for a large furniture manufacturer/retailer]

A number of participants felt that concern for the cost of accidents was reflected in executive level support for the health and safety function. However, participants perceived senior executives to be largely focused on specific cost elements as opposed to considering the overall impact. Perceived areas of concern included, claims and insurance, and overall absence rates, regardless of the cause of the absence.

'The bits that we measure, the cost of absence we're very concerned about, but relating that to the cause, it hasn't clicked ... because we can't differentiate in our absence stats between sick days and accident related, it all gets lumped in together ... we say our sickness absence rate is terrible and its costing us a fortune as opposed to knowing which elements are which ... there's an intellectual acceptance that injury and absence costs but we don't know how big it is.' [Director of Strategy and Development for an ambulance service]

'At this present time they're very aware. The Chief Executive and indeed the Director of Admin are starting a quest to reduce our absence figures. The Scottish executive are keen to reduce the cost of absences in general and accordingly there's pressure being put on personnel and all other managers to put in place systems to monitor peoples absence and to encourage them back to work ... so they're certainly actively pursuing mechanisms to reduce the cost of absence but not necessarily the cause of absence.' [Principal Health and Safety Officer for a council]

Participants indicated that the extent of focus on accident costs was largely dependent on people's position within the organisation. Many of the respondents highlighted that whilst senior executives are very aware of the potential cost implications to the business, this awareness is not always evident at the lower managerial levels.

'The very senior level...when I say senior level its executive board members, there's no doubt in terms of providing funds and resource to put in the appropriate arrangements,

they take it very seriously. The regional directors that are the next level down take it seriously and then we're still working on the levels below that.' [Health and Safety manager for a large logistics company]

Perceptions of the impact of accidents at the operational level were thought to be largely focused on disruption and inconvenience, as this Managing Director of a ground handling company explained:

'I think the operational staff see it as the fact that staff are not available. I don't think they make the immediate leap that they are not there and that's a huge cost.' [Managing Director of a ground handling company]

A number of participants representing the public sector (e.g. councils and Universities) referred to the differences that they perceived between the public and private sector to account for why, as an organisation, they were not particularly focused on the cost implications of accidents at any level.

'I don't think we look at it as a real loss. I'm not convinced that we would look at it from a pure hard nosed commercial angle that perhaps a business in the private sector would ... I think we're still in the public domain. If you were a purely commercial organisation you would clearly understand in a more focused way, perhaps, the disbenefits of illness and accidents and so on.' [Director of Facilities Management for a University]

4.3 PERCEPTIONS OF THE COST OF WORK-RELATED ILL HEALTH

4.3.1 Typical work-related ill health conditions

The vast majority of participants from small companies stated that they were not aware of any ill health conditions, caused or made worse by work, within their businesses. In a small number of cases, respondents recalled issues that had arisen in the past, either involving themselves or their colleagues. The owner of a small hardware store commented on her experience of panic attacks which were indirectly related to stress. A Technical Manager for a small lettuce growing company also described how he had been absent from work for 2 days with a bad back which he linked to stress related to his job:

'I was off for 2 days with a bad back from stress and the muscles being tense, so I think there are some indirect relations.'

Two primary school Head Teachers and a Manager of a small care establishment talked about how stress-related conditions had occurred in the past, and how stress was becoming an increasingly prevalent issue within their line of business:

'In the last 2 years we've had two members of staff absent, and one on long-term absence that were stress related ... often there are school and other things involved together ... a combination of the school and outside circumstances.'

The most commonly cited conditions likely to have been caused or made worse by work within the medium and large organisations were stress-related, followed by musculoskeletal conditions. However, where stress had been identified as an issue (either formally or informally), participants generally emphasised that stress-related conditions tended not to be purely work-related and that the growing issue needed to be addressed regardless of the cause. Other work-related conditions referred to (in order of frequency), included: repetitive strain

injury (RSI), vibration white finger and hand arm vibration, dermatitis, latex and other allergies, and post-traumatic stress-disorder (PTSD).

A number of participants from medium and large organisations reported that they were not aware of any work-related ill health conditions within their organisations. This was largely due to the perception that proactive steps that had already been taken to prevent or minimise traditional risks (e.g. engineering problems out of the business processes or regular monitoring of risks such as noise and dust) or due to the low risk nature of the working environment. In some cases, participants considered most work-related conditions to be specifically incident related as opposed to cumulative complaints, as this Health and Safety Manager for a hospice explained:

‘Very occasionally we get people going off with back pain but I would say it was more related to an incident.’

A number of participants based their judgements on in-house statistics indicating absence trends. Others based their views on findings from audits/staff surveys that had been carried out to gauge levels of stress within their organisations. However, in most cases, the respondents made anecdotal judgements due to a lack of data within their organisations to clarify the extent of work-related ill health conditions.

4.3.2 Issues of identification

A number of key issues were raised with regard to identifying the extent of work-related ill health. Many of the participants recognised that their organisations were still at the very early stages of recognising and managing the issues, as this Director of a large commercial catering company explained:

‘We’re further down the track with accident management than work-related ill health but the incidents or accidents are greater than work-related illness, so that’s where the focus of attention goes, more on volume, that’s why its prioritised that way.’

Others referred to specific difficulties that their organisations faced, including willingness to disclose and storage of absence management information. An Assistant Chief Fire Officer for a regional fire and rescue service and Union Branch Secretary for a NHS Trust explained how staff within their organisations may not always be willing to disclosure stress-related conditions.

‘It is very difficult because there is an element of macho culture about being big enough to own up to the fact that you’ve got a serious problem. Quite often we don’t find out about it until people have been off sick with other things and then 5 or 6 months down the road it actually pops up that the real problem is PTSD.’ [Assistant Chief Fire Officer for a regional fire and rescue service]

‘Part of the problem that we have at the union is that members don’t want to identify that they are off for stress reasons. They don’t want the stigma. The term is bounded about and used inappropriately and causes stigma.’ [Union Branch Secretary for a NHS Trust]

Many of the participants highlighted the fact that their organisations are more focused on sickness absence per se rather than establishing the causes behind the conditions. This perception tended to be related to the difficulties they faced in determining the cause of conditions such as stress and musculoskeletal conditions which may be caused by a variety of work and non-work-related factors, and the way in which absence data is stored within their current systems. Although absence is often be coded by type (e.g. back pain, stress), it is not

necessarily classified by cause (i.e. work-related or general absence) within centralised absence recording databases.

'We do know that there were 29 incidents last year on the personnel database where people were off as a result of stress but we don't know whether that was a result of work-related or home stress.' [Health and Safety Manager for large builder's merchants]

'We have a record of lost time but not specifically looking at work-related illness. It would be quite labour intensive to do that. It's not just a systems thing where you could run a report. For payroll purposes we know obviously if people have been off sick and we know the reason why from their return to work interview or a doctors note, but it would be labour intensive if you had to run through all of those paper records to gather the information.' [HR Director for a large fruit importer and supplier]

4.3.3 Knowledge of actual cost

Other than those participants who were confident that there were no cases of work-related ill health within their organisations, none of the respondents were aware of how much work-related ill health conditions were costing their business.

4.3.4 Types of costs incurred

The majority of small company representatives did not perceive their organisations to be incurring any costs in relation to work-related ill health, other than their investment in preventative measures (e.g. health screening/monitoring). For those participants that were aware of work-related ill health conditions that had occurred within their companies, the majority referred to the cost of absence in relation to sick pay and replacement labour, minor inconvenience through to major disruption, and management time spent dealing with the issues and arranging replacement cover. The owner of a small restaurant felt that she had incurred no costs given that she had managed the situation effectively through altering shift rotations to allow for periods of rest and recovery. The participants that talked about the effects of stress emphasised that many of the impacts, such as disruption and effects on colleagues, are very difficult to quantify in monetary terms. A primary school Head Teacher referred to the impact that a case of stress had on his organisation:

'The non-material cost is the disruption to the children affected ... one was off for an extended period of time and eventually she left. That had a very marked impact on the school.'

The Manager of a residential care scheme also talked about the knock on effects that stress had within her establishment. At one time, the issue became so bad that she lost a number of staff at the same time through stress-related problems.

'You've lost a member of staff and so you're paying someone that's not here and their replacement, and unfortunately quite often we have to use agencies so you don't just have the cost financially, you've also got the cost of quality, so the quality of the service that you're delivering is lessened and that's no disrespect to the staff but we don't always get the same person ... you find your regular staff are doing more of the work, they become unhappy and if that goes on for a long time, then that can lead to health problems because they feel fed up, tired, because they feel low morale because it all falls on them and that's the sort of experience we've had ... I did lose nearly all of my care staff at one stage and it was all stress and that was horrendous.'

The majority of participants from medium/large organisations referred to the same underlying costs for work-related ill health as they did for accidents, namely, absence, sick pay, replacement costs and/or loss of production or efficiency. In general, work-related ill health conditions were considered to result in longer periods of absence than injuries, resulting in higher costs on an individual case by case basis. Many participants also identified additional costs that they did not tend to mention when discussing the impact of accidents, including: Occupational Health and treatment costs, rehabilitation, and early retirement costs.

Work-related ill health conditions, particularly stress-related, were often considered to have more intangible effects than physical injury. The Assistant Managing Director of a unitary authority expressed his views regarding the nature of stress within his organisation:

'If people are suffering stress then their performance is going to be affected, far harder to quantify than days off sick not in the office full stop, classifying stress as people who aren't able to take decisions, or their judgement is impaired, so there will be other costs other than absence from the office, but very difficult to quantify.'

In addition to the financial costs to organisations and impact on quality of work, a number of participants from medium and large organisations also referred to the impact of stress-related conditions on the affected employees and their colleagues. An Assistant Chief Fire Officer talked about his own experience of stress, which has had a profound affect on his life:

'I've been off with stress. I had 7 months off sick with stress and I know what I felt like and the manifestation for me. I was unable to drive my car to work, physically unable to point the car at work, so I understand that it can affect people very seriously, I know what its like ... it was a life changing event. I try to use it as a positive feedback to tell people I know what its like. I was at the point where I really couldn't bare to look at the uniform, my brain was focusing on the uniform, and actually coming back to work and putting the uniform on the first day was really, really hard, so I have a feeling for that kind of difficulty that people have and you have to accept that you are different afterwards and you ain't never going to be the same.'

4.3.5 Perceptions of the overall extent of work-related ill health costs

None of the participants from small companies that were aware of work-related ill health conditions within their organisations felt that they were currently a big cost to their business. However, some of the respondents did acknowledge that individual cases had been costly in the past.

'We had one particular year where we had lots of costs and as I say, that was 4 or 5 years ago, but otherwise no. These things are difficult because if you don't have many of them there's no cost, but if you do have a case then there is a lot of cost and a lot of impact at that time.' [Head Teacher of a primary school]

In general, there was a lot more uncertainty in terms of participants' perceptions of the overall cost of work-related ill health within medium and large organisations. Much of this uncertainty related to the difficulties organisations have in distinguishing between work-related and non-work-related absence. The proportion of participants that perceived the overall cost of work-related ill health to be a significant cost to their business was evenly matched by those who felt it was not. Again, due to the lack of work-related ill health information within many companies, these judgements tended to be anecdotal as opposed to evidence based. The sectors in which the majority of participants felt that work-related ill health was particularly costly to their business, included: transport, public administration, healthcare and other community services.

In some cases, although the costs of individual cases were considered to be significant, the cumulative cost of work-related illness in general was not. In others, work-related ill health was considered to be more expensive than accidents due to the nature of its associated costs.

'I wouldn't be surprised to find that for us as an organisation, work-related ill health is costing us much more than accidents ... the length of time, the ability of people to reintegrate, whether they can go back to the area they were working in or whether they have to be retrained to go elsewhere ... all of these must have a cost.' [Health and Safety Manager for a large charitable care organisation]

4.4 MEASURING THE COST OF ACCIDENTS AND WORK-RELATED ILLNESS

4.4.1 Extent of costing activity

None of the participants from either small or medium/large organisations were aware of any attempts to assess the cost of work-related ill health within their businesses. However, approximately 25% (n=33) of the participating organisations (2 small and 31 medium/large) had made some attempt to quantify costs relating to accidents/incidents. Methods, frequency and motivations for measurement varied somewhat between the organisations.

Of all of the industry sectors represented in phase 2, agriculture and education were the only ones in which participating companies had never explicitly attempted to assess the cost of accidents. A wide range of ad hoc (n=12) and continuous costing (n=21) approaches had been conducted within each of the other sectors.

Methods of costing

The majority of participants from small companies revealed that their firms had never, and had no intention of, measuring the cost of accidents or work-related ill health. Only two of the small companies were actively monitoring the cost of accidents at the time of the current study. A General Manager of a small metal manufacturing site revealed that he had been monitoring the cost of absence and replacements in relation to lost time accidents for the past 4 years, although such incidents were very rare at his site. An After Sales Manager for a car dealership also reported that he assessed the cost of major accidents involving damage to cars as and when they occurred. In this case, knowledge of the cost of accidents of this nature had factored in the company's decision to introduce a policy preventing employees under the age of 18 driving high performance cars.

An explanation of the various cost-assessment methods that had been applied in the medium/large organisations is provided in table 6 below. In some cases, health and safety personnel had attempted to cost accidents but had not shared the information with others in their business to the extent that the Director's who were also interviewed, were aware of this activity. In others, accident costs had been assessed prior to the participants' appointment within their current organisations. It was generally acknowledged that the methods applied did not comprehensively measure every cost implication relating to every incident.

Table 6 Summary of accident/incident cost assessment methods

<i>SIC - Type of business</i>	<i>Details of cost-assessment</i>
D – Printers	<p>Type of assessment: Continuous costing of lost time injuries</p> <p>Method: In-depth costing of all lost time injuries as and when they occur. Inclusion of all opportunity and financial costs similar to HSG96 and Ready Reckoner based methodologies.</p>
D – Preparation and packaging of salads	<p>Type of assessment: Independent cost-assessments of 2 different injury types</p> <p>Method: Two separate cost-assessments conducted to establish the average cost of a cut finger (approximately £79) and a slip (£427). Both of these assessments included a range of opportunity and financial costs (e.g. investigation costs, absence, downtime, replacement staff, lost production and cleanup costs) but did not take account of potential litigation and remedial costs. These costs were not actively applied to provide indications of the overall cost of accidents.</p>
D – Manufacturer of pre-cast products	<p>Type of assessment: Monthly assessment of the cost of lost-time injuries</p> <p>Method: Application of a standard daily rate (approximately £340) to the total number of days lost due to injuries. This figure was designed to reflect 4 x the average daily wage rate for an operative to take account of intangible costs associated with lost time and minor injuries.</p>
D – Dairy processing	<p>Type of assessment: Ongoing assessment of the cost of all incidents, including near misses</p> <p>Method: Application of average accident costs derived from a 1 month study conducted by external auditors at one of the company's main sites. Average costs are applied to all reported incidents, including: near misses (£25), minor (£250), lost time (£1,250) and RIDDOR reportable injuries (2,250). Figures are automatically adjusted on a daily basis and reviewed monthly.</p>
D – Paper mill	<p>Type of assessment: Ongoing measurement of the cost of mobile plant damage and liability claims</p> <p>Method: Continuous measurement and regular review of mobile plant damage (i.e. loss or repair/replacement costs) and liability claims costs.</p>
D – Ship builders	<p>Type of assessment: Monthly assessment of the cost of lost time injuries</p> <p>Method: Application of an average hourly rate to total days lost due to injury on a monthly basis. The hourly rate (£30) was intended to take account of the injured employees' wages and other 'hidden' costs.</p>
D – Bakery	<p>Type of assessment: Production of accident costs as weekly key performance indicators</p> <p>Method: Application of average figures for RIDDOR reportable (£6,900) and non-reportable (£200) accidents based on an in-house study conducted 5 years previously. The standard figures were designed to take account of all opportunity and financial costs, including average employers' liability claims.</p>
D – Bakery	<p>Type of assessment: Monthly summary of accident costs based on average figures</p> <p>Method: Application of standard average costs provided by an external risk consultancy: £39 per minor injury, £800 per lost time injury requiring hospital treatment, £7,000 per RIDDOR reportable injury and £19,000 per major incident.</p>

G – Merchandising	<p>Type of assessment: Annual reporting of settled liability claims</p> <p>Method: Compilation of an annual health and safety report incorporating the total value of employers' liability claims settled during the previous 12 month period.</p>
G – Vehicle distributor	<p>Type of assessment: Continuous application of standard unit costs to all injury accidents</p> <p>Method: Application of standard unit costs derived from estimated average times spent on accident related matters. Individual cost components include: a basic cost of £60 applied to all accidents to take account of reporting and investigation time, a further £60 to all RIDDOR reportable incidents, £20/hour for hospital time, £100/hour for senior management investigation, and £100 per day lost due to injury. Actual replacement labour and damage costs are obtained if applicable.</p>
G – Commercial vehicle dealership	<p>Type of assessment: Monthly reporting of lost time accidents costs</p> <p>Method: Application of an average daily rate to total days lost due to injury on a monthly basis. Average daily rate is designed to incorporate sick pay and potential revenue loss during absence.</p>
G – Electrical products retailer	<p>Type of assessment: Quarterly reporting of legal, insurance and absence costs</p> <p>Method: Quarterly reporting of accident related legal and insurance costs, and sick pay based on average daily earnings applied to total days lost due to injury. The company also monitors general health and safety costs such as, statutory maintenance, training and equipment costs.</p>
G – Wholesale distributor	<p>Type of assessment: In-depth costing of all RIDDOR reportable injuries on a real-time basis for the past 3 years</p> <p>Method: Costing of all RIDDOR reportable injuries as and when they occur using HSG96 based methodology to assess opportunity and financial costs. Costs are collated and presented in an annual report.</p>
G – Furniture manufacturer/retailer	<p>Type of assessment: One-off assessment of the cost of manual handling injuries</p> <p>Method: One-off assessment of the cost of all manual handling injuries at one site (based on £30/hour to incorporate 'direct' and 'indirect' costs) to demonstrate the cost-benefits of introducing a new form of manual handling training.</p>
G – Retail/distribution	<p>Type of assessment: Ad hoc costing of all types of accidents</p> <p>Method: Accident report forms include a section for actual accident cost data. However, this section tends not to be completed consistently for every accident and therefore, estimations are made for the cost of each accident. This data is generally collated and presented in an annual report.</p>
F - Construction	<p>Type of assessment: Monthly reporting of the cost of lost time injuries for the previous 8 months and analysis of the total cost of liability claims settled annually</p> <p>Method: Application of an average hourly rate to account for lost time of operatives (incorporating sick pay and replacement costs). Percentage multipliers are also applied to the total cost of lost time to provide estimated values for potential: profit loss (15%), plant costs and downtime (7.5%), and administration time (2%). Operative rates were obtained from the finance department and percentage multipliers derived from estimations of average costs/times spent on accident-related tasks.</p>
F - Construction	<p>Type of assessment:</p>

	<p>Ad hoc costing of accidents for demonstration during in-house training sessions</p> <p>Method: Application of HSG96 based methodology to assess all financial and opportunity costs relating to reportable accidents.</p>
H - Commercial catering	<p>Type of assessment: Quarterly reporting of claims and investigation costs</p> <p>Method: Quantification of tangible liability claims and investigation costs. Internal health and safety department bills individual business units for the cost of their time (e.g. assisting with investigations of reportable accidents) on a monthly basis.</p>
H – Catering	<p>Type of assessment: One-off assessment of accident costs 2 years prior to current study</p> <p>Method: Application of average financial and opportunity costs to all accidents that occurred over a specified period. Costs were applied 2 years prior to, but not used in anyway at the time of the current study.</p>
I – Logistics	<p>Type of assessment: Monthly reporting of tangible overhead and claims costs</p> <p>Method: Regular monitoring of the cost of the health and safety function, occupational health referrals, and employers’/public liability and vehicle claims costs.</p>
I – Delivery	<p>Type of assessment: Monthly reporting of lost time injury costs for the previous 2 years</p> <p>Method: Application of an average daily rate to each day lost due to injury, designed to incorporate sick pay and replacement costs for operatives.</p>
L – Fire & Rescue Service	<p>Type of assessment: Quarterly reporting of injury-related absence</p> <p>Method: Application of an average salary cost to total number of duty days lost due to injury.</p>
L – Fire & Rescue Service	<p>Type of assessment: One-off costing exercise to provide an average cost of a day lost due to injury</p> <p>Method: A one-off assessment conducted prior to the Health and Safety Manager’s appointment estimated that the organisation incurred £170 per day lost due to injury. Details of how the figure was derived were not provided. This figure was not being actively applied at the time of the current study.</p>
L – Unitary Authority	<p>Type of assessment: Application of standard accident costs on a quarterly and annual basis, and in-depth costing of selected major incidents</p> <p>Method: Combination of methods applied, including: application of published HSE figures to different levels of accidents to take account of public accidents (e.g. playground injuries), application of a ballpark figure of £100 per day lost due to injury (i.e. sick pay), and in-depth costing of selected major incidents on an ad hoc basis applying a similar methodology to that used in HSG96.</p>
N – Combined Healthcare NHS Trust	<p>Type of assessment: Annual reporting of the cost of lost time injuries</p> <p>Method: Application of a standard figure (£121) to each day lost due to injury to take account of sick pay (based on average earnings within the Trust), provision of cover, investigation time and average remedial costs. Exact details of how this figure was derived were not recalled.</p>
N – Acute NHS Trust	<p>Type of assessment: Annual reporting of the cost of civil claims</p> <p>Method: Details of all non-clinical claims are collated and presented in an annual report.</p>
N – Ambulance	<p>Type of assessment:</p>

Service NHS Trust	<p>One-off exercise conducted to assess a baseline cost for lost time Paramedic injuries</p> <p>Method: A range of typical costs were estimated, including sick pay, overtime payments and investigation time, to obtain baseline costs for lost time injuries to justify expenditure on physiotherapy treatment. These costs were not actively applied at the time of the current study.</p>
N – Hospital NHS Trust	<p>Type of assessment: One-off assessment of the cost of work-related absence</p> <p>Method: Sick pay and replacement costs (based on average wages) were applied to days lost due to injury to obtain a figure to include in the previous annual report to the board.</p>
O – Water services	<p>Type of assessment: Internally derived figures posted on company intranet and used for training purposes</p> <p>Method: A one-off costing exercise, based on all accidents occurring over a specified period (using HSG96 methodology), produced average incident costs (i.e. Major - £15,000, injury involving absence - £1,000, and minor - £333). The costs were not actively applied within the company other than being posted on company intranet and used for training purposes.</p>
O – Waste services	<p>Type of assessment: Two retrospective costing exercises conducted over separate 12 month periods to obtain average accident costs</p> <p>Method: Retrospective costing of all reported accidents (including minor) for 2 separate 12 month periods using HSG96 based methodologies to account for all opportunity and financial costs. This produced average figures for reportable (£2,340) and non-reportable injuries (£21). The costs were not actively being applied at the time of the current study.</p>
O – Drainage services	<p>Type of assessment: One-off application of published HSE figures</p> <p>Method: One-off application of published accident cost figures to the previous year's accidents to obtain an indication of the potential extent of accident costs within the company.</p>

Participants that were aware of either current or previous cost assessments within their organisations cited a number of reasons for why efforts had been made to measure accident costs. The most commonly cited reasons related to raising awareness of the impact of accidents amongst managers and raising the profile of health and safety within the organisations, as this Operations Director of a large construction company explained:

‘What we are trying to do is make the local management realise that whilst a guy may be off, for example, if someone breaks their finger and is off for a week they will see that as £100 a day for that guy, but its not. There are all these other bits and pieces that go on top, and that accident has probably cost the company £8,000 and that’s the level of information that we want to get back to those guys because they will think £8,000 off my bottom line ... and that’s the way the firm manage it, through a shock tactic.’

Other reasons for measuring the impact of accidents in financial terms included: pressure from external auditors, and the production of additional key performance indicators (KPI’s) to use for benchmarking purposes between different sites or business units. An Operations Director for a

large manufacturing company, for example, explained why his company had decided to put a tangible value on the impact of accidents for performance monitoring purposes:

'We knew it was costing the business a lot of money, a lot of profit off the bottom line for accidents, but we wanted to have something more tangible to keep track of it and that's why we introduced it.'

A number of participants reported that their efforts to conduct one-off assessments of the cost of specific injury types had been based on wanting to demonstrate the cost-benefits of interventions. An Occupational Health and Safety Manager for an ambulance service described how he had calculated a baseline cost of a Paramedic manual handling injury to justify spending on physiotherapy treatment as part of a budgetary review process:

'It was part of the budget review ... part of the business planning was why are you spending this kind of money on physio, so it was just to demonstrate to the exec team why I thought we should do that ... it wasn't particularly robust, it was more to demonstrate why it was a good idea.'

Information derived from the various cost-assessment methods was applied in a range of different ways within the organisations. The cost information was commonly shared with various levels of management. In some cases, this information was just reported at board and senior executive levels. In others, it was presented to local management as a means of performance monitoring and benchmarking between different operational units. The accident cost information was also used for in-house training purposes in a number of organisations.

The majority of participants reported that the cost information derived from their assessments had been beneficial in terms of raising general awareness of the importance of health and safety. In some cases, participants considered this information to have been instrumental in driving specific interventions, and in some cases, driving down accident rates. A Health, Safety and Environment Manager for a large salad processing and packaging company described the positive effects of costing the impact of a slip incident within his company:

'It shocked several members of the safety committee, just how much a very simple accident costs ...there are now plans in place to look at what the actual cause of the accident was, which was a lack of electrical sockets which resulted in a cable being stretched 6 inches off the ground because the cable was too short so they are looking at installing more sockets for where people actually need them ... the accident ended up costing 40 times as much as the cost of prevention.'

A number of participants felt that their costing efforts had not had any particular impact at the time of the current study. Reasons for this included low accident costs in relation to turnover, and cost not being the main driver for health and safety, as this Health and Safety Coordinator for a large bakery explained:

'I don't think any changes have been made directly related to the costs, but because of the legal response ... corporate responsibility, that's where they've gone more, and there have been massive changes, definitely, in the culture because of that.'

4.4.2 Attitudes towards costing

The vast majority of participants from small companies felt that costing of accidents and work-related ill health was not a realistic task to their business. This was mainly due to having minimal numbers of incidents, not seeing the purpose, or not having the time to monitor the costs of very minor events.

'I would probably tend to quantify it more it was a big accident or something like that but with these little hiccups, it doesn't really warrant spending the time.' [Finance Director of a small vehicle repair company]

Many felt that they may consider pursuing the task of measuring accident and work-related ill health costs if the incident rates became problematic, but did not see the value at the current level. However, others reported that they did not perceive any value in costing incidents given that they are already aware of the potential cost implications and would be more focused on investigating the causes to prevent further incidents rather than spending time considering the costs that could have been saved.

'We just take it on the chin. It's about the safety of the individual. We wouldn't look at saving money, we would look at spending money to ensure safety.' [Managing Director of a small haulage firm]

'As far as I'm concerned, trying to quantify the cost implies that there is an acceptable cost of accidents. As far as I'm concerned there is no acceptable level of accidents. You have a responsibility to eliminate them all.' [Managing Director of a small onsite mixing company]

Those that recognised the value in monitoring accident and work-related ill health costs tended to be lower level managers or health and safety personnel who felt that the data may be instrumental in motivating others to improve further in health and safety.

'I know my MD says he doesn't believe in shock-horror stories but a shock-horror figure removed from his bottom line would have a big impact on his attitude.' [Health and Safety Manager for a small landscape contractor]

A number of participants felt that the quantification of accidents and work-related ill health costs would be more relevant within larger businesses. The Managing Director of a small commercial vehicle training company, for example, explained how he is fully aware of everything that goes on within his business, including the effects of incidents, due to the small number of staff that he employs:

'I think at the present time I have a reasonable handle on it because we are still a relatively small company. I've got 15 employees here, I know them all, what they're doing and how they are doing it to a large extent. If I had 50 or 60 employees it might be different ... because I'm fairly intricate with the business I don't think there is a huge benefit to quantifying in financial terms what I already know.'

The majority of participants from medium and large organisations did recognise some value in conducting internal assessments of the cost of accidents and work-related ill health. However, it was generally only considered realistic to apply estimated values and 'ballpark' figures to lost time or RIDDOR reportable incidents as opposed to expending huge amounts of time and effort collating detailed information for every incident. The respondents referred to a range of potential benefits that they perceived at different levels of the organisation.

Perceived benefits at the overall organisational level related to budgeting purposes and general raising of awareness of the importance of health and safety, as this Deputy Managing Director of a large wholesale company explained:

'It's another string to the bow to make parts of the company, other than just the H&S people aware of the implications. Once you start to talk money then the accountants, the commercial people would start to take notice rather than brush it under the carpet.'

Rather than being used as a tool for motivating senior executives (who are thought to be very health and safety focused anyway), participants referred to the use of cost information as additional KPI at the local management level. The Director of Health and Safety for a large communications company described the potential benefits he recognised of using the information for internal benchmarking purposes:

‘I think the benefit will be in being able to score regions against regions, managers against managers, making them realise the cost.’

A number of health and safety specialists felt that it would also be useful data from a personal and professional perspective to use in business cases for justifying spending on health and safety measures.

‘From my personal and professional point of view its my ammunition to get their wallet open, “come on guys” if you know how much it costs then spending to prevent it is going to be a saving in the end rather than a cost, definitely ammunition for me to get things done.’ [Health and Safety Advisor for a large merchandising company]

Those participants from medium/large organisations that did not identify any value in costing accidents and work-related ill health generally felt that the information would not add anything to their established approach towards health and safety. A Safety, Health, and Environment Manager for a large construction equipment company explained why costing accidents was unlikely to be a value-added activity within a business such as his:

‘Generally speaking, the multinationals, the big boys, will already have the values in their business ... the concept of costing accidents to change the ideas of directors is pointless, its already done ... they are doing it for other reasons, for reputation, for stakeholders.’

In his experience, accident costing had not proved to be a worthwhile exercise:

‘In a previous company we actually hired somebody to do an exercise to cost, in minutist detail, what workplace accidents were occurring and we found we had something like 3 in the timescale ... it was just a complete waste of time ... I think it came out at something like £100, it was disastrous.’

4.4.3 Perceived barriers

The main barriers that were perceived in relation to accident and work-related ill health costing were time and resource, and system related. The majority of participants felt that their organisations did not have the available time or resources to invest in a worthwhile costing exercise. Most also felt that current systems would not even provide the most basic data required to establish the cost of work-related absence let alone other associated financial and opportunity costs. The Health and safety Advisor for a large merchandising company provides a good explanation of why, in most cases, it would only be feasible to start collating cost data in real time as opposed to retrospectively.

‘We have a record of everything we pay but it would take some finding, you know, everything that we pay out for some reason would be recorded but it would be a matter of spending a month in accounts finding out what they are ... I mean we could hire in an accountant for a month or two just to start collating that sort of information but it would take considerable time and work.’

4.5 AWARENESS AND USE OF COSTING TOOLS/METHODS

None of the participants from small companies reported that they were aware of any tools or resources designed to help companies assess the cost of accidents or work-related ill health. However, when prompted, one of the participants was aware of the HSE Ready Reckoner.

The majority of participants from medium/large organisations that had attended NEBOSH certificate and diploma level training courses were aware of the *Cost of Accidents at Work* publication (HSE, 1997). In many cases, the resource was considered to be useful in terms of raising awareness of the types of costs implications to consider but of limited practical use.

Only a small proportion of the participants were aware of the HSE Ready Reckoner, despite frequent use of the HSE website. The minority that had actually attempted to use the Ready Reckoner tended to be sceptical about the figures produced by the annual incident calculator, as this Health and Safety manager for a large builders merchants explained;

'Before that I wouldn't have had a clue about how much the costs could be so by using it, yet it has given me a bit more of an idea but the accuracy probably still leaves a lot to be desired I would have thought, when you have a range of half a million to nearly 5 million pounds.'

A number of health and safety specialists also highlighted that directors within their business would not accept generalised figures as a means of justifying investments in health and safety. A Group Health, Safety and Environment Manager for a large waste recycling company, for example, explained how his directors would only accept evidence based figures derived from internal assessments:

'You put in a figure and get a figure out and our directors just wouldn't accept it as accurate without any breakdown ... they want to know that it has come from an accurate source.'

Although information presented with the Ready Reckoner was considered to be of interest, it was not considered to be particularly practical, particularly for use in larger business, as this Safety Manager for a NHS Trust explained:

'To cost 8,500 incidents at that level, you would need to employ 2 or 3 admin people just for that ... so you're looking at, at least £23,000 plus on costs of 14%, £29-30,000, that you would need to prove you were saving before you even start.'

4.6 AWARENESS OF AND ATTITUDES TOWARDS THE USE OF ECONOMIC FACTORS IN HEALTH AND SAFETY CAMPAIGNS

4.6.1 Awareness of general campaigns highlighting costs

The vast majority of participants could not recall seeing any published information highlighting the cost of accidents or work-related ill health. Those that were aware of such information reported that they had seen it from a range of sources, including: bulletins promoting European week for safety and health at work (e.g. construction safety); articles in IOSH publications; the HSE *revitalising health and safety* initiative; the HSE *Good Health is Good Business* campaign, and the NHS *Back in Work* campaign.

Respondents from small companies were generally less aware of such information than those from medium and large organisations. One of the respondents expressed a common attitude

held by participants from small companies towards the vast amount health and safety information that is sent through to companies from various sources:

'We tend to be inundated with health and safety information so we just throw it in the bin.' [Glazing Manager for a small glazing firm]

4.7 ATTITUDES TOWARDS INFORMATION PRESENTING THE COST OF HEALTH AND SAFETY FAILURES

The majority of participants felt that any information highlighting the cost of accidents and work-related ill health would be most suitably presented as sector specific information. However, many felt that such data would also have to take account of differences within sectors as well as between different industry groups.

'I mean even within the NHS, the ambulance service is dramatically different from an acute trust, which is different from mental health ... it needs to be pertinent I think.' [Occupational Health and Safety Manager for an ambulance service]

Most respondents felt that outlining the cost of common incidents, or a range of incidents of varying severity, would be more realistic than just focusing on worst case scenario implications. In general, case studies were considered to be more beneficial than national figures as this Managing Director for a large ground handling company explained:

'I see lots of information coming out of the HSE and other places about the cost to industry and I actually don't know what it means ... its so broad a brushstroke that its hard to relate that to what we do.'

For others, guidance on how to assess the cost of accidents and work-related ill health was considered to be more useful than information presenting actual costs, as highlighted by this Operations Director for a car dealership:

'Producing me a load of information that shows what accidents have cost, I don't think would make me any difference. I think more making me aware of whether it's worthwhile measuring them. What you're doing today has made me more aware than just producing a load of figures for me would be I think.' [Operations Director of a car dealership]

A number of health and safety representatives mentioned that accident cost information would be more appropriately directed to other managers within their business that do not have a primary health and safety role. Focusing on health and safety personnel was not considered to be particularly useful given the difficult situation that many health and safety specialists are in.

'If you target to low in a business, the safety officer, he's good at telling people but he usually doesn't have the power or authority, the money, the budget to do anything about it and probably not the influence either.' [Safety, Health and Environment Manager for a large catering company]

Although most respondents felt that such information may be of general interest, many felt that it would not be particularly valuable for their business. A number of participants felt that it may be useful information for companies that have not yet identified the potential impact of health and safety failures. In such cases, this information may add impetus for change.

'It's helpful if it's something that the company hasn't already identified as a problem. I think we have, and I guess most companies have identified it as a problem, its knowing

what to do about it (stress) is the difficult thing.' [Operations Director of an electronic components distribution company]

Many of participants from large organisations explained how they considered accident cost information to be more relevant to smaller companies that have less of a focus on health and safety.

'We're of a size that we are already committed. We don't need costs of that nature to convince us to improve. A small company will not see the hidden costs. If I worked in a small company I would be looking for help to convince my manager that we need to improve.' [Group Health and Safety Manager for a large logistics company]

'We subcontract a reasonable amount of work and have 6 subcontractors that we use on a regular basis, we obviously build our health and safety culture into them, but they are much more profit driven and would try and scrimp on health and safety issues, but we as a company we would put the money in place to pay for those. So, I think they would benefit greatly from understanding what an accident is costing them and the cost of an accident for smaller contractors is much more prohibitive than for a larger company. Sole proprietors can easily be locked up, and it has a massive impact.' [Operations Director for a large construction company]

However, others felt that agencies such as the HSE should be more proactive in their approach towards smaller companies. Many felt that it would be more beneficial to provide small businesses with practical advice rather than flagging up the potential costs of health and safety failures, as these respondents explained:

'It seems to me that this is trying to deal with things after the horse has bolted. It's assuming that these things are happening and what's the cost of it and how can we minimise the cost as opposed to coming from the other side which is where we like to come from, which is to say, well how do we prevent accidents from happening in the first place. That seems a far more proactive way of dealing with the issue.' [Managing Director of a small onsite mixing company]

'Sometimes we get a lot of information from companies that are trying to frighten us into doing things, you know, 'are you complying?'... I mean most of the time we are and a lot of the time it tends to be thrown straight in the bin, you don't always take it on board. I'd rather have the HSE saying this is what you ought to do and give me a list of things I ought to be doing.' [Practice Manager for a GP surgery]

Others felt that efforts should be made to heighten awareness of the impact of injury and ill health at the employee level as well as at the management level. In many cases, policies and procedures are well established and managers are aware of their responsibilities. However, behavioural issues amongst staff often need to be addressed. Therefore, providing companies with information that individual employees can relate to may also be of benefit, as this Director of a palliative care hospice explained:

'The heartache and pain is probably what the individual nurses and housekeeping staff would relate to, to remind them how painful and difficult it can be ... I think that's what's more important to motivate them.'

Table 7 Summary of themes relating to perceptions of health and safety costs

<i>Themes</i>	<i>Sub themes</i>
Perceptions of the costs and benefits for health and safety	Drivers for health and safety - cost of accidents/work-related illness per se not a key factor - other factors more important Future Motivations - already established commitments to continuous improvement - H&S personnel more likely to recognise value of cost Perceptions of the cost of compliance/preventative measures Ability to demonstrate benefits of investment
Perceptions of the cost of workplace accidents	Typical injuries Typical non-injury events - reporting issues Knowledge of actual costs incurred - limited knowledge of value of costs incurred Types of costs incurred - human impact considered as important as financial costs Perceptions of the overall extent of accident/incident costs - judgements dependent on context in which costs are considered
Perceptions of the cost of work-related ill health	Typical work-related ill health conditions - identification issues Knowledge of actual costs incurred Types of costs incurred Perceptions of the overall extent of work-related illness costs
Measuring the cost of health and safety failures	Extent of costing activity Methods of costing Attitudes towards costing Perceived barriers
Awareness and use of costing tools/methods	HSG96 HSE Ready Reckoner - limited awareness/use of both resources
Awareness of/and attitudes towards the use of economic factors in health and safety campaigns	Awareness of general information and campaigns Attitudes towards cost information

5. FINDINGS FROM PHASE 3: REAL TIME COSTING

Each of the organisations that participated in phase 2 was invited to take part in the final phase of the research. Of the 129 organisations that participated in phase 2:

- 67 volunteered to take part in the next phase (15 small and 52 medium/large) and 62 declined (26 small and 36 medium/large)
- 40 organisations provided accident/incident cost data (some also provided information on the cost of work-related ill health cases)
- 9 did not have any incidents occur within their designated study period
- 18 of the organisations that originally agreed to take part did not provide adequate data

A range of different types of organisations either provided accident/incident cost data or did not have any incidents occur within their designated costing period. Table 8 provides a summary of these 49 organisations according to their SIC code and size.

Table 8 Summary of organisations that participated in phase 3

<i>SIC Code</i>	<i>Sector</i>	<i>Number of small companies (<49 staff)</i>	<i>Number of medium/large organisations (>50 staff)</i>
A/B	Agriculture, Forestry, Fishing	1	-
D	Manufacturing	3	8
F	Construction	-	-
G	Wholesale, Retail, Repair	2	10
H	Hotels, Restaurants, Catering	1	3
I	Transport, Storage, Communication	-	2
L	Public Administration and Defence	-	5
M	Education	1	1
N	Health and Social Work	5	6
O	Other Community/Social Services	-	1
Total		13	36

Regular contact was made with the organisations that volunteered to take part at each stage of the costing process, from the time that they expressed an interest through to receipt of the data. Those that did not provide adequate data for inclusion in the overall analysis were also followed up by the research team at regular intervals over a period of months. These organisations assured the researchers on a number of occasions that they were still going ahead with the exercise as planned. However, the key contacts within the organisations either eventually revealed that it was no longer possible to go ahead with the study or stopped responding to any correspondence. Unforeseen reasons for not being able to provide adequate cost data included: organisational changes; staff shortages; lack of time and resources; underestimation of the time required to collate the required cost information comprehensively; suspected lack of underreporting of minor incidents and therefore no incidents to cost; problems associated with relying on colleagues within different areas of the business to provide the necessary data (e.g. finance not willing/unable to provide salary data and operational colleagues not providing essential details).

The main reasons for not wanting to take part in phase 3 included: lack of time and capacity, and a lack of interest in the subject matter to warrant the effort involved in collating the information required.

Although companies were provided with a standard tool to collate the relevant cost information, the actual process of form completion varied between the organisations. The minimum inclusion period within each of the organisations was set at 4 weeks. However, some of the organisations volunteered to continue costing over an extended period in order to capture a greater number of incidents (up to 16 weeks in some cases).

Some of the organisations chose to include all incidents occurring throughout the whole company. Others decided to focus on just one area of the organisation or one business site, depending on the availability of time and resources within the company. In most cases, the local Health and Safety Manager or team was responsible for completing the forms. In some organisations, this task was delegated to relevant line managers.

The majority of participating organisations conducted individual cost assessments for every accident/incident occurring within a specified business unit during their designated survey period. However, others felt that they only had enough resources to cost accident/incidents over a certain threshold (e.g. RIDDOR reportable incidents only) or include one type of injured person (e.g. internal staff members only).

Also, most of the organisations only felt that it would be feasible to assess costs associated with accidents/incidents and not work-related ill health as they did not have sufficient systems in place to identify the proportion of work-related versus non-work-related ill health within the scope of the current study. Only a small number of organisations were able to assess these costs (n=3). Lack of systems monitoring the extent of damage only incidents (other than those that were considered to be serious in nature) within the organisations also hampered their abilities to provide comprehensive data on the cost of accidental damage events.

Details of the specific processes adopted within each of the organisations are provided in the individual case studies presented below. Each of the case studies will provide the following information: a description of the overall organisation and the business unit of focus (if applicable); a description of the individual costing methodology adopted; a summary of the number and severity of incidents occurring within the survey period; a summary of the types of accidents/incidents that occurred; a summary of the nature of injuries sustained, and a breakdown of the costs incurred. The breakdown of costs section will include: the total cost and the amount and types of opportunity and financial costs incurred overall, and a breakdown of the costs according to level of severity of the incidents (i.e. RIDDOR reportable major incidents, RIDDOR reportable over 3 day injuries, non-reportable incidents resulting in 1-3 days absence, non-reportable incidents with no absence, damage only incidents and near misses).

It is important to note that individual cost assessments only identified the short term/immediate costs that were present during the survey period. Therefore, the figures may underestimate the total costs incurred by the organisations concerned. For example, it was not possible to identify within the scope of the current study, potential future costs relating to: additional periods of absence; employers'/public liability claims; occupational health and treatment costs (e.g. physiotherapy); retraining, or permanent replacement costs.

Table 9 provides a summary of the case studies that are presented below.

Table 9 Summary of case studies presented

<i>Case study number</i>	<i>SIC code</i>	<i>Type of business</i>	<i>Size of organisation</i>
1	G	Merchandising company	Large
2	D	Printers	Medium
3	L	Housing association	Medium
4	G	Footwear retailer	Medium
5	L	Regional fire and rescue service	Large
6	D	Salad growing and processing company	Large
7	L	Unitary authority	Large
8	G	Vehicle distribution company	Large
9	G	Fruit importers and suppliers	Medium
10	D	Manufacturer of pre-cast products	Medium
11	L	Housing division of a borough council	Large
12	H	Catering company	Large
13	D	Food manufacturer	Large
14	L	Cleansing services section of a council	Large
15	N	NHS support organisation	Large
16	N	Primary care NHS trust	Large
17	D	Dairy processing company	Large
18	M	University	Large
19	D	Paper mill	Medium
20	D	Pork products manufacturer	Large
21	G	Furniture manufacturer and retailer	Large
22	D	Ship builders	Large
23	A	Specialist lettuce growers	Small
24	I	Parcel delivery company	Large
25	O	Theme park	Medium
26	N	Ambulance NHS trust	Large
27	N	Specialist mental health and learning disabilities NHS trust	Large
28	G	Drinks retailer	Large
29	G	Builders merchants	Large
30	G	Retail/distribution company	Large
31	N	Residential care home	Small
32	N	Residential home and day care centre	Small
33	D	Hydrometer manufacturer	Small
34	H	Take away restaurant	Small
35	N	Palliative care hospice	Medium
36	H	Catering company	Large
37	N	Combined healthcare NHS trust	Large
38	I	Communications company	Large
39	G	Wholesale distribution company	Large
40	H	Contract catering company	Large

5.1 CASE STUDY 1: COSTING OF ACCIDENTS /INCIDENTS IN A MERCHANDISING COMPANY

5.1.1 Description of organisation

This study was conducted within at a merchandising company employing 1000 staff. The company comprised a head office and two main warehouses, where the majority of employees were based. The company also employed a number of field-based staff. Transportation of goods to the field was contracted out to an external company.

During the previous 12 month period, August 2002 to July 2003, a total of 184 incidents were reported to the H&S department and a total of 496 days were lost due to injury. The incidents comprised: 20 RIDDOR reportable injuries, 9 non-reportable injuries (1-3 days absence), 140 non-reportable (no absence) injuries and 15 damage only incidents. The only type of damage incidents that tended to be reported were those that resulted in obvious structural or vehicle damage.

The company had never formerly attempted to quantify the cost of accidents, other than presenting the annual cost of liability claims payments in report to the board.

5.1.2 Description of costing methodology

The study included all incidents that were reported to the Health and Manager over a 4 month period, November 2003 to February 2004. Costs were not applied to incidents resulting in a total of less than 15 minutes lost time. The H&S manager was responsible for collating all of the costing information. Average salary bands were obtained from HR and adjusted to account for additional non-wage costs (13% of wages paid). These were used to calculate the cost of people's time according to their particular grade.

5.1.3 Number and outcome severity of accidents/incidents reported

A total of 63 accidents/incidents were reported to the Health and Safety Manager during the 4 month study period. Thirteen of these were very minor injuries resulting in less than a total of 15 minutes lost time each and were therefore not included. The remaining 50 incidents that were included in the costing survey comprised: 6 RIDDOR reportable (1 major and 5 over 3 day), 3 non-reportable (1-3 day absence) and 38 non-reportable (no absence) injuries, 2 damage only incidents and 1 near miss. A total of 188 days were lost due to the injuries that occurred, ranging from 2 to 83 days per injury.

5.1.4 Types of accidents/incidents

A range of accidents/incidents occurred during the survey period which resulted in 47 members of internal or agency staff being injured. The majority of incidents occurred whilst the injured person was handling, lifting or carrying (46%). The 2 damage only incidents involved vehicles (pallet truck/forklift truck) striking an overhead structure in the warehouse. The near miss was reported when some boxes fell to the ground from a badly stacked pallet. Table 10 provides a summary of 47 injury incidents according to the severity of the injuries sustained.

Table 10 Incidents by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	1	-	-	-	1
Struck by moving/falling object	-	-	-	2	2
Struck by moving vehicle	-	-	-	1	1
Strike against something fixed or stationary	-	-	1	10	11
Injured while handling, lifting or carrying	-	3	1	19	23
Slips, trips, falls on same level	-	1	1	6	8
Slips, trips, falls on stairs/ramp	-	1	-	-	1
Falls from height	-	-	-	-	-
Trapped by something collapsing/ overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident	-	-	-	-	-
Total	1	5	3	38	47

5.1.5 Nature of injuries sustained

The most common type of physical injury was a cut/laceration (n=24), often sustained as a result of handling boxes or using safety knives to cut open boxes of goods. Other types of injuries included: bruising (n=8), concussion (n=1), dislocation (n=1), a fracture (=1), and sprains/strains (n=8). One of the employees sustained no apparent injury at the time of the incident, 1 sustained more than 1 type of injury and 2 of the accident forms did not specify the nature of injury sustained. Of the injuries that occurred; 6 required hospital treatment, 2 required the injured person to visit their GP, 37 required on site first aid treatment and 2 required no form of treatment at the time of the injury.

5.1.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £8,801, ranging from £6 to 3,488 and averaging £176 per incidents. The total value comprised opportunity costs of £7,560 and financial costs of £1,241.

The financial cost of £1,241 was comprised of the cost elements: the cost of first aid materials and the cost of transporting injured persons to hospital/home (2% of the total financial cost), the cost of replacing absent employees (80%), damage repair/replacement costs (8%) and remedial costs (i.e. cost of reactive measures) (9%).

The opportunity cost of £7,560 included: time spent responding to the incidents immediately after they occurred (approximately 1.5% of the overall opportunity cost), time lost by the injured employees on the days of injury (4.5%), payments made during periods of absence (86%), time spent dealing with property damage/repair (2%) and time spent reporting,

investigating and processing incident report forms (6%). Table 11 provides a breakdown of the costs incurred according to incident severity.

Table 11 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	1	1,025	1,025	1,025	19	1,006
RIDDOR (over 3 day injury)	5	6,477	396 – 3,448	1,295	1,293	2
Non-reportable (1-3 day absence)	3	341	67 – 144	114	114	-
Non-reportable (No absence)	38	636	6 – 156	17	13	4
Damage only *	2	303	25 – 279	152	105	47
Near Miss	1	19	19	19	19	-
All incidents	50	8,801	6 – 3,488	176	151	26

*One of the damage events only included manpower time as the actual damage had not been repaired or replaced at the time of the study (the Health and Safety Manager was unable to estimate the cost).

If the immediate/short-term cost of £8,801 was extrapolated to the company's previous 12 month accident statistics (by applying the average figures for each category of incident severity), the total cost of accidents/incidents for the period August 2002 to July 2003 would equate to £30,686 (approximately £36 per employee). This is in addition to any potential longer-term costs that might be incurred in the future.

5.2 CASE STUDY 2: COSTING OF ACCIDENTS/INCIDENTS IN A PRINTERS

5.2.1 Description of organisation

The study was conducted at a printing company employing 160 people. The company operated as an independent business within a printing and publishing group employing 320 employees in total.

During the previous financial year, April 2002 to March 2003, a total of 41 accidents had been reported within the company, including: 1 RIDDOR reportable injury (major), 9 non-reportable (1-3 day absence) and 41 non-reportable (no absence) injuries. The company had previously attempted to quantify the cost of the major injury that had occurred during this period. Using a system similar to the HSE Ready Reckoner, the cost of a fractured hand resulting in 8 weeks absence was calculated to be £2,655.

5.2.2 Description of costing methodology

Cost data was collected for all incidents reported within the company during February 2004. The Health & Safety Officer was responsible for collating all of the costing information. Absence records and other accident details were requested directly from line managers after receipt of an accident report. Seven salary bands were used to calculate the cost of people's time according to their particular grade. The actual cost to the organisation of employing staff

was not available at the time of the study so the national average of 27% of salary cost was included to account for additional non-wage costs in all cases.

5.2.3 Number and outcome severity of accidents/incidents reported

Two accidents were captured through the company's accident/incident reporting system during the 1 month study period, comprising 1 RIDDOR reportable resulting in 7 days absence and 1 non-reportable (no absence) injury requiring hospital treatment on the day of injury but no further absence thereafter.

The Health and Safety Officer responsible for collating the accident data was not confident that all minor injuries were being reported and, despite making efforts to increase reporting in this area, was only certain that these injuries would be recorded if they required "significant first aid or hospital treatment". No records existed for any accidental damage incidents. Historically, damage had only ever been reported if there was an injury involved, despite walk-rounds of the site that frequently revealed evidence to the contrary.

5.2.4 Types of accidents/incidents

The RIDDOR reportable injury was sustained whilst an employee was lifting a shaft from some reel stands. The non-reportable injury was sustained by a member of staff who hit his head on a gear box whilst standing up from beneath it.

5.2.5 Nature of injuries sustained

The RIDDOR reportable injury involved the employee straining his shoulder and being absent from work for 7 days. The non-reportable injury resulted in an employee sustaining a cut/laceration to his head which required hospital treatment.

5.2.6 Breakdown of costs incurred

The total cost of the 2 injuries that were captured during the one month survey period was £512, including opportunity costs of £502 and financial costs of £10. The financial cost was incurred solely as result of transporting the injured person to hospital.

The opportunity cost of £502 was comprised of the following cost categories: time spent responding to the incidents immediately after they occurred (accounting for 9% of total opportunity cost), time lost by the injured persons on the days of injury (9%), payments made to the employee during the 7 days absence (67%) and time spent reporting, investigating and processing incident report forms (15%). Table 12 provides a breakdown of the costs incurred for each incident.

It is difficult with such limited cost data to extrapolate the figures in any usable way, such as providing an estimate of the annual cost of reported accidents/incidents to this company.

Table 12 Breakdown of costs incurred according to incident outcome severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	1	395	395	-	395	-
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	1	117	117	-	107	10
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	2	512	117 - 395	256	251	5

5.3 CASE STUDY 3: COSTING OF ACCIDENTS/INCIDENTS IN A HOUSING ASSOCIATION

5.3.1 Description of organisation

The participating organisation was a registered social landlord that had separated from local authority control in 1997. The study was conducted across the field-based labour pool of 55 Direct Labour Operatives (DLO's) that were primarily responsible for repairing and maintaining the organisation's 5,000 properties. The work involved tasks performed by carpenters, bricklayers, plumbers and other tradesmen – this section of the workforce was chosen because the majority of accidents reported involved this group of employees due to the nature of the jobs undertaken.

During the previous financial year, April 2002 to March 2003, a total of 54 incidents were reported, of which 41 involved DLO's. The total accidents/incidents comprised: 9 RIDDOR reportable injuries (1 major and 8 over 3 day), of which 6 were incurred by DLO's, and 45 non-reportable injuries, of which 35 were sustained by DLO's.

The organisation had never formally attempted to quantify the cost of accidents prior to their involvement in the current project.

5.3.2 Description of costing methodology

The study captured all incidents that were reported to the Health and Safety Department throughout over a four-month period, January to April 2004. However, detailed cost assessments were only carried out for RIDDOR reportable accidents that occurred, as the organisation did not consider the cost of minor accidents to be significant and were not prepared to spend time assessing each one. The Health & Safety Officer was responsible for collating all of the cost information. This was obtained by immediately contacting parties' involved following receipt of an accident report. Four hourly rates, based on the cost to the organisation of employing staff, were used to calculate the cost of people's time.

5.3.3 Number and outcome severity of accidents/incidents reported

A total of 8 incidents were reported to the Health & Safety Department during the four-month study period, comprising 1 RIDDOR reportable injury (4 days lost time), and 7 non-reportable (no absence) injuries. The Health and Safety Officer was not confident that all injuries, especially minor ones, were being reported by DLO's. This was due to the fact that despite having a fairly good reporting culture within the organisation, the nature of the work carried out by these operatives involved small (two- or three-man) groups working on unsupervised sites. It was also felt that damage-only incidents, particularly those of lower cost, were not being reported. However the organisation wanted to work on achieving full reporting of minor accidents before tackling the issues of damage and near misses. No damage events were reported to the Health & Safety Department during the survey period.

5.3.4 Types of accidents/incidents

The RIDDOR reportable injury was sustained whilst the injured employee was in the process of laying a 600mm x 600mm slab greenhouse base.

5.3.5 Nature of injuries sustained

The injured employee sustained a sprain/strain to his lower back as a result of the incident. The employee did not require any treatment on the day of the incident as the injury was not fully discovered until after he had finished his shift.

The 7 non-reportable injuries comprised four cuts, two bruises and a strain/sprain. Although one of these required a hospital visit, this was attended outside of working hours.

5.3.6 Breakdown of costs incurred

The total cost of the RIDDOR reportable injury was £618, consisting solely of opportunity costs. The opportunity cost was comprised of the following cost elements: time spent by the contract coordinator assessing/rescheduling work (2% of total opportunity cost), payments made to the injured person during absence (82%) and time spent reporting, investigating and processing the incident (16%).

The Health and Safety Officer informed the research team that the only lost time incurred for each of the 7 minor incidents accidents was less than 10 minutes, including time spent self-administering first aid if required and completion of the accident book – this was estimated by the Health and Safety Officer after speaking to the DLO Mangers. Therefore, the total cost of these seven minor accidents to the organisation, based on the average hourly rate to employ a maintenance operative, was estimated to be £21 (approximately £3 per very minor injury).

It is difficult with such limited cost data to extrapolate the figures in any usable way, such as providing an estimate of the annual cost of reported accidents/incidents to the company.

5.4 CASE STUDY 4: COSTING OF ACCIDENTS/INCIDENTS IN A FOOTWEAR RETAILER

5.4.1 Description of organisation

The study took place within a large retail company employing over 12,000 staff (many of which are employed on a part-time basis). The study was conducted nationally across 4 areas of the business: retail, logistics, manufacturing and head office. The company comprised 3 manufacturing sites, 2 main logistics sites, 1 head office, and around 500 retail stores.

During the previous year, 2003, a total of 2060 incidents were reported to the Health and Safety Department, including: 116 RIDDOR reportable injuries (major/over 3 day) and 1944 non-reportable injuries. In addition, there were 64 new cases of work-related ill health recorded in 2003. The organisation had never formally attempted to quantify the cost of accidents or work-related ill health before their involvement in the current project.

5.4.2 Description of costing methodology

The study related to all accidents/incidents that were reported to the Health and Safety department throughout February 2004. However, detailed cost assessments were only conducted for a selection of accidents that occurred as the organisation did not feel that they had the resources to assess each individual case. Overall, 13% of the total incidents that occurred were assessed using the standard costing forms.

5.4.3 Number and outcome severity of accidents/incidents reported

A total of 131 incidents were reported to the Health and Safety Department during the one-month study period, including 7 RIDDOR reportable and 124 non-reportable injuries.

However, only 17 of these were cost assessed, including: 2 major RIDDOR reportable injuries (1 employee and 1 member of the public taken to hospital); 2 RIDDOR reportable (over 3 day) injuries; 1 non-reportable injury (1-3 day absence); 12 non-reportable injuries (no absence) involving members of staff, and 1 non-reportable injury sustained by a member of the public.

The Health & Safety Manager with overall responsibility for collating the accident data was confident that all minor injuries and damage events that occurred within the study period were reported. However, the only damages reported during the study period were linked to injury events.

5.4.4 Types of accidents/incidents

A range of different accidents led to the injuries that were selected and cost assessed. The majority of staff injuries were sustained whilst the injured person was handling, lifting or carrying a piece of equipment. Table 13 provides a summary of the incidents according to the severity of the injuries sustained. The major injury, concerning a member of the public, involved a child falling in one of the retail stores, breaking his nose and going to hospital.

Table 13 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	1	-	-	-	1
Struck by moving/falling object	-	-	-	-	-
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	1	-	-	-	1
Injured while handling, lifting or carrying	-	1	-	6	7
Slips, trips, falls on same level	-	1	1	3	5
Slips, trips, falls on stairs/ramp	-	-	-	2	2
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident	-	-	-	1	1
Total	2	2	1	12	17

5.4.5 Nature of injuries sustained

Of the 17 incidents selected, the most common type of injury was a sprain or strain (n=8). Other types of injuries included: bruising (n=4), a cut/laceration (n=1), fracture (=1), scald/burn (n= 1) and superficial injuries, i.e. broken nose and abrasion (n=2). Of the injuries sustained, 3 required hospital treatment/assessment, 4 required the injured person to attend the in-house Occupational Health department, 1 injured person visited their own GP, 6 required on site first aid treatment/assessment and 3 of the injuries did not require any form of treatment.

5.4.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £3,099, including opportunity costs of £2,186 and financial costs of £913.

The financial cost of related to the cost of first aid materials used (accounting for 0.3% of total financial cost) and the cost of reactive measures (99.7% - e.g. the cost of disposal and replacement of faulty roll cages, and the cost of physiotherapy treatment).

The opportunity cost of £2,186 included: immediate response/clean up time (5% of overall opportunity cost), time spent assessing/rescheduling work (1%), time lost by the IP on day of injury (8%), payments made to injured employees during absence (59%), additional staff downtime (1%), lost work/production (5%), time spent reporting/investigating/processing incidents (18%) and other costs associated with reactive measures put in place to prevent accidents/incidents from reoccurring (3%). Table 14 provides a breakdown of the costs incurred according to incident severity.

Table 14 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR* (Major injury)	2	1,598	40 – 1,558	799	372	422
RIDDOR (over 3 day injury)	2	1,024	367 – 657	512	492	20
Non-reportable (1-3 day absence)	1	25	25	25	25	-
Non-reportable (No absence)	12	452	8 – 126	38	35	3
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	17	3,099	8 – 1,558	183	129	54

*One of the major injuries was sustained by a member of the public who was taken to hospital and therefore the immediate cost to the organisation was limited.

During the study period there were also 3 continuing and 5 new cases of work-related ill health occurring within the organisation, all falling within the retail division. They all involved either upper limb disorders (ULD's) or unspecified pain affecting the shoulders, neck, wrist, elbows, back or knees. Although these were cost assessed by the company, a full breakdown of the costs was not supplied. Instead, the following cost categories were used: sick pay, replacement labour, Store Manager's time, Occupational Health Manager's time, HR/administration time, consultant's fees, and other costs. The total cost of the continuing cases was calculated to be £21,889 during the survey period, with the majority of this figure arising from meeting the absence and replacement costs associated with long-term sickness. The total cost of new cases commencing within the study period was £180. This figure was relatively low as there was no absence caused in any of the five cases. The costs were mainly attributable to the occupational health management of the employees concerned.

If the average immediate/short-term costs derived from this study were applied to the accidents/incidents reported within the company during 2003 (116 RIDDOR reportable and 1944 non-reportable injuries), then the annual cost based on this period may be estimated to be somewhere in the region of £76,096 for RIDDOR reportable injuries (major/over 3 day) and £73,872 for non-reportable injuries. This is, of course, in addition to any additional longer-term costs incurred.

5.5 CASE STUDY 5: COSTING OF ACCIDENTS/INCIDENTS IN A REGIONAL FIRE AND RESCUE SERVICE

5.5.1 Description of organisation

The study was conducted within a regional fire and rescue service employing approximately 400 staff.

During the previous 12 month period, April 2002 to March 2003, a total of 89 injuries were sustained by staff whilst on duty (the proportion of RIDDOR reportable versus non-reportable injuries was not provided at the time of the study). In addition, there were also 9 damage to

vehicle, 3 damage to equipment and 2 building damage incidents reported. A total of 464 normal duty days were lost during this period.

The organisation had never made any attempt to cost accidents/incidents prior to being involved in the current study.

5.5.2 Description of costing methodology

The study included all incidents that were reported through the organisation's incident reporting system throughout December 2003 and January 2004. The Health and Safety Manager was responsible for collating all of the costing information as and when incidents were reported. Average salary bands for different grades of employees were used to calculate the cost of people's time involved in the incident.

5.5.3 Number and outcome severity of accidents/incidents reported

A total of 9 accidents/incidents were reported and costed during the 2 month study period, including: 2 RIDDOR reportable injuries (1 major and 1 over 3 day) and 7 non-reportable (no absence) injuries. A total of 21 duty days were lost during the survey period, ranging from 4 to 17 days per injury.

5.5.4 Types of accidents/incidents

A range of accidents occurred which resulted in injury. Table 15 provides a summary of the incidents according to the severity of the injuries sustained.

Table 15 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	-	-
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	1	1
Injured while handling, lifting or carrying	-	-	-	-	-
Slips, trips, falls on same level	-	-	-	4	4
Slips, trips, falls on stairs/ramp	-	-	-	-	-
Falls from height	-	1	-	-	1
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident*	1	-	-	2	3
Total	1	1	-	7	9

*Other accidents included 2 RTA's (one of which led to a RIDDOR reportable major injury) and 1 burn caused by contact with hot substance.

5.5.5 Nature of injuries sustained

The most common type of physical injury sustained was bruising (n=4). Other types of injuries included: a dislocation (n=1), scald/burn (n=1), sprain/strain (n=2) and a superficial abrasion (n=1). Of the injuries that were sustained, 2 required hospital treatment, 3 required on site first aid treatment and the remaining 4 required no form of treatment at the time of the injury.

5.5.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £2,363, including opportunity costs of £1,154 and financial costs of £1,209.

The financial cost of £1,209 was comprised of £709 (59% of overall financial cost) paid to a retained Fire Fighter who dislocated his shoulder whilst on duty. This was paid to compensate for loss of earnings from his regular job during the 17 days absence. Approximately £500 was also paid in vehicle repair costs.

The opportunity cost of £1,154 consisted of the following cost categories: time spent responding to the incidents immediately after they occurred (2% of overall opportunity cost), time lost by the injured employees on the days of injury (16%), payments made to injured employees during absence (55%), time spent dealing with repair/replacement of damaged equipment (5%) and time spent reporting/investigating/processing incident reports (22%). Table 16 provides a breakdown of the costs incurred according to incident severity.

Table 16 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	1	859	859	859	150	709
RIDDOR (over 3 day injury)	1	749	749	749	749	-
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable* (No absence)	7	755	13 – 579	108	36	72
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	9	2,363	13 - 859	263	128	135

*One of the non-reportable (no absence) injuries was sustained during an RTA whilst on duty. Financial costs of approximately £500 were incurred through vehicle repair.

If the initial cost of £293 per injury was extrapolated to the total number of injuries that were reported during the 12 month period, April 2002 to March 2003 (n=89), then it may be estimated that the immediate/short-term cost of injuries during this period was approximately £26,007 (equating to around £65 per employee).

5.6 CASE STUDY 6: COSTING OF ACCIDENTS/INCIDENTS IN A SALAD GROWING AND PROCESSING COMPANY

5.6.1 Description of organisation

The study was conducted at a salad growing and processing company employing 430 permanent staff and up to 400 temporary workers on a seasonal basis. The company operated at 2 main sites, one of which contained the head office.

During the previous year, 2003, a total of 118 incidents were reported to the Health and Safety Department, resulting in an accident rate of 18.6 accidents per 100,000 hours worked. The accidents/incidents included: 7 RIDDOR reportable injuries (major/over 3 day), 8 non-reportable injuries (1-3 day absence) and 103 non-reportable injuries (no absence).

The company had previously attempted to quantify the cost of two individual types of injuries, including a cut finger (£80) and a slip on the shop floor (£430). These two cost assessments were carried out in order to justify expenditure on specific health & safety improvements, such as chain mail gloves and non-slip boots, and also for staff training purposes.

5.6.2 Description of costing methodology

Cost data was collected for all incidents occurring throughout January 2004. The Group Health and Safety Manager was responsible for collating all of the cost information. Managers were informed of the data capture requirements prior to the start of the study in order for them to keep records of costs incurred and times spent on tasks relating to accidents. This data was then obtained by contacting the relevant departments following receipt of an accident report. Twenty-eight separate salary bands were obtained to calculate the cost of people's time according to their particular grade. An additional 20% of salary cost was included to account for non-wage costs in all cases.

5.6.3 Number and outcome severity of accidents/incidents reported

A total of 19 incidents were reported to the Health and Safety department during the one-month study period, comprising 2 RIDDOR reportable (over 3 day) and 17 non-reportable injuries (no absence). A total of 10 days were lost as a result of the injuries sustained, ranging from 4 to 6 days per injury. One of the RIDDOR reportable events involved an employee driving a refrigerated lorry into a ditch. Although no actual physical injury was sustained, the employee was absent from work for 6 days with shock.

The Health & Safety Manager responsible for collating the accident data felt that although some minor injuries were not being reported, the fact that the company had implemented a robust accident reporting procedure and also operated a managed stock system in their first aid room enabling them to tally all but a few plasters, indicated that injury events were generally very well reported. However, no accidental damage was reported during the study period, despite having a formal reporting procedure in place to capture these incidents. The Health & Safety Manager estimated that reporting was at about 60% in this area, and could only be certain that events costing over £500 would reach her via this channel. This underreporting was known to the company, as unclassified damage was routinely identified during internal audits and through analysis of internal engineer's timesheets.

5.6.4 Types of accidents/incidents

A range of accidents/incidents occurred during the survey period which resulted in 19 members of internal (n=15) or agency (n=4) staff being injured. The majority of incidents occurred

whilst the injured person was handling, lifting or carrying (37%). Table 17 provides a summary of the accidents that occurred according to the severity of the injuries sustained.

Table 17 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	1	-	3	4
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	4	4
Injured while handling, lifting or carrying	-	-	-	7	7
Slips, trips, falls on same level	-	-	-	2	2
Slips, trips, falls on stairs/ramp	-	-	-	1	1
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident*	-	1	-	-	1
Total	-	2	-	17	19

*This incident involved a member of staff driving a refrigerated lorry into a ditch on the company's premises.

5.6.5 Nature of injuries sustained

Of the 19 injuries sustained, the most common was a cut/laceration (n=8), of which 1 was RIDDOR reportable. Other types of injuries included: bruising (n=4), sprains/strains (n=3), superficial abrasions (n=2), and other types of injury (n=2), i.e. a split nail & shock, which also related to a RIDDOR reportable incident. Two of the injuries required hospital treatment, 15 required onsite first aid treatment and the remaining 2 required no form of treatment at the time of the incident.

5.6.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £21,885, including opportunity costs of £1,762 and financial costs of £20,123. The RIDDOR reportable incident involving a lorry being driven into a ditch accounted for 95% of the overall cost at £20,859.

The financial cost, £20,123, was comprised of the following 2 types of cost: immediate response, i.e. first aid materials and transporting the injured employee to hospital/home (0.5%), and repair of vehicle damage (95%).

The opportunity cost of £1,762 included: immediate response time (11% of total opportunity cost), time lost by the injured persons on the days of injury (15%), payments made to injured employees during absence (55%), time spent arranging vehicle repair (1%) and time spent

reporting, investigating and processing incidents (18%). Table 18 provides a breakdown of the costs incurred according to incident severity.

Table 18 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)*	2	21,405	547 – 20,859	10,703	657	10,046
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	17	479	11 - 72	28	26	2
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	19	21,885	11 – 20,859	1,152**	1,059	1,152

*One of the RIDDOR reportable (over 3 day) injuries involved damage to a refrigerated lorry. The majority of the cost was incurred in repairing the damaged vehicle. **The overall average cost of the accidents, excluding the vehicle damage incident, would equate to £57.

5.7 CASE STUDY 7: COSTING OF ACCIDENTS/INCIDENTS IN A UNITARY AUTHORITY

5.7.1 Description of organisation

This study was conducted within the Operational Services Division of a Unitary Authority. The Operational Services Division employed 350 staff over 3 main sites and was responsible for such services as refuse collection and highway maintenance. The organisation as a whole employed 4,600 staff.

Throughout 2002, a total of 142 injury accidents were reported to the Health and Safety Officer responsible for the Operational Services Division, including: 39 RIDDOR reportable incidents (1 major injury, 1 dangerous occurrence and 37 over 3 day injury accidents); 12 non-reportable (1-3 day absence) and 91 non-reportable (no absence) injuries. A total of 947 days were lost due to injury (including the day of the accident and weekends). Damage only accidents were not formally reported or collated anywhere within the organisation and therefore unlikely to be picked up in the current study.

A brief costing study of accidents had been conducted previously across the whole organisation. However, this task had become too onerous for the Health and safety Department to continue on an ongoing basis. At the time of this study the organisation were at a stage where they applied an average figure of £100 a day to estimate the annual cost of days lost due to injury (sick pay only). The organisation also reported that they applied existing HSE figures to total numbers of accidents in order to obtain an annual figure for the total cost of accidents.

5.7.2 Description of costing methodology

The study covered all incidents that were reported to the Health and Safety department within the Operational Services Division throughout February 2004. The Health and Safety Officer

was responsible for collating all of the costing information. Average salary bands were obtained from HR to calculate the cost of people's time according to their particular grade.

5.7.3 Number and outcome severity of accidents/incidents reported

A total of 6 incidents were reported and costed during the study period. The Health & Safety Officer responsible for collating the accident reports was confident that all accidents, including minor injuries would have been reported by staff.

The 6 accidents/incidents comprised: 1 RIDDOR reportable (over 3 day), 1 non-reportable (1-3 day absence) and 4 non-reportable (no absence) injuries. A total of 6 days were lost as a result of the injuries, ranging from 1 to 5 days per injury. No incidents involving damage or cases of work-related ill health were reported during the study period.

5.7.4 Types of accidents/incidents

A range of accidents occurred during the survey period which resulted in injury. Table 19 provides a summary of the accidents according to the severity of the injuries sustained.

Table 19 Incidents by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	1	-	1	2
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	-	-
Injured while handling, lifting or carrying	-	-	1	1	2
Slips, trips, falls on same level	-	-	-	1	1
Slips, trips, falls on stairs/ramp	-	-	-	-	-
Falls from height	-	-	-	1	1
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident	-	-	-	-	-
Total	-	1	1	4	6

5.7.5 Nature of injuries sustained

Three types of injuries were sustained, including: bruising (n=3), one of which led to 5 days absence; a sprain/strain (n=2), one of which led to 1 full days absence, and a scald/burn. One required hospital treatment, 1 was assessed by the injured person's own GP and the remaining 4 required no form of treatment at the time of the incident.

5.7.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £829, including opportunity costs of £827 and financial costs of £2 (representing the cost of transporting an employee to his GP).

The opportunity cost consisted of the following cost elements: immediate response time (2% of overall opportunity cost), time spent rescheduling work (4%), time lost by the injured employees on the days of injury (9%), payments made to injured employees during absence (60%), additional staff downtime (5%), and time spent reporting/investigating/processing incidents (20%). Table 20 provides a breakdown of the costs incurred according to incident severity.

Table 20 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	1	434	434	434	434	-
Non-reportable (1-3 day absence)	1	272	272	272	270	2
Non-reportable (No absence)	4	123	18 - 67	31	31	-
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	6	829	18 - 434	138	138	0

If the initial cost of £138 per injury was extrapolated to the total number of injuries that were reported during 2002 in the Operational Services Division (n=142), then it may be estimated that the immediate/short-term cost of injuries during this period was somewhere in the region of £19,596. This would equate to approximately £56 per employee within the Division of focus.

5.8 CASE STUDY 8: COSTING OF ACCIDENTS/INCIDENTS IN A VEHICLE DISTRIBUTION COMPANY

5.8.1 Description of organisation

The main UK warehousing and distribution site of a vehicle manufacturer employing 1200 staff was the focus for this study. This part of the organisation was primarily responsible for the logistical storage and supply of imported units and parts to dealerships.

During the previous year, 2003, a total of 128 incidents were reported and a total of 1388 hours lost due to injuries occurring at work on this site. The incidents comprised: 1 RIDDOR reportable injury (major), 7 RIDDOR reportable (over 3 day), 3 non-reportable (1-3 day absence) and 114 non-reportable (no absence) injures. Three near misses were also reported during this period.

The company was quantifying the cost of accidents using standard figures derived from previous cost assessments within the company prior to their involvement in the current study. This method involved applying fixed costs for accident cost components such as employee lost time, administration and management time. Using this method, the accident costs for the site in 2003 were estimated to be £28,836.

5.8.2 Description of costing methodology

The study included all incidents that were reported to the Health & Safety Department throughout January and February 2004. The Health & Safety Co-ordinator was responsible for collating all of the cost information. This was obtained by immediately contacting parties' involved following notification by the accident reporting database that a preliminary accident report had been filed. Fifteen salary bands were obtained from HR in order to calculate the cost of people's time according to their particular grade. The additional cost of employing staff was not available, so the national average of 27% of salary cost was included to account for non-wage costs in all cases.

5.8.3 Number and outcome severity of accidents/incidents reported

A total of 21 incidents were reported and costed during the 2 month study period, including: 1 RIDDOR reportable (over 3 day absence) and 20 non-reportable (no absence) injuries. The RIDDOR reportable injury resulted in 10 days absence. One of the minor injury accidents involved an employee driving a forklift truck into a post, banging their head in the process. This resulted in damage to the vehicle which required repair work and the hire of a replacement vehicle.

The Health and Safety Co-ordinator was confident that the vast majority of injuries, including very minor ones, were being reported by staff. However, accidental damage incidents were not cost-assessed as there was no separate reporting procedure in place to capture these events at the time of the study. Only significant damages were being reported through the standard accident reporting system at each individual's discretion. No damage events were reported to the Health & Safety Department during the survey period.

5.8.4 Types of accidents/incidents

A range of accidents occurred during the survey period which resulted in injury. The majority of injuries were sustained whilst the injured person was handling, lifting or carrying. Table 21 provides a summary of these accidents according to the severity of the injuries sustained.

Table 21 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	3	3
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	4	4
Injured while handling, lifting or carrying	-	1	-	8	9
Slips, trips, falls on same level	-	-	-	2	2
Slips, trips, falls on stairs/ramp	-	-	-	1	1
Falls from height	-	-	-	1	1
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident*	-	-	-	1	1
Total	-	1	-	20	21

*This incident involved a foreign body (dust) entering an employee's eye.

5.8.5 Nature of injuries sustained

Six different types of injury were sustained, including bruising (n=6), concussion (n=1), lacerations (n=7), scalds/burns (n=3), sprains/strains (n=3), one of which resulted in 10 days absence from work, and a superficial eye injury/irritation (n=1). Two of the injuries required hospital treatment, 10 required onsite first aid attention and the remaining 8 required no form of treatment at the time of the incident.

5.8.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £4,161, including opportunity costs of £1,254 and financial costs of £2,907. One of the non-reportable accidents involved damage to a forklift truck. The total cost of this one accident (£2,509) accounted for 66% of the overall cost and 78% of the total financial cost incurred.

The opportunity cost of £1,254 consisted of the following cost categories: immediate response time (14% of overall opportunity cost), time spent rescheduling work (6%), time lost by the injured employees on the days of injury (17%), time spent organising repair/replacement of vehicle (4%) and time spent reporting/investigating/processing incidents (59%). Although payments were made to the injured employees during absence, the cost of the replacement was greater than the cost of the sick pay. Therefore, the financial replacement cost overrides the opportunity cost of days lost by the injured person.

The financial cost of £2,907 comprised: costs incurred during immediate response to incident - e.g. first aid materials (1% of overall financial cost), the cost of replacement labour to

compensate for absence (21%) and the cost of repairing the vehicle damage (78%). Table 22 provides a breakdown of the costs incurred according to incident severity.

Table 22 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	1	655	655	655	53	602
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	20	3,506	36 – 2,509	175	60	115*
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	21	4,161	36 – 2,509	198**	60	138

*The average cost of a non-reportable injury, excluding the relatively high cost of the incident involving damage to the forklift truck, would equate to £52. **The average cost of all of the incidents, excluding the incident involving damage to the forklift truck, would equate to £83.

If the overall cost of £4,161 derived from the 2 month survey period was applied to a similar 12 month period, the annual cost may be estimated to be approximately £24,966. This figure is relatively similar to the company's own figures for accidents occurring in 2002 (£28,836), bearing in mind that they take account of both sick pay and replacement labour costs when calculating the total cost of their accidents.

5.9 CASE STUDY 9: COSTING OF ACCIDENTS/INCIDENTS IN A FRUIT IMPORT AND SUPPLY COMPANY

5.9.1 Description of organisation

The study was conducted at a fruit packing and warehousing company employing 230 people. Transportation of goods to customer sites was contracted to an external company.

During the previous year, 2003, a total of 97 accidents were reported to the Health & Safety Department, of which 8 were RIDDOR reportable. The company had not previously attempted to quantify the cost of accidents and had no plans to do so until their involvement in this project.

5.9.2 Description of costing methodology

Cost data was collected for all incidents occurring throughout July 2004. The Projects Manager was responsible for collating all of the costing information, which was initially obtained by modifying the company's accident report form to incorporate requests for additional information. Any further details required were obtained by contacting the relevant managers directly. Nine hourly rates linked to salary data were used to calculate the cost of people's time according to their particular grade. An additional 10% of salary cost was included to account for non-wage costs in all cases.

5.9.3 Number and outcome severity of accidents/incidents reported

A total of 9 incidents were reported to the Health and Safety Department and costed during the one-month study period, including: 2 RIDDOR reportable injuries resulting in 38 days and 20 days lost time; 1 non-reportable (1 to 3 day absence) and 6 non-reportable (no absence) injuries. The RIDDOR reportable injury resulting in 38 days lost time was sustained by a packing operative who fractured her finger when she tripped and put her hand out to a wall to try and prevent herself from falling.

The Projects Manager responsible for collating the accident data was confident that all minor injuries and damage events that occurred within the study period were reported. However, no accidental damage was reported during the study period. The company had intended to cost any cases of work-related ill health that occurred during the study period, but no cases were identified through Human Resources during this time.

5.9.4 Types of accidents/incidents

A range of accidents occurred during the survey period which resulted in injury. The majority of injuries were sustained whilst the injured person was handling, lifting or carrying. Table 23 provides a summary of the incidents that led to injury according to the severity of the injuries sustained.

Table 23 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	3	3
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	4	4
Injured while handling, lifting or carrying	-	1	-	8	9
Slips, trips, falls on same level	-	-	-	2	2
Slips, trips, falls on stairs/ramp	-	-	-	1	1
Falls from height	-	-	-	1	1
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident*	-	-	-	1	1
Total	-	1	-	20	21

**This incident involved a foreign body (dust) entering an employee's eye.

5.9.5 Nature of injuries sustained

Six different types of injury were sustained, including bruising (n=6), concussion (n=1), lacerations (n=7), scalds/burns (n=3), sprains/strains (n=3), one of which resulted in 10 days absence from work, and a superficial eye injury/irritation (n=1). Two of the injuries required hospital treatment, 10 required onsite first aid attention and the remaining 8 required no form of treatment at the time of the incident.

5.9.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £3,992, including opportunity costs of £1,706 and financial costs of £2,286. The financial cost was largely comprised of replacement labour costs.

The opportunity cost comprised: response time (9% of overall opportunity cost), time spent rescheduling work (1%), time lost by the injured employees on the days of injury (6%), payments made to injured employees during absence (74%), additional staff downtime (0.5%) and time spent reporting/investigating/processing incidents (9.5%). Table 24 provides a breakdown of the costs incurred according to incident severity.

Table 24 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	2	3,624	1,365 – 2,258	1,812	762	1,050
Non-reportable (1-3 day absence)	1	207	208	207	186	21
Non-reportable (No absence)	6	161	2 - 52	27	27	-
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	9	3,992	2 – 2,258	444	190	254

The number of accidents/incidents that were reported during July 2004 appears to be representative of the monthly average number of accidents that were reported during 2003. Therefore, if the immediate/short term cost of £3,992 derived from the 1 month survey period was applied to a 12 month period, the annual cost may be estimated to be approximately £47,904, the equivalent of employing 3 full-time supervisors.

5.10 CASE STUDY 10: COSTING OF ACCIDENTS/INCIDENTS IN A MANUFACTURER OF PRE-CAST PRODUCTS

5.10.1 Description of organisation

The study was conducted at a pre-cast product manufacturing company over a 3 month period (January to March 2004). The company produced pre-stressed concrete products for the rail

industry and was part of a larger PLC. The unit of focus operated as an independent business employing 109 people.

During the previous year, 2003, a total of 43 incidents were reported to the Works Manager, including: 2 RIDDOR reportable injuries (1 major and 1 over 3 day injury), 2 non-reportable injuries (1-3 days absence), 36 non-reportable injuries (no absence), and 3 dangerous occurrences. Fifty-seven days were lost during this period due to injury at work.

The company was previously quantifying the cost of accidents with a simple calculation that applied a daily rate for days lost due to accidents. This rate incorporated a multiplier intended to take account of indirect costs such as investigation, rescheduling and other administration time spent on accidents in addition to the cost of lost time and replacement labour for the injured person. Using this method, the company had calculated the cost of accidents in 2003 to be £19,380. However, this costing did not take account of minor accidents where less than one full day's absence was incurred.

5.10.2 Description of costing methodology

The Works Manager was responsible for collating all of the costing information which was obtained by contacting the relevant persons after receipt of an accident report form. Nine hourly rates linked to salary data were used to calculate the cost of people's time according to their particular grade. An additional 13% of salary cost was included to account for non-wage costs in all cases.

5.10.3 Number and outcome severity of accidents/incidents reported

A total of 11 accidents were received via the company's accident reporting procedure during the three-month study period, comprising: 1 RIDDOR reportable (major) and 10 non-reportable (no absence) injuries. The major injury was sustained by a machine operative who lost his footing, fell and fractured his leg whilst fitting a large component to the end of one of the assembly lines. This injury resulted in 47 days absence.

The Works Manager responsible for collating the accident data was confident that the vast majority of minor injuries and damage events that occurred within the study period were reported. However, no accidental damage was reported during the study period.

5.10.4 Types of accidents/incidents

A range of accidents occurred during the survey period which resulted in injury. Table 25 provides a summary of accidents according to the severity of the injuries sustained.

Table 25 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	2	2
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	-	-
Injured while handling, lifting or carrying	-	-	-	3	3
Slips, trips, falls on same level	-	1	-	2	3
Slips, trips, falls on stairs/ramp	-	-	-	-	-

Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident*	-	-	-	3	3
Total	-	1	-	10	11

*This incident involved a foreign body entering an employee's eye.

5.10.5 Nature of injuries sustained

Six different types of injury were sustained, including bruising (n=1), lacerations (n=1), a fracture of a leg (n=1), sprains/strains (n=3), superficial eye injuries/irritations (n=4) and 1 other type of injury (an employee was winded when he tripped over a curb).

5.10.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the 3 month survey period was £4,371, including opportunity costs of £4,361 and financial costs of £10. The major RIDDOR reportable injury accounted for 94% of the overall cost and 94% of the total opportunity cost, incurred mainly as a result of payments made to the injured employee during absence.

The overall opportunity cost of £4,361 consisted of the following cost categories: immediate response time (1% of overall opportunity cost), time lost by injured employees on the days of injury (4%), payments made to an employee during his period of absence (90%) and time spent reporting, investigating and processing the incidents (5%). Table 26 provides a breakdown of the costs incurred according to incident severity.

Table 26 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	1	4,093	4,093	4,093	4,088	5
RIDDOR (over 3 day injury)	-	-	-	-	-	-
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	10	273	10 - 69	28	27	1
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	11	4,371	11 – 4,093	397	396	1

By applying the total (immediate/short term) cost of accidents derived from this 3 month study to a similar 12 month period, it may be estimated that accidents are costing the business unit of

focus approximately £17,484 per year, the equivalent of paying a Foreman to work for just under 1,600 hours.

5.11 CASE STUDY 11: COSTING OF ACCIDENTS/INCIDENTS IN A HOUSING DIVISION OF A BOROUGH COUNCIL

5.11.1 Description of organisation

The Housing Division of a Borough Council employing 950 staff was the focus for this study. During the previous 12 month period, April 2003 to March 2004, a total of 41 incidents were reported through the organisation's incident reporting system, including: 4 RIDDOR reportable injuries (over 3 day), 5 non-reportable injuries (1-3 days absence), 27 non-reportable injuries (no absence), and 1 accidental damage incident. A total of 45 days were lost due to injury during this 12 month period. There were no identified cases of work-related ill health that the Health and Safety Advisor was aware of. The organisation had never previously attempted to quantify the cost of either accidents or work-related ill health.

5.11.2 Description of costing methodology

The Health and Safety Advisor was responsible for collating all of the costing information, as and when an incident was reported throughout March 2003. Approximately 22% of the standard salary costs were applied to account for non-wage costs in all cases.

5.11.3 Number and outcome severity of accidents/incidents reported

A total of 2 accidents/incidents were reported and costed during the 1 month study period. Both of the incidents were non-reportable injuries resulting in no absence from work.

5.11.4 Types of accidents/incidents

One of the incidents occurred when an employee stepped backwards to avoid the corner of a desk, tripping over a chair leg and banging into a wall. The other involved a member of staff banging their head on a wall mounted ashtray after falling down a couple of steps after being knocked by an external door.

5.11.5 Nature of injuries sustained

Both of the incidents resulted in bruising that did not require any form of first aid attention or treatment.

5.11.6 Breakdown of costs incurred

The total cost of two non-reportable injuries was £66, ranging from £30 to £37 per incident. The average cost of £33 per incident was comprised solely of opportunity costs relating to immediate response time (accounting for 28% of the overall opportunity cost), time lost by the injured employees on the days of injury (41%), and time spent reporting, investigating and processing the incidents (31%).

With such a limited number of incidents it is difficult to extrapolate the figures derived from this study to provide an indication of the total cost of accidents to the Housing Division. However, if the average cost of a non-reportable injury incurring no absence was applied to the previous 12 month accident rate for such incidents (n=27), it may be estimated that the total cost of non-reportable (no absence) injuries was approximately £891. This is, of course, in addition

to the cost of the 9 injuries that resulted in absence from work during the period April 2003 to March 2004.

5.12 CASE STUDY 12: COSTING OF ACCIDENTS/INCIDENTS IN A CATERING COMPANY

5.12.1 Description of organisation

This study was conducted at a company that provided catering services within schools. The company employed 1,700 staff and were the sole-caterers for all council run schools in 2 counties in the UK. The company used to be part of a county council but had been operating as an independent business with its own branding for over a year.

During the previous academic year, September 2002 to July 2003, a total of 618 incidents were reported to the Health & Safety Department, of which 17 were reportable to RIDDOR. The RIDDOR reportable incidents comprised: 1 major injury, 1 reportable disease (dermatitis) and 15 over 3 day injuries. The company had never previously attempted to quantify the cost of accidents/incidents or work-related ill health, although it had been specified as a medium- to long-term objective.

5.12.2 Description of costing methodology

The study related to incidents that were reported to the Health & Safety Department over one academic term which was three months in duration (5th January 2004 to 2nd April 2004). However, detailed cost assessments were only carried out for a selection of accidents that occurred as the organisation did not have the time or resources to calculate each case individually. The Health & Safety Officer was responsible for collating all of the costing information, which was obtained retrospectively because accident returns, especially minors, were not usually received from each school until the conclusion of each term. Any further details, or clarification required, were obtained by contacting the relevant managers directly. Ten hourly rates linked to salary data were used to calculate the cost of people's time according to their particular grade. The actual cost to the organisation of employing staff was not available, so the national average of an additional 27% of salary cost was included to account for non-wage costs in all cases.

5.12.3 Number and outcome severity of accidents/incidents reported

A total of 104 incidents were reported to the Health & Safety Department during the three-month study period, comprising 7 RIDDOR reportable (over 3 day) and 97 non-reportable injuries. However, only 57% of the RIDDOR events (n=4) occurring during the study period were investigated for cost and none of the non-reportable accidents were comprehensively assessed using the costing tools provided. The total number days lost due to the 4 RIDDOR reportable injuries that were fully cost assessed was 48, ranging from 8 to 22 days per injury.

The Health & Safety Officer responsible for collating the accident data was confident that around 70% of all minor injuries would have been reported, with only very minor injuries absent from the statistics. Accidental damage was not recorded by the company in any form, and to implement this would have required significant procedural changes across more than 500 sites, which was not possible within the scope of this project. The company had intended to cost-assess any cases of work-related ill health that occurred in the study period, but no cases were formally reported through Human Resources during this time frame.

5.12.4 Types of accidents/incidents

Full details were provided for only 4 of the RIDDOR reportable (over 3 day) injuries. The kind of accidents leading to injuries in these cases included: 2 incidents where an employee was injured whilst handling, lifting or carrying, and 2 resulting from a slip, trip, fall on the same level.

5.12.5 Nature of injuries sustained

Two employees sustained a scald/burn to their hand and arm. One of these occurred whilst the injured person was retrieving a fork from a sterilizer and boiling water went over the top of her glove and inside, burning her hand and arm. The other involved a member of staff burning her hand when picking up a baking tray lid which was on top of a hob that had been left on accidentally.

Both of the slip/trip accidents resulted in members of staff sustaining a sprain or strain. One employee slipped and fell on a wet floor, spraining her leg, and the other slipped on some spilt water in a dining hall and sprained/strained her lower back.

Two of the injuries required hospital treatment and 2 required no form of first aid treatment or assessment at the time of the injury.

5.12.6 Breakdown of costs incurred

The total cost of the 4 RIDDOR reportable injuries that were selected by the company and assessed for cost was £2,245, ranging from £208 to £1,247, and averaging £561 per incident. This total cost comprised opportunity costs of £1,399 and financial costs of £846.

The financial cost of £846 was incurred as a result of: paying additional sums to other members of staff to cover a proportion of the absent injured persons shifts and paying for the cost of their travel to the required locations (accounting for 32% of the overall financial cost), the cost of transporting a member of staff to hospital (2%), the additional cost of cleaning up after an incident (1%), and the cost of just over £500 for purchasing new safety signs in response to the incident involving a member of staff burning her hand/arm when retrieving a fork from a sterilizer (65%).

The opportunity cost of £1,399 was comprised of the following elements: immediate response time (accounting for 3% of the overall opportunity cost), time lost by the injured employees on the days of injury (1%), payments made to employees during absence (48%), the replacement of an injured employee during absence by a manager unable to perform their usual job as a result of covering a proportion of the work (28%) and time spent reporting, investigating and processing the incidents (20%).

In order to gain an approximation of the cost of the 97 non-reportable injuries, the Health and Safety Officer liaised to local managers within the company and obtained estimated times that would have been spent on tasks related to incidents of this type. The cost categories included in the estimation were: Unit Manager completing incident report, injured person assisting with incident report, injured person self-administering first aid, Health and Safety Officer reviewing incident report, and a small amount of re-training time. This produced a figure of £9 per non-reportable injury, and a total cost of £873 for non-reportable injuries occurring in the study period. This amount would not include any cases where there was lost time of up to three days, although the Health and Safety Officer stressed that injuries of this type were “very rare”, as injuries tended to be either very minor or serious in nature.

Therefore, based on the average cost of £561 per RIDDOR reportable injury derived from the current study, it may be estimated that the total cost of the 7 RIDDOR reportable injuries that occurred during the academic term of focus was £3,927. This, in addition to the estimated cost of the non-reportable injures, would produce a total cost of approximately £4,800 for all accidents reported during the 3 month study period.

5.13 CASE STUDY 13: COSTING OF ACCIDENTS/INCIDENTS IN A FOOD MANUFACTURER

5.13.1 Description of organisation

The participating organisation was a food manufacturing company that produced chilled pastry goods and convenience foods for several national supermarket chains. The company employed around 360 staff.

During the previous year, 2003, a total of 85 incidents were reported to the Safety, Health & Environmental Advisor, of which 9 were RIDDOR reportable. The most common injury sustained by employees at the company was bruising as a result of striking against a fixed or stationary object. The company had never previously attempted to quantify the cost of accidents. However, they were planning to start measuring these costs in the short term and their involvement in this project prompted to do this.

5.13.2 Description of costing methodology

Cost data was collected for all incidents occurring throughout a 3 month period, January to March 2004. The Safety, Health & Environmental Advisor was responsible for collating all of the costing information, which was obtained by immediately contacting the relevant persons involved after receipt of an accident report form.

Twenty-two hourly rates linked to salary data were used to calculate the cost of people's time according to their particular grade. These rates were based on the cost to the company of employing staff, taking account of additional non-wage costs. The company had intended to collate work-related ill health costs during the study period. However the business was in a restructuring process, which meant that Human Resources did not have the time or resources to provide this information.

5.13.3 Number and outcome severity of accidents/incidents reported

A total of 23 accidents/incidents were received via the company's accident reporting procedure during the 3 month study period, comprising: 1 RIDDOR reportable (major) and 22 non-reportable (no absence) injuries. The major injury was sustained by a night shift worker who fractured his wrist when he slipped on the icy floor of a tri-phase freezer. The freezer was undergoing a defrost procedure which had been initiated incorrectly. This led to the injured person being absent from work for 5 days.

The Safety, Health & Environmental Advisor responsible for collating the accident data was confident that the majority of minor injuries that occurred within the study period would have been reported. However, damage only events were not recorded within the company, and there was no active procedure obliging this. The company did not therefore intend to measure accidental damage costs within the scope of this project as it would have required significant changes to be made to current procedures and the reporting culture of the workforce in order to achieve this.

5.13.4 Types of accidents/incidents

A variety of accidents occurred during the survey period which resulted in a member of staff being injured. Table 27 provides a summary of accidents according to the severity of the injuries sustained.

Table 27 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	3	3
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	4	4
Injured while handling, lifting or carrying	-	-	-	9	9
Slips, trips, falls on same level	1	-	-	4	5
Slips, trips, falls on stairs/ramp	-	-	-	1	1
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	1	1
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident	-	-	-	-	-
Total	1	-	-	22	23

5.13.5 Nature of injuries sustained

The most common type of physical injury sustained was a bruise or contusion (n=8). Other types of non-reportable injuries included: cuts (n=5), scalds/burns (n=3) and sprains/strains (n=5). One of the non-reportable incidents did not result in any apparent injury at the time of reporting it. The RIDDOR reportable major injury resulted in a fractured wrist as described previously. Three of the injured employees required hospital treatment, 2 members of staff were seen by the Occupational Health department, 12 required onsite first aid assessment/treatment and the remaining 6 required no form of treatment at the time of the injury.

5.13.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the 3 month study period was £3,401, including opportunity costs of £2,107 and financial costs of £934.

The financial cost of £934 was comprised of the following cost categories: immediate response costs, i.e. cost of high visibility tape to make area safe, cost of first aid etc (accounting for 9% of the overall financial cost incurred), repair/replacement costs for equipment damaged during

incidents (8%), the cost of investigating/processing the incident, in this case, the payment made to an insurance broker to review and discuss claim potential (11%), and the cost of rectification or reactive prevention measures (72%). £600, for example, was spent on fitting anti-slip surfaces to all loading bays in response to an employee slipping on a loading ramp and bruising his knee.

The opportunity cost of £2,107 comprised: immediate response time (accounting for 13% of the overall opportunity cost), time lost by the injured employees on the day of the injuries (9%), payments made to an injured employee during his period of absence (24%), time spent arranging/conducting repairs (1%), additional staff downtime (1%), time spent reporting, investigating and processing the incidents (49%) and time spent arranging/conducting any modifications carried out in response to incidents in order to prevent reoccurrence (3%). Table 28 provides a breakdown of the costs incurred according to incident severity.

Table 28 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	1	912	912	912	747	165
RIDDOR (over 3 day injury)	-	-	-	-	-	-
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	22	2,129	15 - 738	97	62	35
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	23	3,041	15 - 912	132	92	40

The number of incidents reported during the 3 month study period appears to be representative of the accident/incident rate for the previous year, 2003, during which a total of 85 incidents were reported. Therefore, if the total cost derived from this study was extrapolated to a similar 12 month period, then the annual short-term/immediate cost of the accidents may be estimated to be approximately £13,604, the equivalent of employing an Operative for a year.

5.14 CASE STUDY 14: COSTING OF ACCIDENTS/INCIDENTS IN THE CLEANSING SERVICES SECTION OF A COUNCIL

5.14.1 Description of organisation

The Cleansing Services Section of a Council provided the focus for this study. As part of the Community Services Department, the Cleansing Services section employing 330 staff, is responsible for such services as uplift of domestic and trade waste, the provision of waste disposal and recycling centres, street sweeping and litter picking and disposal and recycling of trade waste.

During the previous year, 2003, a total of 171 incidents were reported to the Health and Safety Department, of which 45 were RIDDOR reportable. The organisation had never previously attempted to quantify the cost of accidents within this section of the council.

5.14.2 Description of costing methodology

Cost data was collected for all incidents that were reported through the organisation's existing incident reporting system over a 4 week period throughout May and June 2004. The Health and Safety Advisor for Cleansing Services was responsible for coordinating the collection of cost data within his section. A range of salary bands were applied in order to cost the value of people's time according to their particular grade.

5.14.3 Number and outcome severity of accidents/incidents reported

A total of 8 accidents/incidents were reported by staff during the 4 week study period. None of the incidents were RIDDOR reportable. However one of the injuries did result in 2 full-days absence from work. This involved a Refuse Collector straining his upper back as he pushed a paladin bin over rough ground causing the bin to fall to one side.

5.14.4 Types of accidents/incidents

The majority of the injuries occurred while the injured person was engaged in handling, lifting or carrying (n=4). Table 29 provides a summary of the accidents that occurred according to the severity of the injuries sustained.

Table 29 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	2	2
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	-	-
Injured while handling, lifting or carrying	-	-	1	3	4
Slips, trips, falls on same level	-	-	-	1	1
Slips, trips, falls on stairs/ramp	-	-	-	-	-
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident*	-	-	-	1	1
Total	-	-	1	7	8

*This accident involved a Refuse Collector being splashed in the eye by refuse from the rear of the refuse vehicle.

5.14.5 Nature of injuries sustained

The most common type of physical injury sustained was a sprain or strain (n=4), one of which resulted in 2 days absence from work. Other types of non-reportable (no absence) injuries included: bruising (n=1), cuts (n=2), sprains/strains (n=4) and a superficial eye injury causing blurring of the employee's vision (n=1). Two of the injured employees had their injuries assessed by their own GP, 1 received onsite first aid treatment and 5 of the injuries required no form of treatment.

5.14.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the 4 week study period was £1,387, including opportunity costs of £589 and financial costs of £798. One of the non-reportable (no absence) incidents accounted for 63% of the overall cost and 100% of the financial costs incurred. This financial cost was comprised solely of reactive repair costs. This additional cost was incurred in response to an incident involving a member of staff being struck on the wrist & arm by a bin falling from the lorry's lifters. Although the actual injury sustained was only very minor in terms of severity, a similar incident had occurred previously and therefore the vehicle was sent to the transport depot for inspection and repair in order to prevent reoccurrence.

The opportunity cost of £589 was comprised of the following cost categories: immediate response time (accounting for 11% of the overall opportunity cost), time spent assessing and rescheduling work (4%), time lost by the injured employees on the day of the injuries (19%), payments made to an injured employee during his period of absence (22%), additional staff downtime (2%), time spent reporting, investigating and processing the incidents (35%) and time spent arranging/conducting the modifications carried out in response to the incident outlined above (7%). Table 30 provides a breakdown of the costs incurred according to incident severity.

Table 30 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	-	-	-	-	-	-
Non-reportable (1-3 day absence)	1	171	171	171	171	-
Non-reportable* (No absence)	7	1,216	22 - 864	174	60	114
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	8	1,387	22 - 864	174	74	100

*71% of the overall cost of the non-reportable (no absence) injuries was incurred as a result of one incident for which financial costs of £798 were incurred in relation to reactive measures. The total cost of incidents in this category, excluding the incident with large rectification costs, would equate to £523, ranging from £22 to £135 and averaging £75 per incident (comprised solely of opportunity costs).

If the total cost of the incidents derived from the 4 week study period were applied to a similar 12 month period (i.e. 13 x 4 week periods), the annual cost to the organisation of incidents occurring within the Cleansing Services Section may be estimated to be approximately £18,031, or £55 per individual employed within the business unit.

5.15 CASE STUDY 15: COSTING OF ACCIDENTS/INCIDENTS IN AN NHS SUPPORT ORGANISATION

5.15.1 Description of organisation

The study was conducted throughout one geographical region of a national NHS support organisation. The organisation employed 6,000 staff in total, with around 668 individuals employed within the region of focus.

During the previous 12 month period, July 2003 to June 2004, a total of 239 incidents involving staff and members of the public were recorded within the organisation's incident reporting system.

The organisation had never previously attempted to quantify the cost of accidents or work-related ill health, although the Head of Health and Safety did suggest that this was one of the company's longer-term objectives.

5.15.2 Description of costing methodology

Cost data was collected for all incidents (involving both staff and members of the public) that were reported within the specified region over a 4 week period throughout July and August 2004. The Regional Health and Safety Manager was responsible for coordinating the study. The task of obtaining the relevant information and entering it onto the cost forms was delegated to the local management team. The Health & Safety Manager was available for the duration of the study to assist them with this task. Once completed, the Health & Safety Manager compiled all of the information and fed it back to the research team.

5.15.3 Number and outcome severity of accidents/incidents reported

A total of 14 accidents/incidents were reported during the 4 week study period. Four of the incidents involved members of the public and 10 involved members of staff. Of those incidents involving members of the public, 1 was in a RIDDOR reportable (major) injury and 4 were non-reportable, minor injuries. The major injury involved a member of the public falling down 3 steps and hitting their head on a trolley and the floor. Although the individual was taken to hospital, the outcome of the incident was unknown at the time of the study.

None of the 10 incidents involving members of staff were RIDDOR reportable, although 2 of the incidents did result in staff being absent from work. One member of staff was absent for 1 full day after pulling a neck muscle whilst moving stock and another employee lost 2 days after an insect bite, that he sustained at work, became infected.

5.15.4 Types of accidents/incidents

A range of incidents occurred which resulted in a member of staff being injured, or potentially injured. Table 31 provides a summary of the types of incidents that occurred according to the severity of the injuries sustained.

Table 31 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	1	1
Struck by moving/falling object	-	-	-	-	-
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	-	-
Injured while handling, lifting or carrying	-	-	1	1	2
Slips, trips, falls on same level	-	-	-	1	1
Slips, trips, falls on stairs/ramp	1	-	-	-	1
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	1	1
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident*	-	-	1	7	8
Total	1	-	2	11	14

**Other types of incidents included: 2 faints, 2 contact with blood/bodily fluid, 1 foreign body/liquid in eye, 1 insect bite and 2 needle stick injuries.

5.15.5 Nature of injuries sustained

A range of injuries were sustained during the 4 week study period, including: bruising (n=4), a cut (n=1), a sprain/strain (n=1), a superficial eye injury/irritation (n=1), needle stick injuries/puncture wounds (n=2) and an infection (n=1). Four of the incidents resulted in no apparent injury.

One member of public was taken to hospital to have their injuries assessed, 1 member of staff was assessed by their own GP, 3 staff members visited the Occupational Health Department, 6 of the injuries required onsite first aid attention/treatment and 3 did not require any form of treatment at the time of the study.

5.15.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the 4 week study period was £945, including opportunity costs of £824 and financial costs of £121.

The financial cost was incurred as a result of additional sums spent on immediate response (accounting for 3% of the overall financial cost), replacement of materials (15%), and reactive measures (82%). One of the incidents involved a trolley being pulled over a member of staff's toe and bruising it. The wheels of the trolley were found to be faulty and new wheels were purchased and fitted in response to the incident.

The opportunity cost of £589 was comprised of the following cost categories: immediate response time (accounting for 20% of the overall opportunity cost), time spent assessing and

rescheduling work (1%), time lost by the injured employees on the day of the injuries (15%), payments made to an injured employee during his period of absence (20%), additional staff downtime (3%), time spent organising repair/replacement (13%), time spent reporting, investigating and processing the incidents (27%) and time spent arranging/conducting modifications carried out in response to an incident (1%). Table 32 provides a breakdown of the costs incurred according to incident severity.

Table 32 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	1	21	21	21	21	-
RIDDOR (over 3 day injury)	-	-	-	-	-	-
Non-reportable (1-3 day absence)	2	255	111 - 144	128	128	-
Non-reportable (No absence)	11	670	4 - 166	61	50	11
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	14	945	4 - 166	68	59	9

Using the average cost of an incident derived from this study, the cost of accidents/incidents over the last 12 months for the specified region would be approximately £16,252 (£68 x 239 incidents reported in July 2003 to June 2004).

5.16 CASE STUDY 16: COSTING OF ACCIDENTS/INCIDENTS IN A PRIMARY CARE TRUST

5.16.1 Description of organisation

The study was conducted over an 8 week period within a Primary Care NHS Trust employing around 1500 staff.

During the previous 12 month period (June 2003 to May 2004) a total of 272 incidents involving staff were reported through the organisations incident reporting system. The incidents had been classified according to their severity and comprised 1 major, 64 moderate, 155 minor and 43 insignificant incidents.

The organisation had never previously attempted to quantify the cost of accidents or work-related ill health, although the Health, Safety & Environment Advisor suggested that this was one of her short- to medium-term objectives.

5.16.2 Description of costing methodology

All injuries to staff were cost assessed by the Trust's Health, Safety and Environment Advisor shortly after an incident report was received through the incident reporting system. The study period ran from mid April to mid June 2004. The Advisor felt that it would only be feasible to focus on such incidents due the shortage of resources to complete a more detailed cost

assessment within the Trust at the time of the study. Although average salary bands were obtained for each grade of worker, the additional non-wage costs were unobtainable. Therefore, the national average of 27% was applied to the salary data in order to account for any additional overhead costs.

5.16.3 Number and outcome severity of accidents/incidents reported

A total of 19 incidents involving staff were reported during the 8 week study period. However, only 10 of these incidents resulted in a member of staff actually sustaining an injury. Of the 10 injuries that were costed, 1 was RIDDOR reportable (over 3 day) and 9 were non-reportable. None of the non-reportable incidents resulted in any absence from work, other than time that may have been lost on the day of the injury. The RIDDOR reportable incident involved a member of staff sustaining whiplash in a road traffic accident whilst on Trust business. She was absent for 5 days following the incident.

5.16.4 Types of accidents/incidents

The majority of injuries were sustained as a result of a service user being violent or aggressive towards a member of staff (n=6). Table 33 provides a summary of the incidents that occurred according to their severity.

Table 33 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	-	-
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	-	-
Injured while handling, lifting or carrying	-	-	-	3	3
Slips, trips, falls on same level	-	-	-	-	-
Slips, trips, falls on stairs/ramp	-	-	-	-	-
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	6	6
Other kind of accident*	-	1	-	-	1
Total	-	1	-	9	10

*This incident involved a member of staff being injured in an RTA whilst on Trust business.

5.16.5 Nature of injuries sustained

A range of injuries were sustained including: bruising (n=2), cuts (n=3), sprains and strains (n=4) and 1 superficial surface injury resulting from a bite from a service user. The member of staff involved in the RTA visited their own GP for treatment, 1 member of staff was seen by the

Occupational Health department, 4 of the injuries required onsite first aid treatment/assessment and 4 injuries required no form of treatment at the time of the incident.

5.16.6 Breakdown of costs incurred

The total cost of accidents/incidents (resulting in injury to staff) that occurred during the 8 week study period was £853, including opportunity costs of £540 and financial costs of £313.

The opportunity cost of £540 was comprised of the following cost categories: time spent by individuals responding to the incidents immediately after they occurred (accounting for 3% of the overall opportunity cost), time spent assessing/rescheduling work (2%), time lost by the injured persons on the day of the injuries (25%) and time spent reporting, investigating and processing the incidents (70%).

The financial cost of £313 was incurred as a result of additional sums spent on replacing the member of staff injured in a RTA (accounting for 84% of the overall financial cost) and the cost of travel to Occupational Health and the cost of tests undertaken (16%). Table 34 provides a breakdown of the costs incurred according to incident severity.

Table 34 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	1	323	323	323	61	262
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	9	530	14 - 193	59	53	6
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	10	853	14 - 323	85	54	31

Applying the average cost of an incident derived from this study, the total cost of accidents/incidents involving staff for the period June 2003 to May 2004 (n=272), may equate to approximately £23,120, or the equivalent of employing a House Leader within the Trust for a year.

5.17 CASE STUDY 17: COSTING OF ACCIDENTS/INCIDENTS AND WORK-RELATED ILL HEALTH IN DAIRY PROCESSING COMPANY

5.17.1 Description of organisation

The study was conducted at one manufacturing and distribution site of a large dairy processing company. The business unit of focus employed 340 staff and focused mainly on milk bottling activities. Transportation of products to the field was carried out by an internal distribution group, which was based at this site.

During the previous 11 month period, April 2003 to February 2004, a total of 132 incidents were reported to the Health & Safety Department, including: 5 RIDDOR reportable incidents, 5 non-reportable injuries (1-3 day absence), 44 non-reportable injuries (no absence) and 78 near misses. At the time of the study the company was using standard values, derived from a previous detailed cost assessment within the company, to calculate the cost of accidents according to their severity. However, the company had never previously attempted to cost cases of work-related ill health until their involvement in the current project.

5.17.2 Description of costing methodology

Cost data was collected for all accidents/incidents and cases of work-related ill health occurring throughout March 2004. The Health and Safety Manager, with assistance from the Human Resources Department was responsible for collating all of the costing information. This initial data was acquired from the company's computerised recording systems. Any further details required were then requested from the relevant managers. Seventeen hourly rates linked to salary grades were used to calculate the cost of people's time according to their particular job. An additional 20% of salary cost was included to account for non-wage costs in all cases.

5.17.3 Number and outcome severity of accidents/incidents reported

A total of 7 accidents/incidents that occurred during the 1 month study period were cost assessed using the methodology outlined above, including: 3 non-reportable (1-3 day absence) and 4 non-reportable (no absence) injuries. The total days lost due to injuries sustained during the survey period was 4, ranging from 1 to 2 days per accident. One of the non-reportable (no absence) incidents involved an Operator being struck on the head by an emergency cover lid as it came out of the hinge lock position. As the employee was wearing PPE (hard hat) he did not appear to sustain any apparent injury at the time of the incident. A bracket was replaced in response to the incident in order to try and prevent reoccurrence.

Four very minor near misses were also reported during the study period. However, they all required minimal reporting and investigation time (under 10 minutes each) and therefore, the Health and Safety Manager did not feel that it was appropriate to cost them given the minimal costs that they would have incurred. One possible new case of work-related ill health was identified and cost assessed. This involved a Team Leader experiencing heart stress that was partly attributed to the stress he was experiencing at work.

The Health & Safety Manager for the business unit of focus was confident that all minor injuries occurring within the study period would have been reported and recorded given that this was an area that had been targeted previously and had resulted in significant improvements to the overall reporting rates. However, he was aware that damage only events were not consistently reported and had identified this as an issue within the company that needed addressing.

5.17.4 Types of accidents/incidents

The majority of the injuries were sustained whilst the injured person was engaged in handling, lifting or carrying (n=4). Table 35 provides a summary of the incidents according to their severity.

Table 35 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	1	1	2
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	1	1
Injured while handling, lifting or carrying	-	-	2	2	4
Slips, trips, falls on same level	-	-	-	-	-
Slips, trips, falls on stairs/ramp	-	-	-	-	-
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident	-	-	-	-	-
Total	-	-	3	4	7

5.17.5 Nature of injuries sustained

A range of injuries were sustained during survey period, including: bruising (n=1), cuts (n=2), sprains/strains (n=2) and a superficial abrasion (n=1). All of these injuries required onsite first aid treatment/assessment. One of the non-reportable (no absence) incidents did not result in any apparent injury at the time of the incident given that the employee was wearing appropriate PPE.

5.17.6 Breakdown of costs incurred

The total cost of accidents/incidents that were cost assessed during the 1 month study period was £1,879, including opportunity costs of £1,335 and financial costs of £544.

The opportunity cost of £1,335 was comprised of the following cost categories: time spent by individuals responding to the incidents immediately after they occurred (accounting for 3% of the overall opportunity cost), time lost by injured persons on the day of the injuries (6%), time spent organising/conducting repairs to items damaged during the incidents (1%), time spent reporting, investigating and processing the incidents (87%) and time spent organising and conducting reactive repairs or maintenance in order to prevent reoccurrence (3%).

The financial cost of £544 was incurred as a result of additional sums spent whilst responding to the incidents – e.g. first aid materials used (accounting for 7% of the overall financial cost), the cost paying an agency worker to replace one of the injured employees on the day of injury (23%), the cost of replacing the injured employees during subsequent periods of absence – replacement costs were greater than payments made to the injured employees during absence

and therefore they override the opportunity costs of sick pay - (53%), the cost of materials to repair items damaged during incidents (14%) and the cost of parts to repair items in response to incidents in order to prevent reoccurrence (3%). Table 36 provides a breakdown of the costs incurred according to incident severity.

Table 36 Breakdown of costs incurred according to incident outcome severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	-	-	-	-	-	-
Non-reportable (1-3 day absence)	3	1,324	243 - 651	441	294	147
Non-reportable (No absence)	4	555	37 - 228	139	113	26
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	7	1,879	37 - 651	268	191	77

The one potential case of work-related ill health that was also identified in the survey period cost the organisation around £587 during the study period. £100 was paid by the company for the employee to see an Occupational Health Doctor and undergo an ECG and Heart Stress test. The opportunity costs included: £374 paid to the employee during absence and £113 in time spent by various managers dealing with the situation (e.g. rearranging the shift rota, and conducting return to work interviews and follow-up reviews).

Using the total cost derived from this study, the annual cost of accidents/incidents occurring within the business unit of focus over a similar 12 month period may equate to approximately £22,548, or the equivalent of a Team Leader's average annual salary. This is in addition to the cost of the near misses that occurred during the 1 month survey period but were not cost assessed, the case of work-related stress and any potential future costs relating to the incidents.

5.18 CASE STUDY 18: COSTING OF ACCIDENTS/INCIDENTS AT A UNIVERSITY

5.18.1 Description of organisation

The participating organisation was a University employing approximately 2,200 staff. During the previous 12 month period, February 2003 to January 2004, a total of 78 accidents/incidents involving staff were reported to the Health and Safety Department, including: 7 RIDDOR reportable (over 3 day), 4 non-reportable (1-3 day absence) and 67 non-reportable (no absence) injuries. A total of 165 days were lost due to injury during this period. At the time of the study there were no stringent reporting mechanisms in place within the University to identify the number of accidental damage events that were occurring.

The organisation had never attempted to quantify the cost of accidents prior to their involvement in this study.

5.18.2 Description of costing methodology

The study included all incidents involving staff that occurred throughout May 2004. The University Health and Safety Advisor briefed all Departmental Safety Officers about the study and delegated them the task to complete the costing forms as and when an incident was reported within their department. The forms were collated by the Health and Safety Advisor at the end of the study period and returned to the research team. An additional 20% of salary cost was included to account for non-wage costs in all cases.

5.18.3 Number and outcome severity of accidents/incidents reported

A total of 4 very minor non-reportable accidents/incidents were reported by staff during the 1 month study period. None of the incidents resulted in any periods of absence other than minimal time lost on the day of the injuries.

The Health and Safety Advisor was not confident that all injuries that actually occurred during the study period were reported by staff. However, he felt that any injuries that may not have been reported would have been extremely minor in nature and therefore insignificant in terms of cost.

5.18.4 Types of accidents/incidents

Two of the injuries were sustained as a result of the injured person striking against something fixed or stationary (a kitchen surface and a wall). The other 2 were sustained whilst the injured persons were engaged in handling, lifting or carrying.

5.18.5 Nature of injuries sustained

Both members of staff that struck against something fixed or stationary were winded as a result of the incident, 1 sustained a cut to their forearm whilst disposing of furniture and 1 bruised their finger whilst pushing a trolley through a door.

5.18.6 Breakdown of costs incurred

The total cost of 4 minor accidents/incidents that were cost assessed during the 1 month study period was £43, ranging from £3 to £43, and averaging approximately £11 per incident. The total cost was comprised solely of opportunity costs relating to time spent by individuals assessing the injuries, time lost by the injured employees on the days of injury, and time spent completing and processing the incident report forms.

It is difficult with such limited data to extrapolate the costs derived from this study to provide an indication of the total cost to the University of accidents involving staff. However, if the average cost of £11 were applied to the number of incidents reported during the period February 2003 to January 2004, then it may be estimated that the total cost of non-reportable (no absence) injuries to staff during this period (n=67) was approximately £737.

5.19 CASE STUDY 19: COSTING OF ACCIDENTS/INCIDENTS IN A PAPER MILL

5.19.1 Description of organisation

One of the main UK sites of a large paper manufacturing company employing approximately 78 staff was the focus for this study.

During the 12 month period February, 2003 to January 2004, a total of 30 incidents were reported to the H&S department at the site, including 7 non-reportable injuries (no absence) and 23 near misses. No cases of work-related ill health were identified during this period.

The company had been looking at various costs relating to accidents for the previous 4 years. In particular, they reported upon the cost of damage, lost time and claims in monthly management meetings. However, they had never looked at the cost of individual accidents in the level of detail adopted in the current study.

5.19.2 Description of costing methodology

The study included all incidents that were reported to the H&S Director over a 2 month period (mid April to mid June 2004). The Health and Safety Director, in association with his assistant, collated all of the relevant cost data onto paper forms as and when an incident was reported. Costs were applied to all reported incidents, including near misses. The average salary scales used to quantify the cost of people's time were inclusive of non-wage costs.

5.19.3 Number and outcome severity of accidents/incidents reported

A total of 9 accidents/incidents were reported to the Health and Safety Department during the 2 month study period, including: 1 RIDDOR reportable injury (major) involving a visitor to the site falling from an HGV trailer and fracturing his wrist; 1 RIDDOR reportable injury (over 3 day) involving a member of staff straining a tendon in his finger and being absent from work for 5 days; 4 non-reportable injuries (no absence), 1 damage only incident and 2 near misses.

5.19.4 Types of accidents/incidents

A range of accidents/incidents occurred during the survey period which resulted in 6 individuals being injured at the site. The damage only incident occurred as a result of a small fire in the cab of a forklift truck. One of the near misses involved a potential collision between 2 vehicles on the site, the other involved a bale of paper falling from a HGV onto the roof cage of a forklift truck. Table 37 provides a summary of the accidents that led to injury according to the severity of the injuries sustained.

Table 37 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	-	-
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	-	-
Injured while handling, lifting or carrying	-	1	-	2	3
Slips, trips, falls on same level	-	-	-	1	1
Slips, trips, falls on stairs/ramp	-	-	-	1	1
Falls from height	1	-	-	-	1
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident	-	-	-	-	-
Total	1	1	-	4	6

5.19.5 Nature of injuries sustained

The injuries sustained included: 1 cut, 1 fracture, 1 scald/burn, 2 sprains/strains and a superficial abrasion. Three of the injuries required hospital treatment, 1 required onsite first aid attention and 2 required no form of treatment at the time of the incident.

5.19.6 Breakdown of costs incurred

The total cost of the accidents/incidents that occurred during the survey period was £3,075, including opportunity costs of £1,417 and financial costs of £1,532.

The opportunity cost of £1,417 was comprised of the following cost categories: time spent responding to the incidents immediately after they occurred (accounting for 12% of the overall opportunity cost), time lost by the injured persons on the day of the injuries (8%), time spent organising/conducting repairs (3%) and time spent reporting, investigating and processing the incidents (77%).

The financial cost of £1,532 was incurred largely as a result of overtime payments made to cover absence due to injury (accounting for 67% of the overall financial cost) and the cost of repairing the fire damage (33%). The actual cost to repair the forklift truck (approximately £500) was incurred at the time of the study. However, this cost may be reimbursed by the vehicle supplier, pending the outcome of the investigation. Table 38 provides a breakdown of the costs incurred according to incident severity.

Table 38 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	1	292	292	292	286	6
RIDDOR (over 3 day injury)	1	1,232	1,232	1,232	216	1,016
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	4	658	108 - 171	164	162	2
Damage only	1	640	640	640	140	500
Near Miss	2	254	114 - 140	127	127	-
All incidents	9	3,075	108 – 1,232	342	172	170

If the immediate/short-term cost of £3,075 was applied to a similar 12 month period then the annual cost of accidents/incidents occurring at the site would equate to approximately £36,900, equivalent to nearly 2.5% of the site's annual turnover.

5.20 CASE STUDY 20: COSTING OF ACCIDENTS/INCIDENTS IN PORK PRODUCT MANUFACTURING COMPANY

5.20.1 Description of organisation

The study was conducted at a company involved in the manufacture of pork products, employing approximately 2,300 staff. The company comprised 4 main production sites (6 factories), 1 farm and a number of retail distribution centres.

During the previous 12 month period, February 2002 to March 2003, a total of 1,284 incidents were reported through to the health and safety department from the Head Office and production facilities, of which 88 were RIDDOR reportable. A total of 1,953 days were lost due to injury during this period.

The company had never attempted to quantify the cost of accidents prior to its involvement in the current study.

5.20.2 Description of costing methodology

The costing study focused specifically on all incidents occurring within the company's 6 factories during a 4 week period in October 2004. The Group Health and Safety Manager was responsible for collating all of the costing information. Average salary bands were obtained from HR to calculate the cost of people's time according to their particular grade.

5.20.3 Number and outcome severity of accidents/incidents reported

A total of 63 incidents were reported during the study period. Although at the time of the study there was a formal reporting procedure in place to encourage employees to report all accidental damage events, the Group Health and Safety Manager was not convinced that the reporting procedure was being fully adhered to.

The 63 reported incidents comprised: 4 RIDDOR reportable injuries (1 major and 3 over 3 day absence), 4 non-reportable injuries (1-3 day absence) and 55 non-reportable (no absence) injuries. A total of 83 days were lost due to injuries sustained during the survey period, ranging from 1 to 36 days per injury. The RIDDOR reportable major injury involved a member of staff falling and fracturing his wrist. This injury resulted in 28 days absence from work. Equipment and/or product damage occurred in association with 9 of the injuries.

5.20.4 Types of accidents/incidents

A range of accidents/incidents occurred during the survey period which resulted in injury. Most of the employees were injured whilst engaged in some form of handling, lifting or carrying of equipment (n=30). Table 39 provides a summary of the accidents that occurred according to the severity of the injuries sustained.

Table 39 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	2	2
Struck by moving/falling object	-	-	1	12	13
Struck by moving vehicle	-	-	-	1	1
Strike against something fixed or stationary	-	-	-	10	10
Injured while handling, lifting or carrying	-	3	2	25	30
Slips, trips, falls on same level	1	-	1	3	5
Slips, trips, falls on stairs/ramp	-	-	-	-	-
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	2	2
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident	-	-	-	-	-
Total	1	3	4	55	63

5.20.5 Nature of injuries sustained

The most common type of injury sustained was bruising (n=32) followed by cuts/lacerations (n=16). It was the company's policy to ensure that all employees that sustain a head or eye injury are taken to hospital to have their injury assessed. In total, 19 required hospital treatment. The remaining 44 injuries were treated onsite by a trained first aider. Table 40 provides a summary of the injuries sustained according to their severity.

Table 40 Injuries by nature and severity of injury

<i>Nature of injury</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Amputation	-	-	-	-	-
Loss of sight of eye	-	-	-	-	-
Fracture	1	-	1	-	2
Dislocation	-	-	-	-	-
Concussion and internal injuries	-	-	-	-	-
Lacerations and open wounds	-	-	-	16	16
Bruises/contusions	-	-	3	29	32
Burns/scalds	-	-	-	1	1
Poisonings and gassings	-	-	-	-	-
Sprains and strains	-	3	-	7	10
Superficial injuries	-	-	-	2	2
Natural causes	-	-	-	-	-
Other injuries caused by contact with electricity	-	-	-	-	-
Injuries of more than one type	-	-	-	-	-
Injuries not classified elsewhere	-	-	-	-	-
Injuries not known	-	-	-	-	-
No apparent injury	-	-	-	-	-
Other	-	-	-	-	-
Total	1	3	4	55	63

5.20.6 Breakdown of costs incurred

It is important to note that all of the company's trained first aiders are required to clock off when they leave their regular work to attend to an injured person on site at a designated treatment room. Although this means that their regular pay stops and therefore, they do not get paid for their usual work during this period, the first aiders are entitled to claim time and a half for the duration that they are away from their regular work administering first aid. Therefore, all first aid time is essentially an additional financial cost to the company.

The total cost of the accidents/incidents that occurred during the survey period was £11,956, comprising opportunity costs of £4,603 and financial costs of £7,353.

The opportunity cost of £4,603 was comprised of the following cost categories: time spent responding to the events shortly after they occurred (accounting for 1% of the overall opportunity cost), time spent assessing or rescheduling work to ensure that it was completed (2%), time lost by the injured employees on the days of injury (22%), replacement of injured employee on day of injury – this applied to one incident where a Manager was unable to fulfil his usual duties because he covered for the injured person with no one backfilling his work in return – (1%), payments made to the injured persons during periods of absence (51%), time spent organising/conducting equipment repairs (3%), time spent organising/conducting product replacement/repair (1%), additional periods of staff downtime (0.5%), time spent reporting, investigating and processing the incidents (17%) and time spent organising/conducting reactive maintenance in order to prevent reoccurrence of the incidents (1.5%).

The financial cost of £7,353 was comprised of additional costs relating to: first aid and other immediate response costs (accounting for 8% of the overall financial cost); assessing/rescheduling work to ensure work was completed – this applied to an incident where a de-tinning machine was taken offline in response to an incident during which time existing

employees were paid overtime to stay on and manually de-tin to ensure that the work was still completed – (2%); replacing an injured employee on the day of injury (2%); replacement of injured employees during periods of absence (72%), and repair or replacement of equipment (7%) and products (8%). Table 41 provides a breakdown of the costs incurred according to incident severity.

Table 41 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	1	1,385	1,385	1,385	1,380	5
RIDDOR (over 3 day injury)	3	5,455	558 – 3,740	1,818	231	1,587
Non-reportable (1-3 day absence)	4	1,280	146 - 783	320	136	184
Non-reportable (No absence)	55	3,836	16 - 601	70	36	34
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	63	11,956	16 - 3740	190	73	117

If the average cost per accident derived from this study was applied to the total number of accidents that occurred during the period, February 2002 to March 2003 (n=1,284), then it may be estimated that the immediate/short term cost of the accidents for this period was approximately £243,960. This would equate to approximately 1.6% of the company's annual turnover or the equivalent of employing around 7 managers per year.

5.21 CASE STUDY 21: COSTING OF ACCIDENTS/INCIDENTS IN FURNITURE MANUFACTURER AND RETAILER

5.21.1 Description of organisation

Accident/incident costs were collated from 2 sites of a furniture manufacturer, distributor and retailer employing a total of approximately 12,500 staff. The 2 sites at which the study was conducted were a distribution centre employing 266 staff and a manufacturing site with 662 staff.

During the previous year, 2003, a total of 1,912 incidents were reported through the company's incident reporting system. Of these, 60 occurred at the distribution centre of focus (20 RIDDOR reportable and 40 non-reportable incidents, and 80 days lost due to injury) and 362 occurred at the manufacturing site (20 RIDDOR reportable and 342 non-reportable incidents, and 80 days lost due to injury). Only one case of work-related ill health resulting in a total of 20 lost days had been identified within the company during the previous 12 month period.

The company had never attempted to quantify the cost of accidents prior to its involvement in the current study, except for calculating the cost of lost days due to injury in one of the retail stores.

5.21.2 Description of costing methodology

Cost data was collated for all accidents/incidents occurring at the 2 sites over 2 separate time periods. The study conducted at the distribution centre focused on costing all accidents/incidents that occurred throughout a 4 week period in May and June 2004. Cost data was applied to accidents/incidents at the manufacturing site throughout a 4 week period in September 2004.

The overall study was coordinated by the company's Health and Safety Director who delegated the task of rolling out the methodology and collating relevant data to the local Safety, Health and Environment Advisors at each site. The relevant data was initially obtained from the company's accident report forms which had been altered to incorporate requests for additional information. Any outstanding information was then acquired through direct liaison with the individual parties involved in the incidents. Managers at each site were briefed about the project and the reasons for collecting the data.

5.21.3 Number and outcome severity of accidents/incidents reported

A total of 18 incidents were reported by staff during the 2 study periods (9 at each site). Accidents/incidents occurring at the distribution centre comprised 1 RIDDOR reportable (over 3 day) and 8 non-reportable injuries (no absence). The RIDDOR reportable injury involved a Warehouseman spraining his wrist whilst moving a pallet in the rear of a trailer. This injury resulted in 4 days absence.

The 9 incidents occurring at the manufacturing site included: 4 RIDDOR reportable (over 3 day) and 5 non-reportable injuries (no absence). The RIDDOR reportable injuries resulted in a total of 32 days absence, ranging from 4 to 14 days per injury. Equipment and/or product damage occurred in association with 5 of the incidents occurring at the manufacturing site. No damage only incidents were reported at either location.

5.21.4 Types of accidents/incidents

All of the 9 injuries at the distribution centre were sustained whilst the injured persons were engaged in some form of handling, lifting or carrying of equipment. Three of the RIDDOR reportable injuries were also sustained during handling, lifting or carrying at the manufacturing site. Table 42 provides a summary of the incidents that occurred according to the severity of their outcome.

Table 42 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	1	1
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	3	3
Injured while handling, lifting or carrying	-	4	-	8	12
Slips, trips, falls on same level	-	1	-	1	2
Slips, trips, falls on stairs/ramp	-	-	-	-	-
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-

Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident	-	-	-	-	-
Total	-	5	-	13	18

5.21.5 Nature of injuries sustained

All of the RIDDOR reportable injuries were sprains or strains (n=5). The most common type of non-reportable injury was a cut (n=9), followed by bruising (n=3). One employee also suffered an allergic reaction to some mould on a door frame that he was moving. Two of the injuries were assessed at hospital, 1 by an injured employee's own GP and 1 by Occupational Health. Twelve injuries required onsite first aid attention/treatment and 2 required no form of treatment at the time of the incident.

5.21.6 Breakdown of costs incurred

The total cost of the accidents/incidents that occurred during the 2 survey periods was £7,057, comprising opportunity costs of £3,992 and financial costs of £3,065. The majority of the total cost was incurred due to accidents/incidents at the manufacturing site (£6,620, representing 94% of the total cost). Costs relating to accidents/incidents at the distribution site totalled £436.

The £6,620 incurred in relation to incidents at the manufacturing site comprised £3,555 opportunity costs and £3,065 financial costs. £6,293 (95% of the total cost) related to the 4 RIDDOR reportable injuries and £328 to the non-reportable (no absence) injuries. The average cost of the RIDDOR reportable incidents at the site was £1,267 (ranging from £815 to £2,920 per incident) and the average cost of the non-reportable injuries was £66 (ranging from £36 to £166). The overall average cost of the incidents at the site was £736. The financial cost of £3,065 was comprised of the following cost categories: immediate response costs (accounting for 8% of the overall financial cost), replacing an injured person on the day of injury (10%), replacement of injured persons during periods of absence (56%), repair/replacement of equipment and materials (25%), and other reactive prevention costs (1%). The opportunity cost, £3,555, comprised: immediate response time (9% of the total opportunity cost), time spent assessing/rescheduling work (6%), time lost by injured persons on the day of the injuries (2%), payments made to injured employees during periods of absence (40%), time spent arranging and conducting repairs/replacement of equipment or stock (2%), additional staff downtime (3%), time spent reporting, investigating and processing incidents (10%) and other time such as Physiotherapy and Occupational Health time, and time spent dealing arranging and conducting rectification measures (28%).

The £436 incurred in relation to incidents at the distribution centre was comprised solely of opportunity costs. £316 (72% of the total cost) related to the RIDDOR reportable injury and £120 to the non-reportable injuries. The average cost of the non-reportable (no absence) injuries at the distribution site during the survey period was £15, ranging from £7 to £69 per incident. The average cost of all incidents at the distribution site equated to £48 per incident (ranging from £7 to £316). The total cost of the incidents at the distribution site comprised the following cost elements: time spent responding to the incidents immediately after they occurred (accounting for 5% of the total opportunity cost), time lost by the injured persons on the day of

the injuries (31%), payments made to an injured employee during his period of absence (57%), additional staff downtime (0.5%) and time spent reporting, investigating and processing the incidents (6.5%). Table 43 provides a breakdown of the combined costs incurred from both locations.

Table 43 Breakdown of costs incurred according to incident outcome severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	5	6,608	316 – 2,920	1,109	607	502
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	13	448	7 - 166	34	30	4
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	18	7,057	7 – 2,920	392	222	170

If the overall average cost per accident derived from this study was applied to the total number of incidents that were reported throughout the whole company during 2003 (n=1,912), the annual cost may have equated to approximately £749,504, or £60 per UK employee.

5.22 CASE STUDY 22: COSTING OF ACCIDENTS IN A SHIP BUILDING COMPANY

5.22.1 Description of organisation

This study was conducted at one manufacturing site of a large international company. The manufacturing site focused on producing submarines and employed approximately 3,500 staff. No previous accident/incident statistics were provided by the company.

At the time of the study the company was using a standard figure to cost all lost time accidents. The standard figure, which was applied to total days lost, was intended to account for the lost time of the injured persons and other hidden costs such as time spent at first aid on the day of injury.

5.22.2 Description of costing methodology

The study included all incidents reported at the site during July 2004. One of the local Health, Safety and Environment Advisor's was delegated the task of collating all of the cost data onto the forms provided. The average salary scales used to cost people's time were inclusive of non-wage costs.

5.22.3 Number and outcome severity of accidents/incidents reported

A total of 28 incidents were reported during the 1 month survey period, including: 4 RIDDOR reportable injuries (1 major and 3 over 3 day absence), 2 non-reportable injuries (1-3 day

absence), and 22 non-reportable (no absence) incidents. The major injury was sustained by a Sheet Metal Worker who fell up some stairs on entrance to work and fractured his arm. A total of 83 days were lost due to the injuries sustained, ranging from 2 to 26 days per incident. None of the incidents involved any damage to equipment or materials.

5.22.4 Types of accidents/incidents

A range of accidents occurred during the survey period which resulted in injury, the majority of which occurred whilst the injured person was engaged in handling, lifting or carrying a piece of equipment/machinery (n=13). Table 44 provides a summary of the accidents that led to injury according to their severity.

Table 44 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	1	-	1	2
Struck by moving/falling object	-	-	-	5	5
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	1	1	2
Injured while handling, lifting or carrying	-	1	1	12	14
Slips, trips, falls on same level	-	1	-	1	2
Slips, trips, falls on stairs/ramp	1	-	-	-	1
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident*	-	-	-	2	2
Total	1	3	2	22	28

*One employee sustained a superficial eye injury/irritation after some dust entered his eye. One of the causes of injury was unknown.

5.22.5 Nature of injuries sustained

A range of injuries were sustained, including: bruising (n=4), cuts (n=8), a fracture (n=1), scalds/burns (n=8), sprains/strains (n=6) and a superficial eye injury (n=1). Of the injuries sustained, 3 required hospital treatment and 25 required onsite first aid assessment or treatment.

5.22.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £6,935, including opportunity costs of £3,810 and financial costs of £125.

The opportunity cost, £3,810, was comprised of the following cost categories: time spent responding to the incidents immediately after they occurred (accounting for 2% of the overall

opportunity cost), time spent assessing and rescheduling work (0.5%), time lost by injured persons on the days of injury (5%), payments made to injured persons during periods of absence (72%), additional staff downtime (0.5%), time spent reporting, investigating and processing the incidents (16%) and time related to reactive maintenance and physiotherapy treatment (4%).

The financial cost of £125 was comprised of additional costs incurred during immediate response to the incidents (60%), the cost of replacing an injured employee on the day of injury (39%) and some relatively low costs incurred through property repair or replacement (0.5%) and reactive maintenance (0.5%). Table 45 provides a breakdown of the costs incurred according to incident severity.

Table 45 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	1	1,551	1,551	1,551	1,526	25
RIDDOR (over 3 day injury)	3	3,759	969 - 1500	1,253	1,233	20
Non-reportable (1-3 day absence)	2	450	176 - 274	225	205	20
Non-reportable (No absence)	22	1,175	37 - 84	53	53	-
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	28	6,935	37 – 1,551	248	243	5

Assuming that the accidents/incidents that occurred during the survey period are representative of the types of incidents that typically occur, it may be estimated that the annual cost of incidents/accidents at the site would equate to £83,220, equivalent to the cost of employing around 4 Steelworkers a year.

5.23 CASE STUDY 23: COSTING OF ACCIDENTS/INCIDENTS IN A SPECIALIST LETTUCE GROWING COMPANY

5.23.1 Description of organisation

The participating organisation was a small company involved in growing salad produce. The company employed 34 full-time staff, although this number did increase at certain times of the year when seasonal workers were employed on a casual basis.

During the previous 12 month period, May 2003 to April 2004, only 4 non-reportable (no absence) injuries had been recorded onto an accident form. This did not include any very minor injuries that did not require first aid. The company did not collate everyday accidental damage events and generally only kept a record of incidents over and above the excess required to make insurance claims to recover the cost of damage.

5.23.2 Description of costing methodology

The study focused on costing all accidents/incidents that occurred throughout the month of May 2004. The company's Technical Manager was responsible for collating the relevant cost information required. In order to find out about incidents that did not get reported onto an accident report form the Technical Manager looked in all of the first aid and plaster issue books to identify any minor incidents that had occurred. He then followed them up accordingly to obtain the relevant data.

5.23.3 Number and outcome severity of accidents/incidents reported

A total of 3 incidents occurred during the 1 month study period, including: 1 non-reportable injury resulting in 2 days absence and 2 non-reportable injuries that lead to no absence from work. The injury resulting in absence occurred as one member of staff living on the company's premises splashed her arm with boiling water whilst carrying a kettle. The incident occurred whilst the injured employee was off duty and therefore no payments were made to her during the 2 days absence.

5.23.4 Types of accidents/incidents

Both of the non-reportable (no absence) injuries were sustained as a result of the injured persons striking against something fixed or stationary. One case involved an Admin Assistant striking her knuckles on an office door, the other occurred as a Trailer Driver caught his hand on the sharp edge of a trailer. As mentioned previously, the lost time injury was sustained as a result of handling a kettle full of boiling water.

5.23.5 Nature of injuries sustained

The injuries sustained included a scald to the arm, a superficial abrasion to the knuckles and a cut to the hand. The injury resulting in 2 days absence was assessed at hospital. The 2 minor injuries resulting in no absence were treated onsite.

5.23.6 Breakdown of costs incurred

The total cost of incidents occurring during the survey period was £72, including opportunity costs of £67 and financial costs of £5. The additional financial cost of £5 was incurred in transporting the injured person to hospital. The opportunity cost comprised the following cost categories: time spent responding to the incidents immediately after they occurred (accounting for 39% of the overall opportunity cost), time lost by the injured persons on the day of injuries (8%), time spent reporting, investigating and processing the incidents (42%) and time spent carrying out remedial work to prevent reoccurrence – in this case it was time spent grinding down the sharp edges of the trailer on which a Driver cut his hand - (11%). Table 46 provides a breakdown of the costs incurred according to incident severity.

Table 46 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	-	-	-	-	-	-
Non-reportable (1-3 day absence)	1	35	35	35	30	5
Non-reportable (No absence)	2	37	15 – 22	19	19	-
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	3	72	15 - 35	24	22	2

5.24 CASE STUDY 24: COSTING OF ACCIDENTS/INCIDENTS IN A PARCEL DELIVERY COMPANY

5.24.1 Description of organisation

This study was conducted at the main operational hub of a parcel delivery company employing approximately 500 staff.

During the previous year, 2003, a total of 111 accidents were reported to the Health & Safety Department at the site, of which 26 were lost time incidents. The company was previously quantifying the cost of days lost due to accidents using a standard daily rate designed to incorporate the cost of paying the absent person and any replacement costs. The actual value of legal costs and compensation claims were also added onto this figure. This method of costing did not take account of any incidents where employees did not lose any time from work. The company had never attempted to formally quantify the cost of work-related ill health.

5.24.2 Description of costing methodology

Cost data was collated for all accidents/incidents occurring throughout a three-month period, June to August 2004, which resulted in more than 15 minutes of lost time when taking into account the time of everybody involved at each stage of the incident – injuries of this type were not formally collated within the company other than being logged in a very minor injuries book.

The Health & Safety Manager at the site was responsible for collating the costing information, which was obtained by contacting the relevant managers involved in the incidents. Four hourly rates linked to the cost of employing staff were used to calculate the cost of people's time according to their particular grade. It was intended that the Human Resources department would supply data relating to work-related ill health, but this was not possible within the scope of the current study.

5.24.3 Number and outcome severity of accidents/incidents reported

A total of 7 accidents were reported to the Health and Safety Department during the three-month study period, comprising 2 RIDDOR reportable injuries, both resulting in 5 days absence from work, and 5 non-reportable injuries, none of which led to absence from work. The log for very minor injuries also showed 6 entries for the study period, all of which would have fallen below the 15 minute threshold adopted by the company. The Health and Safety Manager responsible for collating the accident data was confident that all minor injuries occurring within the study period would have been reported and recorded. However, damage events were rarely reported at the site, despite visible evidence to the contrary. Although the Health and Safety Manager had highlighted this as an issue within the company that needed addressing, no damage-only events were reported during the study period.

5.24.4 Types of accidents/incidents

A range of accidents/incidents occurred during the survey period which resulted in injury to staff, the majority of which were related to handling, lifting or carrying (n=5), followed by slips/trips/falls on the same level (n=2). Table 47 provides a summary of the accidents that occurred according to the severity of the injuries sustained.

Table 47 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	-	-
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	-	-
Injured while handling, lifting or carrying	-	-	-	5	5
Slips, trips, falls on same level	-	2	-	-	2
Slips, trips, falls on stairs/ramp	-	-	-	-	-
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident	-	-	-	-	-
Total	-	2	-	5	7

5.24.5 Nature of injuries sustained

Both of the RIDDOR reportable incidents resulted in bruising to the body (leg and lower back), while all of the non-reportable injuries sustained were sprains or strains. One of the non-reportable strain injuries required hospital treatment – this involved a Hub Operative injuring

his lower back as the inner contents of a parcel he was lifting moved suddenly to one side. Five of the injuries required onsite first aid assessment or treatment and 1 did not require any form of treatment on the day of the injury.

5.24.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £1,099. This was solely comprised of opportunity costs relating to the following cost categories: time spent responding to the incidents immediately after they occurred (accounting for 4% of the overall cost), time lost by the injured persons on the day of injuries (18%), payments made to the injured persons during periods of absence (62%) and time spent reporting, investigating and processing the incidents (16%). Table 48 provides a breakdown of the costs incurred according to incident severity.

Table 48 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	2	837	412 - 425	419	419	-
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	5	262	15 - 79	52	52	-
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	7	1,099	15 - 425	157	157	-

5.25 CASE STUDY 25: COSTING OF ACCIDENTS/INCIDENTS AT A THEME PARK

5.25.1 Description of organisation

The study was conducted within at a Theme Park employing 112 permanent staff and up to 600 seasonal workers during peak periods.

During the 6 month period, January to June 2004, a total of 1,163 incidents had been reported, including: 25 RIDDOR reportable incidents (23 involving members of the public and 2 involving staff), 1087 non-reportable injuries (940 involving members of the public and 147 to staff) and 51 near misses. A total of 99 days were lost due to injury during this period. No cases of work-related ill health had been identified during this period. Also, no systems were in place to identify damage only accidents at the time of the study.

The company had never previously attempted to quantify the cost of accidents other than reporting the cost of liability claims on a monthly basis.

5.25.2 Description of costing methodology

The study included all accidents/incidents and cases of work-related illness involving staff that were reported during the 4 week period, 10th July to 6th August 2004. The Health and Safety Manager for the park delegated the task of completion of the accident costing forms to the medical centre, given that they would generally be the first department notified of an injury to a employee or member of the public. The national average of 27% of salary costs was applied to all of the salary scales provided in order to take account of additional non-wage costs.

5.25.3 Number and outcome severity of accidents/incidents reported

A total of 47 accidents/incidents involving staff were identified during the survey period and cost assessed, including: 1 RIDDOR reportable major injury, sustained by a Ride Operator who slipped and fell down an engine inspection hatch fracturing 2 ribs; 1 RIDDOR reportable (over 3 day) injury involving an engineer slipping on wet boat whilst inspecting it and spraining his ankle, and 45 non-reportable injuries (no absence). A total of 19 days were lost due to injuries sustained during the study period, ranging from 5 (over 3 day injury) to 14 days (major injury) per injury. The Health & Safety Manager was confident that the majority of minor injuries would have been identified during the survey period. However, he did suggest that there may have been a number of near misses that would not have been included in the study given that they would not have been identified by the medical centre.

The costs relating to an ongoing case of work-related ill health were also monitored during the survey period. This involved a Receptionist who had been experiencing musculoskeletal pain in her neck and lower back, and suffering with headaches for almost a year.

5.25.4 Types of accidents/incidents

A range of accidents/incidents occurred during the survey period which resulted in injury, the majority of which were related to handling, lifting or carrying (n=20) followed by striking against a fixed or stationary object (n=7). Table 49 provides a summary of the accidents that led to injury according to severity of the injuries sustained.

Table 49 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	4	4
Struck by moving/falling object	-	-	-	4	4
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	7	7
Injured while handling, lifting or carrying	-	-	-	20	20
Slips, trips, falls on same level	-	1	-	2	3
Slips, trips, falls on stairs/ramp	1	-	-	1	2
Falls from height	-	-	-	1	1
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-

Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	3	3
Other kind of accident*	-	-	-	3	3
Total	1	1	-	45	47

*This incident involved an employee getting dust in his eye whilst operating a ride.

5.25.5 Nature of injuries sustained

Of the 47 injuries sustained, the most common physical injury was a cut/laceration (n=13), followed by bruising (n=10). Other types of injuries included: concussion (n=2), a fracture (n=1), scalds/burns (n=7), sprains/strains (n=8), superficial abrasions and eye injuries/irritations (n=5), and a splinter (n=1).

5.25.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £1,458, including opportunity costs of £610 and financial costs of £848. The 2 RIDDOR reportable injuries accounted for 70% of the overall cost.

The opportunity cost, £610, was comprised of the following categories: time spent responding to the incidents immediately after they occurred – e.g. medical centre’s time (accounting for 24% of the overall opportunity cost), time spent assessing or rescheduling work (3%), time lost by injured persons on the days of injury (56%), time spent reporting and processing the incidents (14%) and time spent organising/conducting reactive maintenance to prevent reoccurrence of incidents (3%).

The financial cost, £848, included the cost of first aid materials and transport to hospital (accounting for 4% of the overall financial cost) and the cost of replacing employees absent due to injury (96%). Table 50 provides a breakdown of the costs incurred according to incident severity.

Table 50 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	1	583	583	583	40	543
RIDDOR (over 3 day injury)	1	320	320	320	47	273
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	45	556	4 - 115	13	12	1
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	47	1,458	4 - 583	31	13	18

The costs incurred during the survey period relating to the ongoing case of musculoskeletal pain amounted to £2,174. £159 related to the time spent by a Manager and Team Leader conducting workstation assessments and arranging for alterations to be made to the work area, and time spent by the company Doctor assessing the member of staff. £2015 was also paid to renovate the work area and purchase an antiglare screen.

The Health and Safety Manager felt that within the limits of the current project, and the existing reporting systems in place within the company, there may have been some instances where costs were underestimated or not identified at all (e.g. maintenance repair costs). Therefore, he felt that approximately 15% of the total cost should be added to account for any underestimations that may have occurred. This would equate to an overall cost of £1,750 for accidents/incidents (£37 per incident), as well as £2,174 for the one case of work-related ill health.

5.26 CASE STUDY 26: COSTING OF ACCIDENTS/INCIDENTS IN AN AMBULANCE NHS TRUST

5.26.1 Description of organisation

The study was conducted within a regional ambulance service NHS Trust employing approximately 1600 people. The organisation is a provider of 2 main services, accident and emergency response and a non-emergency patient transport service.

During the period April 2003 to March 2004, a total of 488 accidents/incidents involving staff were reported through the organisation's incident reporting system. Eighty-nine of these were acts of violence/abuse/harassment against staff, resulting in: 2 RIDDOR reportable (over 3 day injuries), 2 non-reportable injuries and 85 non-injury incidents. The remaining 310 accidents comprised 39 RIDDOR reportable (over 3 day injuries), 39 non-reportable (1-3 day absence) injures, 217 non-reportable (no absence) injuries, and 15 non-injury accidents. It was not possible to identify the proportion of absence due to work-related injury for this period at the time of the study.

The organisation had never made any attempt to cost accidents/incidents prior to being involved in the current study.

5.26.2 Description of costing methodology

The study included all non-clinical incidents that were reported through the organisation's incident reporting system throughout the month of August 2004. The H&S Manager briefed all of the local Quality Assurance Managers about the project and the process of completing the accident costing forms. The Quality Assurance Managers were responsible for completing the basic information on the costing forms as and when an incident was reported (e.g. description of the incident, details of the individual involved and injuries sustained, amount of time spent by others on activities related to the incident etc). The forms were then sent back to the H&S Manager who returned them to the research team. Average salary bands for different grades of employees were also provided enabling the researchers to calculate the cost of people's time involved in the incident, as indicated on the costing forms. The organisation was unable to obtain and provide vehicle repair/replacement costs relating to damage incurred during the study period.

5.26.3 Number and outcome severity of accidents/incidents reported

A total of 26 non-clinical accidents/incidents were reported and costed during the 1 month study period, including: 9 RIDDOR reportable injuries (over 3 day absence); 1 non-reportable injury

resulting in 3 days absence; 10 non-reportable injuries (no absence); 5 damage only incidents and 1 near miss. A total of 121 days were lost due to the injuries that occurred during the survey period, ranging from 3 to 32 days absence per accident.

5.26.4 Types of accidents/incidents

A range of accidents occurred during the survey period which resulted in a member of staff (n=18) or a member of the public (n=2) being injured. The majority of injuries occurred whilst the injured person was engaged in handling, lifting or carrying a patient or piece of equipment/machinery. Table 51 provides a summary of the kind of accidents that led to injury according to their severity.

Table 51 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	1	1
Struck by moving/falling object	-	-	-	-	-
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	1	-	-	1
Injured while handling, lifting or carrying	-	7	1	1	9
Slips, trips, falls on same level	-	-	-	2	2
Slips, trips, falls on stairs/ramp	-	1	-	-	1
Falls from height	-	-	-	1	1
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	3	3
Other kind of accident*	-	-	-	2	2
Total	-	9	1	10	20

*One employee sustained a puncture wound as a result of a needle stick injury and one was involved in an RTA whilst travelling in Trust vehicle.

The 5 damage only incidents involved a vehicle colliding with either another vehicle or a stationary object (e.g. garage door). The near miss incident involved an emergency vehicle rolling backwards with the potential for injury or damage.

5.26.5 Nature of injuries sustained

The most common type of physical injury sustained during the survey period was a sprain/strain (n=12). Other types of injuries included: a puncture wound as a result of a needle stick injury (n=1), bruising/contusions (n=4) and stress/emotional injury experienced as a result of involvement in an incident (n=3). Of the injuries that were sustained, 11 required hospital treatment, 1 required on site first aid treatment and the remaining 7 required no form of treatment at the time of the injury.

5.26.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £19,248, including opportunity costs of £2,408 and financial costs of £16,830.

The financial cost of £16,830 was comprised solely of replacement labour costs, paid to replace injured employees during periods of absence. Given that all absent employees were replaced during the survey period, this financial cost overrides the sum of approximately £11,511 paid in sick pay to injured employees whilst they were at home unable to work. Repair/replacement costs were unobtainable at the time of the study.

The opportunity cost of £2,408 was comprised of the following cost categories: immediate response time (accounting for 7% of the total opportunity cost), time spent assessing and rescheduling work (7%), time lost by the injured persons on the days of the injury (23%), additional staff downtime (4%) and time spent reporting, investigating and processing the incident reports (59%). Again, this does not take account of any time spent dealing with or arranging, repair/replacement of damaged vehicles and equipment. Table 52 provides a breakdown of the costs incurred according to incident severity.

Table 52 Breakdown of costs incurred according to incident outcome severity

Incident Severity	No.	Total Cost (£)	Range (£)	Ave cost per incident (£)	Ave Opportunity cost (£)	Ave Financial Cost (£)
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	9	17,788	580 - 4,434	1,976	186	1,790
Non-reportable (1-3 day absence)	1	769	769	769	56	713
Non-reportable (No absence)	10	456	12 - 85	46	46	0
Damage only *	5	207	15 - 83	41	41	0
Near Miss	1	18	18	18	18	0
All incidents	26	19,248	15 - 4,434	740	93	647

*Damage only costs are incomplete as repair/replacement costs were not provided.

If the initial cost of £19,248 was extrapolated to a similar 12 month period, the yearly cost of accidents may equate to approximately £230,976, or £144 per employee (in addition to any potential future costs mentioned above).

5.27 CASE STUDY 27: COSTING OF ACCIDENTS/INCIDENTS IN A SPECIALIST MENTAL HEALTH AND LEARNING DISABILITIES NHS TRUST

5.27.1 Description of organisation

The study was conducted within a specialist mental health and learning disabilities NHS Trust, employing almost 3,000 staff.

During the 11 month period, April 2002 to February 2003, a total of 1,707 accidents/incidents involving staff were reported throughout the Trust (average of 155 per month). It was not

possible at the time of the study to provide a breakdown of the proportion RIDDOR reportable versus non-reportable incidents, or the number of days lost specifically due to injury at work.

The organisation had never formerly attempted to quantify the cost of accidents prior to being involved in the current study.

5.27.2 Description of costing methodology

At the start of the survey the organisation decided to cost all accidents/incidents involving staff within one area of the Trust, the Learning Disabilities (LD) Directorate, throughout August 2004. During this initial survey period a total of 38 very minor incidents were reported and costed. August 2004 was considered by members of the Trust to be a relatively good month in terms of both the number and severity of incidents occurring within the Directorate. Therefore, it was decided to extend the costing survey both in terms of time and coverage of the Trust.

In addition to continuing to cost all accidents/incidents involving staff occurring within the LD Directorate for a further 3 months (until the end of November 2004), costs were also applied to accidents/incidents occurring within Mental Health Services for Older People (MHSOP) (employing approximately 500 staff) for the additional 3 month period (September to November 2004 inclusive).

During the first month of the costing survey an existing member of staff was seconded from his regular role to work full-time on the costing project. During this period the employee was responsible for setting up the project in terms of informing members of staff that the study was taking place, obtaining salary data from payroll and collating all of the costing information as and when an incident was reported. Another member of staff took over this role for the additional 3 month period.

5.27.3 Number and outcome severity of accidents/incidents reported

A total of 38 accidents/incidents occurring within the LD Directorate were costed during August 2004. All of the accidents/incidents were non-reportable injuries. None of the incidents resulted in any period of absence from work (other than approximately 15 minutes spent by the injured employees responding to, recovering from and reporting the incident). The vast majority of the incidents involved a Service User being violent or aggressive towards a member of staff (87%). The most common injury sustained was a superficial scratch or abrasion (34%).

The total cost of minor incidents occurring within the initial survey period was £697, ranging from £8 to £43 per incident. This initial data was collated together with the data obtained from the extended 3 month costing survey conducted within both LD and MHSOP.

In total, 219 additional accidents/incidents were reported during the extended 3 month period (139 within LD, 80 within MHSOP). The following analyses will also include the initial 38 accidents/incidents occurring within LD during August 2004 (a total of 257 incidents).

Of the total 257 accidents/incidents that were costed, 5 were RIDDOR reportable injuries (over 3 day absence), 2 were non-reportable injuries (1-3 day absence), 248 were non-reportable (no absence) injuries, and 2 were damage only incidents. A total of 192 days were lost due to the injuries that occurred, ranging from 2 to 138 days per injury.

5.27.4 Types of accidents/incidents

A range of accidents/incidents occurred during the survey period in which staff either sustained an injury or were subjected to acts of violence or aggression by service users, but were not physically injured at the time of the incident. The majority of incidents involved a member of

staff being subjected to a violent or aggressive outburst by a service user (77%). In some cases, injuries were sustained when a service user unintentionally made contact with a member of staff during an outburst.

Both of the damage only incidents involved members of staff damaging their own vehicle whilst on the Trust's premises (e.g. driving into a stationary object or into a trench). Table 53 provides a summary of the kind of accidents that led to injury according to their severity.

Table 53 Injuries/potential injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	1	6	7
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	6	6
Injured while handling, lifting or carrying	-	-	-	21	21
Slips, trips, falls on same level	-	3	-	7	10
Slips, trips, falls on stairs/ramp	-	-	-	-	-
Falls from height	-	-	-	-	-
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	2	1	196	199
Other kind of accident*	-	-	-	10	10
Unknown	-	-	-	2	2
Total	-	5	2	248	255

*Other types of incidents included: Needle sticks (n=5), a vehicle accident (n=1), contact with hot surfaces (n=2) and insect bites/stings (n=2).

5.27.5 Nature of injuries sustained

Of the 255 injuries/potential injuries sustained, the most common physical injury was a bruise/contusion (n=62). Table 54 provides a summary of the nature of injuries sustained according to their severity.

Table 54 Incidents by nature and severity of injury

<i>Nature of injury</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Amputation	-	2	2	58	62
Loss of sight of eye	-	-	-	-	-
Fracture	-	-	-	-	-
Dislocation	-	-	-	-	-
Concussion and internal injuries	-	-	-	-	-
Lacerations and open wounds	-	1	-	26	27
Bruises/contusions	-	-	-	-	-
Burns/scalds	-	-	-	3	3
Poisonings and gassings	-	-	-	-	-
Sprains and strains	-	1	-	21	22
Superficial injuries	-	-	-	67	67
Natural causes	-	-	-	-	-
Other injuries caused by contact with electricity	-	-	-	-	-
Injuries of more than one type	-	1	-	-	1
Injuries not classified elsewhere	-	-	-	-	-
Injuries not known	-	-	-	-	-
No apparent injury	-	-	-	58	58
Other *	-	-	-	15	15
Total	-	5	2	248	255

**Other types of injuries included: needle stick/puncture wounds (n=5), general pain (n=4), shock/emotional injury (n=2), insect bites/stings (n=2), a faint (n=1) and a split nail (n=1).

Of the injuries that occurred, 5 required assessment at hospital, 34 required first aid attention and the remaining 216 did not require any form of treatment at the time of the incident.

5.27.6 Breakdown of costs incurred

The total cost of accidents/incidents costed during the survey period was £15,218, including opportunity costs of £13,734 and financial costs of £1,484. The additional financial cost of £1,484 was incurred solely as a result of paying bank and agency staff to cover a small proportion of the absence. Replacement staff had to be paid a higher rate than the injured employee's would have normally been paid.

The opportunity cost, £13,734, included: time spent by others responding to the incidents immediately after they occurred (7% of the total opportunity cost), time lost by the injured employees on the day of injury (6.5%), payments made to employees during periods of absence (49.5%), and time spent reporting/investigating/processing incidents (37%). Table 55 provides a breakdown of the costs incurred according to incident severity.

Table 55 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	5	9,929	543 – 6,725	1,986	1,715	271
Non-reportable (1-3 day absence)	2	455	195 – 260	228	164	64
Non-reportable (No absence)	248	4,795	9 – 69	19	19	-
Damage only *	2	38	15 - 23	19	19	-
Near Miss	-	-	-	-	-	-
Total	257	15,218	9 – 6,725	59	53	6

*Both of the damage only incidents involved damage to employees' personal vehicles and therefore no actual repair costs were incurred by the Trust.

If the immediate/short-term cost of £59 per incident was applied to the average rate of 155 incidents to staff per month (as derived from the total incidents reported during the 11 month period April 2002 – February 04), this would equate to an annual cost £109,740 to the Trust, in addition to any potential longer-term costs incurred in the future.

5.28 CASE STUDY 28: COSTING OF ACCIDENTS/INCIDENTS WITHIN A DRINKS RETAILER

5.28.1 Description of organisation

A national drinks retailer employing approximately 2,000 staff (including both full and part time employees) was the focus for this costing study.

During the previous year, 2003, a total of 155 accidents/incidents were reported via the company's incident reporting system, including 40 RIDDOR reportable and 115 non-reportable incidents. The figures comprised incidents involving both staff and members of the public. At the time of the study the company did not collate everyday accidental damage events, only criminal damage incidents were logged centrally. It was also not possible to automatically identify the number of days lost due to injury within the company's recording systems.

The company had never attempted to quantify the cost of accidents previous to their involvement in the current study.

5.28.2 Description of costing methodology

The study included all incidents involving staff reported during August 2004. The company's Health and Safety Manager was responsible for collating all of the relevant information and entering it onto the costing forms provided. The national average of 27% of salary costs was applied to all of the salary scales provided in order to take account of additional non-wage costs.

5.28.3 Number and outcome severity of accidents/incidents reported

A total of 5 accidents/incidents involving staff were reported during the survey period, including: 1 RIDDOR reportable injury (over 3 day) sustained by an Sales Assistant who was physically assaulted by a member of the public; 1 non-reportable injury (2 days absence), sustained by a member of staff who bruised his hands on a security bar at the back of a shop, and 3 non-reportable injuries resulting in no absence from work. The Health and Safety Manager highlighted the fact that there was some degree of underreporting amongst staff, especially in relation to very minor non-reportable injuries that do not result in absence from work. This was an issue that was in the process of being addressed at the time of the study.

5.28.4 Types of accidents/incidents

A range of accidents/incidents occurred during the survey period which resulted in injury, including acts of violence and aggression, falls from height (up to 2 metres), injuries associated with handling, lifting and carrying and striking against something fixed or stationary. Table 56 provides a summary of accidents that led to injury according to the severity of the injuries sustained.

Table 56 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	-	-
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	1	-	1
Injured while handling, lifting or carrying	-	-	-	1	1
Slips, trips, falls on same level	-	-	-	-	-
Slips, trips, falls on stairs/ramp	-	-	-	-	-
Falls from height	-	-	-	1	1
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	1	-	1	2
Other kind of accident	-	-	-	-	-
Total	-	1	1	3	5

5.28.5 Nature of injuries sustained

The most common type of physical injury sustained was bruising (n=3). Both of the lost time injuries resulted in bruising, although the employee who was assaulted by a member of the public also suffered from shock. Other types of injuries included a fracture (to the nose) (n=1) and a scald (n=1). All of the injuries required onsite first aid assessment and/or treatment.

5.28.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £1,104, including opportunity costs of £941 and financial costs of £163.

The opportunity cost, £941, was comprised of the following cost categories: time spent responding to the incidents immediately after they occurred (accounting for 1% of the overall opportunity cost), time lost by injured persons on the days of injury (6%), payments made to the injured employees during periods of absence (33%), loss of revenue during closure of a shop in response to an incident, time spent reporting and investigating the incidents (42%) and time spent organising and conducting rectification measures in order to prevent reoccurrence of the incidents (2%).

The financial cost, £163, included the cost of replacing an injured person for a proportion of their absence on the day of injury (accounting for 11% of the overall financial cost), additional costs incurred during incident investigations – e.g. travel expenses paid to the Health and Safety and Area Manager’s to travel to the relevant branches (45%) and the cost of purchasing new equipment in response to the incidents – e.g. replacement of a faulty kettle and repair of a security bar (44%). Table 57 provides a breakdown of the costs incurred according to incident severity.

Table 57 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	1	398	398	398	368	30
Non-reportable (1-3 day absence)	1	213	213	213	152	61
Non-reportable (No absence)	3	493	4 - 441	164	140	24
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	5	1,104	4 - 398	221	118	33

If the average cost of an incident derived from this study was applied to the total number of incidents reported in 2003 (40 RIDDOR and 115 non-reportable), the total immediate cost impact of accidents/incidents for the year may have equated to approximately £34,255.

5.29 CASE STUDY 29: COSTING OF ACCIDENTS/INCIDENTS WITHIN A BUILDERS MERCHANTS

5.29.1 Description of organisation

The largest site of a national timber and builders merchant was the focus for this costing study. The site, employing around 170 staff, was the largest of the company’s 22 sites (employing a total of 880 staff), accounting for almost one quarter of the company’s overall turnover.

During the previous 12 month period, August 2003 to July 2004, a total of 81 accidents/incidents were reported at the site, including: 2 RIDDOR reportable injuries (over 3 day), one resulting in 43 days absence and the other in 74 days lost time; 1 non-reportable injury resulting in 1 full day's absence; 67 non-reportable injuries (no absence), 5 damage only incidents and 6 near misses. The Health and Safety Manager was aware that employees were relatively reluctant to report accidental damage events.

The company had never attempted to quantify the cost of individual accidents/incidents prior to their involvement in the current study.

5.29.2 Description of costing methodology

The study included all incidents that were reported at the site during August 2004. The company's Health and Safety Manager was responsible for coordinating the study, however, the task of completing the costing forms as and when an incident was reported was delegated to the departmental managers. The Health and Safety Manager then compiled all of the information at the end of the study period to ensure that all costs had been included.

5.29.3 Number and outcome severity of accidents/incidents reported

A total of 7 accidents/incidents were reported during the survey period, including: 5 non-reportable injuries resulting in no absence from work and 2 damage only incidents. One of the damage only events involved a delivery driver reversing into a pallet of paint that had just been delivered. The other, potentially more serious and costly incident, involved a vehicle striking a disused diesel pump causing a fracture to a pipe and release of gas oil onto the roadway and nearby surface water.

5.29.4 Types of accidents/incidents

Of the 5 non-reportable injury incidents that occurred, 3 were related to handling, lifting or carrying of equipment, 1 involved a member of the public fainting in the car park and 1 involved a member of staff tripping after getting his foot caught in a pothole.

5.29.5 Nature of injuries sustained

Three of the non-reportable injuries were minor cuts and 2 were sprains/strains. Four were assessed and treated by onsite first aiders and 1 did not require any form of treatment at the time of the incident.

5.29.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £7,280, including opportunity costs of £1,025 and financial costs of £6,255. One of the damage only accidents amounted to £7,130, accounting for 98% of the overall cost incurred during the survey period (86% of the overall opportunity cost and 99.9% of the overall financial cost). This incident, involving a vehicle striking a disused diesel pump, required the hire of a suction tanker at a cost of £6,000 in order to clean up and remove gas oil from a contaminated pond. Various levels of personnel were involved in the initial clean up process of the affected area.

The opportunity cost, £1,025, was comprised of the following cost categories: time spent responding to the incidents immediately after they occurred (accounting for 21% of the overall opportunity cost), time spent dealing with the clean up of the affected area (57%), time lost by the injured persons on the days of injury (1%), time spent organising/conducting repairs (2%), material loss (5%) and time spent reporting and investigating the incidents (14%).

The financial cost, £6,255, included the cost of hiring a suction tanker to remove gas oil from a contaminated pond (accounting for 96% of the overall financial cost) and material replacement costs (4%). Table 58 provides a breakdown of the costs incurred according to incident severity.

Table 58 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (Over 3 day injury)	-	-	-	-	-	-
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	5	73	10 - 19	15	14	1
Damage only	2	7,207	77 – 7,130	3,603	477	3,127
Near Miss	-	-	-	-	-	-
All incidents	7	7,280	10 – 7,130	1,040	146	894

Given the wide range of accident costs derived from this particular study, it is difficult to extrapolate the costs to provide any meaningful estimation of the cost of accidents to the company or the site. However, the figures do provide a good example of the potentially high costs that can be incurred through damage only incidents relative to the low costs incurred as a result of minor, non-reportable injuries.

5.30 CASE STUDY 30: COSTING OF ACCIDENTS/INCIDENTS WITHIN A RETAIL/DISTRIBUTION COMPANY

5.30.1 Description of organisation

The study was conducted at 1 site of a large retail and distribution company specialising in the sale of office supplies. The company employed approximately 3,600 staff in total. The costing study was originally intended to be conducted at 3 different sites. However, adequately completed forms were only received from one of the warehouse sites where 150 members of staff were based.

During the previous 12 month period, August 2003 to July 2004, a total of 73 accidents/incidents were reported at this site, including: 2 RIDDOR reportable and 71 non-reportable injuries. Although there was a system in place to try and encourage the reporting of accidental damage events, the Health & Safety Manager had acknowledged that such incidents were not consistently reported across the company.

The company had been attempting to quantify the cost of accidents for a number of years prior to their involvement with the current study. However, although there was a section on the accident/incident reporting form to capture these costs, this information was not consistently provided. The Health and Safety Manager highlighted the fact that the costing process was conducted on a somewhat ad hoc basis and the costs were more of a 'guesstimate' rather than accurately measured.

5.30.2 Description of costing methodology

The study included all incidents that were reported at the site during August 2004. The Group Health and Safety Manager delegated the task of completing the costing forms to the local Health and Safety Specialist responsible for monitoring health and safety at the site. The forms were completed as and when an incident was reported. The completed forms were then returned to the research team at the end of the study period.

5.30.3 Number and outcome severity of accidents/incidents reported

A total of 6 accidents/incidents were reported during the survey period, all of which were non-reportable injuries resulting in no absence from work.

5.30.4 Types of accidents/incidents

Of the 6 non-reportable injuries that occurred, 3 were related to handling, lifting or carrying of equipment, 1 involved a Warehouse Operative striking his head against some storage racking, 1 member of staff inhaled fumes from a vehicle battery and 1 got dust in his eye when it fell from some racking.

5.30.5 Nature of injuries sustained

Two of the non-reportable injuries were minor cuts. Other injuries sustained included; bruising, a burn from contact with hot glue, a superficial eye irritation caused by dust falling into the eye and the effects of inhaling vehicle battery fumes. One of the injuries (dust in eye) did not require any form of treatment. The remaining 5 all required onsite first aid attention or treatment.

5.30.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring at the site during the survey period was £136, the vast majority of which were opportunity costs (£132). The financial cost of £4 related to the first aid supplies used to treat the minor injuries.

The opportunity cost, £132, was comprised of the following cost categories: time spent responding to the incidents immediately after they occurred (accounting for 22% of the overall opportunity cost), time lost by the injured employees on the days of injury (26%), time spent reporting and processing the incident reports (51%) and time spent arranging the repair of a vehicle from which a Warehouse Operative inhaled battery fumes. No additional repair costs were incurred as an existing maintenance contract was in place with the company that supplied the vehicle. Table 59 provides a breakdown of the costs incurred according to incident severity.

It is difficult to extrapolate the figures derived from this study with such a limited range of incidents. However, if the average cost of £23 per non-reportable injury (no absence) was applied to the total number of similar incidents that occurred at the site during the previous 12 month period then it may be estimated that the cost of such incidents during this period was anywhere from £1,633. This would be the minimum cost estimate that could be applied given that a proportion of the 71 non-reportable incidents reported during the previous 12 month period may have resulted in periods of absence of up to 3 days.

Table 59 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	-	-	-	-	-	-
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	6	136	8 - 38	23	22	1
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	6	136	8 - 38	23	22	1

5.31 CASE STUDY 31: COSTING OF ACCIDENTS/INCIDENTS AND WORK-RELATED ILL HEALTH IN A RESIDENTIAL CARE HOME

5.31.1 Description of organisation

The study was conducted within a residential care home providing respite care for individuals with learning disabilities. The care home employed approximately 20 staff, the majority of which were shift workers.

During the previous 12 month period, June 2003 to July 2004, a total of 22 incidents were reported at the site involving both staff and service users. The incidents comprised: 1 RIDDOR reportable injury (over 3 day absence), 5 non-reportable injuries and 2 accidental damage events. No cases of work-related ill health were identified during this period.

5.31.2 Description of costing methodology

The care home manager was responsible for costing all incidents, including both injuries and cases of work-related ill health that occurred over a 4 week period throughout July and August 2004. The care home manager worked along side the site's health and safety representative in order to try and ensure that all incidents were reported during the survey period.

5.31.3 Number and outcome severity of incidents reported

No injuries involving staff or patients were reported during the survey period. However, one new case of work-related stress did arise involving a Care Officer who was absent for 1 week during the survey as a result of the problem.

5.31.4 Breakdown of costs incurred

The total cost of the work-related stress case during the survey period was £210, including opportunity costs of £42 and financial costs of £168. The opportunity cost related solely to time spent by the Manager and Assistant Manager facilitating the employee back to work. Although the employee was paid during the 7 days absence, this cost was overridden by paying overtime to existing staff and employing more expensive agency staff to cover the shifts. The Care Home

Manager considered the cost in this case to be relatively low as the employee was only due to work 20 hours during her period of absence.

It must be noted that this cost is likely to be an underestimate of the total cost of the work-related ill health case given that time was spent after the survey period discussing and trying to address the issues raised by the case. Subsequent periods of absence and backfilling may also increase the overall cost of the work-related issue.

5.32 CASE STUDY 32: COSTING OF ACCIDENTS/INCIDENTS IN RESIDENTIAL AND DAY CARE CENTRE HOMES

5.32.1 Description of organisation

The study was conducted within 4 council run care establishments over a 4-week period throughout August and September 2004. The study was originally intended to be carried out in just one residential care home employing 40 staff. However, no incidents were reported at this site during the study period. Therefore, it was decided to cost all incidents involving staff that occurred within 3 other establishments during the same period, including 2 residential care homes and a day centre, each employing approximately 25 staff.

5.32.2 Description of costing methodology

The unit managers for each of the 4 establishments informed the Health and Safety Officer, responsible for this section of the council, of any incidents involving staff that occurred during the survey period. All of the necessary details regarding the cost of the incidents were also provided. Once completed, the Health and Safety Officer returned the accident cost forms to the research team.

5.32.3 Number and outcome severity of accidents/incidents reported

No incidents involving staff were reported at the original residential care home site employing 40 staff. However, one incident was reported at each of the other 3 sites of focus, including 1 RIDDOR reportable injury resulting in 9 days absence and 2 non-reportable, no absence, injuries. The RIDDOR reportable injury occurred at one of the residential care homes and involved a wheelchair foot-plate falling from the top of a wardrobe onto a Care Worker's head.

5.32.4 Types of accidents/incidents

Each of the 3 injuries sustained were caused by different kinds of accidents, including: being struck by a falling object (wheelchair foot-plate falling from the top of a wardrobe), a slip/fall involving a Care Worker slipping in some tea that had been split by a client, and a cut from broken glass which was sustained whilst handling dishes in a sink. The RIDDOR reportable injury required the injured person to attend hospital for treatment. However only 1 of the non-reportable injuries (cut finger) required onsite first aid treatment.

5.32.5 Nature of injuries sustained

Three different types of injuries were sustained. The RIDDOR reportable injury involved a laceration to the head. The 2 non-reportable injuries included a bruised knee resulting from slipping in liquid on the floor and a cut finger as a result of contact with broken glass whilst handling dishes in a sink.

5.32.6 Breakdown of costs incurred

The total cost of the accidents/incidents costed during the survey period was £708, the vast majority of which were opportunity costs (£706). The remaining financial costs that were included related to the use of first aid supplies.

Ninety-four percent of the overall cost (£699) related to the RIDDOR reportable injury that resulted in 9 days absence from work. The majority of this cost (88%) was incurred through paying the injured employee during the period of absence.

The total cost of the 2 non-reportable injuries was £39, ranging from £17 to £22 and averaging £19.50 per incident.

The overall opportunity cost of the 3 injuries, £706, can be broken down into the following cost elements: time spent by others responding to the incidents immediately after they occurred (accounting for 3% of the overall opportunity cost), time spent assessing and rescheduling work (1%), time lost by the injured employees on the day of the injuries (5%), payments made to an injured employee during absence (87%) and time spent completing paperwork at the individual site level (4%). The financial cost, £2, related solely to the use of first aid supplies to treat the injuries on site.

5.33 CASE STUDY 33: COSTING OF ACCIDENTS/INCIDENTS IN A HYDROMETER MANUFACTURER

5.33.1 Description of organisation

The study was conducted at a small manufacturing company employing 10 staff. The company specialised in producing glass hydrometers for a variety of uses.

In the previous year, 2003, a total of 13 non-reportable, no absence, injuries were reported to the Quality Manager. All of the injuries were caused through contact with unfinished glass edges. None of the injuries had resulted in any time lost from work, apart from minimal time spent completing the accident book and self-administering a plaster in some cases.

5.33.2 Description of costing methodology

The Quality Manager monitored all incidents that occurred throughout July 2004. Records of time lost and damage costs were monitored throughout. However, he did not complete a costing form for each minor incident that occurred.

5.33.3 Number, severity and types of injuries reported

A total of 2 non-reportable injuries were recorded during the study period. Both of these were very minor cuts to fingers which resulted in a maximum of 5 minutes lost time, spent by the injured person applying a plaster and completing the accident book. No costs were applied to these injuries given the minimal amount of time lost in each case.

There were, however, an estimated 110 instances of damage to product or work in progress which cost the company around £2000. This figure was calculated purely by assessing order quantity shortfalls using the final sales value of the product. This damage may have also entailed other opportunity costs related to rescheduling and recovering work and associated administration time. However, this element of cost was not included in the current study.

The costs derived from this study illustrate that the cost of injuries to the company are minimal. However, accidental damage appears to be somewhat more substantial in terms of the cost to this particular company.

5.34 CASE STUDY 34: COSTING OF ACCIDENTS/INCIDENTS IN TAKE AWAY RESTAURANT

5.34.1 Description of organisation

The study was conducted within a Thai restaurant and takeaway employing 13 staff. The restaurant had been trading for 12 years and had recently expanded by purchasing the adjacent property and creating an additional seating area. This allowed up to 80 seated customers in addition to the original takeaway and delivery side of the business.

The restaurant owner did not keep an official log of staff accidents. Customer injuries were recorded in the event of a public liability insurance claim. However, the last customer injury occurred more than 2 years prior to the current study. No RIDDOR reportable or lost time accidents/incidents had occurred within the company since opening in 1992. However, approximately 8 very minor injuries occurred on a weekly basis. These very minor incidents were not generally logged and only a small proportion would require self-administered first aid treatment i.e. a plaster. The company had experienced 2 cases of work-related upper limb disorders (ULDs), one concerning the owner and the other a chef. Both of these conditions were thought to have been caused due to making repetitive stirring movements whilst holding a heavy wok. However, no costs were thought to have been incurred as the 2 incidents did not occur simultaneously and shifts were swapped to minimise the effects.

5.34.2 Description of costing methodology

The study was conducted throughout the month of August 2004. The owner of the restaurant agreed to keep a log of all incidents that occurred and then apply costs to them at the end of the survey period. However, as all of the incidents were very minor in terms of severity she was not prepared to invest the time in completing a form for every single event.

5.34.3 Number, severity and types of injuries reported

A total of 27 incidents were recorded during the survey period, all of which were very minor non-reportable injuries. The injuries were all sustained on the hand or fingers, included, 9 cuts (3 of which required self-administered first aid) and 18 minor burns (none requiring first aid).

5.34.4 Breakdown of costs incurred

None of the injuries accounted for than 5 minutes of lost time and did not involve anybody else's time other than the injured person. In most cases, the time lost was less than 5 minutes, given that only 3 of the injuries required the application of a plaster at a cost of 12 pence each. Using the worst-case scenario of 5 minutes lost time for each injury, the total opportunity cost of the incidents involving Chef's would have been £21, less than £1 per incident. Therefore, the overall cost of accidents to the company appears to be minimal.

5.35 CASE STUDY 35: COSTING OF ACCIDENTS/INCIDENTS IN A PALLIATIVE CARE HOSPICE

5.35.1 Description of organisation

The study was conducted within a hospice specialising in the provision of palliative care for terminally ill patients. The hospice employed approximately 195 paid staff as well as a number of volunteers based within the hospice and retail sites.

During the previous 12 month period, August 2003 to July 2004, a total of 150 accidents/incidents were reported within the organisation, of which 41 involved staff and 12 involved volunteers. Two RIDDOR reportable incidents involved staff being absent from work for more than 3 days and 2 related to members of the public (1 volunteer and 1 visitor) being taken to hospital as a result of an injury sustained on the organisation's premises. The Health and Safety Manager felt that there was a degree of underreporting in relation to staff injuries, an issue that had been highlighted previously within the organisation.

The organisation had never attempted to quantify the cost of accidents/incidents prior to their involvement in the current study.

5.35.2 Description of costing methodology

All incidents that were reported during the survey period were included in the costing study, apart from those which occurred within the retail stores. The Health and Safety Manager did not feel that it would be feasible to conduct the study for this arm of the organisation. The Ward Managers were delegated the task of completing the costing forms as and when an incident occurred. All incidents involving staff and patients were included regardless of whether an actual physical injury was sustained (i.e. a patient falling without sustaining any apparent injury but requiring subsequent assistance and assessment by staff). The Health and Safety Manager then collated all of the information at the end of the study period and returned the forms to the research team.

5.35.3 Number and outcome severity of accidents/incidents reported

A total of 7 incidents were reported and included in the costing study, all of which were non-reportable. One involved a member of staff banging her right eye against a shelf, one was an accidental damage incident involving damage to a steel door plate (the damage had occurred during a night shift but was not noticed until the following day), and 5 of the incidents related to patient falls (2 of which resulted in injury).

5.35.4 Types of accidents/incidents

All of the patient incidents involved the individuals falling, either on the same level (n=3) or from their bed (n=2). The staff injury was incurred as a result of striking against a shelf.

5.35.5 Nature of injuries sustained

The injured member of staff sustained a laceration around the area of her eye. One of the patients sustained a cut to his eyebrow and one experienced pain in his back. Three of the incidents involving patients did not result in any apparent injury at the time of the incident, although these patients were generally assessed by a Nurse and/or Doctor to ensure that this was the case.

5.35.6 Breakdown of costs incurred

The total cost of the accidents/incidents that were costed during the survey period was £215, ranging from £10 to £51, and averaging £31 per incident. The overall cost was comprised solely of opportunity costs relating to time spent responding to the incidents i.e. assisting and assessing the injured persons (accounting for 63% of the overall cost), time lost by the injured member of staff on the day of injury (3%), time spent conducting repairs to the steel door plate in order to prevent potential injuries from occurring (2%) and time spent recording, investigating and completing any necessary paperwork (32%).

The total cost of the staff injury was £39 and the cost of the accidental damage event £10. The patient incidents totalled £167, ranging from £11 to £51, and averaging £33 per incident.

5.36 CASE STUDY 36: COSTING OF ACCIDENTS/INCIDENTS IN A CATERING COMPANY

5.36.1 Description of organisation

The study was conducted at one site of a large company involved in the provision of catering (core business) and support services for a range of industry sectors. The majority of the company's employees were based at client premises. Approximately 100 of the company's staff were located at the site of focus for the real-time costing study. The company had previously been quantifying higher level costs relating to accidents/incidents resulting in large claims, such as claim, legal and investigation costs. However, they had never attempted to quantify the cost of all accidents/incidents on a site by site basis.

5.36.2 Description of costing methodology

The study related to all incidents that were reported at the site during the 3 month period, October to December 2004. The local Health & Safety Officer employed at the site was assigned the task of completing costing forms for each incident that was reported during the study period. The costing forms were returned directly to the research team as and when they were completed.

5.36.3 Number and outcome severity of accidents/incidents reported

A total of 6 incidents were reported at the site during the 3 month study period. All of the incidents were non-reportable injuries that led to no absence from work other than some time lost by the injured persons on the days of injury (ranging from 15 minutes to 3 hours per injury).

5.36.4 Types of accidents/incidents

Three of the injuries occurred whilst a member of staff was engaged in handling, lifting or carrying an object or piece of equipment. A Cleaner, for example, cut her thumb on a broken glass sample bottle that had been left in a bin that she was lifting in order to empty. Two members of staff sustained injuries as a result of striking against something stationary (e.g. a Stores Assistant banged her leg on the handle of a brat pan whilst cleaning down cooker work tops) and a Cleaning Supervisor twisted her ankle as she tripped over some protruding metal sticking out of the ground whilst moving a desk with a colleague.

5.36.5 Nature of injuries sustained

A range of injuries were sustained during the study period, including bruising as a result of striking against a stationary object (sustained by the Stores Assistant who banged her leg on the

handle of a brat pan and a Food Service Assistant who hit her hand against a sink whilst carrying boxes to the stores), sprains/strains (sustained by a Cleaning Supervisor who twisted her ankle after tripping over some protruding metal sticking out of the ground and a Cleaner who experienced pain in her shoulder and neck whilst lifting a bag of rubbish into a wheelie bin), a cut to the thumb from a broken glass sample bottle left in a bin, and a scald experienced by a Catering Assistant after a container of food that she was carrying fell into hot water splashing her hand - the container of food was also contaminated with water and therefore had to be disposed of.

5.36.6 Breakdown of costs incurred

The total cost of the 6 non-reportable injuries that occurred at the site was £137, ranging from £15 to £33, and averaging £23 per incident. This was comprised solely of opportunity costs relating to time spent by others responding to the incidents in the initial instance (accounting for 27% of the overall cost), time lost by the injured employees on the day of the injuries (i.e. when they were unable to perform their usual tasks whilst receiving first aid treatment or resting - 28%), product wastage relating to cost of the container of food that was contaminated with water and disposed of (6%) and time spent reporting/investigating the incidents and completing any associated paperwork (39%). All of the necessary investigations and paperwork were completed by the local Manager and Health and Safety Officer at the site and therefore no costs were incurred at the corporate level as a result of these minor incidents.

It is difficult to extrapolate these figures in order to estimate the cost of accidents on a company wide basis. However, the average figure of £23 does provide a minimum baseline estimate that could be applied to very minor injuries that do not result in any days lost from work. Other than food or product wastage, as highlighted in the current study, it is very rare for the company to incur any costs relating to accidental damage given that the majority of assets are owned by the clients for who the company provides services for.

5.37 CASE STUDY 37: COSTING OF ACCIDENTS/INCIDENTS WITHIN A COMBINED HEALTHCARE NHS TRUST

5.37.1 Description of organisation

The study was conducted within 2 operating units of a Combined Healthcare NHS Trust employing approximately 2,900 staff. The units of focus were mental health and elderly care employing around 595 and 432 staff respectively.

During the previous 12 month period, September 2003 to August 2004, a total of 1,338 incidents involving staff within the Trust were reported through to the Health and Safety department. The incidents comprised: 36 RIDDOR reportable injuries (1 major and 35 over 3 day), 13 non-reportable (1-3 day absence) and 1,289 non-reportable (no absence) injuries. Of the non-reportable, no absence injuries, 873 were violent incidents involving staff and 416 were other types of minor injuries. At the time of the study there was no system in place to capture or centrally collate the number of accidental damage incidents occurring within the Trust. A total of 998 days were lost due to injury during this period.

At the time of the study the Trust was estimating the cost of all lost time injuries involving staff. This estimation involved applying a figure of £115 to each day lost due to injury. This sum was intended to incorporate a number of costs including sick pay, replacement staff and investigation costs etc. However, the exact details of the methodology used to obtain this figure were unknown at the time of the current study.

5.37.2 Description of costing methodology

The study included all incidents involving staff that occurred within the 2 units of focus, mental health and elderly care, throughout October, November and December 2004. The Trust's Incident and Claims Coordinator was responsible for obtaining all of the relevant information and completing the costing forms as and when an incident was reported through to the Health and Safety department. The completed forms were returned to the research team at regular intervals throughout the 3 month study period.

5.37.3 Number and outcome severity of accidents/incidents reported

A total of 65 incidents involving staff were reported within the 2 units, comprising: 3 RIDDOR reportable injuries, 1 of which was a major injury involving a Health Care Support Worker sustaining a broken wrist whilst trying to restrain a patient who pushed a door into her arm; 2 non-reportable injuries resulting in 1-3 days absence and, 60 non-reportable (no absence) injuries. A total of 112 days were lost due to the injuries sustained, ranging from 1 to 87 days per lost time injury. The major injury resulted in a total of 87 days absence up until the end of December 2004 when the study came to an end. However, this absence was predicted to continue into 2005.

5.37.4 Types of accidents/incidents

A range of incidents occurred during the survey period which resulted in a member of staff being injured. The majority, 54%, were injuries sustained due to acts of violence or aggression against staff by a service user. Table 60 provides a summary of the kind of accidents that occurred according to the severity of their outcome.

Table 60 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	2	3
Struck by moving vehicle	-	-	-	-	-
Strike against something fixed or stationary	-	-	-	1	1
Injured while handling, lifting or carrying	-	-	1	10	11
Slips, trips, falls on same level	-	-	-	7	7
Slips, trips, falls on stairs/ramp	-	-	-	2	2
Falls from height	-	-	-	1	1
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	1	1	1	32	35
Other kind of accident*	-	-	-	5	5
Total	1	2	2	60	65

* Other accidents included: 1 adverse skin reaction to alcohol hand gel used on the ward, 2 needle stick injuries and 2 injuries sustained as a result of being trapped by something (other than something collapsing/overturning).

5.37.5 Nature of injuries sustained

Of the 65 injuries sustained, the most common was a sprain/strain (n=17), followed by bruising (n=16). Other types of injuries included: cuts (n=10), scalds/burns (n=3), fractures (n=2), broken skin due to an adverse reaction (n=1), a human bite mark (n=1) and needle stick injuries/puncture wounds (n=2). One member of staff was winded as a result of being kicked in the groin area, 1 sustained more than one type of minor injury after a male patient launched a vicious attack on them and 6 did not sustain any obvious injuries. Of the injuries sustained, 3 required hospital treatment, 2 members of staff were assessed by the Occupational Health Department, 1 by their own GP and 32 required onsite first aid treatment. The remaining 27 did not require any form of treatment at the time of the incident.

5.37.6 Breakdown of costs incurred

The total cost of accidents/incidents occurring during the survey period was £10,757, including opportunity costs of £5,448 and financial costs of £5,309. The vast majority of the additional financial cost was incurred as a result of replacing the injured employees during periods of absence (accounting for 99% of the overall financial cost). Other financial costs were incurred in transporting injured members of staff to A&E departments (1%).

The opportunity cost of £5,448 included: time spent responding to the incidents in the initial instance, including time spent by others dealing with patients both before and after the incident occurred (accounting for 21% of the overall opportunity cost), time lost by the injured persons on the days of injury (11%), payments made to injured members of staff during periods of absence (31%), time spent reporting, investigating and processing incident report forms (35%), and time spent arranging and conducting reactive maintenance/repairs in order to prevent reoccurrence of incidents (2%). Table 61 provides a detailed summary of the costs incurred according to incident severity.

Table 61 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	1	5,118	5,118	5,118	245	4,873
RIDDOR (over 3 day injury)	2	1,781	386 – 1,401	893	724	169
Non-reportable (1-3 day absence)	2	758	130 - 628	379	330	49
Non-reportable (No absence)	60	3,094	16 - 300	52	52	-
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	65	10,757	16 – 5,116	165	84	82

If the average figures derived from this study were applied to the total number of incidents reported during September 2003 to August 2004 (1 x major, 35 x over 3 day, 13 x 1-3 day and 1,289 non-reportable, no absence, injuries), then immediate or short term costs occurring during this period may be estimated to be approximately £108,328. This is comparable to the calculation of £114,770 made by the organisation in their application of an average cost of £115 per day lost due to injury during the previous 12 month period.

5.38 CASE STUDY 38: COSTING OF ACCIDENTS/INCIDENTS IN A COMMUNICATIONS COMPANY

5.38.1 Description of organisation

The study was conducted within a large telecommunications company employing approximately 3,500 staff in the UK. During the previous 12 month period, April 2003 to March 2004, a total of 165 incidents were reported, of which 132 resulted in injury and 25 were RIDDOR reportable.

The company had never previously tried to quantify the cost of accidents prior to their involvement in the current study.

5.38.2 Description of costing methodology

The study included all incidents that were reported through the company's online incident reporting system during November 2004. The Health and Safety Director collated all of the relevant information at the end of the study period to ensure that all incidents occurring within November were captured and included in the costing study.

5.38.3 Number and outcome severity of accidents/incidents reported

A total of 8 accidents/incidents were reported and costed during the study period, including: 2 RIDDOR reportable (over 3 day absence) and 6 non-reportable injuries resulting in no absence from work other than some time lost by the injured persons on the day of injury. A total of 28 days were lost due to the injuries sustained during the survey period. One of the RIDDOR reportable injuries, resulting in 5 days absence (including weekend), involved a Receptionist falling onto marble flooring and bruising her lower back after the chair on which she was sitting slipped from underneath her. The other RIDDOR reportable injury, resulting in 23 days absence, involved a Cable Joiner falling from a ladder and bruising his lower back.

5.38.4 Types of accidents/incidents

A range of accidents/incidents occurred during the survey period which resulted injury. Table 62 provides a summary of the kind of accidents that led to injury according to the severity of the injuries sustained.

Table 62 Injuries by kind of accident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	-	-	-	-	-
Struck by moving/falling object	-	-	-	-	-
Struck by moving vehicle	-	-	-	1	1
Strike against something fixed or stationary	-	-	-	1	1
Injured while handling, lifting or carrying	-	-	-	2	2
Slips, trips, falls on same level	-	-	-	1	1
Slips, trips, falls on stairs/ramp	-	-	-	-	-
Falls from height	-	2	-	-	2
Trapped by something collapsing/overturning	-	-	-	-	-
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	-	-
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity or electrical discharge	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	-	-	-	-	-
Other kind of accident*	-	-	-	1	1
Total	-	2	-	6	8

*This incident involved a foreign body entering a Production Worker's eye whilst he was operating an air tool during assembly work.

5.38.5 Nature of injuries sustained

The injuries sustained included: bruising to the lower back (n=2), a cut, (n=1), scalds (n=2), multiple minor injuries combining both cuts and bruises (n=2) and a superficial eye injury/irritation (n=1). One of the RIDDOR reportable injuries, involving a fall from a ladder, required hospital treatment. The remaining 7 injuries were assessed and treated by an onsite first aider.

5.38.6 Breakdown of costs incurred

The total cost of the accidents/incidents that occurred during the survey period was £3,437, including opportunity costs of £3,328 and financial costs of £109. The RIDDOR reportable injury resulting in 23 days absence from work accounted for 69% of the total cost and 72% of the overall opportunity cost (76% of the cost of this one accident was incurred through paying the injured employee during his absence).

The overall financial cost was incurred largely as a result of purchasing materials to conduct reactive repairs and maintenance (this accounted for 94% of the overall financial cost). Other additional costs were incurred in relation to the use of first aid materials and transporting an injured employee to hospital (6% of the overall financial cost).

The opportunity cost of £3,328 was comprised of the following cost elements: time spent responding to the incidents immediately after they occurred (accounting for 2% of the overall opportunity cost), time lost by the injured persons on the day of the injuries (4%), payments

made to injured employees during periods of absence (71%), time spent reporting, investigating and processing the incidents (22%) and time spent arranging and conducting reactive maintenance and repairs (1%). Table 63 provides a breakdown of the costs incurred according to incident severity.

Table 63 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	2	3,159	323 – 2,836	1,580	1,556	24
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	6	278	12 - 98	46	36	10
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	8	3,437	12 – 2,836	430	416	14

If the average costs derived from this study were applied to the incidents that occurred within the company during the previous financial year (25 RIDDOR reportable and 107 non-reportable), then it may be estimated that accidents during this period cost the company somewhere in the region of £44,422, in addition to any of the potential longer-term costs mentioned above. This would be the minimum cost estimate that could be applied given that a proportion of the non-reportable injures that occurred may have actually resulted in absence from work of up to and including 3 days. This immediate/short term cost would however, equate to paying approximately 2 Cable Joiners for a year.

5.39 CASE STUDY 39: COSTING OF ACCIDENTS/INCIDENTS IN A WHOLESALE DISTRIBUTION COMPANY

5.39.1 Description of organisation

The study was conducted at one site of a large wholesale distribution company specialising in the sale and delivery of goods. The accident costing study was conducted at one of the larger warehouse and distribution sites employing around 550 staff over a 4 week period.

During 2004 a total of 1051 injuries were reported across the company, including: 108 RIDDOR reportable, 61 non-reportable (1-3 days absence) and 882 non-reportable (no absence) injuries. Of these, 157 occurred at the site of focus for the real time costing study, including: 26 RIDDOR reportable, 8 non-reportable (1-3 day absence) and 123 non-reportable (no absence) injuries.

The company had been quantifying the cost of all RIDDOR reportable accidents for approximately 3 years using a similar methodology adopted for the current study. This information was generally collated on a yearly basis and presented along with the annual accident statistics.

5.39.2 Description of costing methodology

The study included all incidents that were reported to the site's local Health & Safety Coordinator during a 4 week period that commenced at the end of November 2004. The Group Health and Safety Manager coordinated the process of collating the cost information as and when an incident was reported. The average non-wage costs paid by the company were not provided by the company and therefore, the national average of 27% of salary costs was applied to each of the salary bands provided.

5.39.3 Number and outcome severity of accidents/incidents reported

A total of 10 accidents/incidents were reported through the site's local Health and Safety Coordinator during the 4 week study period, including: 1 RIDDOR reportable injury (over 3 day absence) and 9 non-reportable injuries resulting in no absence from work beyond the day of the injury. The RIDDOR reportable injury involved an HGV Driver experiencing pain in his back as he placed stock onto a customer's floor. This injury resulted in the employee being absent from work for 35 days. The majority of this absence was backfilled with agency drivers.

5.39.4 Types of accidents/incidents

The majority of the injuries were sustained whilst the injured employee was engaged in handling, lifting or carrying (n=8, including 1 RIDDOR reportable). Other types of accidents resulting in the non-reportable injuries included: striking against something fixed or stationary (n=1) and being struck by a moving/falling object (n=1).

5.39.5 Nature of injuries sustained

The most common type of injury sustained during the 4 week period was a cut (n=5). Other types of injuries included: sprains/strains (n=2, including 1 RIDDOR reportable injury), superficial abrasions (n=2) and bruising (n=1). All of the injuries were assessed and/or treated by an onsite first aider.

5.39.6 Breakdown of costs incurred

The total cost of the accidents/incidents that occurred during the survey period was £3,621, including opportunity costs of £220 and financial costs of £3,401. The 1 RIDDOR reportable injury accounted for 95% of the total cost and 99.9% of the overall financial cost. This additional financial cost was incurred as a result of employing an agency worker to replace the injured HGV driver for approximately 35 days. Although the injured employee was paid during his absence, this opportunity cost was overridden by the additional cost of paying a higher rate for an agency worker.

The opportunity cost of £220 included time spent responding to the incidents immediately after they occurred (accounting for 20% of the overall opportunity cost), time lost by the injured persons on the day of the injuries (18%), time spent reporting, investigating and processing the incidents (38%) and time spent conducting refresher training with the injured employees where necessary (24%). Table 64 provides a breakdown of the costs incurred according to incident severity.

Table 64 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>	<i>Ave Opportunity cost (£)</i>	<i>Ave Financial Cost (£)</i>
RIDDOR (Major injury)	-	-	-	-	-	-
RIDDOR (over 3 day injury)	1	3,423	3,423	3,423	25	3,399
Non-reportable (1-3 day absence)	-	-	-	-	-	-
Non-reportable (No absence)	9	198	11 - 61	22	22	-
Damage only	-	-	-	-	-	-
Near Miss	-	-	-	-	-	-
All incidents	10	3,621	11 – 3,423	362	22	340

However, if the average costs derived from the current study were applied to the total number of incidents that occurred at the site during 2004 (26 RIDDOR reportable and 131 non-reportable) the cost of incidents at the site during this period may equate to approximately £91,880 (£88,998 for RIDDOR reportable and £2,882 for non-reportable incidents). This would be the equivalent of employing approximately 6 Warehouse Operatives at the site for a whole year. However, it should be noted that given a proportion of the non-reportable injuries would have incurred absence of up to and including 3 days, it is likely that the cost of the non-reportable injuries would have been greater. On the other hand, a proportion of the RIDDOR reportable incidents would have incurred less than 35 days absence and therefore, this figure may be an over estimate of the cost of the RIDDOR reportable injuries. All of the above estimated costs would, of course, be additional to any of the potential longer-term costs mentioned above.

5.40 CASE STUDY 40: COSTING OF ACCIDENTS/INCIDENTS IN A CONTRACT CATERING COMPANY

5.40.1 Description of organisation

This study was based at one division of a large contract catering company specialising mainly in catering, but also in accommodation and facilities management services. The company as a whole employed over 12,000 staff in the UK. The offshore division of the company, which was the focus of the costing study, employed approximately 550 staff across a number of different client sites.

During the previous 12 month period, December 2003 to November 2004, a total of 36 incidents were reported within the offshore division of the company, including 1 RIDDOR reportable and 35 non-reportable (no absence) injuries. A total of 43 days were lost due to injury during this period. The Health, Safety and Environment Manager for the company was confident that all injuries, including very minor events, were being reported by staff within this division. However, they were less confident that all injuries were being reported by staff located in onshore client premises. Therefore, the decision was made to focus just on the offshore division as this would ensure that all incidents would be captured and costed appropriately. It was not considered feasible to conduct such a study within the onshore divisions of the company at the time.

5.40.2 Description of costing methodology

The study included all incidents that were reported to the Offshore HSE Adviser during January 2005. All of the completed costing forms were returned to the research team at the end of the study period.

5.40.3 Number and outcome severity of accidents/incidents reported

A total of 3 non-reportable injuries were reported during the study period. None of the injuries resulted in any absence from work other than some time lost by the injured persons on the day of the injuries whilst receiving first aid treatment from the onsite medic and assisting with investigations.

5.40.4 Types of accidents/incidents

Two of the injuries were sustained whilst the injured persons were handling knives. The other involved a Chef falling whilst carrying a half full terrine of soup and sustaining bruising to his arm and leg. All of the injuries were treated by the onsite medic. However, as the medic was not employed by the company no costs, opportunity or financial, were incurred in treating the injured employees.

5.40.5 Nature of injuries sustained

Two of the injured employees sustained cuts to their fingers whilst handling knives. One involved a Baker cleaning a knife over a sink when the knife slipped out of his hand and cut his finger. The other involved a Steward cutting his finger on a knife that had been left on the side of a sink and knocked into the water in which the injured person was handling other equipment.

5.40.6 Breakdown of costs incurred

The total cost of the 3 non-reportable injuries was £244, ranging from £52 to £104, and averaging £81 per incident. All of the costs incurred were opportunity costs and related to time lost by the injured persons on the days of injury whilst visiting the onsite medic and assisting with investigations (accounting for 16% of the overall cost), and time spent investigating and processing the incident reports (accounting for 84% of the total cost). Knife cuts in particular were viewed very seriously by the company and therefore entailed relatively thorough investigations.

It is difficult with such limited data to extrapolate the figures derived from this study to estimate the total costs of accidents/incidents to the company. However, they provide a useful baseline average for non-reportable injuries occurring within the offshore division. If the average cost of an injury, £81, was applied to the total number of non-reportable injuries occurring within the division during previous 12 month period then it may be estimated that such incidents cost approximately £2,835 in lost opportunity time.

5.41 DETAILS OF ORGANISATIONS THAT DID NOT HAVE INCIDENTS OCCUR WITHIN THEIR DESIGNATED STUDY PERIOD

Nine of the organisations that participated in phase 3 reported that no accidents/incidents occurred during their designated study period. The inclusion periods for these organisations ranged from 4 weeks to 4 months. Table 65 provides details about these organisations, including: SIC code, size, type of business, and inclusion period.

Table 65 Summary of organisations in which no incidents were reported during survey period

<i>SIC Code</i>	<i>Size</i>	<i>Type of business</i>	<i>Inclusion period</i>
G	Medium	Supplier of headsets	May - July 2004
D	Small	Manufacturer of food processing equipment	May - July 2004
G	Small	Hardware retailer	June - August 2004
N	Small	Doctor's surgery	August – September 2004
D	Small	Metal manufacturer	Mid August - end October 2004
N	Small	Doctor's surgery	September – December 2004
G	Small	Maintenance of catering equipment	October 2004
N	Small	Veterinary surgery	October 2004
M	Small	Primary school	September – November 2004

5.42 OVERVIEW OF ACCIDENT/INCIDENT COST DATA

A total of 795 accidents/incidents and 3 cases of work-related ill health were individually cost assessed within 40 case study organisations over a period of 27 months (Nov 2003 to Jan 2005). This data was collated and analysed to provide an overview of the data provided.

5.42.1 Number and severity of accidents/incidents included

The 795 accidents/incidents that were individually cost assessed comprised:

- 3 RIDDOR reportable major injuries involving members of the public
- 9 RIDDOR reportable major injuries involving staff
- 57 RIDDOR reportable over 3 day injuries
- 27 non-reportable injuries (1-3 day absence)
- 682 non-reportable injuries/incidents (no absence) (involving 658 employees, 12 agency staff, 7 members of the public/visitors and 5 patients)
- 13 damage only incidents
- 4 near misses

A total of 1,213 days were lost due to the injuries that were cost assessed, ranging from 1 to 138 days per employee injury. Table 66 provides a summary of the days lost for each severity of injury involving staff.

Table 66 Summary of days lost for each injury severity level

<i>Injury severity</i>	<i>Number of incidents</i>	<i>Total days lost</i>	<i>Average number of days lost</i>	<i>Range (days)</i>
RIDDOR reportable major	9	278	31	5 - 87
RIDDOR reportable over 3 day	57	897	16	4 - 138
Non-reportable injury (1-3 day)	27	45	2	1 - 3
Total	93	1,220	13	1 - 138

5.42.2 Types of accidents/incidents

The most common type of incident that was cost assessed was an act of violence or aggression (the majority of which occurred within 2 NHS trusts specialising in the care of service users with learning difficulties and mental health problems). This type of incident accounted for 31% (n=248) of all of the incidents included in the overall analysis. These were followed by injuries that were sustained whilst the injured persons were engaged in some form of handling, lifting or carrying (26%, n=208). Table 67 provides a summary of the types of accidents/incidents that resulted in injury (or potential injury in the case of violent/aggressive incidents) according to the severity of injuries sustained.

Table 67 Injuries by kind of accident/incident and severity of injury

<i>Kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Contact with moving machinery	2	1	-	9	12
Struck by moving/falling object	-	4	4	48	56
Struck by moving vehicle	-	-	-	3	3
Strike against something fixed or stationary	1	1	3	66	71
Injured while handling, lifting or carrying	-	27	13	192	232
Slips, trips, falls on same level	3	13	4	58	78
Slips, trips, falls on stairs/ramp	3	2	-	10	15
Falls from height	1	3	-	8	12
Trapped by something collapsing/overturning	-	-	-	2	2
Drowning or asphyxiation	-	-	-	-	-
Exposure to/contact with a harmful substance	-	-	-	3	3
Exposure to fire	-	-	-	-	-
Exposure to an explosion	-	-	-	-	-
Contact with electricity	-	-	-	-	-
Injured by an animal	-	-	-	-	-
Acts of violence or aggression	1	4	2	241	248
Other kind of accident*	1	2	1	39	43
Missing	-	-	-	3	3
Total	12	57	27	682	778

Table 68 below outlines the types of accidents/incidents that fell into HSE's classification of an 'other kind of accident', according to the severity of the injuries sustained.

The 4 near miss incidents involved: boxes falling from an overhead pallet in a warehouse; a potential collision between 2 HGV drivers on site and an emergency vehicle rolling back towards a parked car. The 13 damage only incidents comprised: forklift/reach trucks causing damage to overhead structures in a warehouse whilst being manoeuvred by staff; a fire in a forklift truck cab; a bale falling from an HGV onto the roof cage of forklift truck; emergency vehicles striking stationary objects; an emergency vehicle colliding with another vehicle, and staff members'/visitors' own vehicles impacting with stationary objects on site. The circumstances surrounding one of the damage events were not provided.

Table 68 Summary of 'other' accidents/incidents

<i>Other kind of accident</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Faint	-	-	-	3	3
Allergy to surgical gloves	-	-	-	1	1
Contact with bodily fluid (e.g. blood)	-	-	-	2	2
Contact with hot substance/surface	-	-	-	3	3
Foreign body/liquid in eye	-	-	-	12	12
Insect bite/sting	-	-	1	2	3
Needle stick injury	-	-	-	10	10
Repetitive strain	-	-	-	1	1
Road traffic accident	1	1	-	2	4
On site vehicle accident	-	1	-	1	2
Trapped by something (other than something collapsing or overturning)	-	-	-	2	2
Total	1	2	1	39	43

5.42.3 Nature of injuries sustained

The most common type of injury included in the overall analysis was a bruise/contusion (n=198), accounting for 25% of all the injuries that were cost assessed. Other common injuries included: cuts/lacerations (n=158, 20%), and sprains/strains (n=144, 18%). Seventy-four of the non-reportable incidents (9%) did not result in visible injury at the point of reporting. The majority of these related to acts of violence or aggression. Table 69 provides a breakdown of the types of the injuries sustained according to their severity.

Table 69 Injuries by nature and severity of injury

<i>Nature of injury</i>	<i>RIDDOR (major injury)</i>	<i>RIDDOR (over 3 day injury)</i>	<i>Non- reportable (1-3 day absence)</i>	<i>Non- reportable (no absence)</i>	<i>Total</i>
Amputation	-	-	-	-	-
Loss of sight of eye	-	-	-	-	-
Fracture	9	2	1	1	13
Dislocation	1	1	1	-	3
Concussion and internal injuries	-	-	1	3	4
Lacerations and open wounds	-	2	2	157	159
Bruises/contusions	1	10	10	177	198
Burns/scalds	-	2	1	37	40
Poisonings and gassings	-	-	-	-	-
Sprains and strains	-	37	9	98	144
Superficial injuries	1	1	-	97	99
Natural causes	-	-	-	-	-
Other injuries caused by contact with electricity	-	-	-	-	-
Injuries of more than one type	-	1	-	6	7
Injuries not classified elsewhere*	-	1	1	32	34
Injuries not known	-	-	1	2	3
No apparent injury	-	-	-	74	74
Total	12	57	27	682	778

*Injuries not classified elsewhere were: an allergic reaction (n=1), broken skin/nail (n=3), infection (n=1), inhalation (n=1), insect sting/bite (n=2), human bite mark (n=1) splinter (n=1) needle stick injury (n=9), general pain/headache (n=5), shock/stress (n=6). Four of the injured person's were also winded.

5.42.4 Breakdown of costs incurred

The total cost of the accidents/incidents that were assessed was £154,838, ranging from £3 to £20,859 and averaging £195 per incident. Table 70 provides a more detailed breakdown of the costs according to incident severity.

Table 70 Breakdown of costs incurred according to incident severity

<i>Incident Severity</i>	<i>No.</i>	<i>Total Cost (£)</i>	<i>Range (£)</i>	<i>Ave cost per incident (£)</i>
RIDDOR (Major injury)	12	17,435	21 – 5,118	1,453
RIDDOR (over 3 day injury)	57	93,316	208 – 20,859	1,637
Non-reportable (1-3 day absence)	27	7,302	25 – 783	270
Non-reportable (No absence)	682	28,086	3 – 2,509	41
Damage only	13	8,407	10 – 7,130	647
Near Miss	4	292	19 – 140	73
Total	795	154,838	3 – 20,859	195

Forty-nine percent of the total costs identified (£76,095) related to opportunity costs. Financial costs equated to £78,753, representing 51% of the overall cost. The relative contributions of opportunity versus financial costs varied somewhat between the different categories of incident severity. This variation is illustrated in figure 2 below.

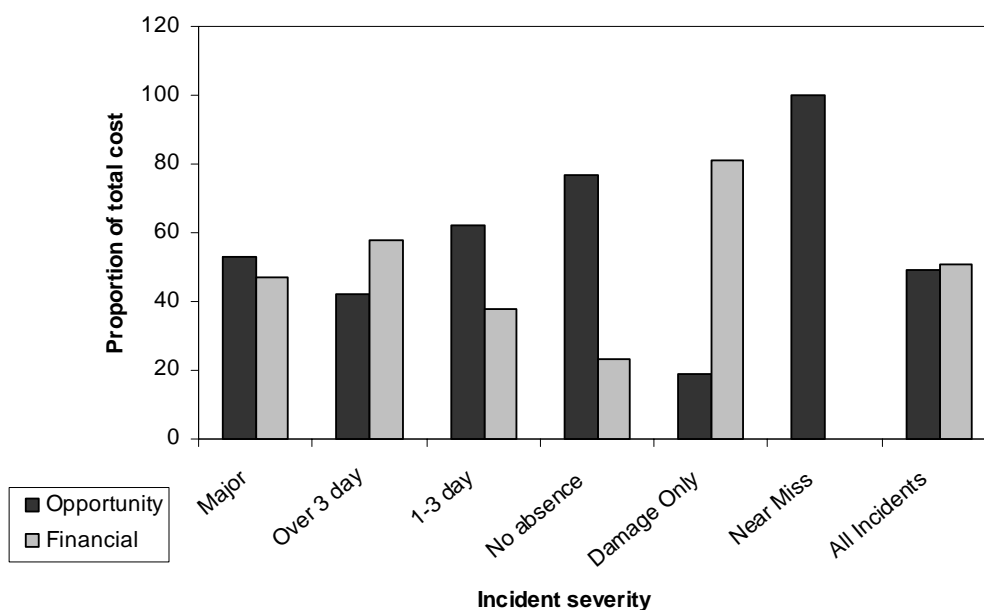


Figure 2 Contribution of opportunity and financial costs to overall cost

5.42.5 Costs identified in relation to RIDDOR reportable major injuries

Of the total costs identified in relation to RIDDOR reportable major injuries (£17,435), 53% (£9,257) were opportunity costs. The majority of the opportunity cost related to payments made to injured employees during periods of absence (81%), followed by time spent reporting, investigating and processing the incidents (8%). Other opportunity costs included: immediate response time on the day of the incidents (4%) and time lost by injured employees on the day of

injury (4%). Time spent assessing and rescheduling work, additional staff downtime, the value of lost work, and other costs accounted for the remaining 3% of opportunity costs.

Financial costs incurred due to the major injuries equated to £8,178 (47% of the total cost). Eighty-one percent (£7,129) of the financial costs were paid to replace some of the injured employees during periods of absence. Reactive measures accounted for 11% and costs incurred whilst responding to and reporting/investigating the incidents equated to 2% of the overall financial costs of major injuries.

5.42.6 Costs identified in relation to RIDDOR reportable over 3 day injuries

The total costs identified for RIDDOR reportable over 3 day injuries comprised opportunity costs of £38,963 (representing 42% of the total cost of incidents in this category) and financial costs of £54,353 (58%). Payments made to injured employees during periods of absence accounted for the majority of the overall opportunity cost (77%). Other costs related to the time lost by employees on the day of injury (5%), time spent by others responding to the incidents after they occurred (2%, e.g. first aid treatment, accompanying to hospital), time spent assessing/rescheduling work (1%), replacement of absent employees with existing staff at no additional cost (1%), time spent reporting, investigating and processing incidents (10%) and time spent on other activities in response to the incident (3%, e.g. arranging/conducting remedial work). The remaining 1% comprised additional staff downtime and time taken to arrange/conduct repairs.

Additional financial costs paid in response to over 3 day injuries included: paying overtime/additional wages to existing staff or hiring agency staff to replace absent employees (60% of the financial costs incurred); the cost of materials/labour to rectify any damage to property/products (38%), and additional costs incurred whilst responding to incidents, cleaning up and reporting, investigating and processing the incidents (1%). Other costs such as paying for physiotherapy treatment and reactive measures to prevent reoccurrence accounted for the remaining 1%.

5.42.7 Costs identified in relation to non-reportable (1-3 day) injuries

The overall value of the costs identified in this category was £7,302, comprising 62% opportunity (£4,508) and 38% financial costs (2,794). Opportunity costs included, time lost by injured employees on the days of injury (14%) and payments made to them during periods of absence (50%). Time spent on tasks relating to the reporting, investigating and processing of incidents accounted for 30% of opportunity time and the remaining cost (6%) related to time spent on tasks such as responding to the incidents immediately after they occurred and assessing/rescheduling work.

The vast majority of financial costs identified in relation to incidents resulting in 1 to 3 days lost time were additional payments made to existing employees or agency staff during periods of absence (80% of the financial cost). Other costs were incurred during initial response to the incidents (4%), and as a result of product repair/replacement (14%) and investigation/other costs (2%).

5.42.8 Costs identified in relation non-reportable (no absence) incidents

Total costs identified in relation to non-reportable, no absence, incidents equated to approximately £28,086, of which 77% were opportunity costs. The majority of opportunity costs related time spent reporting, investigating and processing the incidents (57% of the overall opportunity cost), immediate response time (17%) and time lost by the injured employees on the days of injury (19%). Other costs such as assessing/rescheduling work, replacing an employee

person on the day of injury, material loss, additional staff downtime and lost work accounted for the remaining 7% of opportunity cost.

Financial costs of £6,579 were incurred mainly as a result of property and product repair/replacement (53% of financial cost), followed by the cost of reactive measures to prevent reoccurrence etc (27%) and additional costs spent in responding to the incidents immediately after they occurred (13%).

5.42.9 Costs identified in relation to damage only incidents

Eight-one percent of the overall value of the damage only incidents (£6,810) were additional financial costs relating to: the hire of machinery to clean up (88% of the financial cost), property repair/replacement (9%) and material replacements (3%).

The remaining 19% (£1,597) of the cost of damage only incidents related to opportunity time. The opportunity cost elements comprised: initial response time (accounting for 15% of the total opportunity cost); time spent cleaning up (38%); time lost by employees involved in the incident (0.5%); time spent arranging/conducting repairs (16%); materials/product loss (4%); additional staff downtime (0.5%), and time spent reporting, investigating and processing the incidents (26%).

5.42.10 Costs identified in relation to near misses

The costs identified in relation to the near miss incidents were comprised solely of opportunity costs relating to: time spent responding to the incidents immediately after they occurred (accounting for 2% of the total cost) and time spent reporting, investigating and processing the incidents (98%).

5.43 OVERVIEW OF WORK-RELATED ILL HEALTH COST DATA

The total costs identified in relation to the 3 cases of work related ill health equated to £3,071, ranging from £210 to £2,174, and averaging £1,024 per case. Two of the incidents resulted in absence from work of 2 and 5 days respectively. Both of these cases were considered to be related to the employee's experience of work-related stress. The other, involving a Receptionist with musculoskeletal pain, incurred no absence from work during the study period but resulted in the highest cost.

The majority of the costs identified were additional financial costs (74%) relating to the modification of a work station in response to the case of musculoskeletal pain (88% of the financial cost) and replacement of an employee during absence from work. The main opportunity costs were incurred through payments to employees during absence (47%) and management time spent trying to resolve the issues (53%).

5.44 SUMMARY OF KEY FINDINGS FROM FOLLOW-UP INTERVIEWS

Brief semi-structured follow-up interviews were conducted within 45 (approximately 92%) of the organisations that participated in phase 3. The follow-up interviews were conducted with the key contacts established in phase 2, between 1 and 2 months after the final receipt of data, or after the end of the data collection period for those companies that were fortunate enough not to have any incidents occur. It was not possible to conduct 4 of the follow-up interviews due to difficulties making contact with the participants.

5.44.1 Reactions to the cost information collected

Most of the participants felt that the costs that were collated were a true reflection of the costs incurred due to the incidents that were assessed during the survey periods. However, the reactions of the participants to the actual costs collected varied somewhat. The majority reported that the figures that emerged from their costing studies were more or less what they were expecting. Some had no idea about what to expect from the outcome of their study:

'I think I was pretty open minded because it was difficult to understand the HSE's publication, for every £1 it costs you insurer it costs you between £8-36.' [Health and Safety Manager for a large merchandising company]

Others felt that the costs were lower than anticipated. However, this was generally related to the types of incidents that occurred during the survey periods (i.e. mostly minor) and the fact that only the immediate costs were included within the scope of the study (i.e. potential longer term costs not included), as this Health and Safety Officer for a Unitary Authority revealed:

'Over the year when I looked at the amount of incidents we've had and used the figures I came out with from the study it would only be £25K. If I'd looked at the days absence it would have been a lot more, which is just the way it works ... in February we only had 2 lost time accidents. You'd have to do it for longer because it might have been that we'd had 8 accidents and loads of time off and we might be still waiting for the results because the guy could still be off.'

Participants also talked about other people's responses to the information collected. A common response related to the fact that they would have expected the costs to be higher. However, this was again often due to the assumption that they would be inclusive of insurance/claims costs etc which were not possible to predict within the scope of the current study. Others showed genuine surprise and interest at the extent of the costs incurred, particularly in relation to common minor events, as this Health and Safety Manager for a large salad processing company described:

'They were a little bit shocked ... they were surprised at how much it costs to put a plaster on a finger, just from a very minor incident, "it can't possibly cost that much!" "Well let me break the figures down for you!" Yes they were surprised.'

A Health and Safety manager for a Theme Park explained his manager's reaction to the potential impact of work-related ill health within his organisation:

'I think he was quite surprised. The profile of our staff tends to be that we employ very young 18-24 year olds on a seasonal basis and if you actually look at the costs, the occupational ill health, although we only had one, since then we've had quite a few more. I think everybody's perception was work-related ill health isn't a problem because we've got lot of young people who are only here for a short period but the few permanent people we do have, have got problems so I think that was quite a significant learning curve ... we probably need to look closer at that than we thought we needed to.'

5.44.2 Use of information collated

The majority of participants that had managed to cost assess incidents had either utilised the information in some way or had plans to make use of the data within their organisation. The participants had utilised the cost information in a number of ways, including sharing the information with immediate line managers, senior management teams, boards of directors and health and safety committees, both informally and presented within internal company reports.

A Health and Safety Manager for a large retailer described how he adapted the cost information to gain maximum effect within his company:

'I related the cost of accidents to the number of items that we had to sell to generate profits to pay for the accidents ... rather than just telling senior management that this is the cost of accidents, it means more to them.'

In addition to sharing the information with others within the organisation and incorporating the figures into health and safety reports, participants intended to incorporate the figures that they had generated into their health and safety training sessions. A Group Health and Safety Manager for a NHS support organisation explained how he felt this would make the training sessions more tangible:

'Whilst we look at HSG96 from a general point of view, its good to get the actual facts and figures from our own organisation, to put the training into context and help make it a bit more real and tangible.'

Five of the participants reported that they had no intentions of making use of the data collated. This was largely due to the limited number of incidents costed and the low costs generated from the study:

'I know my staff get small burns and cuts, but this is catering and it happens. Now I know that accidents cost us about £20 in August, what can I do with that? It really doesn't help me ... its preventing a serious accident that's important.' [Owner of a small take away restaurant]

5.44.3 Impact on participants' general perceptions of costs incurred

Two-thirds of the participants did not feel that recording accident/incident or work-related ill health costs in real time had any impact on their general perceptions of the costs incurred by their organisations. The most common reason provided by participants representing smaller organisations related to the fact they never considered the costs to be particularly relevant to them due to low incident rates both prior to and during the survey period. Some of the health and safety personnel from larger organisations felt that taking part in the study had just reinforced some of their existing opinions rather than causing a change in their general perceptions. A Health and Safety Manager from a large retail/distribution company, for example, explained that he was already well aware of the types of costs incurred at the outset of the project and the importance of being able to apply a value to them:

'When we met before I was quite keen that the company, all companies, do actually see what the real cost of accidents is ... so my view remains the same, the more accurate the costing we can have, the more beneficial it will be.'

Others reported that they were already fully aware of the cost implications given that they were either actively conducting their own cost assessments or were at a stage where they had considered all of the potential costs involved:

'When you came to see us we were already at the point where we realised that we needed to do some costing of accidents anyway, so it wasn't as though this was a new concept to us, it was just a matter of we weren't sure how we were going to do it.' [Director of Health and Safety for a large furniture retailer]

A number of respondents on the other hand did feel that participating in the research had led to a change in their perceptions of the costs involved. Some reported that the process had enhanced their understanding of the types of costs that should be considered when thinking about the

impact of an accident/incident, particularly in terms of going beyond the 'obvious' costs of lost time and liability claims. For others, the costing process had provided them with some meaningful data to enable them to make judgements on the costs incurred, as this Group Health and Safety Manager for a large contract catering company described:

'It was a complete unknown before so at least now there is some qualified data there to make a judgement.'

5.44.4 Impact on approaches and attitudes towards costing incidents

The participating organisations were at various stages in terms of their costing activity prior to their involvement in the current study. The majority (n=28) of the organisations that participated in phase 3 had never considered measuring the cost of accidents/incidents or work-related ill health (12 small & 16 medium/large organisations). A large salad growing and processing company had previously conducted 2 separate cost assessments of different injury types (cut fingers and a slip/trip), but had no plans to conduct any further assessments at the time of the study.

Six medium/large organisations had considered undertaking some form of cost assessment but were unsure about how they would approach it or when it was likely to take place. For these participants, the invitation to participate in the current study provided them with the opportunity to follow their intentions through, as this Health and Safety Officer for a Housing Association explained:

'Its one of those things that's in the back of your mind at the time, yeah we should be doing this ... and then someone like yourself hands it to us on a plate and its like great, here we go. It was rather apt.'

The remaining 14 organisations (1 small and 13 medium/large) were assessing the cost of accidents/incidents on a regular basis in a variety of different ways, including: collating the cost of liability claims paid out annually (n=1); measuring the cost of mobile plant damage on an ongoing basis (n=1); applying an average daily rate to the total number of days lost due to injury on a quarterly or annual basis (n=2); multiplying the number of days lost due to injury by a standard figure to take account of payments to injured employees, replacement labour and other hidden costs (n=4); the application of standard cost units to all incidents (n=1); applying average values to different types of incidents according to their severity, ranging from near misses to major injuries (n=1); measuring the cost of lost time injuries and significant damage (n=1); and cost assessing RIDDOR reportable incidents only using a similar methodology to the one used previously by HSE (e.g. HSE 1997, Ready Reckoner) (n=3). None of the organisations were assessing the cost of accidents/incidents or work-related ill health in the level of detail adopted in the current study, prior to their involvement in phase 3.

During the follow-up interviews participants were asked whether they planned to make any changes to their existing costing activities as a result of their participation in the current project. The majority (78%) of those participants that had no intention to start costing accidents/incidents prior to their involvement in phase 3 still did not have any immediate plans to do so at the time of the follow-up interview. This was either due to the fact that they did not recognise the value of expending any further time and effort within their business to perform such a task, or that they did not have the available time or resources despite recognising the potential benefits of the process. Two of the participants that had no immediate intentions to start at the outset had devised a strategy to start costing within the next 6 months as a result of being involved in the study. Four of those who had no initial plans to cost accidents/incidents were actively continuing with the process at the time of the follow-up interview. However, the

continuation of the costing process varied from costing every incident using the same methodology that was applied in phase 3 (n=2) to just focusing on the cost of lost time (n=1) or RIDDOR reportable incidents (n=2).

Of those organisations that were originally considering costing accidents/incidents prior to their involvement in the study, 4 reported that they were still planning to start but not within the foreseeable future. One of these organisations (a Housing Association) had decided to continue costing all incidents resulting in over 10 minutes of lost time on a case-by-case basis using the cost assessment forms provided by the research team.

Eight of the organisations that were already actively measuring the cost of accidents/incidents prior to the start of the study did not have any plans to adjust their existing costing systems as a result of their involvement in the current project. This was either due to not having the available time or resources to investigate the costs in any further depth than they were already doing, or because they were happy with the accuracy of the costs that they were currently applying. A Health and Safety Manager for a large retail/distribution company explained how he would find it difficult to develop the process beyond the ‘finger in the air’ costing currently carried out within his organisation:

‘I would love to extend it and make it more detailed but until I get the resources to enable me to do it then it will stay as it is ... we’re not at the right stage of culture within the company to develop any further ... to go to a more detailed form would just result in more blank spaces on the form than we currently have.’

Three participants revealed that they had made changes to their existing processes as a result of the data they collected during phase 3. A Health and Safety Manager for a large merchandising company, who was previously collating the cost of claims paid out annually, decided to continue quantifying all incidents (resulting in more than 15 minutes lost time) within his organisation using the cost assessment forms provided by the research team. A Health and Safety Officer for a medium printing company also decided to extend his costing process to incorporate all incidents rather than just focusing on RIDDOR reportable injuries. Two other health and safety professionals from large companies planned to update the standard values that they were applying to incidents in order to take account of the costs derived from current study.

5.44.5 Perceived benefits of measuring accident/incident costs

Many of the participants felt that they had personally benefited from participating in phase 3 of the research. Some felt that taking part in the process had enhanced their awareness and understanding of the cost implications of an accident/incident:

‘I didn’t do accident stats at all 4 years ago, so I started a learning curve then and this has just started another learning curve for me ... the only experience of costing I’d got were those detailed in the HSE guidance, the cost of accidents, which are very arbitrary.’ [Health and Safety Manager for a large merchandising company]

Others viewed it as the providing them with the motivation they needed to actually start looking at the issues more closely and the insight and experience to take the process further within their organisations.

‘As a unit we’ve gained experience of gathering information like that and therefore we can now go forward more comfortably to gather information again in other sections of the council, so its been useful from my point of view.’ [Principal Health and Safety Officer for a Council]

A Health and Safety Manager for a large dairy processing company explained how the exercise had assisted him to pursue what he wanted with regard to highlighting the need to better control ill health absence within his organisations. Collating cost information on illnesses that had implications for food safety within his organisation had contributed to the decision to invest in a new Occupational Health provider. Other perceived benefits related to collaborating with external partners (i.e. the research team) to heighten the profile of the exercise which may not have otherwise received so much support and cooperation within the organisations, as mentioned by a Health and Safety Manager for a theme park:

'Because it was something outside it actually gives people the impetus to start doing it whereas doing something internally tends to be a bit of a hard drive to get people to say we're going to do this and we're going to work to get the data, so from my point of view it's a good way of getting the data and now people have seen it they're more receptive to carrying it on ... it gave us a good kick start.'

Many of the perceived benefits at the organisational level were related to increasing awareness at senior and local management levels and providing a more rounded picture of the overall impact rather than just focusing on one dimensional aspects of the cost (e.g. claims or lost time). Other organisational benefits included: raising the profile of the health and safety department and justification for keeping health and safety on the agenda; using the figures as a means of justifying investment in health and safety; being able to provide more accurate cost information; having a standard costing model that they can adapt and use as necessary, and helping to enhance relations with staff side groups by demonstrating that they are willing to work with them and share information.

A number of participants did not feel that either they or their organisations had really gained anything from conducting the costing exercise. Reasons cited for this included a lack of data due to a low numbers of incidents occurring during the designated survey period and previous experience of costing accidents/incidents. A Health and Safety Advisor for a Housing Division of a Council felt that knowledge of the cost had not, and would not, add anything to the way in which they view and approach health and safety:

'In essence nothing has changed for us because we're doing the normal proactive stuff. If we see something that concerns us we'll go out to prevent further losses so we're doing all the good things.'

5.44.6 Difficulties encountered

Many of the participants reported that they had no real difficulties with the costing process. The main difficulties that were experienced related to the time and effort involved in obtaining and processing the relevant information, as this Health and Safety Manager for a Regional Fire and Rescue Service explained:

'It was quite easy, I mean we only had a couple of lost time accidents in that period anyway. It was just sitting down and actually getting on with the job when you've got so many others to do. I think that's the problem.'

Other issues related to obtaining information from other individuals or other departments within the organisation who were not always forthcoming with the necessary data (e.g. salary scales, lost time), often related to problems with communication and organisational systems. A number of participants also highlighted problems associated with underreporting of accidental damage or lack of systems in place to identify the rate of such incidents.

'We've got an active procedure for that but it's very hard to capture that data reliably and uniformly. You might get told about the odd incident but that's not representative of what's gone on ... you end up chasing your own tail and spend more time trying to find out what's been going on that the incident really warrants.' [Safety, Health and Environment Manager for a large food manufacturer]

Table 71 Summary of themes that emerged from phase 3 follow-up interviews

<i>Themes</i>	<i>Sub themes</i>
Reactions to the cost information collected	Personal reactions: <ul style="list-style-type: none"> - Most were expecting the figures that emerged - Others had no idea about what to expect - Some felt values were lower than anticipated Colleague reactions: <ul style="list-style-type: none"> - Many expected the costs to be higher (due to consideration of longer-term costs e.g. claims) - Some showed genuine surprise at the extent of costs
Use of information collated	Sharing of information with management teams Inclusion of figures in health and safety reports Presentation in training sessions
Impact on general perceptions of costs incurred	No impact on majority of participants' general perceptions Changes in perceptions included: <ul style="list-style-type: none"> - Enhanced understanding of different cost elements - Provision of meaningful data enabled judgements on cost to be made (which could not be made previously)
Impact on approaches and attitudes towards costing incidents	Participants that had no intention of costing prior to study (n=29): <ul style="list-style-type: none"> - Majority (n=23) still had no plans to continue - 2 planned to start within next 6 months - 4 had continued costing using various methods Participants that were planning to start before study (n=6): <ul style="list-style-type: none"> - 4 still had plans to start but not in foreseeable future - 1 was planning to continue using methodology provided Participants that were actively costing prior to study (n=14): <ul style="list-style-type: none"> - 8 had no plans to adjust existing methodology - 4 made changes to existing costing processes - 2 updated their standard costs to take account of results
Perceived benefits of measuring accident/incident costs	Personal benefits: <ul style="list-style-type: none"> - Enhanced awareness of the cost implications - Insight and experience to the take process further - Motivation to start costing - Ability to highlighting tangible costs to others - Collaboration with external partners heightened profile of exercise Organisational benefits: <ul style="list-style-type: none"> - Increased awareness and managerial level - Raising profile of health and safety department - Ability to provide more accurate cost information - Provision of a standard costing model - Enhanced relations with staff Lack of perceived benefits related to: <ul style="list-style-type: none"> - Lack of data due to low incident rates - Previous costing experience
Difficulties encountered	Main difficulties related to: <ul style="list-style-type: none"> - Time and effort required to obtain relevant information - Obtaining information from other departments - Communication and organisational systems - Underreporting of minor incidents (particularly damage)

6. OVERVIEW OF FINDINGS

6.1 PHASE 1: FOCUS GROUPS AND INDIVIDUAL INTERVIEWS

Phase 1 provided some important initial insight into the issues of interest. The accounts from the participants in the first phase of the study indicated that whilst many organisations are concerned about the potential cost implications of major events, they are often less focused on costs incurred as a result of more frequent health and safety failures.

All of the participants were aware of at least some of the types of costs incurred as a result of workplace accidents and work-related ill health. However, most reported that neither they nor their organisations knew how much accidents and work-related ill health were costing. The majority of respondents had never conducted any assessments to establish the cost of health and safety failures within their organisations. Barriers to calculating the cost, included: lack of time and resources, the complexity of quantifying the cost, and lack of expertise in dealing with the financial aspects of health and safety.

Bringing the cost of accidents and ill health to the attention of managers and directors was recognised by several health and safety specialists as being a potential driver for health and safety improvements within the workplace. However, others did not feel that their organisations would benefit from knowing the cost of accidents due to low incident rates and/or a well-established commitment to health and safety. Other factors such as potential legal implications, benchmarking, and other business benefits (e.g. improved efficiency) were considered to be a useful justifications for driving health and safety forward.

6.2 PHASE 2: INTERVIEW CASE STUDY SURVEY

Semi-structured interviews were conducted with 283 directors and senior managers, health and safety personnel and workers' representatives from 129 case study organisations. In addition to providing general verification of the information obtained in phase 1, the case study interview survey also examined similarities and differences in the views and experiences of representatives from different types of organisations (i.e. cross sector and size comparisons), and provided further details of accident and work-related ill health costing processes and procedures used within the case study organisations.

6.2.1 Perceptions of the costs and benefits of health and safety

Most participants recognised that financial issues often play a role in health and safety related decision making. However, the cost of accidents and work-related ill health per se was not considered to be the key motivating factors for ensuring health and safety risks are effectively managed. Most felt that a combination of other, higher level interlinked factors, were more influential in driving the health and safety agenda, including: liability claims; legal exposure; liability insurance premiums and pressure from insurance companies (or the NHS litigation authority); corporate image and reputation; customer and client expectations; government targets; moral obligations to staff and service users; staff morale; absence, recruitment and retention; impact on productivity, efficiency and quality of service delivery. However, it was acknowledged that health and safety failures may ultimately impact on financial performance through any of these higher level factors.

Most participants felt that their organisations had an established commitment to health and safety and did not require any further motivation to continuously improve. However, others referred to a range of factors that they perceived to be potentially instrumental in driving further improvements, including: demonstration of potential benefits; highlighting the financial impact of accident and work-related ill health costs (most commonly cited by health and safety personnel); reductions in insurance premiums or pressure from insurers; reductions in liability claims; risk of legal exposure; unsatisfactory trends in incident rates, or experience of a serious incident.

Participants recognised the value of health and safety costs as a necessary and beneficial expense for their business. However, many recognised that a pragmatic approach towards investment in health and safety was often required due to budgetary constraints. Whilst many felt that input costs were relatively low, and often required expending time and effort as opposed to large financial sums, others commented on the high cost of compliance with certain aspects of legislation. This view was particularly prevalent amongst small company representatives.

The vast majority of participants recognised the cost-benefits of investing in health and safety. However, few had been able to demonstrate cost savings in relation to specific initiatives. In general, there was more of an appreciation of the 'softer benefits' (e.g. improved morale, reputation) of health and safety rather than hard financial gains.

6.2.2 Perceptions of the cost of workplace accidents

Only a small number of participants in both the small and medium/large organisations were able to place a value on the cost of accidents at the time of the interview. The limited number of participants that were able to quote accident cost figures derived their judgements from a range of sources, including: internal cost assessments; the cost of liability claims; estimations made at the time of interview, and consideration of HSE published figures.

Perceptions regarding the overall cost of accidents were dependent on the context in which participants considered the costs. The vast majority of participants from small companies did not feel that the overall cost of accidents was a major expense to their business due to relatively low incident rates. The majority of participants from larger organisations (with the exception of education) felt that accidents did constitute a large cost to their business.

Most participants focused on costs incurred in relation to lost time injuries or significant damage events. The most commonly cited cost elements were: costs relating to absence (i.e. sick pay, replacement labour, loss of production/efficiency/revenue); management and administration time, and liability claims and insurance premiums. Participants also focused on the personal cost to injured employees and the impact on their colleagues.

The vast majority of participants felt that their organisations were not overtly concerned about the overall cost of accidents. Most felt that there was a strong recognition of the cost implications (actual or potential) rather than the actual value of costs incurred. The focus on accident costs at the senior management level was thought to be on claims, insurance or general sickness absence (of which a proportion is injury related).

6.2.3 Perceptions of the cost of work-related ill health

Most participants from small companies were not aware of any work-related ill health cases within their organisations, although some were aware of cases that had occurred in the past. Musculoskeletal and stress-related conditions were cited as the most prevalent types of work-related ill health within the medium/large organisations. Many of these judgements were anecdotal as opposed to evidence based.

Many organisations were not aware of the extent of work-related ill health. The key reasons given for this included: willingness of staff to disclose stress-related issues, and difficulties differentiating the cause of illness/absence. None of the participants, other than those who were confident that work-related ill health was not occurring within their organisations, were aware of how much work-related illness was costing their business.

The majority of participants referred to the same underlying costs for work-related ill health as they did for accidents, such as sick pay, replacement costs and/or loss of production or efficiency. Additional costs referred to in the context of work-related ill health included: occupational health and treatments costs, rehabilitation, and early retirement implications. In general, work-related illness was considered to have longer term cost implications than injury.

In some cases, work-related ill health was considered to be more costly than accidents in overall terms. However, in others, although there was recognition of the high costs relating to individual cases, the overall cost was not considered to be a major expense. None of the small company representatives recognised work-related ill health as having a significant financial impact. In general, there was more uncertainty about the overall cost of work-related ill health than accidents, much of which was related to difficulties in distinguishing work-related from general sickness absence.

6.2.4 Measuring the cost of accidents and work-related ill health

The vast majority (75%) of the participating organisations had never attempted to measure the cost of accidents. The main barriers perceived in relation to accident and work-related ill health costing were time, resource, and system related. Methods, frequency and motivations for measurement varied somewhat between the organisations that had monitored accident-related costs (n=33, 2 small and 31 medium/large). Typical methods included: applying average costs to different types of accidents (i.e. level of severity); applying an average daily rate to assess the cost of lost time accidents; assessing the cost of lost time or RIDDOR reportable accidents on a real-time basis using a similar methodology to the one adopted in the current study; monitoring the value of settled claims, and applying published HSE figures to internal incident rates. None of the participants were aware of any attempts to cost work-related ill health within their organisations.

The majority of participants from medium/large organisations recognised the potential value of applying estimated figures to incidents rather than monitoring accident costs on a real time basis. Perceived benefits related to: budgeting; benchmarking, and business cases purposes.

Most participants from small companies did not feel that accident costing was a worthwhile exercise within their business. Those that did recognise the potential benefits tended to be lower level managers or health and safety personnel who felt that the data may be instrumental in motivating others within the business.

6.2.5 Awareness and use of costing tools/resources

Around 25% of the participants had heard of the HSE Ready Reckoner. However, only a small proportion of these respondents (13%) had actually made use of the tool. The majority of participants that were aware of HSG96, the *Cost of Accident at Work* publication (HSE, 1997), recalled seeing or using it during NEBOSH certificate or diploma training. In many cases, the resource was considered to be of intellectual interest but of limited practical value.

6.2.6 Awareness of and attitudes towards the use of economic factors in health and safety campaigns

Participants cited a range of sources from which they had seen information outlining the costs of accidents and work-related ill health. Respondents from small companies were generally less aware of such information.

The majority of participants felt that information highlighting the cost of accidents and work-related ill health would be most suitably presented as sector specific data. However, many felt that such data would also have to take account of the differences within industry sectors. Case study information was also considered to be more appropriate than broad cost data. Although there was recognition of the value of presenting such information to companies, the majority of participants did not think it would be particularly useful within their own organisations. In some cases, proactive advice was considered to be more appropriate than information about the cost of health and safety failures. In others, providing companies with information about the human impact of injury and ill health for dissemination to employees was considered a useful approach for driving health and safety improvements on the shop floor.

6.3 PHASE 3: REAL TIME RECORDING OF ACCIDENT/INCIDENTS COST DATA

Of the initial 67 organisations that agreed to participate in the final phase of the research, 40 eventually provided accident and/or work-related ill health cost data. Nine small companies that also agreed to participate had no incidents reported during their specified survey period. Individual costing periods ranged from 4 to 16 weeks. The majority of participants conducted individual cost assessments for every incident. Some organisations included all incidents occurring throughout the whole company, while others focused on specific areas of the business. Few organisations were able to provide work-related ill health data due to difficulties with existing systems.

It is important to note that within the scope of the current study it was only possible to identify the short-term/immediate cost implications that were present within each of the respective survey periods. Therefore, the figures may underestimate the total costs incurred by the organisations given the difficulty in predicting potential future costs (e.g. additional periods of absence, liability claims, or future treatment costs).

Three cases of work-related ill health and 795 accidents/incidents of varying severity and type were individually cost assessed using the methodology provided. Individual accident/incident costs ranged from £3 to £20,859, averaging £195 per incident. The total cost of the 3 work-related ill health cases was £3,071, ranging from £210 to £2,174 and averaging approximately £1,024 per case. The relative proportions of opportunity and financial cost elements varied according to incident severity.

6.3.1 Follow-up interviews

Follow-up interviews were conducted within the majority (92%) of organisations that participated in phase 3, between 1 and 2 months after the final receipt of data, or at the end of the data collection period for companies that had no incidents reported.

Most participants felt that the data collected provided a true reflection of the actual costs incurred by their organisations at the time of the study. Most felt that the figures were more or less what they were anticipating. In some cases, the costs were lower than anticipated. This was largely due to the minor nature of incidents that occurred during the costing periods and the

fact that only immediate costs were identified. However, others had no preconceived ideas about what to expect.

The majority of participants had either used the information collated in some way or had plans to utilise it in the future. In addition to sharing the information with others within the organisation and incorporating the figures into health and safety reports, some also intended to present the costs during in-house health and safety training sessions.

Participation in the costing process had not led the majority of participants to either start measuring the cost of accidents, or adjust their existing costing methodologies. However, a number of participants did report that they were considering doing so in the future. In a small number of cases participants had actually continued with the costing process, or had incorporated the findings or methods into their established cost assessment procedures.

6.4 CONCLUSIONS

The qualitative findings from phases 1 and 2 indicate that most organisations do not systematically measure the cost implications of accidents, and even fewer attempt to assess the cost of work-related ill health. A range of different accident cost assessment methods are applied. However, most do not take account of every cost implication relating to all incidents. Although the benefits of conducting internal accident and work-related ill health cost assessments were recognised by some of the participants (particularly health and safety personnel from medium/large organisations), it was not considered to be particularly valuable to comprehensively cost every incident. The main barriers to incident costing related to shortcomings in current data recording systems and time and resource limitations.

Only a minority of participants were able to quote figures relating to the value of incidents. Those that did based their judgements on a range of factors, including internal cost assessments, published figures and subjective estimations made at the time of interview. Although the majority of participants from medium and large organisations were not aware of the actual value of accidents, most felt that the overall cost (particularly when taking into account longer term costs such as claims and insurance) represented a sizable loss to their business. This was not generally the case in small companies due to relatively low incident rates. There was much less certainty about the overall cost of work-related ill health. This was largely to difficulties in identifying the overall extent of work-related illness, particularly in relation to stress-related conditions within larger organisations.

There was general appreciation of the types of cost implications that their organisations do incur, or could potentially incur, due to accidents and work-related ill health. However, the overall cost of health and safety failures per se was not perceived to be a primary organisational concern. Although some tangible cost elements were considered to be either current or potential issues (e.g. employers' liability claims and insurance premiums, sickness absence rates), other factors were perceived to be more influential in driving the health and safety agenda, including: moral obligations; customer or client expectations; maintenance of brand and image; potential legal exposure; external pressure from insurance companies; government targets; staff morale, retention and recruitment issues. In addition to potential organisational implications, there was also recognition of the personal effects on individual employees and their colleagues.

The real-time costing phase of the research project provided a range of case studies, highlighting the immediate cost implications of accidents/incidents in a variety of organisational settings. Follow-up interviews established that provision of tools to collate real time records of accident and work-related ill health costs was instrumental in changing the perceptions and working practices of at least some of the participating organisations.

7. IMPLICATIONS AND RECOMMENDATIONS

7.1 IMPLICATIONS FOR FUTURE PROVISION OF COST INFORMATION

The accounts provided by senior managers and directors in this study indicate that there is an established appreciation of the importance of health and safety at the most senior levels within many organisations. This view was expressed in a range of organisations of varying size and industry sector. The comments made by many of the health and safety representatives also appear to provide verification of this senior level commitment.

In many cases, health and safety personnel did not feel that applying monetary values to incident rates would add anything to their organisations' established commitment to reducing or preventing health and safety failures. However, in others there was an appreciation of the potential benefits of using cost data as a means of raising awareness, particularly amongst middle and operational management who were not always as focused on health and safety issues as their senior colleagues. Recognition of the benefits to small companies of knowing the potential cost implications of accidents and work-related ill health was limited. This would appear to imply that in some cases, focusing on economic factors may reduce the efficacy of health and safety information provided to organisations.

Any future information outlining the cost implications of accidents or work-related ill health was considered to be most suitably presented as sector specific case studies, rather than extrapolated national costs. However, it is recommended that such information should take account of differences within, as well as between, different industry sectors. This would enable individual organisations to better relate to any data presented.

It was generally acknowledged that it may be more beneficial to provide organisations with guidance on how to collate meaningful accident cost data, rather than providing them with predetermined values. However, any future guidance must be realistic, taking into account the common barriers that exist within many organisations. Time and resource limitations often mean that it is not feasible to conduct detailed cost assessments using methodologies presented in HSG96 or the HSE Ready Reckoner incident cost calculator. The detailed methodology applied in the current study was also considered by the majority of phase 3 participants to be too onerous to sustain on a regular basis. This is particularly relevant to larger organisations that are most likely to recognise the benefits of conducting internal cost assessments. Small companies also perceive limited benefits from expending time and effort calculating the cost of infrequent events.

7.2 ALTERNATIVE WAYS OF PROMOTING HEALTH AND SAFETY

A number of suggestions were made by the participants as to how the HSE, and others, may better achieve their aims in highlighting the importance of health and safety. All of the small companies that participated in the current research had experienced relatively low incident rates, and therefore find it hard to relate to information outlining the cost implications of accidents and work-related ill health. In some cases, it was considered to be appropriate to adopt more proactive approaches (e.g. tips on how to deal with industry specific issues more proactively) rather than highlighting potential negative implications of health and safety failures.

While policies and procedures were often in place to reduce the risk of injury and work-related ill health, organisations recognised the need for further behavioural interventions among

frontline staff. Highlighting the cost of health and safety failures was considered to be of limited use in health and safety campaigns and interventions. Participants were concerned that such information portrays a message that employers care more about the impact on their organisation than the welfare of their staff. It may also be helpful to provide organisations with accounts of the human impact of injury and work-related ill health which they can disseminate among frontline staff and local management teams. Such an approach could be more effective in raising awareness of health and safety issues in the workplace.

7.3 IMPLICATIONS FOR FUTURE RESEARCH

The accident and work-related ill health costs collated in phase 3 of the current study focused on the immediate cost implications for the organisations concerned. However, it is likely that some of the incidents may have resulted in longer term costs (e.g. employers' liability claims, additional periods of absence and treatment costs). It was not possible to track these potential costs, or predict what the additional costs might have been within the scope of the current study. Future research could usefully employ longer term follow-up studies in case study organisations to monitor the impact of incidents from start to finish.

The majority of large organisations were uncertain about the extent and cost of work-related ill health. Existing systems also made it difficult for organisations to provide cost information at the same level as they did for accidents in the real time costing phase of the research. Therefore, it would seem appropriate to recommend that more in-depth studies are carried out specifically to determine the extent and cost implications of work-related ill health conditions. However, such investigations would require considerable time to be spent within individual organisations given the existing barriers that were identified in the current study.

In addition to assessing the tangible effects that were addressed in this project, there may be scope for evaluating and presenting the 'softer' implications of health and safety failures (e.g. impact on morale, reputation, retention and recruitment), given that such factors were reported to be more important in driving the health and safety agenda in many organisations.

Exploration of the human impact of injury and ill health from the perspective of individual employees, their colleagues and families (e.g. psychological, social and financial effects), may be a useful angle from which to assess the impact of health and safety failures. Such information may be beneficial in assisting employers to achieve behavioural changes among staff at lower levels within organisations, as well as tapping into the moral obligations of senior managers and boards of directors.

8. REFERENCES

- Brody, B., Létourneau & Poirier, A. (1990). An indirect cost theory of work accident prevention. *Journal of Occupational Accidents*, 13, 225-270.
- Carter, R.L. (1992). *Handbook of Risk Management (Supplement 3)*, 6.4-01-6.4-12. Kluwer Publishing Ltd.
- Department of the Environment, Transport and the Regions (2000). *Revitalising Health and Safety: Strategy Statement*. HMSO, London.
- Dey, I. (1993). *Qualitative data analysis: a user-friendly guide for social scientists*. Routledge, London.
- Dorman, P. (2000). *The Economics of Safety, Health and Well-Being at Work: An Overview*. <http://www.ilo.org/public/english/protection/safework/papers/econanal/ecoview.htm>
- European Agency for Safety and Health at Work (1999). *Economic Impact of Occupational Safety and Health in the Member States of the European Union*. European Agency for Safety and Health at Work, Bilbao.
- Grimaldi, J.V. & Simonds, R.H. (1984). *Safety Management*. Homewood, Ill, Irwin.
- Health and Safety Executive (1997). *The Costs of Accidents at Work (HSG96)*. HSE Books, ISBN: 0 7176 1343 7.
- Health and Safety Executive (1999a). *The cost to Britain of workplace accidents and work related ill health in 1995/96*. HSE Books. ISBN 0 7176 1709 2.
- Health and Safety Executive (1999b). *Good Health is Good Business: Employers guide (Phase 4)*. HSE Books, Misc196.
- Lancaster, R., Jacobson Maher, C. & Alder, A. (2001). *Second Evaluation of the Manual Handling Operations Regulations (1992) and Guidance*. HSE Books, ISBN: 0 7176 2041 7.
- Laufer, A. (1987). Construction Accident Cost and Management Safety Motivation. *Journal of Occupational Accidents*, 8, 295-315.
- Niven, K. (1999). Accident costs in the NHS. *The Safety & Health Practitioner (September)*, 34-38.
- Monnery, N. (1999). The costs of accidents and work-related ill health to a cheque clearing department of a financial service organisation. *Safety Science* 31, 59-69.
- National Audit Office (2003). *A Safer Place to Work: Improving the management of health and safety risks to NHS trusts*. The Stationary Office, London.
- Office for National Statistics (2002). *UK Standard Industrial Classification of Economic Activities 2003*. The Stationary Office, London.
- Rikhardson, P.M. & Impgaard, M. (2004). Corporate cost of occupational accidents: an activity based analysis. *Accident Analysis Prevention*, 36, 173-182.
- Veltri, A. (1990). An Accident Cost Impact Model: The Direct Cost Component. *Journal of Safety Research*, 21, 67-73.

Wright, M S. (1998). *Factors motivating proactive health and safety management*. HSE Books, ISBN 0 7176 1588.

Wright, M., Lancaster, R., Jacobson-Maher, C., Talwalket, M. & Woolmington, T (2000). *Evaluation of the Good Health is Good Business campaign*. HSE Books.

Wright, M. and Marsden, S. (2002). *Changing business behaviour – would bearing the true cost of poor health and safety performance make a difference?* Contract Research Report 436/2002, HSE Books.

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APPENDIX 1

FOCUS GROUP/INTERVIEW SCHEDULE USED IN PHASE 1

Perceptions of the cost implications of health and safety failures

Introduction

Thank you very much for agreeing to take part in today's discussion. Your help is much appreciated. As you know, we are interested in finding out about companies' awareness of the costs associated with workplace accidents and work-related ill health. The findings from these discussions will inform the development of future health and safety information to help companies' reach accurate assessments of the cost of health and safety failures.

The type of discussion we will be having today is known as a focus group. I am the moderator and my role is to provide you with topics to discuss among yourselves. There are no right or wrong answers to the questions that I might ask you, so please speak freely and honestly as we are very much interested in your own opinions and experiences. The discussion should be fairly informal and although the conversation will be recorded the tapes will be destroyed at the end of the research project. All of the information will be confidential to the research team and will be collated together and reported upon anonymously.

Perhaps we could start with everyone introducing themselves. Please tell us your job title and a brief summary of your role at work.

Introduction to subject

Present HSE definitions on (PowerPoint) overhead:

What are the most common types of workplace accidents within your organisation?

What are the most common types of work-related illnesses within your organisation?

Perceptions of the cost of workplace accidents

What are the main costs arising from workplace accidents within your company?

Do you know how much workplace accidents cost your company?

Is your company concerned about these costs?

Does your company actually measure the costs of workplace accidents? – What prompted this?

Yes: What is measured? / How are the costs measured? / How often?
How well do you think the costs are measured?
How does your company use this information?
Has this data had any impact on your companies' attitude towards the prevention of workplace accidents / Impact on working practices / policies?

No: Why doesn't your company measure the costs of workplace accidents?

What makes it difficult to calculate the costs accurately?

What would help to make calculating these costs easier?

Perceptions of the cost of work-related illnesses

What are the main costs arising from work-related ill health within your company?

Do you know how much work-related illnesses cost your company?

Is your company concerned about these costs?

Does your company actually measure the costs of work-related illnesses? – What prompted this?

Yes: What is measured? / How are the costs measured? / How often?
How well do you think the costs are measured?
How does your company use this information?
Has this data had any impact on your companies' attitude towards the prevention of work-related illnesses / Has it had any impact on working practices / policies?

No: Why doesn't your company measure the costs of work-related illnesses?

What makes it difficult to calculate the costs accurately?

What would help to make calculating these costs easier?

Ready Reckoner

Do you know of any resources that are available to help companies calculate the costs of workplace accidents and work-related ill health?

(Have you ever heard of the HSE Ready Reckoner?)
Have you made use of these resources?
How helpful have you found these to be?
Have they changed your opinion about how much accidents and ill health may cost?
Have they had any impact on your companies' working practices?
How might these resources be improved?

Perceptions of the cost of implementing health and safety measures

Do you know how much your company spends on measures to prevent workplace accidents and work-related illness?

Does your company recognise any benefits from investing in preventive measures?

Knowledge and awareness of health and safety campaigns

Do you know of any other campaigns that have tried to promote awareness of health and safety at work by presenting figures relating to the cost of accidents and work-related ill health?

Which campaigns?, How was the information presented? (Leaflet, website, video etc)
How did you become aware of the information?
Who was responsible for the campaign/promotion?
What was the key message?
How useful did you find the information?

Was it easy to understand / apply in practice?
Have they changed your opinion about how much accidents and ill health may cost? /
Changed working practices?
Have the campaigns added anything to your understanding of health and safety issues?

Final comments

Has your companies' attitude towards preventing accidents and ill health changed at all in recent years?

What led to this change in attitude?
Has this been reflected in your companies' working practices?

Are there any other comments that you would like to make in relation to what we have discussed today?

APPENDIX 2
INTERVIEW SCHEDULE USED IN PHASE 2

Org ID			
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Interview Schedule

Introduction

Thank you again for agreeing to take part in this interview. As you know the research is being carried out on behalf of the Health and Safety Executive who are interested in finding out how companies view and assess the cost of workplace accidents and work-related ill health.

The interview will last for approximately 1 hr. Please speak freely and honestly as we are very much interested in your own opinions and experiences. Although with your permission, the interview will be recorded on tape, only the research team will have access to the tapes. Also, the tapes will be destroyed at the end of the project. The purpose of the tape is purely to assist me in remembering what has been said and to save time during the interview. If you wish, you may switch the tape recorder off at any point during the interview.

Finally, any information that is used in project reports, academic papers and feedback to the Health and Safety Executive will be presented anonymously and any personal or commercially sensitive material that could identify you or your company will be removed.

Sections

Section A – Respondent details

Section B – Perceptions of the cost and benefits of health and safety

Section C – Perceptions of the cost of workplace accidents

Section D – Perceptions of the cost of work-related ill health

Section E – Measuring the cost of accidents and work-related ill health

Section F – Awareness/use of standardised assessment methods

Section G – Awareness of Health and Safety Campaigns

Section H – Level of information collected relating to workplace accidents / work-related ill health

Section A - Respondent Details

1. What is your formal job title?
2. Could you very briefly summarise your role with regard to health and/or safety?
3. How long have you been responsible for/involved with health and safety within your co/org?
4. How long in total have you been working within the field of/involved with health and safety?
5. Do you have any professional health and or safety qualifications?
6. Are you a member of any professional health and safety body?

Section B - Perceptions of the costs and benefits of health and safety

Thinking specifically about health and safety within your company:

1. **On a scale of 1 – 5 where 1 is ‘not at all important’ and 5 is ‘very important’, how important do you think the management of health and safety is to the commercial success of your co/performance of your org?**

2. **Has your co/org focused on reducing any particular health and safety risks?**
(Targeted v general reduction) (Prompt with sector specific priority areas if necessary)

If Yes:

- Which areas have been targeted?
- What motivated your co/org to focus on that / those particular area(s)? (Compliance issues, cost etc)

If No:

- Why is that?

3. **Has your co/org done anything that extends beyond minimum compliance with health and safety regulations?**

If Yes:

- Can you give an example of what has been done?
- What motivated your co/org to do that? (Compliance issues / costs etc)
- Has your co/org conducted any type of analysis to demonstrate the benefits of their investment in health and safety?

4. **Do you think that your co/org would benefit from making further improvements to health and safety?**

If Yes:

- In what way do you think it would benefit?
- Do you think that it would benefit from improving any particular area or general improvement?
(Which areas, why is that?)

If No:

Why is that?

5. **How do you feel about the balance between the cost of implementing health and safety procedures on the one hand and the benefits of health and safety measures on the other?**

6. **What do you think might motivate your co/org to make further improvements to health and safety risks?**

Section C – Perceptions of the cost of workplace accidents

The HSE defines a workplace accident as: *“any unplanned event that results in injury of people, damage or loss to plant, material or the environment, or loss of a business opportunity.”*

1. What are the most common types of injury accidents that occur in your co/org?
2. What are the most common types of non-injury accidents (causing that cause damage/loss)?
3. What do you think are the main costs that your co/org has incurred as a result of workplace accidents?
4. Can you think of any other costs that your co/org has incurred as a result of accidents?
5. What do you think is the biggest cost incurred by your company as a result of accidents?
6. Can you think of a particular accident that has occurred within your co/org during the past 12 months?
 - a. Could you briefly summarise the incident?
 - b. What were the main costs that your co/org incurred as a result of that accident?
 - c. Can you think of any other costs incurred?
 - d. Did it cost you anything in these areas (go through checklist) If Yes: why do you think these are not the costs most readily called to mind?
 - e. What do you think was the biggest cost incurred as a result of that accident?
 - f. Do you think that you could put a figure on the total cost of that accident?
 - g. Do you think that accident was a significant cost to your co/org?
 - h. Why did you recall that particular accident (prompt if necessary – because it cost a lot, somebody was injured, impact on co. etc)
7. Do you think that the overall cost of accidents is a major expense to your business?

If Yes:

 - Is that due to any particular type of cost, or any particular type of accident?
8. How does your co/org view the cost of accidents in terms of the financial impact on the business?

Section D – Perceptions of the cost of work-related ill health

The HSE defines work-related ill health as: *“any illness, disability or other physical or mental problem that is caused or made worse by one’s work”*

9. What are the most common types of work-related illnesses that occur within your co/org?
10. What do you think are the main costs that your co/org has incurred as a result of work-related ill health?
11. Can you think of any other costs that your co/org has incurred as a result of work-related ill health?
12. What do you think is the biggest cost incurred by your company as a result of work-related ill health?

1. **Can you think of a particular case of work-related ill health that has occurred within your co/org during the past 12 months?**
 - a. Could you briefly summarise the incident?
 - b. What were the main costs that your co/org incurred as a result of that case?
 - c. Can you think of any other costs incurred?
 - d. Did it cost you anything in these areas (go through checklist) If Yes: why do you think these are not the costs most readily called to mind?
 - e. What do you think was the biggest cost incurred as a result of that case?
 - f. Do you think that you could put a figure on the total cost of that case?
 - g. Do you think that case was a significant cost to your co/org?
 - h. Why did you recall that particular accident (prompt if necessary – because it cost a lot, somebody was injured, impact on co. etc)

2. **Do you think that the overall cost of work-related illness is a significant expense to your business?**

If Yes:

 - Is that due to any particular type of cost, or any particular type of ill health?

3. **How does your co/org view the cost of work-related illness in terms of the financial impact on the business?**

4. **Where does the money come from to pay for the costs of accidents and work-related illness within your co/org?**

5. **Do you know which costs could be recovered through your co/orgs insurance policies?**

Section E – Measuring the cost of workplace accidents and work-related ill health

6. **Do you know how much either accidents or work-related illness have cost your co/org over the past 12 months/in general?**

If Yes:

 - Is that for accidents, ill health or both? – If both go through questions below separately to address accidents first and then work-related ill health
 - What are your figures based on?
 - What costs does that include?
 - How accurate do you think that figure is?

7. **Has your co/org ever tried to quantify any of the costs incurred due to accidents or work-related illness?**

If Yes:

 - Is that for accidents, ill health or both? – If both go through questions below separately to address accidents first and then work-related ill health

Method:

 - What type of costs are/were included in the analysis? (Prompt if necessary)
 - Does the analysis involve the use of any available resources or tools (e.g. HSEs Ready Reckoner?)

Results of assessment

- Can you recall the results of the most recent assessment? (N: Would you be able to find out?)
- How accurate do you think the results are?
- How has the information about the costs been used?
- Has this information had any impact on your company's awareness of the cost of accidents/ill health?
- Has your company made any improvements to its health and safety as a result of knowing the cost?

Frequency

- How often does your company assess the cost?
- When was the most recent cost assessment carried out?
- What motivated you/your company to analyse the cost?

Difficulties

- Have you/has your company encountered any difficulties in assessing the costs? (Y: why is that?)

If No:

- Why is that?
- Do you think that your co/org would benefit from measuring the cost?

- 1. Do you think that it would be feasible to quantify all of the costs associated with accidents and work-related illness within your co/org?**
- 2. What do you think would make it difficult to measure the costs accurately within your co/org?**
- 3. Do you think it is important for your co/org to know how much accidents and work-related illness may be costing?**

Section F - Awareness / use of standardised assessment methods

- 4. Do you know of any tools or resources that are available to help companies assess the costs of workplace accidents and work-related ill health?**

- Y / N

If Yes:

- What are the names of these?
- Did the information provided increase your awareness and understanding of the costs of workplace accidents and work-related ill health?
- Have you made use of...? (In what sense)
- Have any changes / improvements to health and safety been made within your company in response to the information? (Yes: Can you please give an example)

If No:

- Have you ever heard of the HSE's Ready Reckoner? (Y: ask questions above)

Section G - Awareness of health and safety campaigns

- 1. Can you remember any publicity campaigns or other sources of information that have mentioned the costs of accidents and ill health in an attempt to promote health and safety in the workplace?**

- Y / N

If Yes:

- What were the names of these?
- Did the information increase your awareness and understanding of the costs of workplace accidents and work-related ill health?
- Have any changes / improvements to health and safety been made within your company in response to the information? (Yes: Can you please give an example)

- 2. When demonstrating the potential cost implications of health and safety failures, do you think it would be more useful for the HSE to provide cost information in the form of worst-case scenarios, case studies of costs incurred by orgs, or average cases? (i.e. statistics)**
- 3. In general, do you think it is useful to provide companies with information about the cost of accidents and ill health to motivate them to improve health and safety?**

APPENDIX 3

ACCIDENT COSTS REPORTING:

GUIDANCE SHEET AND COST ASSESSMENT FORM

Accident Costs Reporting: Guidance Sheet

1. Inclusion criteria

The accident costs survey aims to gather information on the costs of all workplace accidents occurring over a designated 4 week period.

Workplace accident:

'Any unplanned event that results in injury of people, or damage or loss to plant, material or the environment or loss of a business opportunity.'

This wide definition of an accident encompasses all personal injury events, including violent incidents in the workplace. It also includes all damage or loss events, regardless of whether personal injury was involved. **Please note that we are interested in all damage only events regardless of the item or cost involved.**

2. Completing the accident costs reporting form

The accident costs reporting form provides a structure and prompt for you to seek out and record information on the costs arising out of an accident. Costs arising from an accident may be generated from many areas, some of which are more apparent than others. These costs may be lost opportunity costs (i.e. lost time) or financial costs.

Lost time includes the value (i.e. salary costs) of:

- The time that an injured person (IP) is away from their regular work as a result of an accident
- The time that people are unable to perform their regular tasks, or at least focus on proactive work, because they are redirected to deal with the consequences of an accident
- Time that people are temporarily unable to work during periods of downtime (because work activity is stopped as a result of an accident)

2. Financial costs are any additional costs incurred to the return situation to what it was before an accident occurred (i.e. to achieve desired output):

- The cost of overtime or extra wages paid to existing employees
- The cost of hiring external labour to replace absent employees or recover work/production
- The cost of repairing or replacing damaged equipment, materials or products

The accident costs reporting form consists of 9 sections. Section 1 must always be completed. The nature of the individual accident will determine which additional sections (2-9) should be completed. Individual reporting forms should be updated as and when throughout the survey period. An explanation of the type of information required for each section is provided below.

If more space is required to complete any of the sections please use and attach an accident costs continuation sheet to the main accident costs reporting form. Each continuation sheet should be labelled with the appropriate incident number. It should also be made clear on the continuation sheet which section(s) the additional cost information relates to.

Section 1: Details of accident

This section should always be completed

Section 2: Initial response to accident (Immediate action)

a. Time spent by people responding to the accident (i.e. lost opportunity time)

A row in the table should be completed for each person who spent time responding to the accident (not including investigation time). This should include any period time where people were unable to perform their usual tasks, or focus on proactive work because they were redirected to deal with the immediate consequences of an accident. This does not include periods of staff downtime during which work activity is stopped.

E.g. Time spent:

- Assisting injured person (IP), giving 1st aid, accompanying IP off site, liaising with emergency services etc
- Clearing / evacuating area, making area safe (provision of barriers, scaffolding), stopping machinery etc
- Arranging cleanup, conducting clean up (not including dedicated cleaning staff) etc
- Arranging replacement labour

Person	Internal / External	Position / grade (Internal staff only)	Activity (See above for examples)	Time (Hrs/mins)	**Value of time (£)
1					

** Place an 'O' next to the value in column 6 if the person was paid extra wages or overtime to perform activity

Specify whether the person is an internal (employed directly by co.) or external member of staff (contractor, agency staff etc)

Indicate the position / job title of the person

Give a brief description of the activity / explanation of why time was lost

Record the total time spent on activity

Record the value of the time spent on the activity. **indicate whether the person was paid extra wages to perform activity by placing an 'O' next to the value

b. Additional costs incurred during initial response to accident

This includes any additional (financial) costs incurred during the initial response to the accident.

E.g. Cost of:

- Materials / equipment used (1st aid materials, fire fighting equipment, scaffolding, sand/absorbent materials, cleaning materials etc)
- Transporting injured person to hospital / home etc (Taxi fare, emergency services charges)
- Bringing in outside parties to assist with incident (E.g. emergency services charges, cost of hiring cleaning contractors etc)

Section 3: Details of personal injury

This section should be completed on a separate sheet for each person that is injured as a result of the accident. This section aims to obtain detailed information on the nature of the injuries sustained and treatment received.

Section 4: Unplanned absence and replacement labour

Section 4 should also be completed on a separate sheet for each person that is absent as a result of the accident.

a. Time lost by injured person (IP) on day of injury

This is the value of the time that IP was unable to perform their regular tasks on the day on the accident.

E.g. **Time spent:**

- Receiving first aid
- Resting
- Working on alternative/lighter duties
- At hospital / home etc (if paid for time not at work)

b. Replacement on day of injury

Details of any workers that are either moved or hired in to replace the IP on the day of the accident.

For example:

- Salary costs of existing staff (internal or external) moved during their normal working hours at no extra cost (i.e. not paid extra wages to replace absent person)
- Extra wages/overtime paid to existing staff (internal or external)
- Cost of hiring external labour

c. Period of absence from regular work after day of injury

Total period of absence and payments made to employee (IP) during period of absence from regular work. This may be either while the person is absent from the workplace or while they are at work but performing alternative/lighter duties.

Total payments made to the person during absence from the workplace should be adjusted, if necessary, to take into account the Statutory Sick Pay scheme and any non-wage costs (e.g. national insurance contributions, pensions, administration costs)

The salary cost of an IP who is at work but performing alternative duties should only be recorded if they are not replaced, or their regular work is not completed.

d. Details of replacement labour (after day of accident)

A row in the table should be completed for each person used to replace absent person (not including the day of accident)

Person	Type of replacement (See above for examples)	Total time worked (Hrs/mins)	**Value of time worked (£)
1			

** Place an 'O' next to the value in column4 if an existing member of staff was paid extra wages / overtime

Specify type of replacement

For example:

- Existing staff moved - no extra cost*
- Existing staff paid overtime*
- External staff hired in

Total time worked by replacement

Value of time worked:

- Salary costs of existing staff (not paid extra wages)
- Extra wages paid to existing staff
- Cost of hiring external staff

Section 5: Damage to property/machinery/equipment etc

Details of breakdown, damage or loss to property/machinery/equipment

a. Provide a brief description of breakdown/damage/loss

b. Indicate whether the item was repaired

c. Details of repair (labour costs)

Indicate who carried out the repair (existing member of staff or external contractor hired in to conduct repair) and show any labour costs.

If carried out by existing staff, show both the time spent conducting repair and the value of that time (i.e. salary cost). **Insert 'O' next to the value if an existing member of staff was paid extra wages to conduct repair.

d. Cost of materials/equipment used to conduct repair to repair damage

Include both hire charges and purchase costs

e. Details of replacement (if not repaired)

Include both hire charges and purchase costs

f. Value of item lost (if neither repaired or replaced)

Show the cost at time of purchase. If this is not known, show the approximate current market value.

g. Time spent by people away from regular tasks organising repair, replacement, disposal etc

A row in the table should be completed for each person who was unable to perform their usual tasks, or focus on proactive work, because they were redirected to organise repair, replacement, disposal etc. See section 2a for an explanation of information required. **Do not include any time already recorded at 2a**

h. Other costs

Give an explanation of any other costs incurred as a result of breakdown/damage loss (e.g. disposal costs)

Section 6: Material / product damage

a. Provide a brief description of what was damaged/lost

b. Show the value of the damaged/lost material/product (if not replaced)

Only show this value if the product/material was **not** replaced

c. Details of replacement

Indicate whether the item was replaced

d. Time spent by people away from regular tasks organising replacement, disposal of material/products etc

A row in the table should be completed for each person who was unable to perform their usual tasks, or focus on proactive work, because they were redirected to organise replacement, disposal etc. See section 2a for an explanation of information required. **Do not include any time already recorded at 2a or 5g**

Section 7: Impact on work / production

a. Record any periods of downtime during which work activity was stopped

A row in the table should be completed for each person or group of people (if they hold similar positions in the organisation) who were unable to perform their usual tasks because their work activity was stopped (e.g. due to a broken machine, evacuation of work area, away from work being interviewed as a witness etc).

b. Details of delayed or lost work / production

Give a brief description of what happened and show any costs incurred (other than salary costs of people unable to work during periods of downtime).

E.g.

- Value of products not made / work not completed
- Value of missed or cancelled orders
- Contract penalties etc

c. Efforts made to recover work or ensure that the work was completed

Give a brief description of what was involved

d. Time spent by people away from their regular tasks assessing or rescheduling work / production

A row in the table should be completed for each person who was unable to perform their usual tasks, or focus on proactive work, because they were redirected to assess or reschedule work / production etc. See section 2a for an explanation of information required.

Do not include any time already recorded at 2a, 5g or 6d

E.g. **Time spent:**

- Planning/organising for work targets to be met
- Arranging for additional staff
- Informing customers etc

e. Indicate whether existing staff was moved/paid extra wages or additional labour was hired to recover the work or ensure that the work was completed

A row in the table should be completed for each additional person used to recover work / ensure that work was completed. **Do not include labour already recorded at 4d**

Person	Type of worker (See above for examples)	Total time worked (Hrs/mins)	**Value of time worked (£)
1			

** Place an 'O' next to the value in column 4 if an existing member of staff was paid extra wages / overtime

Specify type of additional worker

For example:

- Existing staff moved - no extra cost*
- Existing staff paid overtime*
- External staff hired in

Total time worked by additional worker

Value of time worked:

- Salary costs of existing staff (not paid extra wages)
- Extra wages paid to existing staff
- Cost of hiring external staff

Section 8: Time spent by managers/supervisors on activities relating to incident (investigation/reporting/other admin)

a. Record time spent by managers/supervisors on activities relating to accident

A row in the table should be completed for each person who was unable to perform their usual tasks, or focus on proactive work, because they were redirected to deal with the consequences of the accident. See section 2a for an explanation of information required.

Do not include any time already recorded at 2a, 5g, 6d or 7d

Time spent reporting and investigating incident:

- Time spent at scene
- Time spent visiting IP
- Time to complete paperwork (e.g. accident book, company report forms, HSE/Local Authority reports)
- Time to investigate incident (e.g. interviewing IP, witnesses, taking measurements etc)
- Time spent in meetings to discuss incident (e.g. H&S committee meetings, management meetings etc)
- Time spent liaising with HSE/Local authority inspector
- Consultants fee to assist with investigation

3. Admin time

- Time spent arranging replacement staff
- Time spent dealing with sick pay / insurance claims / legal cases etc

Section 9: Other costs

a. Explain and show any other costs incurred as a result of the accident

Include both time (salary costs) and additional financial costs incurred.

b. Explain and show any further costs that are likely to be incurred as a result of the accident

Explain and estimate any further costs that are likely to be incurred as a result of this accident after the end of the survey period

Accident costs reporting form

An accident is defined as:

‘Any unplanned event that results in injury of people, damage or loss to plant, material or the environment or loss of a business opportunity’

Please identify and complete the sections which are appropriate to this particular accident. The reporting form should be updated as and when required throughout the study period. If you require more space to complete sections please use and attach a continuation sheet.

Section	Details	Examples
1	Details of accident	This section must always be completed
2	Initial response to accident	Time / costs incurred helping injured person, making area safe, cleaning up etc
3	Personal injury	Details of any personal injury and treatment received
4	Unplanned absence and replacement labour	Details of absence, sick pay and replacement labour associated with accident
5	Damage to property, machinery, vehicles, equipment etc	Details of repair, replacement and disposal costs etc associated with accident
6	Material or product damage / loss etc	Details of item lost, replacement and disposal costs etc associated with accident
7	Impact on work / production	Time / costs incurred due to: delayed or lost work / production; rescheduling or recovering work / production
8	Time spent by managers / supervisors etc on activities relating to accident	Time spent reporting and investigating, dealing with process breakdowns, admin time etc
9	Other costs	Additional costs and lost time

If you have any queries or experience any difficulties in completing this form please contact:

Karen Haefeli Tel: 0115 846 7485 Email: Karen.haefeli@nottingham.ac.uk
 James Anderton Tel: 0115 846 7481 Email: james.anderton@nottingham.ac.uk

1: DETAILS OF ACCIDENT

- a. Incident Number: _____
- b. Date of incident: ____ / ____ / ____ (dd/mm/yy)
- c. Time: ____ : ____ (24 hr clock)
- d. Location (e.g. area, department, offsite etc): _____
- e. Job title(s) of person(s) involved: _____
- f. Brief description of incident:
- _____
- _____

2: INITIAL RESPONSE TO ACCIDENT

- a. Record any time spent by people responding to the accident (immediate action):

E.g. Time spent:

- Assisting injured person, giving 1st aid, accompanying injured person off site, liaising with emergency services etc
- Clearing / evacuating area, making area safe (provision of barriers, scaffolding), stopping machinery etc
- Arranging cleanup, conducting clean up etc
- Arranging replacement labour

Person	Internal / External	Position / grade	Activity (See above for examples)	Time (Hrs/mins)	**Value of time (£)
1					
2					
3					
4					
5					

** Place an 'O' next to the value in column 6 if the person was paid extra wages or overtime to perform activity

- b. Explain and show any additional costs incurred during initial response to accident:

E.g. Cost of:

- Materials / equipment used (1st aid materials, fire fighting equipment, scaffolding, sand/absorbent materials, cleaning materials etc)
 - Transporting injured person to hospital / home etc (Taxi fare, emergency services charges)
 - Bringing in outside parties to assist with incident (E.g. emergency services charges, cost of hiring cleaning contractors etc)
- _____

3: PERSONAL INJURY

(Complete section 3 on a separate form for each person injured)

a. Who was injured? (Please tick as appropriate)

Internal member of staff External staff Member of public Other (please specify):

b. Type of accident: _____
(e.g. slip/trip, fall from height, injured whilst moving/handling, hit by something, explosion etc)

c. Nature of injury: _____
(e.g. sprain, strain, laceration, burn, fracture, concussion, inhalation etc)

d. Part(s) of body affected: _____

e. Did the Injured Person (IP) receive onsite first aid treatment? Y / N

f. Was the IP taken off site after the incident? (e.g. to hospital, home, doctor, etc) **Y / N**

If **Yes**: Please specify where: _____ Cost (e.g. taxi fare/petrol): £_____

g. Was the IP absent from their regular work for any period of time on the day of injury? Y / N (E.g. receiving 1st aid, resting, performing alternative/ lighter tasks, hospital etc)

If **Yes**: Please complete section 4

4: UNPLANNED ABSENCE AND REPLACEMENT LABOUR

(Complete section 4 on a separate form for each person absent as a result of the accident)

a. Record the total time lost by IP on day of injury:

Time lost: _____ (Hrs/minutes) Value of lost time: £_____

b. Was IP replaced on day of injury? Y / N

If **Yes**: Indicate type of replacement: _____

(E.g. existing staff moved - no extra cost (not paid extra wages)/existing staff paid extra wages/external staff hired in)

Total time worked by replacement: _____(Hrs/mins)** Value of replacement: £_____

** Place 'O' next to 'value of replacement' if an existing member of staff was paid extra wages/OT

c. Was IP absent from their regular work for any period of time after the day of injury? Y / N (E.g. at home, performing alternative/ lighter tasks, hospital etc)

If **Yes**: What was the total period of absence (not including day of injury)? _____(days/shifts)

Total payments made to IP during absence: £_____ (Including non-wage costs and SSP)

d. Was the absent person replaced? Y / N If **Yes**: Please give details of all replacement labour below (E.g. existing staff moved at no extra cost (not paid extra wages)/existing staff paid extra wages/external staff hired in)

Person	Type of replacement (See above for examples)	Total time worked (Hrs/mins)	**Value of time worked (£)
1			
2			
3			
4			

** Place an 'O' next to the value in column4 if an existing member of staff was paid extra wages / overtime

5: DAMAGE TO PROPERTY/MACHINERY/EQUIPMENT ETC

a. Give a brief description of what was damaged/lost: _____

b. Was the item repaired? Y / N If **NO**: Go to 5e

c. Who carried out the repair? Internal staff / External contractor (Circle as appropriate)

If **Internal staff**, record: Time spent conducting repair: _____ (Hrs/mins) **Value of time: £_____ ** Place an 'O' next to 'value of time' if an internal member of staff was paid extra wages / overtime to conduct repair

If **external contractor**, record total labour costs: £ _____

d. Explain and show the cost of any materials/equipment hired or purchased to repair damage: _____

e. Was the item replaced? (Hired or purchased) Y / N

If Yes: Please explain and show costs: _____

f. If neither repaired or replaced, show value of item lost: £ _____

g. Record any time spent by people away from their regular tasks organising repair, replacement, disposal etc (**Do not include time already recorded at 2a**)

Person	Internal / External	Position / grade (Internal staff only)	Activity	Time (Hrs/mins)	**Value of time (£)
1					
2					
3					

** Place an 'O' next to the value in column 6 if the person was paid extra wages / overtime to perform activity

h. Explain any other costs incurred as a result of damage (e.g. disposal costs etc): _____

6: MATERIAL / PRODUCT DAMAGE OR LOSS ETC

a. Brief description of what was damaged / lost: _____

b. Show value of the lost material/product etc: £_____

c. Was the lost item replaced?

Y / N If Yes: explain and show replacement costs: _____

d. Record any time spent by people away from their regular tasks organising replacement or disposal of materials etc (Do not include time already recorded at 2a or 5g)

e. Record any time spent by people away from their regular tasks organising replacement or disposal of materials etc (Do not include time already recorded at 2a or 5g)

Person	Internal / External	Position / grade (Internal staff only)	Activity	Time (Hrs/mins)	**Value of time (£)
1					
2					
3					

** Place an 'O' next to the value in column 6 if the person was paid extra wages / overtime to perform activity

7: IMPACT ON WORK / PRODUCTION

a. Record any periods of downtime during which work activity was stopped due to accident:

Person	Internal / External staff	Position / grade (Internal staff only)	Reason for downtime	Downtime (Hrs/mins)	Value of time (£)
1					
2					
3					
4					
5					

b. Was work / production delayed or lost as a result of the accident? Y / N

If Yes: give a brief description of what happened and show any costs incurred (other than salary costs of downtime - e.g. value of: products not made, work not completed, missed or cancelled orders, contract penalties etc)

c. Were efforts made to recover the work or ensure that the work was completed?

Y / N If Yes: give a brief description of what was involved:

- d. Please indicate any time spent by people away from their regular work **assessing/rescheduling work or production etc** (e.g. planning/organising for work targets to be met, arranging for additional staff, informing customers etc) **(Do not include time already recorded at 2a, 5g or 6d)**

Person	Internal / External staff	Position / grade (Internal staff only)	Activity	Time (Hrs/mins)	Value of time (£)
1					
2					
3					

** Place an 'O' next to the value in column 6 if the person was paid extra wages / overtime to perform activity

- e. Was existing staff moved/paid extra wages or additional labour hired to recover the work or ensure that the work was completed? (E.g. existing staff moved at no extra cost (not paid extra wages), existing staff paid extra wages, external staff hired in etc) **Y / N**

If Yes: give details of each additional person used: **(Do not include labour already recorded at 4d)**

Person	Type of worker (See above for examples)	Total time worked (Hrs/mins)	**Value of time worked (£)
1			
2			

** Place an 'O' next to the value in column 4 if an existing member of staff was paid extra wages / overtime

- f. Explain and show any other costs incurred in rescheduling or recovering work/production: (E.g. cost of additional lighting, heating, running machinery etc to meet original targets)

8: TIME SPENT BY MANAGERS/SUPERVISORS ON ACTIVITIES RELATING TO INCIDENT

- a. Please record any time spent by managers / supervisors etc on activities relating to incident.

For example:

Time spent reporting and investigating incident:

- Time spent at scene
- Time spent visiting IP
- Time to complete paperwork (e.g. accident book, company report forms, HSE/Local Authority reports)
- Time to investigate incident (e.g. interviewing IP, witnesses, taking measurements etc)
- Time spent in meetings to discuss incident (e.g. H&S committee meetings, management meetings etc)
- Time spent liaising with HSE/Local authority inspector
- Consultants fee to assist with investigation

Admin time

- Time spent arranging replacement staff
- Time spent dealing with sick pay / insurance claims / legal cases etc

(Do not include time already recorded at 2a, 5g, 6d or 7d)

Person	Internal / External staff	Position / grade (Internal staff only)	Activity	Time (Hrs/mins)	Value of time (£)
1					
2					
3					
4					
5					

** Place an 'O' next to the value in column 6 if the person was paid extra wages / overtime to perform activity

9: OTHER COSTS

- a. Please explain and show any other costs incurred as a result of the accident. Include both time (salary costs) and any additional financial costs incurred:
(E.g. solicitor's fees and legal expenses, fines etc)
- b. Please explain and show any further costs that are likely to be incurred as a result of this accident:

APPENDIX 4

WORK-RELATED ILL HEALTH COSTS REPORTING: GUIDANCE SHEET AND COST ASSESSMENT FORM

Work-related illness Costs Reporting: Guidance Sheet

1. Inclusion criteria

The work-related illness costs survey aims to gather information on the costs of all new cases of work-related ill health occurring over a designated 4 week period. The survey also aims to obtain information on the continuing costs of work-related ill health cases pre-dating the start of the survey period.

Cost information relating to new cases of work-related ill health that start during the 4-week survey period should be recorded on a 'new case reporting form.' A new form should be completed for each new case of work-related ill health.

Continuing costs, relating to cases of work-related illness that start before the beginning of the survey period, should be recorded on a 'continuing costs reporting form'. This is designed to capture information on the cost of all work-related ill health that continues into the designated 4-week period (e.g. an employee is absent from work due to work-related ill health before the start of the survey but does not return to work until the second week of the survey period).

All cases of ill health meeting the HSE definition of a work-related illness should be included: *'Any illness, disability or other physical or mental problem that is caused or made worse by one's work.'*

This wide definition of a work-related illness encompasses both physical and mental ill health. Some cases of work-related ill health, such as back pain, may have been caused by an injury at work. However, if an injured person continues to experience pain and discomfort, this may then be included as an illness caused by injury at work.

2. Completing the work-related illness costs reporting forms

The work-related illness costs reporting form provides a structure and prompt for you to seek out and record information on the costs arising out of a case of work-related ill health.

The work-related illness costs reporting form consists of 5 sections. Section 1 must always be completed. The nature of the individual case of work-related illness will determine which additional sections (2-5) should be completed. Individual reporting forms should be updated as and when throughout the survey period.

If more space is required to complete any of the sections please use and attach a work-related illness costs continuation sheet to the main reporting form. Each continuation sheet should be labelled with the appropriate incident number. It should also be made clear on the continuation sheet which section(s) the additional cost information relates to.

For further and detailed information on using the work-related ill health forms please refer to the guidance provided for accident reporting as the format is the same.

Work-related illness costs: New case reporting form

Work-related illness is defined as:

‘Any illness, disability or other physical or mental problem that is caused or made worse by one’s work’

Please identify and complete the sections which are appropriate to this particular case of work-related ill health. The reporting form should be updated as and when required throughout the study period. If you require more space to complete sections please use and attach a continuation sheet.

Section	Details	Examples
1	Details of work-related ill health case	This section must always be completed
2	Unplanned absence and replacement labour	Details of absence, sick pay and replacement labour
3	Impact on work / production	Time / costs incurred due to: delayed or lost work / production; rescheduling or recovering work / production
4	Time spent by managers / supervisors etc on activities relating to work-related ill health case	Time spent reporting and investigating, dealing with process breakdowns, admin time etc
5	Other costs	Additional costs and lost time

If you have any queries or experience any difficulties in completing this form please contact:

Karen Haefeli Tel: 0115 846 7485 Email: Karen.haefeli@nottingham.ac.uk
James Anderton Tel: 0115 846 7481 Email: james.anderton@nottingham.ac.uk

1: DETAILS OF WORK-RELATED ILL HEALTH CASE

- a. Case Number: _____
- b. Date reported: ____ / ____ / ____ (day/month/year)
- c. Job title of persons affected: _____
- e. Type of illness (e.g. stress/RSI/back pain etc): _____
- f. Part(s) of body affected (if applicable): _____

2: UNPLANNED ABSENCE AND REPLACEMENT LABOUR

- a. Was the person absent from work for any period of time due to illness? Y / N
If **Yes**: Go to 2e
- b. Record total period of absence: _____ (days/shifts)
- c. Total payments made to person during absence: £ _____ (Including non-wage costs and SSP)
- d. Was the absent person replaced? Y / N If **Yes**: Please give details of all replacement labour below (E.g. existing staff moved at no extra cost (not paid extra wages)/existing staff paid extra wages/external staff hired in)

Person	Type of replacement (See above for examples)	Total time worked (Hrs/mins)	**Value of time worked (£)
1			
2			
3			
4			

** Place an 'O' next to the value in column4 if an existing member of staff was paid extra wages / overtime

- e. Did the person remain at work, or return to work, but **not** undertake their regular tasks for any period of time due to illness? Y / N
- f. Was the person replaced to ensure that their work was completed? Y / N
(If **No**: Go to 2g) If **Yes**: please give details of replacement labour below
(Do not include labour already recorded at 2d)

(E.g. existing staff moved at no extra cost (not paid extra wages)/existing staff paid extra wages/external staff hired in)

Person	Type of replacement (See above for examples)	Total time worked (Hrs/mins)	**Value of time worked (£)
1			
2			
3			
4			

** Place an 'O' next to the value in column4 if an existing member of staff was paid extra wages / overtime

- g. Record the time that the person remained at work but did **not** perform their regular tasks: Total time: _____ (Hrs/minutes) Value of time: £_____

3: IMPACT ON WORK / PRODUCTION

- a. Was work / production delayed or lost as a result of the work-related ill health case? Y / N

If Yes: give a brief description of what happened and show any costs incurred (e.g. value of: products not made, work not completed, missed or cancelled orders, contract penalties etc)

- b. Were efforts made to recover the work or ensure that the work was completed? Y / N If Yes: give a brief description of what was involved:

- c. Please indicate any time spent by people away from their regular work assessing/rescheduling work or production etc (e.g. planning/organising for work targets to be met, arranging for additional staff, informing customers etc)

Person	Internal / External	Position / grade	Activity (See above for examples)	Time (Hrs/mins)	**Value of time (£)
1					
2					
3					
4					
5					

** Place an 'O' next to the value in column 6 if the person was paid extra wages or overtime to perform activity

- d. Were existing staff moved/paid extra wages or additional labour hired to recover the work or ensure that the work was completed? (E.g. existing staff moved (not paid extra wages), internal staff paid overtime, external staff hired in etc)

If Yes: give details of each additional person used: **(Do not include labour already recorded at 2d or 2f)**

Person	Internal / External	Position / grade	Activity (See above for examples)	Time (Hrs/mins)	**Value of time (£)
1					
2					
3					
4					
5					

** Place an 'O' next to value in column 6 if the person was paid extra wages or overtime to perform activity

e. Explain and show any other costs incurred in rescheduling or recovering work/production:

(E.g. cost of additional lighting, heating, running machinery etc to meet original targets)

4: TIME SPENT BY MANAGERS/SUPERVISORS ON ACTIVITIES RELATING TO WORK-RELATED ILL HEALTH

a. Please record any time spent by managers / supervisors etc on activities relating to incident. For example:

Time spent reporting and investigating:

- Time spent visiting ill person
- Time to complete paperwork (e.g. company report forms, HSE/Local Authority reports)
- Time spent in meetings to discuss case
- Time spent liaising with HSE/Local authority inspector
- Consultants fee to assist with investigation

Admin time

- Time spent arranging replacement staff
- Time spent dealing with sick pay / insurance claims / legal cases etc

(Do not include time already recorded at 3c)

Person	Internal / External staff	Position / grade (Internal staff only)	Activity	Time (Hrs/mins)	Value of time (£)
1					
2					
3					

** Place an 'O' next to the value in column 6 if the person was paid extra wages / overtime to perform activity

5: OTHER COSTS

a. Please explain and show any other costs incurred as a result of the work-related ill health case. Include both time (salary costs) and any additional financial costs incurred (E.g. solicitor's fees and legal expenses, fines etc)

b. Please explain and show any further costs that are likely to be incurred as a result of this case of work-related ill health:



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