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**Expert views on the evidence base for effective
health and safety management (Phase 2)**

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EXECUTIVE SUMMARY

There is acknowledgement within the Health and Safety Executive (HSE) that there are competing views regarding effective health and safety management models. The current HSE approach to health and safety management, captured in the publication HSG 65 'Successful Health and Safety Management', is eighteen years old, and the extent that it fulfils all of the developing requirements of HSE's remit is subject to debate.

The HSE Board mandated Operational Policy and Support Division (OPSD) to "review and refresh the principles of good health and safety management."

The Board paper further went on to recommend:

"A comprehensive review of current good practice in the management of health and safety to define our standards and develop the evidence-base supporting our work in this area."

Objectives

The Health and Safety Laboratory (HSL) have been commissioned by the HSE to gather evidence from semi-structured interviews with experts that supports features associated with 'effective health and safety management'. In this instance 'effective health and safety management' is defined as practices that contribute to the effective control and sustained reduction in incidents that have the potential to result in acute and chronic deleterious effects to employees and other exposed persons. This is referenced to the following model of risk management:

- Knowing what the risks are, and what in general should be done about them
- Planning, prioritizing and implementing risk controls
- Ensuring that risk controls are effective and sustained
- Reviewing and learning

More specifically, the objectives of the exercise were:

- (i) To collate the opinions from a range of experts regarding the evidence supporting the features associated with 'effective health and safety management'.

With the specific aim of:

- (ii) Contributing to the building of an agreed, practical, evidence-based model of effective management of health and safety.

Main Findings

- The body of research relating to health and safety management was perceived as relatively mature by the participants, particularly in the areas of safety culture and safety climate.
- One observation was that a management system is a necessary but not a sufficient condition for effective health and safety management. According to the opinions of the interviewees, a key feature of a successful safety management system is visible and demonstrable management commitment to that system.
- The participants interviewed considered that it was important to involve workers in the process of health and safety management, as commitment is demonstrated by personal involvement from managers who actively challenge and involve employees in safety related issues and decisions. In the interviewees' experience, companies that have increased the discourse between management and the workforce regarding the management of health and safety (e.g. canvassed opinions from employees) have experienced improved commitment to health and safety goals, decisions and activities by the workforce.
- Participants agreed that health and safety management should be seen within the context of the entire organisation. Safety management is not a separate activity from the function of managing the business, but is an integral part of the basic management model. Effective health and safety performance is associated with competent managers who perceive health and safety as another business process that needs to be managed efficiently.
- A central consideration of the interviewees is that effective health and safety management requires competent managers and workforce. Competence can be defined as knowledge and sound understanding of how to effectively identify and solve problems, including planning, prioritising and implementing solutions.
- There was agreement amongst participants that not enough recognition has been given to the differences and subsequent health and safety needs of small firms compared to large ones. Resource availability was highlighted as the main difference, with many large firms able to employ and support a health and safety specialist. Additionally, issues surrounding corporate knowledge and understanding of hazards and risks were also identified as limitations to implementing effective health and safety practices within smaller firms.
- Some difference between the views of direct health and safety practitioners and the academic perspective was noted, which potentially relate to differences in judgements to what constitutes satisfactory evidence. Criticism from the academic arena was raised regarding knowledge claims emerging from some areas of the research base. The quality of the evidence pertaining to intervention studies in general was perceived as relatively weak. However, participants directly involved in health and safety management identified behavioural change programmes and training as effective interventions in their health and safety repertoire and was felt that post intervention measurement of accident and incident reporting demonstrated improvement.

- It was suggested that enhancing the understanding of health and safety guidelines for users was a potential future development. One of the limits to understanding, in the experts' opinions, is that health and safety guidance has become overly complicated with a reliance on legal jargon. Therefore simplifying health and safety literature by using the appropriate language for the intended audience could go some way to improving understanding within industry.
- The development of any future health and safety model or guidelines will need to be sufficiently broad in scope to address occupational health related issues, specifically rehabilitation and return to work. It was suggested that any potential legal framework would need to place a duty on employers to provide suitable rehabilitation and return to work arrangements. Raising the profile of the issue was regarded as beneficial, as well as developing a range of professionals with the knowledge and competency to assist employers with addressing the requirements of employees returning to work. A related research area that is likely to gain in importance is the process of developing and validating techniques for helping small firms manage return to work issues.

1 INTRODUCTION

1.1 BACKGROUND

The Health and Safety Commission's (HSC's) "Strategy for workplace health and safety in Great Britain to 2010 and beyond" notes that:

"We will find ways to demonstrate the moral, business and economic cases for health and safety. We are committed to achieving higher levels of recognition and respect for health and safety as an integral part of a modern, competitive business and public sector and as a contribution to social justice and inclusion."

With this in mind, the Health and Safety Executive's (HSE's) Board Paper B-05-045 proposed a programme of five, interlinked work streams to 'renew and refresh' HSE's approach to health and safety management. The paper said:

"The philosophy underlying our approach should be to improve duty holders' ability to 'manage' their activities with particular reference to health and safety rather than to address a special function of 'health and safety management'. We consider this is essential both for success by the duty holder (in making health and safety an integral part of line management activity) and in working with other regulators (to achieve a consistent approach to assessing duty holder performance)."

1.2 AIMS AND OBJECTIVES

As part of the first work stream of the proposed programme of five, HSL have been commissioned by the HSE to gather evidence that demonstrates features of the management of organisations that are associated with good health and safety outcomes, including activities, skills and general behaviours. The purpose is to provide insight into the relative weaknesses and strengths of the evidence base (e.g. knowledge claims from the literature) for determining the extent to which the identified factors contribute to 'effective health and safety management'¹. This is referenced to the following model of risk management:

- Knowing what the risks are, and what in general should be done about them
- Planning, prioritizing and implementing risk controls
- Ensuring that risk controls are effective and sustained
- Reviewing and learning

More specifically, the objectives of the exercise were:

- (i) To collate the opinions from a range of experts regarding the evidence supporting the features associated with 'effective health and safety management'.

¹ In this instance 'effective health and safety management' is defined as practices that contribute to the effective control and sustained reduction in incidents that have the potential to result in acute and chronic deleterious effects to employees and other exposed persons.

With the specific aim of:

- (ii) Contributing to the building of an agreed, practical, evidence-based model of effective management of health and safety.

The findings of this project will be used in conjunction with the results of the other work streams to enable delivery of the HSC/E Strategy and targets through improving duty holders' ability to 'manage' their activities with reference to health and safety.

2 METHOD

Information with which to establish an understanding and gauge the relative strength of current evidence regarding health and safety management was gathered by interview with a range of experts. Participants were recruited based on a contact list supplied by the HSE Project Officer, and from discussion with HSL colleagues. Potential participants were identified according to their expertise and experience within the academic or applied fields of health and safety management. This sample was not designed to be representative of the range of potential views regarding health and safety management, but was in effect an opportunity sample because of the tight timescale of the project. Each contact was sent an email outlining the objectives of the project. This was followed up by a further communication to organise a mutually convenient time to talk and discuss the main objectives of the interview.

The experts who were consulted to provide an appraisal of current research and opinion on health and safety management were:

- 4 experts from the Construction industry.
- 3 professionals from the health and safety industry.
- 3 Academics

A semi-structured question set was devised to obtain the information required (see Appendix One). The question set was devised in consultation with the HSE Project Officer and HSL colleagues to ensure that the questions were relevant to the aims of the project, yet sufficiently broad in scope to allow the participants to express the range of their opinions. This method was chosen as an efficient way to get a broad overview of the wealth of existing research evidence. This broad picture and the references supplied could be seen as a starting point for a more rigorous examination of the evidence base.

The questions canvassed the participant's opinions regarding the main theoretical developments in relation to risk management, the type of research that is being conducted and the applicability of this to practitioners. Some of the main theoretical developments that were discussed in relation to risk management and health and safety management, included:

- A proactive, strategic approach
- Visible corporate and senior management commitment to health and safety
- Effective communication systems
- Employee participation in risk management
- A 'just' culture – i.e. trust and openness over health and safety
- Risk awareness in decision-making
- Organisational capability, i.e. sufficient competency and adequate resources
- A learning organisation

In total, 10 participants were interviewed. All of these interviews were conducted by telephone and lasted between 40 minutes to an hour and a half. The interviews took place in August 2006. There was variation in the extent that participants were able to address the issues posed in the question set, which was due to differences in experience and differing areas of research interest, but was also indicative of the open discursive approach required to investigate an area of knowledge that is far from discrete or defined absolutely.

After data collection was completed, a thematic analysis of each interview transcript was produced. The results from each interviewee were then summarised in a thematic over view. The overarching themes from this analysis are given in Section 3.

3 FINDINGS

3.1 INTERVIEW ONE

The interviewee is the National Environment, Health and Safety manager for a construction company. His role includes managing members of staff distributed throughout the country.

Factors associated with success in health and safety management

- Training – Training of operatives and site managers is key to effective health and safety management.
 - A one day workshop has been implemented by the organisation, the first half of the day outlines health and safety issues related to the construction site and project whilst the second half deals with general health and safety issues such as driving and preventing accidents at home. All site personnel must complete this course before they are due on site or within 10 days of actually starting on site.
 - Once personnel have completed the course they receive a ‘passport’. This is valid for three years after which the course needs to be retaken. One of the benefits is that each person is properly trained and that site meetings need only reinforce the key health and safety messages and specific site information.
 - Feedback and measurement (safety audits) of this initiative show that site safety has improved and it is claimed that the reporting of near misses has increased by 1400%.
- Good working relationships – Consistency in dealing with contractors and suppliers is felt to ensure that effective and safe working relationships are developed and maintained.
 - Good working relationships can be managed through formal systems such as a joint code of practice and a partnering contract, and informally through effective communication and relationship management. Regular meetings are also felt to be an important source of information and knowledge sharing.
- Healthy competition – Experience has shown that a competitive environment can encourage operatives to try and out perform their rivals on health and safety audits. This raises the profile of health and safety and encourages senior managers to discuss improving audit scores with the workforce. The validity of the performance indicators chosen in this instance becomes a salient feature.
- Worker Involvement – A weakness of the current measurement system (such as safety audits) is that it can be too paper based and doesn’t readily take into account the opinions of the workers. To overcome this the organisation is planning to introduce more worker involvement schemes to get the workers input and reaction to some of the initiatives that have already been implemented.

- Business Case – The organisation has found it hard to convince their clients of the cost effectiveness of health and safety practices. Although the initial expense may seem high, it is felt that implementing effective health and safety will lead to reduced costs caused by fewer accidents and maintenance issues.

3.2 INTERVIEW TWO

The interviewee works for a large organisation within the construction industry. His comments are based on the experience and knowledge he has gathered through his Masters course in Health and Safety Management.

Factors associated with success in health and safety management

- The key factor for effective health and safety management as highlighted by the interviewee is ownership of the issue by the entire workforce.
 - The concept of ‘ownership’ encourages individuals to take responsibility and accountability for their actions. It also helps individuals plan and execute their work correctly, taking control of each process within the task. To encourage ownership, the organisation rewards health and safety performance with a range of incentives, including financial ones.
- Measurement – The effectiveness of the organisation’s health and safety performance is measured by site inspections and safety audits.
 - Site inspections are conducted by external personnel for an objective approach to safety measurement. Each site is scored based on a 150 item questionnaire that incorporates factors such as administration right through to control measures for processes. Constructive feedback is offered to each site to improve their health and safety management.
 - The organisation has measured the success of their health and safety schemes and recorded a 50% reduction in reportable accidents. There has also been a significant reduction in the cost of projects due to time and maintenance management. The organisation has measured safety performance against commercial success and found that sites that have done well commercially also demonstrate good health and safety performance.
- Culture – In the interviewee’s experience cultural differences need to be understood in order to manage health and safety effectively. Different cultures exist between large and small construction sites. The interviewee has observed that large sites tend to have a better communication culture, where information filters through the entire site and down to the workforce. He believes this is due to larger resource availability on site and the project management skills of the managers, who tend to have been educated to degree level.
- Relationship Management – Effective relationships between the organisation’s suppliers and contractors have been developed through open communication. This involves learning from one another, and sharing ideas and experiences. It is felt that this allows relationships to form that are productive, in terms of both commercial and safety performance.

3.3 INTERVIEW THREE

The interviewees are Head of Health and Safety, and Group Coordinator, for a large Construction company. They are responsible for planning, policy and the coordination of the Group's health and safety worldwide.

Factors associated with success in health and safety management

- The most important factor for effective health and safety, in the opinion of the interviewees, is understanding. Everyone should be able to comprehend what is required on site and be able to translate this into safe practice and behaviour. Understanding is also defined as appreciating what is deliverable against what is required and acknowledging what you have to do to protect the workforce, yourself and other individuals. Understanding can be fostered through competence, knowledge and training.
 - One of the limits to understanding, in the interviewees opinions, is that health and safety guidance has become overly complicated due to over use of paper based processes and legal jargon. Therefore simplifying health and safety literature by using the appropriate language for the intended audience could go some way to improving understanding within the industry. The participant referred to HSG150 as a 'superb' document that conveyed the issues from the layman's point of view without compromising the quality of the information.
 - To effectively communicate the necessary information set out in health and safety guidance the organisation reduce the information to practical principles that they then use as part of their training courses. They ensure that they do not change the emphasis of the main document and reference it where applicable. Directors and those working on site are required to complete a health and safety training course. It is felt that as a result of this course the accident and incident rate has reduced significantly over the past three years.
- Another important factor highlighted by the interviewees is effective communication. Effective communication between the workforce, managers, supply chain members and regulators (when appropriate) creates a safe working environment due to a shared understanding of the expectations for health and safety amongst the parties involved. Effective communication practice enhances all parties' understanding of the responsibilities they have to keep themselves and others safe. Effective communication can be achieved through consultation, guidance and verbal reinforcement of safe behaviours. The interviewees often visit sites to discuss health and safety issues with the workforce, they have developed this as a guidance and advisory approach, as opposed to one that focuses on enforcement. They have found improved cooperation and understanding of health and safety issues amongst the workforce as a result of these visits.

- The organisation has implemented a series of behavioural intervention programmes based on industry experience. One current scheme, ‘Don’t walk by’, aims to promote a culture of stop and question within the workforce without the fear of peer or management animosity or blame. Worker involvement programmes have also been set up to gather the opinions of the workforce to improve training and literature devised by the organisation. They have also employed a Behavioural Psychologist and enlisted the help of Occupational Health Practitioners to help raise the competence and confidence of the workforce to identify and act appropriately towards hazards in the environment.

Other Factors

- The interviewees commended HSE’s approach to working with industry to produce guidance. They believe that this integrated approach will enable HSE to produce relevant, understandable guidance for the target audience. Ideally the participants would like to see just a single document developed for the construction industry.

3.4 INTERVIEW FOUR

The management of a small engineering business with around 25 staff and a turnover of approximately £2m were suggested by the Institute of Directors as a potentially useful contact. The company is a contractor, installing and maintaining high-voltage transformers. Employees are skilled, and there is low staff turnover.

Factors associated with success in health and safety management

- The management of the company believe in safety being integrated into the core of the business. There is visible management commitment to health and safety which is demonstrated through actively challenging employees about safety, expecting high standards and also encouraging and listening to the opinions of the workforce.
- Management commitment filters through to employees and has fostered a supportive culture where workers are able to challenge one another if they perceive that colleagues are working unsafely. The attitude of the workforce to safety is positive, they refuse to do unsafe work on site and see their industry as high-risk and are not willing to take any unnecessary risks.
- Effective health and safety practice is encouraged through training and refresher courses as well as on site toolbox talks before each job. Workers are also required to sign the method statements.
- The organisation manages health and safety through an integrated approach to safe working practices. They produce a detailed method statement outlining how safety is built into the process plan and cost at the start of each job.
- The organisation believe that their health and safety practice is driven by the expectations of their clients. Additionally, they believe that their ability to generate professional-standard health and safety documentation actually gives them a competitive edge.
- The company measure the effectiveness of their health and safety systems through regular audits by the various contractor licensing schemes they are involved in. The organisations accident record is very low. One employee with over twenty years of experience recalled only one lost-time accident; the Director claimed that there had only ever been two occasions when they had been sued for compensation. They also have regular positive client feedback (including the nuclear industry and rail).

3.5 INTERVIEW FIVE

The interviewee is the research and technical services manager for a professional occupational health and safety institution. She worked in academia for a number of years focusing on intervention programmes for health and safety.

Factors associated with success in health and safety management

- In the interviewees opinion the three most influential factors for effective health and safety are competence, involvement of the entire organisation and strong leadership.
 - Competence is defined by the interviewee, as knowledge and sound understanding of how to effectively identify and solve problems. Competence can be developed through a source of expert advice, in large companies this may take the form of a health and safety manager, in smaller firms a credible source from an external contact.
 - Organisational involvement includes workers, supervisors, middle and senior management. The process of engagement and involvement is especially key for decision-making. In the interviewee's experience companies that have canvassed opinions from the employees regarding the management of health and safety have experienced improved commitment to health and safety goals, decisions and activities by the workforce.
 - Strong leadership is defined by the interviewee as the visible commitment of managers to health and safety. Visible commitment is demonstrated through the overt behaviours of managers such as reinforcing appropriate health and safety practices. More effective managers see health and safety as an organisational issue and recognise that it is as important as other issues within their risk portfolio.

Other Factors

- One of the main weaknesses in the literature for health and safety management, according to the interviewee was the quality of the evidence pertaining to intervention studies. The interviewee's main criticism was the lack of detail contained in the reports for the reader to determine if any confounding variables were present when the intervention took place. She would like to see further evidence that demonstrates that appropriate evaluation methods were used and more robust research methods were employed throughout the study.
- The interviewee suggested that there were other factors to be considered in addition to the four stages set out in the model of risk management:
 - Knowing what the risks are, and what in general should be done about them
 - Planning, prioritizing and implementing risk controls
 - Ensuring that risk controls are effective and sustained
 - Reviewing and learning

In the interviewee's opinion three more factors should be considered: the size of the organization, the sector it is in, and the organization's evolution. Approaches to health and safety management should acknowledge these factors.

Size – Smaller companies will be more concerned with survival and although effective health and safety practices can have an influence on this, the company's efforts will initially need to be channeled towards ensuring their financial success and survival.

Sector – The interviewee believes that the sector in which the organisation operates can influence their health and safety behaviour. High hazard industries tend to be much more advanced in their approach to health and safety than other industries, due to the nature of the hazards, and the high resulting cost (both reputational and financial) should an accident occur.

Evolution – The evolution or sophistication of a company can be described in terms of its experience and corporate memory of events including health and safety practice. The more evolved companies tend to succeed due to formalized procedures for retaining knowledge and learning lessons, and so are better equipped to manage safety.

3.6 INTERVIEW SIX

The interviewee is a director of a health and safety consultancy and has been working in the field of health and safety for 20 years. His research has focused on issues in Human Factors including task analysis and human reliability; additionally his work has also included safety culture and competence.

Factors associated with success in health and safety management

- In the experience of the interviewee senior management commitment and competence are essential aspects of an effective health and safety management system. Senior management commitment is characterised by personal involvement by managers in the safety management of the company. This involvement includes devising and checking that policies have been carried out and setting health and safety targets. Reducing delegation to safety managers and advisors and taking increased responsibility is, in the opinion of the expert, one of the most substantive ways in which managers can contribute to health and safety. Competence is defined as being aware of risks and hazards and acting appropriately to manage them.
- In the experience of the interviewee there is a difference in the ability to effectively manage health and safety depending on the size of the organisation. Smaller companies do not have the necessary resources to have in house expertise and therefore source information through alternative means. Indeed, the expert has found that many small firms fail to fully comprehend safety management systems. It is therefore necessary for information providers including the HSE to consider giving more assistance and simpler advice to small companies.
- One of the main weaknesses identified by the interviewee surrounds the measurement of occupational health. He suggests that by enabling occupational health issues such as Repetitive Strain Injury (RSI), manual handling and stress to be measured it can enable management to begin thinking about improvement.
- A gap in the safety management system, in the interviewee's opinion, is occupational rehabilitation and return to work. At present there is no legislation on the issue and until recently it has not been highlighted as part of the ongoing management system as many duty holders believe it to be a Human Resource issue. To overcome this some have suggested developing a legal framework that would place a duty on employers to provide suitable rehabilitation and return to work arrangements. Raising the profile of the issue was regarded as beneficial, as well as developing a range of professionals with the knowledge and competency to assist employers with addressing the requirements of employees returning to work.
- As regards research, the expert is aware of a large amount of evidence including guidelines and techniques in the areas of safety culture, behavioural safety and human factors, and believes these areas are very well understood. New and emerging areas of research include occupational health, rehabilitation and the care of the victims of occupational accident. An emerging area that is indicated within the literature is the process of developing and validating techniques for helping small firms manage return to work.

3.7 INTERVIEW SEVEN

A member of a large professional body the interviewee has been working in the area of health and safety for many decades.

Factors associated with success in health and safety management

- In the experience of the interviewee the most important factors for health and safety management are senior board level commitment, workforce involvement and expert advice.
 - Senior board level commitment is demonstrated by management taking responsibility for a safety regime including ‘back to the floor’ activities such as workplace tours, inspections, safety conversations and chairing safety committees.
 - A competent organisation will involve their employees in the planning, prioritising and implementation of health and safety practices. Worker involvement can then go some way to ensuring risk controls are effective and sustained throughout the organisation as these controls then incorporate direct knowledge and experience of the people conducting the tasks.
 - It is important for organisations to have access to expert advice. This is especially the case for smaller organisations that haven’t the resources for internal health and safety personnel. The interviewee has found that small firms operate more informally than large ones, and therefore simpler advice that acknowledges these more informal operational procedures would be more useful to help them managing health and safety.
- The interviewee had further observations regards the following model of risk management:
 - Knowing what the risks are, and what in general should be done about them
 - Planning, prioritizing and implementing risk controls
 - Ensuring that risk controls are effective and sustained
 - Reviewing and learning

In the professional’s opinion this model describes risk control rather than the much broader approach to risk management, which includes such factors as the wider organisation, political and cultural context. Risk management should be seen to include the people, policies and procedures that the organisation needs to work through to address their health and safety problems. The approach to risk management involves changing the organisations focus from addressing specific hazards, to acknowledging the strategies that need to be implemented in order to create a system of accountability, relationships, expertise, resources and expectations that are necessary to manage safety effectively.

- The key audiences for safety management systems, in the opinion of the interviewee, are the senior and middle managers in organisations. He would like to see these audiences considering process indicators of safety such as increased training, improved investigation procedures, target setting for key controls, rather than outcome measures such as lost time injury data.

- The professional body that the interviewee works for have a rewards system for health and safety based on ten key performance questions. These performance questions include board level leadership, access to competent advice, assessing risks, measuring performance, active monitoring of health and evidence of implementing lessons learned. HSG65 is used to measure the extent to which organisations have the capability to effectively manage the hazards and associated risks in their industry.
- A great deal of information can be gathered from the historical explanations of health and safety management, specifically from the 1970's and people like Dick Wharbuton, as well as even earlier from 1956, with the report of the Joint Industrial Advisory Council on accident prevention.

3.8 INTERVIEW EIGHT

The interviewee is an academic who has been researching safety for about ten years. Specifically he is interested in psychological aspects of safety perceptions, and how perceptions of safety environments influence people's behaviour.

Factors associated with success in health and safety management

- The interviewee suggests that it is important to integrate safety management into broader management systems rather than manage it as a separate strategy. He recognises that this could be difficult to do because a detailed understanding of how the organisation functions is needed before such integration occurs. The interviewee's research has shown the impact of safe procedures on outcomes (e.g. accident rates, financial savings), to be highly effective at persuading managers to adopt health and safety practices.
- At an individual level, the type of leadership style can determine the extent to which the workforce behaves safely. Transformational leadership, characterised by effective communication such as relaying the 'bigger' picture, behaving in a way consistent to their ideals and challenging people to re-think what is important, has been found to be one of the most effective leadership styles for fostering a positive climate of trust and developing effective health and safety practices.
 - Additionally work by Dov Zohar has demonstrated the importance of management training in enhancing safety outcomes.
- One of the main areas for discussion and research is the idea of proactive involvement by managers with the workforce. This goes beyond rule directed behaviour, such as regulation and procedures for the individual, to giving the workforce the necessary skills to scan and anticipate potential risks within their environment. Evidence suggests that individual job design, autonomy, support systems and a trusting environment can enhance proactive behaviour.
- The interviewee also had comments regarding the following model of risk management:
 - Knowing what the risks are, and what in general should be done about them
 - Planning, prioritizing and implementing risk controls
 - Ensuring that risk controls are effective and sustained
 - Reviewing and learning

In the academic's opinion, organisations that are able to anticipate and be proactive about safety issues are consistently reviewing and learning from past experiences. A learning organisation therefore places reviewing and learning (stage four) at the heart of its safety process.

Other Factors

- The interviewee's research has focused on organisational safety climate, which he believes to be a relatively mature area based on its popularity in academic journals. He describes safety climate as the perception the workforce have of the degree to which safety is valued within the organisation. Value judgements are made based on the workforce's perceptions of management commitment to safety. This commitment to safety includes safety training as well as safety policies. His research aims to develop measures for safety climate.

3.9 INTERVIEW NINE

The interviewee is an academic who has been researching health and safety for over thirty years. He has worked in a range of areas from human factors and ergonomics to strategic aspects, including working with various government agencies.

Factors associated with success in health and safety management

- In the interviewee's opinion, it is important to see risk management going beyond a process and to set it within a context. The context will include factors such as organisational culture and the way activities are controlled within this culture.
 - Risk management should be seen within the context of the entire organisation, as managing health and safety risk becomes a subset of managing many other risks associated with running a business.
 - The model of health and safety management proposed by the interviewee would provide senior managers with a strategic and integrated approach to risk management. This would be done by helping them understand the scope of risk management, implications for strategic risks and the organisational and resource requirements for addressing these appropriately.

The model outlines four key dimensions:

1. Hazards or threats i.e. the objects of risk management (fire, occupational health and safety, security)
 2. Risk contexts (resources, culture, strategy)
 3. Risk management objectives (eliminating, reducing and controlling pure risks)
 4. Risk management methods (the management system model and the risk management process)
- As regards the theoretical developments in risk management, the participant believes that this particular area remains highly controversial, as a clear understanding of risk (and therefore a valid approach to it) has yet to be fully developed. Therefore one of the major challenges to organisations seeking to manage risk is to select the appropriate combination of approaches needed to understand risks at different levels. These approaches need to take account of the interaction between individual differences and the wider socio-political environment.
 - The interviewee highlights that there is a large theoretical base for organisational culture, although the debate surrounding it is at an early developmental stage. A current barrier to improving the understanding of safety culture is a model that sufficiently enables adequate understanding by defining research areas.
 - Good management or good business practice are precursors to effective health and safety management. Good management can be defined as effective communication, employee involvement, genuine consultation and awareness. A good safety culture can be seen in organisations that are effective in others areas such as employee participation and communication.

- The attributes of an effective manager in the opinion of the interviewee are maturity, capacity for work, sufficient intellectual and physical stamina to deal with varying work demands. The interviewee believes that management skills are not merely innate, but can to some extent be developed successfully through training.

3.10 INTERVIEW TEN

The interviewee is a professor who has had a vast amount of experience in the field of health and safety. He has been involved with training HSE inspectors, and researching health and safety management including the effectiveness of management systems.

Factors associated with success in health and safety management

- In the opinion of the interviewee a management system is a necessary but not sufficient condition for effective health and safety management. He suggests that although management systems are useful tools, they distance management from the work context, and reduce the emphasis on practical day-to-day decisions management make about safety.
 - In the opinion of the interviewee, to improve a safety management system it is important to have a safety culture that ensures the prioritising of health and safety concerns within the every day activities and decisions of an organisation.
 - A good safety culture can be promoted through visible senior management commitment, line management responsibility, communications and effective workforce consultation. A recognised trait of effective managers is the tendency for them to develop effective safety practices. These practices include recognising that good ideas come from the shop floor and that consultation, feedback and understanding of employees and their concerns can help foster an effective safety culture.
 - The interviewee is wary of generic procedures for duty holders and the compliance regimes to achieve that purpose. He outlines that good safety management is the result of many informal communication processes such as ad hoc conversations outside of the work context, e.g. talking in corridors. He would like to see HSE develop the safety management process outlined in HSG65 and not reject it altogether.
- The interviewee suggests that there is a difference in the way health and safety is prioritised according to the size of the organisation. In his experience small firms tend to prioritise financial survival over health and safety. Additionally, many do not understand the legislative requirements expected of them and have no previous experience of accidents and their prevention. To overcome this he posits simple and explicit risk communication messages and refers to the power press regulations of 1955 as a good example.
- Evidence has suggested that when accidents are due to human error and violations of safety rules, attitudinal and behavioural change methods are useful and effective for managing health and safety. One method that the interviewee favours is the use of simple checklists and mnemonics to recall safe working practices. He specifically refers to the mnemonic of 'SAM' or 'Stop A Moment' used on HASTAM's website that outlines questions to consider and procedures to implement based on the answers received. The interviewee does suggest that behavioural change initiatives need to be part of a larger scheme for managing health and safety, and that organisations need to have a relatively sophisticated safety culture before embarking upon a behavioural safety programme.

4 SUMMARY OF FINDINGS

- The body of research relating to health and safety management was perceived as relatively mature by the participants, particularly in the areas of safety culture and safety climate.
- One observation was that a management system is a necessary but not a sufficient condition for effective health and safety management. According to the opinions of the interviewees, a key feature of a successful safety management system is visible and demonstrable management commitment to that system.
- The participants interviewed considered that it was important to involve workers in the process of health and safety management, as commitment is demonstrated by personal involvement from managers who actively challenge and involve employees in safety related issues and decisions. In the interviewees' experience, companies that have increased the discourse between management and the workforce regarding the management of health and safety (e.g. canvassed opinions from employees) have experienced improved commitment to health and safety goals, decisions and activities by the workforce.
- Participants agreed that health and safety management should be seen within the context of the entire organisation. Safety management is not a separate activity from the function of managing the business, but is an integral part of the basic management model. Effective health and safety performance is associated with competent managers who perceive health and safety as another business process that needs to be managed efficiently.
- A central consideration of the interviewees is that effective health and safety management requires competent managers and workforce. Competence can be defined as knowledge and sound understanding of how to effectively identify and solve problems, including planning, prioritising and implementing solutions.
- There was agreement amongst participants that not enough recognition has been given to the differences and subsequent health and safety needs of small firms compared to large ones. Resource availability was highlighted as the main difference, with many large firms able to employ and support a health and safety specialist. Additionally, issues surrounding corporate knowledge and understanding of hazards and risks were also identified as limitations to implementing effective health and safety practices within smaller firms.
- Some difference between the views of direct health and safety practitioners and the academic perspective was noted, which potentially relate to differences in judgements to what constitutes satisfactory evidence. Criticism from the academic arena was raised regarding knowledge claims emerging from some areas of the research base. The quality of the evidence pertaining to intervention studies in general was perceived as relatively weak. However, participants directly involved in health and safety management identified behavioural change programmes and training as effective interventions in their health and safety repertoire and was felt that post intervention measurement of accident and incident reporting demonstrated improvement.

- It was suggested that enhancing the understanding of health and safety guidelines for users was a potential future development. One of the limits to understanding, in the experts' opinions, is that health and safety guidance has become overly complicated with a reliance on legal jargon. Therefore simplifying health and safety literature by using the appropriate language for the intended audience could go some way to improving understanding within industry.
- The development of any future health and safety model or guidelines will need to be sufficiently broad in scope to address occupational health related issues, specifically rehabilitation and return to work. It was suggested that any potential legal framework would need to place a duty on employers to provide suitable rehabilitation and return to work arrangements. Raising the profile of the issue was regarded as beneficial, as well as developing a range of professionals with the knowledge and competency to assist employers with addressing the requirements of employees returning to work. A related research area that is likely to gain in importance is the process of developing and validating techniques for helping small firms manage return to work issues.

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5.10 INTERVIEW TEN

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6 APPENDICES

6.1 APPENDIX ONE – QUESTION SET

Introduction

Overview of project:

In this instance 'effective health and safety management' is defined as practices that contribute to the effective control and sustained reduction in incidents that have the potential to result in acute and chronic deleterious effects to employees and other exposed persons.

Questions

1. If we suggest that the process of health and safety risk management is broken down into 4 parts including:
 - Knowing what the risks are, and what in general should be done about them
 - Planning, prioritizing and implementing risk controls
 - Ensuring that risk controls are effective and sustained
 - Reviewing and learning
2. In your experience what are the most important factors for effective health and safety management?

(For interviewer only)

A proactive, strategic approach

Visible corporate and senior management commitment to health and safety

Effective communication systems

Employee participation in risk management

A 'just' culture – i.e. trust and openness over health and safety

Risk awareness in decision-making

Organisational capability, i.e. sufficient competency and adequate resources

A learning organisation

3. What is this evidence/your opinion based on e.g direct or indirect experience (implementing solutions, literature/research)?

Prompt: What did you do e.g. intervention? How was this done in practice?

4. How confident are you that this evidence indicates effective health and safety? (Have evaluations been done?)
5. What do you think are the concerns for this area e.g. weaknesses, elements to be developed?
6. How can they be overcome?
7. How does health and safety risk management need to develop in order to become more effective?

8. What other areas do you think influence how the 4 factors of the health and safety risk management process are conducted effectively?
9. Could you give any indication of the relative importance of these areas in comparison with each other, as regards the extent they influence effective health and safety management?
10. Could you provide any references that you consider important?