Building an evidence base for the Health and Safety Commission Strategy to 2010 and beyond:

A literature review of interventions to improve health and safety compliance

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Building an evidence base for the Health and Safety Commission Strategy to 2010 and beyond:

A literature review of interventions to improve health and safety compliance

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This review of research has been completed as an input to the Health and Safety Commission (HSC)'s Strategy for 2004-10 and beyond. There is strong evidence to support the continuation of established Health and Safety Executive (HSE) and Local Authority (LA) activities because such activities have been in effect for long enough to be evaluated. There is a weaker evidence base on which to evaluate new proposals and recent Occupational Health strategy. In many cases they have been limited to initial evaluations. It is also clear that the potential role played by certain "levers", such as Employers' Liability Compulsory Insurance (ELCI) and reputational risk, are currently evolving and developing. Evidence to date though, indicates that they have more to offer.

There remain a significant proportion of organisations, especially Small and Medium sized Enterprises (SMEs), which do not "go to" the HSE for advice and are not aware of HSE's promotional activity. It is clear that the HSE need to reach out to these organisations and develop new ways of doing this. Working with intermediaries can amplify the impact of the HSE. However, the relative effectiveness of intermediaries is less well researched.

Whilst there is some evidence that some SMEs fear to approach the HSE, numerous SMEs and large organisations do approach and welcome the HSE's advice. The need to develop an advisory service that is perceived to be independent of the HSE mainly arises from those SME's and new organisations that have not had prior contact with the HSE.

Those sectors that are least aware of health and safety and least receptive to HSE advice tend to be those sectors characterised as lower risk. Organisations' interest in health and safety is linked to their perception of health and safety risks. Thus, if interventions are prioritised on the basis of current levels of awareness this could lead to lower risk sectors gaining a higher ranking.

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CONTENTS

EXECUTIVE SUMMARY v-x

1 INTRODUCTION....1

1.1 BACKGROUND....1

1.2 AIMS AND SCOPE OF THIS WORK....3

2 AN EVIDENCE BASE....5

2.1 INTRODUCTION....5

2.2 THE ROLE OF REGULATIONS....7

2.2.1 Overview....7

2.2.2 The effect of regulations....7

2.2.3 Factors mitigating effect of regulations....9

2.2.4 Regulation of health hazards....11

2.3 ENFORCEMENT ACTIVITY....11

2.3.1 Overview of findings....11

2.3.2 Enforcement – where is it most required?....14

2.3.3 Inspection, enforcement and occupational health and safety management....15

2.3.4 Prosecution....15

2.3.5 Effects beyond the defendants – general deterrence....16

2.3.6 Public disclosure....17

2.3.7 Civil and other enforcement tools....19

2.3.8 Examples of penalties and enforcement powers....19

2.4 FINANCIAL AND BUSINESS INCENTIVES....20

2.4.1 Introduction....20

2.4.2 Employers' Liability Compulsory Insurance....20

2.4.3 Reputational risk and Corporate Social Responsibility....29

2.4.4 Supply chain pressure....33

2.4.5 Other business benefits: Cost reduction, productivity and profitability....33

2.5 ADVISORY AND INFORMATION ACTIVITIES....36

2.5.1 The effectiveness and role of advisory activity....36

2.5.2 The HSE as a source of advice....37

2.5.3 Lessons from overseas....41

2.5.4 The influence of culture, size and sector on the effectiveness of advisory activities....42

2.5.5 The medium *44*

2.6 WORKING WITH AND VIA NON-GOVERNMENTAL INTERMEDIARIES 53

2.6.1 Overview *53*

2.6.2 Collaborative sector initiatives *59*

2.6.3 Employee and trade union representatives *61*

2.6.4 Insurers *62*

2.6.5 Manufacturers and suppliers of equipment *63*

2.6.6 Safety information centres *63*

2.6.7 Business Links and TECs *64*

2.6.8 Ethnic minority business intermediaries *64*

2.6.9 European Agency for Safety and Health at Work *64*

2.7 WORKING WITH OTHER GOVERNMENTAL BODIES 65

2.7.1 Overview *65*

2.7.2 Working with Local Authorities *66*

2.7.3 Occupational health *67*

3 APPLICATION OF EVIDENCE BASE TO THE HSC'S STRATEGY FOR 2010 AND BEYOND 70

3.1 GAPS AND UNCERTAINTIES IN THE EVIDENCE BASE 70

3.2 RANKING OF INITIATIVES IN TERMS OF THEIR RELATIVE EFFECTIVENESS 71

3.3 LESSONS FROM OVERSEAS 71

3.4 TARGETING OF INTERVENTIONS 72

3.5 SME'S 73

3.6 INCENTIVES AND DRIVERS 73

3.6.1 The role of enforcement and regulations *73*

3.6.2 The role of financial and other business incentives *74*

3.6.3 The social and moral case *75*

3.7 ADVISING AND SUPPORTING 75

3.7.1 The role of intermediaries and the HSE as sources of advice *75*

3.7.2 Provision of occupational heath and rehabilitation advice and support *76*

3.8 AMPLIFYING HSE'S INFLUENCE 77

3.9 OVERALL CONCLUSIONS 77

4 REFERENCES 78

EXECUTIVE SUMMARY

INTRODUCTION

This project has been completed as an input to the Health and Safety Commission (HSC)'s strategy for 2004-10. Its findings will complement those of the consultation in the autumn of 2003 and feedback on the early work in progress consultation paper in the summer of 2003 "Strategic thinking – work in progress".

The strategy emphasises the changing context in which it works, both in terms of the changing world of work and the changing expectations of the actions of a regulator. As the document says, the world of work has become more complex and fast-paced and "*we recognise that we need to do far more to prioritise our interventions and target them to have maximum impact, even stopping doing some things altogether"*. Another key factor is the increasing expectation that the Health and Safety Executive (HSE) and local authorities provide justice for those involved when people and organisations harm members of the public. So, with increasing expectations and facing a broadening range of issues, prioritisation and effectiveness is becoming increasingly important.

It is commonly accepted that "traditional" methods of HSE/Local Authority (LA) intervention are effective in the context of the traditional industries and large organisations. These traditional methods include "educational" information and advice activities, such as issuing advisory documents, inspection based advice and enforcement work, and accident investigation. Such work also include the issue of new regulations supported by guidance and enforced by inspections / notices. There are a large number of studies that indicate that these intervention methods are effective.

On the other hand, whilst the resources available to the HSE/LA are finite, they are faced with increasing demands. For example, there is increasing pressure from certain stakeholders to prosecute offenders. In addition, there is increasing interest in vocational rehabilitation. Also, reliance on traditional "contact" based methods is particularly challenged in the context of SMEs. There are approximately 3.7 million SMEs but only 1.5 thousand HSE and 1,300 Local Authority inspectors. Local Authority inspectors are also responsible for food safety and fire safety in houses in multiple occupation.

The purpose of this research is to build an evidence base on what interventions can help improve health and safety and compliance and what factors determine the success. This includes evidence available from abroad. As part of the review, an assessment has been completed of whether interventions / strategies that have reportedly worked overseas would add value to the UK.

The study provides:

- An up-to-date review of research on the effectiveness of interventions, nationally and internationally, and the factors which mediate their success, with an analysis of the likely relevance to the current UK situation.

- A report pulling together all the summaries and findings in one place, and providing an independent assessment of their relevance to the HSC/E strategic plan.

Within this review we have considered the different contexts in which strategies need to be assessed, such as different sectors, sizes of firms, hazards, forms of employment etc.

SOURCES AND TYPES OF EVIDENCE REVIEWED

There are a number of sources of information and evidence. These include:

- Commissioned systematic evaluations of the impact and effectiveness of HSE/LA interventions, including the Institute of Employment Studies (IES) summary of such interventions completed in 2001;

- Commissioned evaluations of interventions by other UK regulators, such as the Food Standards Agency (FSA);

- HSE statistics for sub-sectors, which have on occasion been reviewed in the light of sector specific initiatives;

- Reviews and research into the impact and effectiveness of strategies adopted in other countries.

We have collated currently available research studies and themed the main findings. First, we report the strength of evidence regarding whether each type of intervention "works" in general. Next we draw out the findings about the relative effectiveness of each type of intervention in different types of sectors and organisations. The aim is to identify the factors that influence the effectiveness of interventions across sectors, so that more general conclusions can be reached about the extent to which each intervention can be applied with effect to other sectors.

CONCLUSIONS

There is strong evidence to support the continuation of a balanced mixture of advice (persuasion), enforcement and business incentives. Our findings on particular issues are summarised below.

Enforcement and regulations

- The application of enforcement is an effective means of securing compliance, creating an incentive for self-compliance and a fear of adverse business impacts such as reputational damage in all sectors and sizes of organisations, including major hazard sectors.

- As the fear of enforcement is a significant motivator for organisations, there may be value in exploring new types of penalties, charging regimes and enforcement strategies so as to maximise the deterrent effect of enforcement, such as court ordered publicity.

- There is evidence that enforcement and HSE leadership is an important element in prompting major hazard firms to manage health and safety, including major accident prevention.

- Enforcement supported by advice and guidance is considered to be of equal benefit to health hazards, such as noise, passive smoking, manual handling and stress, as it is to safety risks.

- There is some evidence that advice and information is less effective in the absence of the possibility of enforcement.

Advisory activities and intermediaries

- Advisory, awareness raising and educational work is of great importance for all sizes and sectors, but particularly for Small and Medium sized Enterprises (SMEs).

- There is a need to amplify the effect of the HSE by working with and via intermediaries, especially in the case of SMEs. A wide range of intermediaries have been identified as probable "good" partners, but further larger scale trials and assessment would help confirm which partners offer the best prospect, such as trade associations, clients, business advisory bodies (e.g. Business Link), professional bodies, educational and training bodies, etc. There is evidence that working with intermediaries is effective. The resource implications of working with intermediaries are uncertain.

- As the representation of SMEs by intermediaries is varied within and between sectors, it is likely that multiple avenues are needed to reach SMEs.

- A number, as yet unknown, of SMEs do not approach the HSE for advice and are not receptive to HSE awareness raising activities, possibly due to their fear of the HSE. The characteristics of these firms are uncertain but probably include firms that have not had prior contact with the HSE. This indicates there is a need to either identify new ways of providing advice for these organisations such as via intermediaries and / or allaying their fears of the HSE through promotional activity, or for the creation of a "virtually" separate advisory service for organisations.

- The high level of usage of HSE advice and information, and the positive reviews of HSE/LA advisory work along with the expressed desire for authoritative advice from the regulatory body provides support for the continuation, or expansion, of HSE advisory activities in all sizes and sectors of organisations. Many organisations actively seek out HSE advice because of the wish to secure authoritative information and guidance on how to comply and best manage health and safety.

- Small firms prefer "specific" advice and information that they do not need to interpret in order to apply to their activities and which identifies the control measures they need to take (without having to carry out a risk assessment to identify what they need to do). Direct contact in the workplace is preferred.

- It is clear that employee involvement is beneficial and that new ways of facilitating their involvement would particularly benefit the non-union sector, although facilitating increased uptake of safety representatives' roles would also be beneficial. The Worker Safety Advisor (WSA) pilot project was a successful example. It would be useful to have examples of analogous work or larger scale trials on which to judge how best to expand schemes such as WSA.

Working with Local Authorities

- There is evidence that nationally co-ordinated sector based initiatives are effective in some sectors. There is also evidence that inconsistency in enforcement practices creates confusion and diminishes respect for the law. Hence there is evidence supporting the idea of greater national co-ordination of health and safety enforcement.

Working with other government bodies

- There is some evidence that the HSE can successfully bring about change by working with other government bodies, as witnessed by the success of the work related deaths protocol with the police. Opportunities exist with the NHS, Department of Work and Pensions (DWP), Lord Chancellors Department, Department of Health and others for the HSE to extend its influence by working with other bodies.

Targeting interventions

- As the level of pro-action by organisations is influenced by their size and perceived risk, if you were to target interventions only on the basis of organisational propensity to self-comply, small low risk organisations would be awarded top priority. This could be interpreted to imply that organisations that wrongly perceive the risk to be low require top priority, and / or that hazards wrongly perceived by organisations as low risk require cross sector prioritisation, such as focusing on assault risks in those high street businesses otherwise regarded as lower risk.

- Whilst larger and high risk organisations present an easier challenge in terms of access, receptiveness and in-house competence, they nonetheless seek out, require and welcome HSE advice, direction and support. Targeting only on the basis of which organisations will respond the most to HSE advice would lead to the prioritisation of large and higher risk organisations/sectors.

Financial and other business incentives

- Whilst it appears that progress has been made in convincing organisations of the business case, the results are mixed and hence further work in promoting the business case is needed.

- It is also clear that certain aspects of the business case, specifically the financial cost of Employers' Liability Compulsory Insurance (ELCI) and reputational risk, are emerging as powerful and are now widely recognised incentives. Greater use could be made of financial and reputational incentives to promote both better health and safety management and better rehabilitation. Indeed, there is evidence that the financial cost of insurance can act as a powerful motivator for organisations to seek out and act on health and safety and rehabilitation advice.

- It is also clear that, when exercised, supply chain pressure can have a significant effect on suppliers and contractors. However, there is mixed evidence about whether such pressure is being exerted by clients. Further work to increase the exercise of client pressure appears warranted. Such pressure is currently most apparent in the highly regulated sectors, reinforcing the benefit of continued regulation and enforcement in the major hazard sectors.

Societal and moral case

- It is apparent that the social and moral case is important in many respects, including justifying regulations, creating reputational risk and increasing society's (employees, customers and members of the public) expectations, awareness and demands in the arena of health and safety. Public awareness and perception of risks, such as stress, leads to and facilitates an expectation of improved health and safety amongst all stakeholders.

- It is apparent that the HSE is an actor in the creation of societal concern and awareness of health and safety issues. There is little evidence to date of societal concern for occupational health and safety being created by consumer or other non-governmental organisations with the exception of employee representatives (trade unions), civil suits (solicitors) and health and safety professionals/ bodies such as the Royal Society for the Prevention of Accidents (ROSPA).

Provision of occupational heath and rehabilitation advice and support

- There is clear evidence that there is significant scope for improvement in the provision of occupational heath and rehabilitation advice and support in the UK. A number of potential providers have been identified and incentives such as the cost of ELCI are emerging.

- It is also clear from overseas experience that employers have a critical role in initiating, supporting and facilitating early return to work by people injured or ill. Workplace focused return to work schemes initiated by employers, with professional health care support, are the principal means for reducing work related absence in many countries.

- It is also clear that employee incentives (and disincentives), such as linking compensation to participation in rehabilitation, are critical as the motivation of employees to return to work greatly influences the success of such schemes.

- There are also many other methods of influencing the implementation of rehabilitation, such as employment law provisions, tax rules, regulation and subsidies etc. The value of these options for the UK could be usefully explored.

Gaps and uncertainties

There is as yet little evidence on which to support discussion of:

- How to influence health and safety amongst home workers;

- The relative benefits of working with alternative intermediaries to amplify the HSE's awareness raising work and whether working via intermediaries could water down the HSE brand;

- How best to amplify the impact of prosecution and preventive enforcement activities;

- There is little evidence on which to gauge the relative effect of alternative mixtures of education, incentives and enforcement, although it is clear that all three are mutually reinforcing rather than mutually exclusive;

- It is very uncertain whether self-regulation occurs without the proactive direction, support and real prospect of enforcement by the regulator even amongst major hazard organisations that recognise the business consequences of major accidents.

Overall conclusion

The evidence available from current studies does indicate that there is a range of new ways (such as working via intermediaries and insurance incentives) of accessing, contacting and influencing employers, including the hard to reach SME sector. Accepting that there is a need to effect greater influence on SMEs, these avenues offer opportunities for the HSC/E and LAs to amplify their effect. The exact balance and composition of these methods requires further research, piloting and evaluation before definitive conclusions can be reached on the benefit to be gained from specific types of new interventions. This is inevitable given the novel nature of some of these interventions.

There is, at the same time, evidence to support the continuation of current advisory, enforcement and regulation based activities in all sectors and sizes of organisations.

1 INTRODUCTION

1.1 BACKGROUND

This project has been completed as an input to the HSC strategy plan for 2004-10. Its findings will complement those of the consultation in the autumn of 2003 and feedback on the early work in progress consultation paper in the summer of 2003 "Strategic thinking – work in progress".

The strategy emphasises the changing context in which it works, both in terms of the changing world of work and the changing expectations of the actions of a regulator. As the strategy says the world of work has become more complex and fast-paced and "*we recognise that we need to do far more to prioritise our interventions and target them to have maximum impact, even stopping doing some things altogether"*. Another key factor is the increasing expectation that the HSE and local authorities provide justice for those involved when people and organisations harm members of the public. So, with increasing expectations and facing a broadening range of issues, prioritisation and effectiveness is becoming increasingly important.

It is commonly accepted that "traditional" methods of HSE intervention are effective in the context of the traditional industries and large organisations. These traditional methods include "educational" information and advice activities, such as issuing advisory documents, inspection based advice and enforcement work, and accident investigation. Such work also includes the issue of new regulations supported by guidance and enforced by inspections / notices. There are a large number of studies that indicate that these intervention methods are effective. For example, studies by the Institute of Employment Studies (Hillage et al.,2001) and by the University of East Anglia (Rakel et al.,1999) have found that direct contact techniques, specifically inspection, are effective in respect of improving duty holders' knowledge and gaining improved precautions. Similarly, a European Agency for Safety and Health at Work's review of member states regimes indicates that all states have a mixed regime of enforcement, regulation, incentives and advice, and that each element plays an important role. As concluded by Hillage et al., (2001):

> "Legislation and associated guidance is a major form of leverage over employers and most employers are motivated to change policies to comply with the law.
>
> Inspection is key in securing employer compliance and can bring about major improvements in health and safety performance" (p4)

There has also been a series of evaluations of the impact of new regulations that have shown an improved level of knowledge and precautions, including evaluations of the manual handling regulations, provision and use of work equipment regulations (PUWER), lifting operations and lifting equipment regulations (LOLER), etc. Similarly, studies such as the Evaluation of Good Health is Good Business campaign demonstrated that such campaigns are associated with good levels of recognition and action.

There is also a reasonable body of evidence that safety performance in Great Britain compares well with other economically developed countries and that there is a long term positive trend. For example, Davies and Elias (2000) reported that there is a long term (1986 –1997) downward

trend in injuries in Great Britain that can be attributed to improved safety performance, having controlled for changes in industrial structures, the economic cycle and patterns of employment. They also note that improvements in the reporting of workplace injury under RIDDOR (reporting of injuries, diseases and dangerous occurrences regulations) in the 1990's obscure the level of improvement in workplace safety. The standard of occupational health risk management is less clear due to the difficulties in accurately detecting and recording work related ill-health. However, it is thought that there is significant scope for improvement in occupational health performance in Great Britain. Davies and Elias (2000) also note that the downward trend in injuries is dominated by the predominance of male injuries in the data, masking an upward trend in injuries amongst women.

In contrast previous surveys in the UK have shown that the level of rehabilitation is very low in the UK. A TUC survey[1] of safety representatives found that only 13% to 23% of workplaces have access to rehabilitation in 1998. Given the fact that these workplaces are unionised this is probably a "better than average" result. A Health and Safety Executive commissioned survey (Pilkington et al, 2001) that found that only 1 in 7 workers in the UK have the benefit of a comprehensive occupational health support mirrored this result. Pilkington et al. (2002) found in a survey of 4,930 organisations that 27% provide employee counselling, 35% had rehabilitation programmes (mostly work place adjustments or reduced hours) and 22% of private firms had a private health care scheme. It has been estimated by the IUA-ABI bodily injury study of 1999 that the return to work rate of persons left tetraplegic is in 1in 3 in the USA and 50:50 in Scandinavia, compared to 1 in 6 in the UK. On a more positive note, Goldstone (2002) found that two thirds of employers with sick/disabled workers had made adjustments and that two thirds would be willing to take steps to help people continue working. These studies suggest that there is significant scope for improvement in the UK in the provision and hence the impact of vocational rehabilitation.

Also, the world of work is changing. Changes include;

- More home working;
- A switch from traditional manufacturing to service industries;
- Globalisation;
- A more mobile workforce

On the other hand, whilst the resources available to the HSE are finite, they are faced with increasing demands. For example, there is increasing pressure from certain stakeholders to prosecute offenders. In addition, there is increasing interest in vocational rehabilitation.

Reliance on traditional "contact" based methods is particularly challenged in the context of SMEs. There are approximately 1.04 million SMEs (with employees) but only 1.5 thousand HSE and 1,300 Local Authority inspectors. Local Authority inspectors are also responsible for food safety and fire safety in houses in multiple occupation.

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[1]

Previous evaluations have focused on assessing the effectiveness and impact of current initiatives. Indeed, the IES study (Hillage et al, 2001) focused on assessing the HSE's current impact. It was not scoped to consider the relative impact of interventions in different sectors, nor was it scoped to consider new strategies or the lessons learnt from overseas. Therefore, this study aims to draw together evidence regarding how to improve the effectiveness and outcomes of British health and safety, *in the context of the changing world of work*. The focus is on how to improve the health and safety system and its outcomes, not just on the role played by the HSE and local authorities. So key issues include:

- What role can other organisations and stakeholders play?
- What evidence is there of the benefits of separating advice from enforcement, including occupational health advice?
- What evidence is there regarding how best to develop a new intervention strategy with local authorities?
- How can inspection be put to best effect in the context of new world of work, such as SMEs and home working? What evidence is there about how inspection works in the new world of work? Where and how can inspection be put to best effect?
- How can you reach "hard to access" employers?
- What can be learnt from others in and outside of the UK? Within the UK it is interesting to note the FSA have introduced new HACCP (hazard analysis and critical control point) for butchers. In Australia advice and insurance was separated from enforcement with the creation of WorkCover and Worksafe. Australia has also mandated vocational rehabilitation. What impact has this had on outcomes? Canada has introduced schemes focused on SMEs – do these work?

However, this review also aims to address questions and issues arising from stakeholders outwith the HSE. In particular, there are a number of lines of interest with regards to prosecution. First, there is pressure to increase prosecution as means of securing justice for victims. Secondly, it is thought that prosecution could have a deterrent effect, thereby having an impact beyond the prosecuted organisation. Thirdly, the need to maintain respect for health and safety is seen as a reason for prosecuting those whom continue to disregard health and safety requirements.

1.2 AIMS AND SCOPE OF THIS WORK

The purpose of this research is to build an evidence base on what interventions can help to improve health and safety and compliance and what factors determine the success. This includes evidence available from abroad. As part of the review, an assessment has been completed of whether interventions / strategies that have reportedly worked overseas would add value to the UK.

The study provides:

- An up-to-date review of research on the effectiveness of interventions, nationally and internationally, and the factors which mediate their success, with an analysis of the likely relevance to the current UK situation.
- A report pulling together all the summaries and findings in one place, and providing an independent assessment of their relevance to the HSC/E strategic plan.

Within this review we have considered:

- What are the different contexts in which strategies need to be assessed, such as different sectors, sizes of firms, hazards, forms of employment etc?
- What other factors should be taken into account when assessing the relevance of "evidence" to the HSC's objectives such as health and safety/risk culture, economic development, legal systems etc?

2 AN EVIDENCE BASE

2.1 INTRODUCTION

There are a number of sources of information and evidence. These include:

- Commissioned systematic evaluations of the impact and effectiveness of HSE interventions, including the IES summary of such interventions completed in 2001;
- Commissioned evaluations of interventions by other UK regulators, such as the FSA;
- HSE statistics for sub-sectors, which have on occasion been reviewed in the light of sector specific initiatives;
- Reviews and research into the impact and effectiveness of strategies adopted in other countries, including European Agency for Safety and Health at Work studies and studies from America, Canada, Australia and New Zealand.

Since this review is intended to be a wide overview of an evidence base, the search strategy employed was targeted, widening where gaps in evidence were found. We searched for the latest empirical evidence of what works, why, where and how. Where other reviews had established findings based on review of research the original literature was not necessarily revisited. Searching was stopped once robust evidence for any point was found. Only evidence considered robust was included. Where information was only anecdotal or not robust, such as small scale surveys or purely theoretical work, it has not been included. No reanalysis of data was carried out.

Actions to locate literature included:

- Review of all HSE research reports, including studies which reviewed the HSELine database (e.g. Atkins 2003);
- Request to HSE to provide unpublished research;
- Search of HSE web site and IAC newsletters for articles;
- Search of web sites of relevant health and safety institutions including overseas e.g. European Agency for Safety and Health at Work, OSHA, NIOSH, CCOHS, Securing Health Together, Australia Workcover;
- Search of websites of and direct contact with some institutions with a related interest (e.g. TUC, home office, Health Education Board, Health Development Agency, Australian National University, Australian Centre for Environmental Law, Australian Institute for Criminology, Centre for Corporate Accountability, Cardiff University);
- Search based on the names of key researchers e.g. Kenny, Johnstone, Walters, Braithwaite, Fisse, Gunningham etc;

- Search of all Home Office reports for relevant work on crime prevention in general;

- Limited search of HSE Line and OSH Line including search terms (Evaluation+ effectiveness + regulator), (evaluation + effectiveness + inspection), (evaluation + effectiveness + regulation), (regulator + effectiveness), (regulator + intervention + evaluation), (compliance + regulator), (effectiveness + compliance) + (evaluation + regulator), (enforcement + effectiveness). (Note that other reviews included identified literature via these databases);

- Review of HSE statistical information and reports on campaigns;

- General search of the internet primarily using Google, using search terms as above, but focussing primarily on identified gaps such as evidence on enforcement effectiveness, and searching on terms from related areas such as food safety, environment, general/corporate crime.

We have collated currently available research studies and themed the main findings. First, we report the strength of evidence regarding the role of regulations, enforcement, financial and other incentives. Next we draw out the findings about the effectiveness of different forms of advisory and information support. Within this we aim to identify the factors that influence the effectiveness of interventions across sectors, so that more general conclusions can be reached about the extent to which each intervention can be applied with effect to other sectors.

The study focused on those aspects of the strategy that are novel or likely to be the subject of discussion, such as the increased focus on working via intermediaries. We placed less emphasis on those elements of the strategy that have already been the subject of research and are considered to have a strong evidence base already. In particular, we have not placed emphasis on the evidence supporting the need to increase the standard of occupational health management in the UK, or the need to expand occupational health management resources in the UK. These points have been researched and consulted upon already (e.g. HSC 1999) and this is outlined later in section 2.7.3 of this report. Similarly, we have not revisited the debate about whether 'inspection works', or whether 'education' and 'incentives' are needed per se. Previous studies have established that all three of these are, in general, needed as part of a balanced compliance strategy. Instead we have aimed to identify research into how the need for and impact of these three activities varies across sectors and sizes of organisations, as well as identifying research on novel ideas, to help inform the debate on the future balance of activities.

Unfortunately this does mean that in some cases it is hard to offer research based evidence for new ideas due to their very novelty, i.e. they have yet to be researched or are so new that there has yet to be any opportunity to evaluate their virtues.

As part of our review we have aimed to identify pertinent research from other countries. There is a significant body of research available from America, Canada and Australia on the relative virtues and effectiveness of alternative enforcement, incentive and educational activities. The health and safety systems in each of these countries have been the subject of reform and significant change. This has prompted renewed interest in health and safety systems and led to the completion of large bodies of research. The level of research available from other countries is relatively low. This may be associated with the lower level of change and hence policy driven research elsewhere.

The focus in Europe has been upon the implementation of European Union directives, motivated by the aims of harmonization and a single market. Thus, the focus in Europe has been upon harmonization rather than fundamental review of the relative virtues of enforcement, incentives and advice. Notwithstanding this, it is clear that European Union member states share the need for and desire to better support and influence SME's. Accordingly there is evidence available from continental Europe of novel schemes and strategies for assisting SMEs. Indeed, the European Agency has launched a new online guide of occupational safety and health advice for Europe's 19 million small and medium-sized enterprises (SMEs). These examples complement and reinforce those piloted in the UK, often mirroring their design and objectives.

2.2 THE ROLE OF REGULATIONS

2.2.1 Overview

A series of evaluations have been completed of the impact of new health and safety regulations in the UK. The majority of studies have been limited, by necessity, to an evaluation of self-reported awareness and compliance. A few studies have attempted to track the impact of accident rates. The results from these evaluations, as summarised by the Institute of Employment Studies (Hillage et al 2001) indicate that they are associated with increases in the level of awareness, compliance and improved health and safety standards, although this is dependent upon size and industry sector. However, barriers to their impact include low levels of awareness of specific legislation, lack of understanding of the legislation and not knowing how to access information pertaining to how to implement the regulations.

A study by the European Agency for Safety and Health at Work (no date) found evidence from a number of European Union member states that regulations had a clear and positive effect on accident statistics.

Of particular relevance, in terms of successfully interpreting regulations and putting them into working practice, is the employment of a health and safety professional, see for example MTS (1994). It is apparent that large organisations are in a better position than SME's who tend to lack in-house expertise.

2.2.2 The effect of regulations

Reviews of opinion surveys such as the Evaluation of Good Health is Good Business and regulation impact assessment, such as the impact of COMAH regulations on new entrants and focus group studies, indicate that:

- Respondents to many surveys indicate that regulations are a key driver for improving health and safety. In some cases, regulations are the principal reason cited by firms for taking specific measures, such as health surveillance;

- Regulations are a valuable resource for health and safety professionals and enforcement authority regulators (whether employed directly or not);

- Evaluations of the effect of regulations indicate that employers do improve their health and safety arrangements in response to new regulations – including 50% of respondents indicating that they had done a risk assessment for the first time due to the 1992 Six

Pack regulations, and 80% employing a consultant or member of staff as a competent person;

- Studies have shown that hazard specific regulations can lead to greater improvements of risk management compared to hazards only covered by general regulations (e.g. Peretz et al., 1992, quoted in Wright 1998);

- Many evaluations of regulations report both qualitative and quantitative benefits from the specific regulation. For example, the survey and consultation based study by Brabazon et al (2000) found that the CDM regulations are thought to have helped in many respects, such as defining the responsibilities of the different roles in the complex organisational setting of the construction industry and prompting improvement in procedural controls on worksites;

- It is also apparent that regulations can (but not necessarily always) have an impact by requiring industry to focus on and prioritise a particular hazard, such as the CDM regulations (The Consultancy Company, 1997). This follows the theme of "forcing" health and safety up the list of competing demands on management time;

- On the whole employers believe the benefits of regulations equal or outweigh the costs of compliance (including CDM, manual handling, COMAH, 1992 Six pack regulations etc);

- The extent to which employers comply with regulations varies according to their perception of the risk posed by the specific hazard covered by the regulation and awareness of the regulations – awareness is a key factor in the level of compliance;

- Large and high hazard operations are equally driven by new regulations as smaller organisations, if not more so, although smaller firms are less aware of such regulations;

- Regulations in high hazard sectors lead to changes in health and safety arrangements and are an important driver in these sectors (nuclear, chemicals, railways etc), as shown by the recent review of the impact of COMAH regulations;

- Hopkins (1995) commented that regulation may be required to apply pressure to manage contractors safely since any costs of poor health and safety are not directly borne by the client reducing other incentives. He makes a similar argument for incentives to manage rare but catastrophic events, dangerous occurrences, the self-employed, and some illnesses and health hazards where monetary incentives are weak.

- Some academic research suggests that regulations (including related sanctions) could do more to increase internal accountability within companies to ensure that both individuals and corporate bodies are held responsible where appropriate (e.g. Fisse 1993), although Hopkins (1995) notes that individuals may employ strategies to avoid sanctions and penalties including less legitimate strategies;

- Compliance with product safety and environmental regulations have been shown in developed countries to give them a competitive advantage, by raising standards early and thus being ready to satisfy demand for the better standard (Porter 1990, quoted in Braithwaite, J. 1993).

The effect of safety regulations has been noted in other sectors as well. Wheelock (2001) conducted a widespread study to evaluate the impact of the butchers' Shop Licensing Regulations in Scotland. The investigation included representation from all the Local Authorities in Scotland (32), 198 butchers, and 1,893 meat consumers. The introduction of butchers' shop licensing provided a unique opportunity to examine the effectiveness of a mandatory Hazard Analysis Critical Control Point (HACCP) requirement in raising food hygiene standards in retailing environments. Anecdotal evidence suggests that the introduction of HACCP has improved hygiene standards across the sector.

The study included visits to 150 independent butchers and 48 supermarkets. Aside from finding that 98% of supermarkets and 86% of independents had acceptable or fully acceptable standards, they also noted that 49% of supermarkets and 76% of independents believed that food safety in shops had improved as a result of the licensing initiative. They also rated the support provided by Food Enforcement Officers as satisfactory or highly satisfactory.

The improvements may not be attributed solely to licensing as improvements had been made within the industry as a result of the *E.Coli O157* outbreak in central Scotland, before the Butchers' shop Licensing Regulations were introduced. These improvements were made possible by the provision of additional government funds to Scottish LA's to support recommendations for improved hygiene for high-risk premises. Also, as there was a lack of detail provided by guidance, there was confusion and inconsistency in requirements between local authorities. This resulted in a loss of confidence in the authorities.

2.2.3 Factors mitigating effect of regulations

It is clear that small firms tend to respond less to regulations due to their lower levels of awareness, and, in some cases, because they tend to operate in lower risk sectors. Indeed, some studies report low levels of regulatory awareness amongst SMEs. For example, about half of respondents had heard of each of the regulations that comprised the 1992 Six Pack.

A number of studies show a clear link between the extent of action by organisations and their perceived risk, as well as the company size. For example, the Second evaluation of the manual handling regulations found the highest levels of action amongst manufacturing, local authority, health care, agriculture and construction. Finance, services and civil service took least action. Similarly, the evaluation of PUWER and LOLER 98 found that the level of action taken in response to the regulations was linked to the possession of pertinent equipment. Both studies found that smaller organisations were less likely to take action in response to the regulations, although the evaluation of PUWER 98 found that smaller organisations were less likely to possess pertinent equipment.

Some key factors, other than awareness, that influence the extent to which individual firms respond to regulations include;

- The perceived fairness of the regulation;
- Balance of costs to benefits and affordability;
- Whether organisations believe they already comply with the spirit of the regulation;
- Whether the regulations require "unnecessary", inefficient or ineffective measures;

- Whether some organisations use (or abuse) the regulations for their commercial advantage and hence your disadvantage – bringing the regulation into disrepute;

- Whether the regulation is "process based" or specific / hardware based;

- The perception of whether the risk posed by the hazards in question is significant enough to warrant taking steps to comply;

- The guidance, support and recognised standards in place affects compliance with performance-based regulation (Bluff 2003b:25).

There are some reports expressing concern about the complexity of regulations and difficulty in their interpretation. Small firms in particular find process oriented regulations difficult to interpret and apply, such as the Management of Health and Safety At Work Regulations (1992). They express less difficulty with regulations such as the DSE regulations. On the other hand, many employers and especially SMEs express a desire for specific guidance and advice on health and safety requirements, and agree with the need for specific regulations (Hanson et al. 1998). It could be argued that the development of hazard specific regulations and their associated guidance matches this expressed need for specific guidance. Thus, there is paradoxically a wish for less but more specific regulation.

An example of how firms can perceive regulations is given by Hodge (2003) who conducted an evaluation on the 1981 Health and Safety (first aid) FAW regulations and associated guidance. A survey was completed by 730 companies followed by 30 interviews with selected organisations. The regulations were introduced in 1982 when the UK maintained a strong manufacturing based economy. This however has significantly changed over the period, with a huge shift towards service and other industries. In addition there has been a trend away from large corporate employers towards SME's and self-employment. Given these changes towards lower risk work, the current FAW regime is not considered as offering first aid solutions that are necessarily proportional to risk.

There is a perception held amongst very small companies (less than 5 employees) that FAW as well as other health and safety regulations are not applicable, by virtue of their small size. Furthermore, the perceived cost of establishing a first aider in small and medium companies was cited as a particular issue of concern in terms of releasing valuable staff for training. This was particularly evident in SME's who believed that the apparent risk of injury in the workplace was low. In total, 29% of survey contacts did not think that FAW applied to their organisation and almost all of these were very small companies.

In general, first aid is regarded as 'good health and safety practice' and for this reason has achieved significant penetration into the UK workplaces. However, whilst there is significant compliance, many employers achieve only partial compliance. The FAW has stimulated a lot of enquiries to HSE Infoline regarding how to achieve compliance. As such, organisations appear to be looking for direct authoritative advice rather than guidance.

Thus, it appears that the impact of regulations is moderated by their design, application and ability of small firms to become aware of them as well as the employers' perception of the significance of their health and safety risks. The level of in-house health and safety expertise influences the perceived level of risk and awareness of regulations (MTS (1994)).

It is also apparent that regulations can have an impact by requiring industry to focus on and prioritise a particular hazard, such as the CDM regulations (The Consultancy Company 1997). This follows the theme of "forcing" health and safety up the list of competing demands on management time.

2.2.4 Regulation of health hazards

There is little research exploring the applicability of standard HSE activities to "new" health and safety hazards. However it is pertinent to note that regulations such as the '6 pack' are reported to have had an effect on the management of health hazards, such as noise, manual handling, workplace smoking and health surveillance, as well as safety issues. One study, the Baseline Measurements for the Evaluation of the Work Related Stress Campaign (Pilkington et al. 2001), did report that;

- 80% of respondents felt that stress should be controlled in the same way as other health and safety issues, although they would want to tackle work and non-work related components in a holistic manner;
- 55% were willing to work in partnerships with other agencies;
- Most organisations felt they would benefit from having more guidance about how to address work related stress;
- Larger organisations believe a code of practice or specific legislation may be useful whereas smaller organisations preferred information on 'what others are doing'.
- 40% of respondents were unaware of any resource to address work related stress, particularly small firms.

The importance of these findings is that they are very similar to the findings for other more "traditional" health and safety hazards. The Evaluation of the Work Related Stress Campaign study recommended more structured guidance, a practical risk management approach and an education process that recognises the wide range of triggers prompting firms to act on stress. These recommendations match those for other hazards, such as accidents.

2.3 ENFORCEMENT ACTIVITY

2.3.1 Overview of findings

Most studies examine enforcement in the context of inspection (with its advisory element) making it difficult to analyse formal enforcement action separately. However, most research appears to accept that enforcement action needs to be targeted and used in conjunction with other regulatory activities (including advice and education for instance).

It is clear from research that:

- Enforcement activity is an important element in securing and motivating compliance both in the individual organisation and as a deterrent to others;
- There is a consensus that a mix of both punishment and persuasion is the best policy (e.g. Hopkins 1995);

- The prospect of enforcement action is a driver for large and high risk operators, as well as smaller firms.

On the latter point, it is pertinent to note that whilst there was debate about who should and how to regulate rail safety during the Ladbroke Grove Rail Inquiry (Cullen, 2000) it was agreed that an independent regulator was required. Mr Taig was quoted as saying:

> "…only a publicly accountable regulator can provide the overall policy framework, determine what safety outcomes society wishes from the railways, and how these fit alongside other policy goals" (p125, part 2).

It is also possible to point to the impact of the Nuclear Installations Inspectorate's reports on BNFL, UKAEA and British Energy, each of which led to major programmes of change, as examples of where intervention in a highly mature major hazard sector was found to be necessary and effective.

Previous studies specifically on enforcement action is limited but it can be said that:

- Limited studies (but including one comprehensive research into the effectiveness of OSHA enforcements), found only a modest reduction in injury rates in all plants following an increase in enforcement activity (10% increase leading to 1% reduction in injury rates), but individual plants which were inspected and penalised subsequently experienced a drop of 22% in injury rates over the following 3 years (quoted in OECD 2000);

- There is some evidence that the fear of prosecution does have an effect to motivate compliance and for many this is via an acceptance that regulations indicate what society considers acceptable standards. However this does not have an effect across the board;

- Studies show that the specific deterrent effect of the imposition of penalties is greater than the general deterrent effect with data suggesting reduced injury rates as a result of sanctions;

- Many consider prosecution to be a very blunt instrument for gaining improvements and bringing those to account who should be brought to account, Also, it is suggested that its tendency to focus on events, limits the effectiveness of any messages to others about the process of health and safety management;

- Some work indicates that any recommendations arising from inspections are seen by companies as "demands" whether or not the inspector considered the status of the recommendations as advice or requirement. Similarly even when there is negotiation over the detail of the recommendation this does not change this perception of the "demand".

- There is evidence that whilst enforcement action can work, it cannot be seen in isolation from other regulatory activity - the regulatory mix – as well as the response/attitudes of duty holders (i.e. the regulatory space) determining effectiveness. Thus enforcement action needs to be responsive to the situation;

- There is some evidence that the minimum necessary/least powerful enforcement action is likely to lead to the most long-term internalisation of a desire to comply, perhaps in part due to the least necessary loss in confidence or trust (OECD 2000).

There are a number of gaps in the evidence base. These include:

- It is uncertain why organisations fear enforcement and how or whether enforcement action against one organisation might have a deterrent effect amongst other organisations;
- Research on the impact of enforcement in the context of home working is very limited;
- Research on the effect of the regulatory mix is limited, but enforcement is generally not examined in isolation;
- Whether the impact of enforcement is the same in the Local Authority and HSE enforced sectors;
- Whether the priority awarded one set of regulations, such as food safety, can detract from the attention awarded other safety related regulations;
- Whether enforcement has a lasting impact on the behaviour of organisations;
- Research on non-criminal enforcement action in OHS is very limited.

Evidence on how enforcement works

A number of studies provide evidence of how enforcement works, as summarised below.

- Respondents to many survey studies (e.g. Wright 2000) indicate that the prospect of enforcement is a key reason for making health and safety improvements, and that higher levels of enforcement would prompt organisations to make further improvements;
- The prospect of reputational damage arising from poor health and safety arises in part from the prospect of enforcement action;
- The probability or certainty of detection, and subsequent enforcement action, is important, and possibly more so than the magnitude of any fine;
- There is some evidence that enforcement action can bring about a higher level of compliance than advice alone;
- The fear of enforcement, whilst being a motivator for improvement, paradoxically deters people without prior contact with the HSE to seek their advice and assistance.

Gunningham and Johnstone (1999) present a wide ranging review on regulating workplace safety that includes data from interviews with a wide range of stakeholders. Its focus was New South Wales, Australia but did extend internationally including the UK, Denmark, Sweden and the USA. Its key argument is that evidence points to there being two distinct approaches to regulation and enforcement and that the approach is an integrated one, from the possibilities of self regulation to the detail of how to inspect. The key aspect determining which “track” a duty

holder is initially allocated to would be the existence of effective safety management systems and the ability and inclination of the duty holder to work with more objective setting regulations and inspections. The book presents evidence that safety management systems (SMSs) do work (p43), though they are not a guarantee of good outcomes, and the existence of a health and safety SMS should not simply be assumed to be enough. Thus both types of regulation are indeed needed.

Thus different inspection regimes can be applied in the differing circumstances – one example from OSHA (p108) being where an inspector finds evidence of a good SMS, they then only examine the Top 4 hazards in the particular sector being inspected. This approach to inspection can also be used to provide another incentive for organisations to implement good SMSs. For those less interested in such an approach, the inspector can apply more detailed performance standards and guidance. The review suggests that there is no evidence that the existence of performance standards inhibits the process standards (p52).

It also points out that there is not always a link between profit and good occupational health and safety management, and even where there is it is often not perceived. Writers also point to theories of bounded rationality – actors cannot behave totally rationally in economic terms because for instance there may simply be too much information or they may not have all the information they need. Indeed the costs of retrieving that information my not be seen as worth while e.g. information on the benefits of good health and safety. Many have observed that even where there is this link it is usually only relevant to long term costs and benefits and the thrust of modern day commerce is towards short term profit.

The authors find significant evidence of the limits of voluntarism – in particular SMSs are not put in place voluntarily and this was shown in a major study in the Netherlands in the area of environmental protection (Aalders and Wilthagen, 1997). Companies only took an interest in a systems approach when legislation was put in place. Thus there is evidence that there is a cost-benefit argument that legislation is needed to encourage systematic management and that more broadly they find that there is evidence of mandatory requirements being effective. They also indicate that SMEs are most impressed by authority and that this could be one explanation of why inspection works. However, as inspection is not effective/efficient for very small firms they also indicate that inspection overall works best for organisations employing 100-500.

2.3.2 Enforcement – where is it most required?

Many studies show that “educational” and “persuasive” strategies have their limits. First, some sectors are generally resistant to such persuasion, either due to size, variety etc, or due to cost based competition. Also, even within the “good” sectors, it is clear that individual organisations vary in their motivation. Wright (1998) finds that where neither cost nor public image are considered important and there is no customer pressure for good health and safety management, management action is largely compliance oriented mediated by their perception of the degree of risk posed by hazards. The same study found that the motivation to manage health is reduced by a general perception that they are neither acute nor fatal and attract little public angst. Thus an organisation highly committed to safety management may not show the same degree of commitment to health management. This would suggest that an enforcement strategy should focus on “reluctant” compliers, whether these are an entire sector or specific firms within sectors.

Some other studies give indirect evidence that inspection-based enforcement works, pointing to lack of, or inadequate, enforcement to be reasons for failure of regulations (e.g. CDM (IES 2001: 41, Victoria Clean Air Act). The Ladbroke Grove Rail Inquiry (Cullen, 2000) reported that under-resourcing was one of the reasons for the HMRI level of performance, with regard to regulating rail safety.

Academic research and the OECD 2000 guidance emphasises the need to use inspection to facilitate self-audit and self-regulation (e.g. Johnstone 2003, Bluff 2003). Initiatives where incentives of reduced preventive inspection are used are reported as effective in encouraging self-regulation, but there is no systematic study of such initiatives (as above and OECD 2000).

2.3.3 Inspection, enforcement and occupational health and safety management

There is very limited work in this area. In one study by Bluff (2003), it is emphasised that OHS requires a systematic approach. This need not be a formalised or proprietary system. Bluff's review of research suggests that duty holders' understanding of the need for systematic management of health and safety is critical. To be effective occupational health and safety management should develop from the needs of the organisation. Thus regulation and enforcement should be used with care, ensuring that attention is directed towards the overall assessment and management of hazards rather than focusing overly on specific aspects.

Unsurprisingly, this is a particular problem amongst SMEs who, according to Bluff 2003, are only likely to take a systematic approach to occupational health and safety management if they perceive a strong economic incentive to do so. This is despite evidence from the environmental field that small enterprises can and do benefit from adopting a systematic approach.

These findings suggest that:

- Inspection activity needs to be responsive to the situation, both in terms of the type of duty holder, but also their stage in progress towards compliance and the type of people who need to be influenced within the organisation;

- Inspection and enforcement of occupational health and safety management should take into account the need for duty holders to understand the purpose of such systematic management in order to develop arrangements relevant to their operations;

- Moving from an enforcement approach to a more cooperative approach can work to improve compliance in certain circumstances. The level of health and safety competence of the duty holder is one factor affecting this success (Braithwaite J. 1993).

2.3.4 Prosecution

There is very little research into the effectiveness of prosecution, but what there is suggests that there are mixed effects. For example:

- Before September 1999 there had been no criminal prosecutions under either the manual handling regulations or under the display screen equipment regulations. In 2002 there remained none under the DSE regulations and only a few on manual handling (Pearce 2002). This would suggest that prosecution is either under-used for health issues, or

criminal prosecution is not practical for the enforcers, although it could be that prosecutions are enacted under Health an Safety at Work act instead of DSE etc.

- Hopkins (1995) points to the shock/wake-up value of punishment saying that whilst there are other ways of achieving this they are generally more resource intensive. Accordingly, whilst there are limited resources for inspectorates, there will always be a need for sanctions. This study also reviews the generally held view that there are some occasions where an advisory approach will achieve compliance more effectively than a punitive approach.

- The Research International (1998) evaluation of Killing Field II campaign noted that whilst farmers thought increased prosecutions would be a driver for improvement, it would also reduce trust in the HSE as a source of advice.

- Academic research suggests that prosecution is a very blunt instrument for dealing with offenders, often not tackling the health and safety issues in the round, and not fully addressing either individual or corporate accountabilities (Gunningham & Norberry 1993). This is also important in the messages it sends to society about health and safety compliance – the ripple effect may be compromised – see below.

2.3.5 Effects beyond the defendants – general deterrence

There is some evidence that the fear of prosecution does have an effect to encourage compliance beyond the duty holder who is prosecuted but that it doesn't work across the board (for an overview of the evidence, see Johnstone 2003). The mechanism by which this works is not yet clear. For some, usually larger companies, reputational risk of a high profile prosecution is an incentive. For some it is more to do with a prosecution reflecting their failure to do something that society expected of them. Johnstone's (2003) review states that "the imposition of penalties may result in a reshuffling of managerial priorities resulting in greater attention to OHS, extending beyond compliance with the specified standard". The OECD (2000) states that level of moral inhibition is a key factor in determining the effect of deterrence.

Evidence from the USA is growing to support the conclusion that certainty of punishment is more important than the size of the penalty (Gray & Scholtz 1990) though there is some evidence that in some contexts this is not the case. Braithwaite and Makkai (1994) showed almost no correlation between nursing home compliance rates and perceptions of certainty and severity of punishment. Other evidence points to a cumulative effect of hearing of numerous prosecutions with little impact of isolated prosecutions.

Johnstone's review of research states that the specific deterrent effect of an imposed penalty is greater than the general deterrent effect.

In a study about noise at work MTS (1994) found that prohibition notices issued as a result of finding non-compliance with regulations during inspections, were an incentive to management provided they perceived that there was a significant risk of prosecution. This same study also gives information on the "ripple" effect of inspection; it was found that all but one participants already believed that they were doing enough to avoid prosecution and so, combined with the perception of the very limited chances of receiving a visit, there was very little incentive to improve. Thus the "ripple" is mediated by the perception of compliance and the chances of receiving a visit. However, studies on the effectiveness of OSHA reviewed by Wright (1998)

suggest that there is a clear motivational effect on the "inspected", but very little evidence of a wider effect of inspection. One study which sought to quantify benefits of inspection did find that increased frequency of inspection could increase firms' willingness to comply and another that the actual probability of inspection was more important as a motivator to compliance than the level of fines.

Whilst high profile cases can have a positive effect of reinforcing the legitimacy of OHS requirements, the foundations of the criminal law on individual responsibility and *mens rea* may serve both to support a widespread attitude that health and safety crime is not a "real" crime, and to "splinter" the way health and safety offences are viewed (Johnstone 2002). Johnstone's research shows that courts in Australia have tended to examine offences in very close detail tending to lose site of the process/management failings leading to an adverse outcome event (and the offence). The defence in mitigation for the company then exploit the traditional view of the individual as responsible to reduce the perceived culpability of the company. A high proportion of Australian prosecutions remain focussed on injuries caused by machinery which may make this latter drawback less relevant to the UK. Other UK work (Pearce 2002) also shows that courts do not always support improvements in health and safety at the detailed level. The vocabulary of the court for instance does not always match every day usage, the legal definition of "injury" given as an example of where this is the case.

2.3.6 Public disclosure

Pawson (2001) reviews the policy intervention of using "public disclosure" to overcome recalcitrant behaviour – more commonly known as "Naming and Shaming" or "Naming of Offenders". No reviews are available that specifically address the efficacy of the HSE's Naming of Offenders policy.

The paper reviews the mechanisms by which it is thought that such a policy may work, for whom and in what circumstances. As a preparation for a large review of the implementation of this policy in a variety of fields it identifies the various mechanisms at work and what factors should be examined. Thus it is limited in the evidence it provides for what works but does begin to identify some the questions that needs to be asked.

Pawson identifies 3 key stakeholders – shamed subjects, responsible bodies and the wider public, and four major stages:

1. Identification of the unacceptable performance,
2. Naming – disclosing the failing party
3. Public sanction – where the broader community acts on the disclosure
4. Recipient response – where there is behavioural change in response

Initial mapping of where such schemes fail indicates the following mechanisms

- Culprit Mis-identification – where the behaviour is misclassified
- Dissemination mismanagement – where disclosure publicity is sparse, excessive, where targeting is too restricted or over stretched, over-complexity or over-simplification in presentation, or wrangles about the meaning of the information.

- Sanction misapplication – where the wider public apply measure that go beyond shaming such as humiliation, vigilantism, or falls short of shaming by accepting the label and continuing existing behaviour, or reinterpreting the label and adopting perverse modification to behaviour.

Pawson reviews 6 different initiatives to draw out the differences in mechanisms and contexts in which they are applied.

On mechanisms he identifies that the nature of the sanction is rarely solely reputational and often involves some sort of "economic backlash", "increased surveillance" or "revised management" mechanisms (e.g. pressure to change hospital management in response to published waiting list data). This is an area that needs to be further developed and explored in health and safety. The nature of the routing of information can also vary – there are flows between the three key stakeholders, public bodies often being responsible for interpreting and applying sanctions but not necessarily. The nature of the disclosure can also vary, the shamed party being identified individually, in conjunction with other or in comparison with others. Disclosure may also be active publicity (general public notified through available means), directed at certain third parties, or passive (the information is there but not actively publicised). The question is what should be disclosed and how much should it be advertised and pushed.

There are also contextual differences. Moral authority and public interest determines how blameworthy a culprit is and on this turns shame. Thus the shaming possibilities will vary with the difference in the levels of public outrage/ disapproval, ranging from the "moral panic to there-but-for-the-grace-of-god". Shaming possibilities vary according to the make up of each stakeholder group and their relationship to one another. Differences include whether it's an individual or an organisation, the nature of the authority of the responsible body, who are the opinion formers (e.g. public, media, responsible body) etc. So the question here is who can be moved to shame and who can deliver the shaming sanction with the authority and magnitude. There are also differences in the misdeeds – e.g. omissions or commissions – and they may not all result in behavioural changes from the emotional challenge of "shaming".

Much of Pawson's discussion is around emotions and shame and he does point out that this is relevant to companies who often value the trust and confidence of its many publics.

Emerging theories

Pawson's brief review puts forward some tentative theories about the way this works. For instance that the more complex the behaviour categorised, the less the integrity of the notification procedure and so the less the response can be anticipated. If there are ambiguities in the information provided powerful and articulate subjects may seize on this as a first line of defence.

Also Pawson suggest that a key fourth party is the media with most success in policy areas which are deemed newsworthy and thus the information is more likely to reach the right public.

Another theory put forward by Braithwaite (1993) is that such naming policies work best when they are "re-integrative" so that there is an opportunity for restoration to ensure that the named party is encouraged to view the naming in some way as positive. A study by Fisse and Braithwaite (1983) of the response following charges of corporate offending in 17 cases

supported this position with respect to corporate bodies. Having the opportunity of responding to restore reputation was found to be productive.

2.3.7 Civil and other enforcement tools

The fear of compensation claims is cited by some studies as a motivator for compliance with regulations. Civil claims often involve close examination of criminal statute and HSE guidance, and cases can hinge on what is not in the HSE guidance. Pearce (2002) suggests that the experience from argument in these cases could be usefully incorporated into guidance. However the information is rarely captured in a useful format.

Much of the academic writing also emphasises the need for a variety of enforcement tools to encourage compliance both in the field of occupational health and safety and in environmental legislation. Gunningham and Norberry (1993), in their introduction to an Australian Institute for Criminology conference on environmental crime, say that the strict evidential needs of criminal proceedings limit their effectiveness and thus make a case for more flexible civil proceedings in addition to the criminal where necessary. Gunningham, in the same proceedings, also points to evidence from the US suggests that Right to Know legislation has brought about improvements in compliance with environmental legislation though it is acknowledged that alone this would lead to uneven enforcement

2.3.8 Examples of penalties and enforcement powers

The following examples of health and safety penalties and enforcement powers are either used or have been proposed for further research in other countries, such as Australia. They are cited here to exemplify the point that there are other ways of using penalties and enforcement to secure compliance.

- Fines for late notification of injuries to the nominated body;
- Fines for the employer if they inhibit or obstruct the reporting of injuries;
- Assessment charges (equivalent to charging for work associated with improvement notices);
- Prison sentences for offences that cause death;
- Closure notices;
- Court directed administrative resolutions (ordering changes in an organisation);
- Court order publicity.

These examples suggest that there is scope for new penalties.

2.4 FINANCIAL AND BUSINESS INCENTIVES

2.4.1 Introduction

Over many years, a large effort has been expended on demonstrating the business case for health and safety. This work was prompted, in part, in response to the perception, amongst some duty holders, that health and safety is a cost and a burden on business. Accordingly, the objective has been to demonstrate that better health and safety can improve the profitability, productivity and general fortunes of organisations. However, a series of studies in the 1990's reported that few organisations were prompted to improve health and safety due to the potential business benefits. For example, in the 1999 survey of 1,800 firms the Evaluation of the Good Health is Good Business Campaign reported that;

- Only 8% of respondents were prompted to make improvements due to business impacts/ bad PR/ customer pressure;
- Only 1% due to employers' liability claim costs.
- Only 17% of respondents reported that work related ill-health cost their organisations "a lot".
- Just 10% thought that evidence of business impacts would prompt them to do more.

Similarly studies of health surveillance and noise in the mid-1990's noted that pressure from insurance firms was not a factor influencing employer practices.

However, as discussed below, more recent research provides new evidence about how employers view the "business case" and provides more support for the potential role of financial and other business incentives. Care must be taken in assuming employers view the "business case" as a single line of argument. As elaborated below, it appears that there are a number of elements to the "business case", each of which can be appraised separately and differently by employers, sectors and employees.

2.4.2 Employers' Liability Compulsory Insurance

It is possible that recent events have changed the attitudes of organisations towards the cost of Employers' Liability Compulsory Insurance (ELCI). As documented by the DWP and Office of Fair Trading reviews, and highlighted in the media, there has been a significant increase in the cost of employers' liability premiums and a hardening of terms amongst insurers. The cost increases have been large enough to generate a significant level of concern amongst employers, leading to demands for reforms to bring the cost back down. Both in terms of data, and anecdotally, there is evidence that the cost of employers' liability is now significant in absolute and relative terms for many, but not all organisations.

The recent reaction of organisations has been surveyed by a HSE commissioned study and completed by Greenstreet Berman in the summer of 2003 (Wright et al.). It is apparent that;

- 50% of respondents report that they have taken action to improve health and safety arrangements in response to the cost and availability of employers' liability;

- That many insurers are, for the first time, requesting evidence of health and safety management arrangements.

It was also reported in the Baseline Measurements for the Evaluation of the Work Related Stress Campaign (Pilkington et al. 2001) that the fear of litigation and the associated costs was a key prompt for improving the management of stress.

Thus, there is clear evidence that organisations have responded to the increase in cost by attempting to improve health and safety. It has been separately reported by the Association of British Insurers (2003) that some trade associations have developed health and safety schemes that, once approved by the Association of British Insurers, allows them to get preferential terms from insurers.

These actions are consistent with the expectations of another HSE commissioned study completed by Greenstreet Berman in 2000-2001prior to the ELCI "crisis" (Wright and Marsden 2002). This comprehensive study concluded, on the basis of a detailed assessment of experiences in other countries, that organisations would take action to improve health and safety if they bore a fuller proportion of the cost of injury and ill-health in the form of increased insurance premiums. The reaction of organisations was concluded to be dependent on:

- Their believing that there was a connection between their health and safety performance and their organisation specific premiums;
- Whether the absolute cost of premiums was high enough to matter;
- Their belief that cost increases due to factors outwith their control, such as court based judgements and historical insurance fund deficits, would not cancel out their own efforts to reduce premiums by better performance.

If the latter conditions are not met, or if the absolute cost of insurance rises beyond a certain level, organisations tend to attempt to reduce costs by other means. In particular, if the insurance cost is considered unaffordable and beyond the control of organisations, this tends to lead to demands for reform. Indeed, in most countries (Australia, New Zealand, Canada and America) where the cost of insurance has been important, the system has been reformed at some point in recent history. The reforms have entailed:

- Reduction in level of compensation paid to claimants;
- A tightening of what conditions can be claimed for;
- Reduction in legal and medical costs;
- An increased emphasis on restoring the person to work through rehabilitation.

Indeed, the increased cost of workplace compensation has been the main driver for the introduction of improved standards of rehabilitation and return to work standards in America, Canada and Australia. In each case they have either mandated or promoted a greater up take of Return to work (RTW) and rehabilitation as a means of reducing or containing compensation costs, as well as achieving other benefits such as improved productivity and less social wastage.

However, whilst these reforms and developments have aimed to contain or reduce overall costs, the absolute cost to organisations has remained at a level that provides an incentive to manage health and safety, an average of a few per cent of payroll.

It is also clear that if the cost is regarded to be unaffordable or unfair by employers, they may take less legitimate action to reduce cost, such as suppressing claims, relocating their business, discriminatory employment and simply contesting more claims.

To ensure that organisations believe there is a link between their performance and their premiums, different experience ratings are developed. Large organisations tend to be rated on their individual claims history because they have enough claims to be statistically robust. Special rating schemes are required for smaller organisations. These tend to involve giving discounts to firms that either participate on prescribed health and safety programmes, and / or complete formal assessment schemes. Some schemes involve pooling the claims history of a group of small firms.

Thus, it appears that financial levers in the form of insurance premiums can act as an incentive to improve health and safety, and rehabilitation practices. It is pertinent to note that the DWP review envisages an increase in rehabilitation and better risk based premium rating for the UK in response to the recent increases in the cost of ELCI. The ABI are developing a low cost claims method, avoiding solicitors, for low cost claims. These developments mimic those observed in other countries.

However, it is also clear that the impact of premiums is moderated by a number of other factors. First, if the premium is borne as a central overhead in a large organisation, this may remove the incentive from local management to reduce such a cost. Secondly, there is some evidence to suggest that certain types of organisations are not cost sensitive, such as public sector organisations. Thirdly, organisations operating in lower risk sectors can still have low premiums even after the full cost of claims is borne by the insurance system. In these cases the low absolute cost of premiums may not provide an incentive.

The 2003 survey suggests this remains the case for a large proportion of UK organisations. As shown in Table 1, Figure 1 and Figure 2 those sectors that more commonly had greater difficulty in obtaining ELCI more commonly report attempting to improve health and safety, such as construction, utilities and manufacturing. However, sectors such as Local Authorities, Other Services and Telecommunications were much less likely to report having greater difficulty in obtaining and much less likely to report attempting to improve health and safety in response to the cost of ELCI.

Finally, even if the cost is a concern, there is some evidence that if the time lag between improving health and safety and securing a discount is too long, the incentive may be lost. This was reported by Wright et al 2002 to be a potential issue in the construction sector that has a particularly acute business cycle and short term project form of working. In addition, if there is a long time lag between exposure to a hazards and the occurrence of ill effects, such as latent diseases, this may break the link between current day health and safety management and premium-based incentives.

Table 1: 2003 survey results on response to ELCI costs increases by sector

Industry Sector	Stop carrying out certain types of work or activities				Try to improve health and safety performance				Incurred greater difficulty in obtaining current employers' liability insurance			
	n	Yes	No	Considered it	n	Yes	No	Considered it	n	Yes	No	Don't know
Utilities	22	13.6%	59.1%	27.3%	26	76.9%	19.2%	3.8%	27	40.7%	48.1%	11.1%
Construction	231	28.6%	46.8%	24.7%	241	69.7%	24.9%	5.4%	298	34.6%	65.1%	0.3%
Manufacturing	337	18.7%	63.8%	17.5%	353	60.3%	33.7%	5.9%	426	23.9%	73.7%	2.3%
Transport	58	13.8%	62.1%	24.1%	62	59.7%	35.5%	4.8%	74	18.9%	78.4%	2.7%
Health & Social	74	13.5%	70.3%	16.2%	86	54.7%	37.2%	8.1%	110	12.7%	86.4%	0.9%
Agriculture	126	18.3%	64.3%	17.5%	133	50.4%	42.1%	7.5%	153	20.3%	79.7%	0.0%
Retail & Repairs	139	12.9%	75.5%	11.5%	153	50.3%	43.1%	6.5%	186	14.5%	82.8%	2.7%
Education	231	5.3%	80.9%	13.8%	241	47.1%	47.1%	5.9%	298	13.2%	84.3%	2.5%
Hotels & Catering	397	7.8%	81.9%	10.3%	419	41.8%	51.3%	6.9%	478	6.7%	91.4%	1.9%
Banking	28	7.1%	78.6%	14.3%	29	41.4%	58.6%	0.0%	33	12.1%	87.9%	0.0%
Local Authority	116	12.1%	73.3%	14.7%	121	39.7%	50.4%	9.9%	132	16.7%	82.6%	0.8%
Other Services	272	14.7%	75.7%	9.6%	275	35.6%	58.2%	6.2%	348	10.9%	88.2%	0.9%
Telecommunications	18	0.0%	88.9%	11.1%	20	35.0%	55.0%	10.0%	22	0.0%	100.0%	0.0%

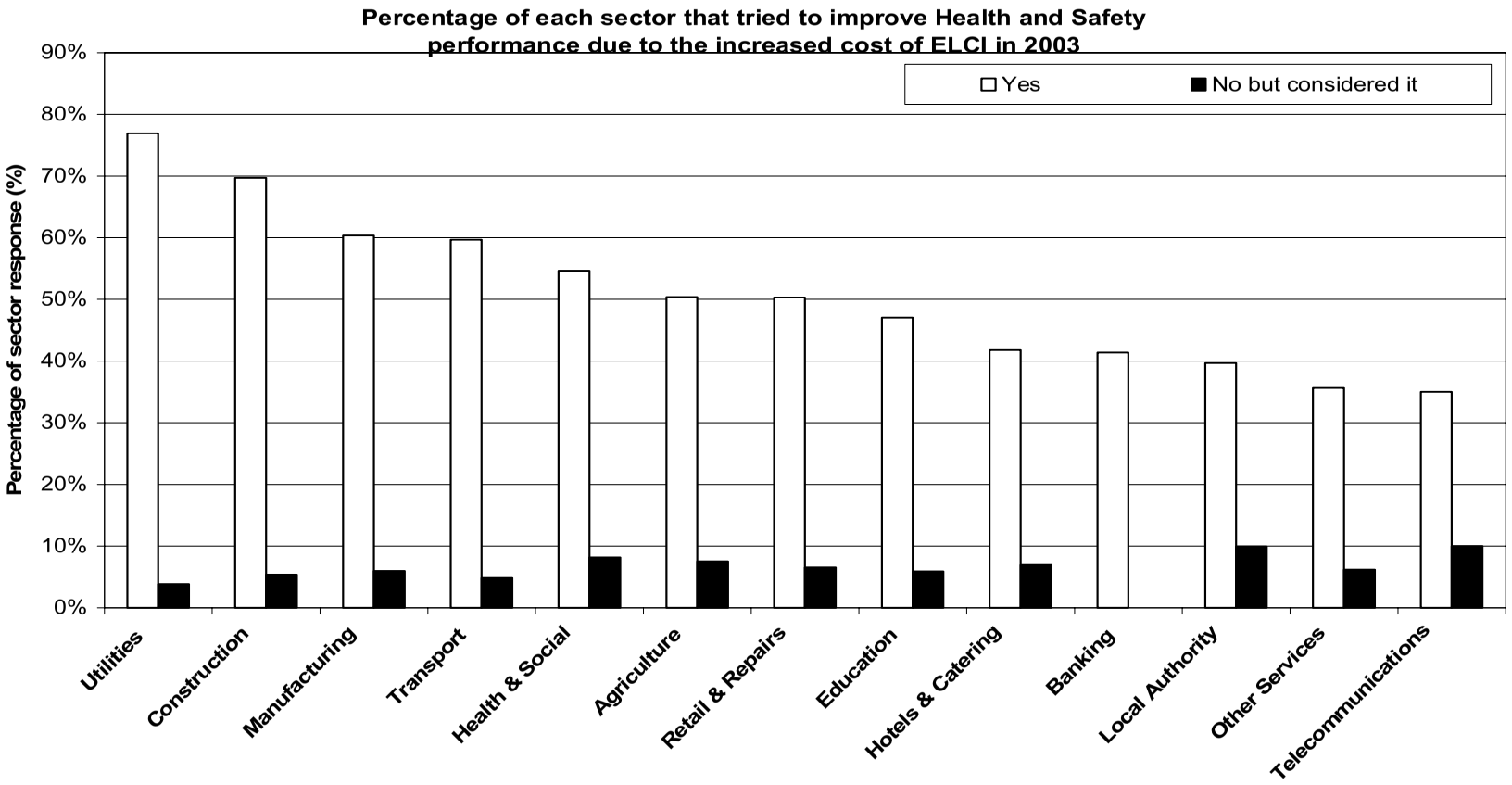

Figure 1: Proportion of respondents in each sector experiencing greater difficulty in obtaining ELCI

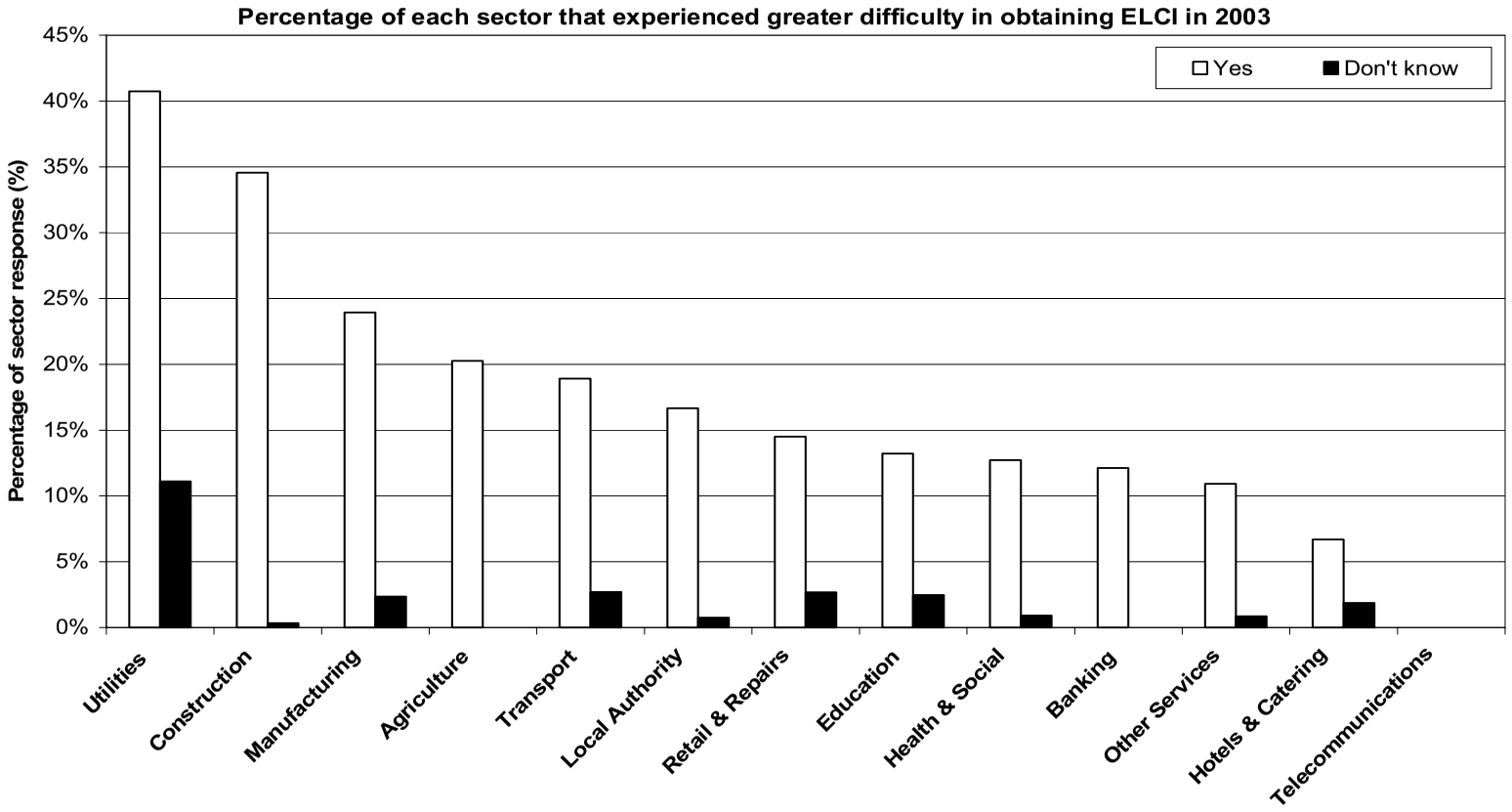

Figure 2: Proportion of respondents in each sector improving health and safety.

ELCI and rehabilitation

It is also very clear that the cost of workers' compensation in the USA, Canada, Australia and New Zealand has been the main driver for the increased promotion and application of Return to Work and vocational rehabilitation in these countries. Accordingly, employers are offered the prospect of reduced premiums in response to fewer or less serious claims, and / or by adoption of good practices.

There are examples in the US of private insurers going further than highlighting the prospect of reduced premiums. An example of an insurer driven incentive can be seen in the Return to Work Rewards operated by Sun Life in the United States. They offer up to three months of the employee's net monthly Long Term Disability benefit if the employee returns to work within 24 months and stays on the job for 6 months. The employer must take action such as modify the employee's duties or location to qualify. Sun Life also offers Accommodation Benefit of up to $2,000 if special equipment is needed. This scheme is clearly directed at achieving a faster return to work. The costs of the scheme are borne as part of the Long Term Disability policy premium.

Many state based workers' compensation boards also offer support in the form of:

- Fully funded periods of vocational training – where the board pays the wage costs of the claimant during retraining;
- Financial assistance to make workplace modifications;
- Vocational placement.

In Canada, Australia and those US states with state run workers' compensation, the Workers' Compensation Boards cover many of the costs associated with vocational rehabilitation. For example, in British Columbia the WCB pays 100% of wages of the first month of a work assessment programme, enabling the employer to have a zero financial risk when assessing the worker's suitability for the job. The WCB pays a reducing % of wages over the next 3 months of on-the-job training. The WCB may also cover expenses such as tuition and special equipment.

Some states mandate that employers must keep a person's job open for an extended period. This is intended to provide the employers with an incentive to secure the individual's early return to work. For example, Victoria, in Australia, require employers to provide suitable employment when a worker is fit to return to work, or the same equivalent position if the worker is fully fit to work within 12 months of becoming incapacitated.

As ever, the extent to which employers implement return to work or rehabilitation varies by company size. For example, in Ontario, an Institute of Work and Health 1997 study of 1,500 workers found that 31% of workers who had suffered work related soft tissue injuries, in firms with 5 to 19 employees, were offered arrangements to help them return to work. This rose to 41% of firms with 20 to 99 employees and 48% of firms with over 1,000 employees.

More generally, the extent to which the business case for return to work is accepted appears to be related to at least two factors. First, concern for return to work is linked to the absolute cost of workers compensation. When the absolute cost of workers compensation or absence rose, then employers took a greater interest in seeking cost-effective ways of reducing these costs.

Inversely, if the absolute cost is perceived to be low, then cost reduction methods are of little interest, even if savings outweigh expenditures. Also, concern for reducing workers' compensation costs can be outweighed by other issues such as rising health care costs. Thus, the business case for return to work can be "overlooked" when other avenues of cost reduction or savings appear to offer greater potential.

In the case of Australia, a greater emphasis has been placed on the mandating of employers' rehabilitation arrangements, in addition to promotion of the business case. There have been a number of drivers for change in Australian rehabilitation practices. These include;

- The rapid rise in workers' compensation costs in the first half of the 1990's led to a major review of the system in 1996[2]. It was noted that lengthy claim decision processes and high caseloads contributed to delays in rehabilitation and *ad hoc* service provisions.

- A commission review pointed to the ineffectiveness of their centralised rehabilitation system in the period up to 1991.

- The Grellman Report (1997) identified short comings in rehabilitation, principally the impact of late referral to rehabilitations in New South Wales – leading to a focus on proactive management and early intervention strategies.

These drivers led to the implementation of rehabilitation obligations on employers and employees, in part because they were thought to have high potential to reduce overall employer, worker and system costs to reduce overall costs. For example, the Workcover Queensland Act 1996 requires, amongst other things, that employers with 30 or more employees appoint a trained rehabilitation coordinator and have written rehabilitation in place approved by Workcover. Rehabilitation had previously been provided by a heavily centralised rehabilitation system which was thought to have largely excluded employers and been "captured" by service providers. The central agency had total responsibility for rehabilitation plans, services and providers. The reforms made employers responsible for workplace return to work arrangements.

However, as noted by Hawkins (2000), the reforms of 1996 have not yet achieved their potential for cost savings. Moreover, there is some evidence that workplace rehabilitation has been poorly implemented in Australia, either because of the perception that rehabilitation is a burden, or as a cause of these reactions. Indeed, a 1998/99 national survey (Workplace Relations Ministers' Council 2000) found that in Queensland, for example, only 30% of injured workers with over 10 days absence had a return to work plan. Many employers have adopted a minimalist approach, introducing rehabilitation solely because it is the law. Kenny (1996 and 1999) reports that many employers have adopted a compliance reaction to the rehabilitation regulation, with the exception of large firms.

It is also been reported that the Australian adversarial workers' compensation systems (wherein you have to prove you are ill) remains a barrier (O'Donnel, 2000), whilst the return to work activities of employers, medical people and insurers is uncoordinated (Kendall et al, 2000). These findings were reinforced by a NSW Workcover Authority commissioned study, completed by PricewaterhouseCoopers, of 600 claimants (PwC, 2001). The claimants reported

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[2] Report of the Commission of Inquiry into Workers' Compensation and Related Matters in Queensland, 1996.

many problems with their rehabilitation treatment, including employers failing to provide suitable treatment, insurers being slow in paying bills, and rehabilitation providers showing a lack of interest and being perceived they were acting on behalf of the insurers.

Thus, it appears that in the case of Australia, that whilst firms who effectively implement return to work practices report a very positive benefit to cost, the regulation driven approach to rehabilitation has enjoyed mixed fortunes. A similar message is found in the USA, where some states have moved away from regulatory prescription of clinical rehabilitation due to the experience of such requirements driving up health care costs, and instead have focused on regulating and promoting workplace return to work schemes. On the other hand, in the US it has been reported that the uptake of rehabilitation is far lower in New York state, where it is voluntary, than in states such as Florida where it is mandatory.

However, it is also vital to consider the incentives and disincentives for claimants. Numerous studies have shown that the success of rehabilitation is strongly influenced by the desire, or lack of it, of the employee to return to employment. The need to address the financial incentives and disincentives of the claimants has been addressed in other countries by linking benefit payments to cooperation with rehabilitation plans. In Germany and Sweden individuals cannot qualify for permanent benefits without a rehabilitation or return to work assessment. In many states claimant's benefits may be withheld or reduced in the event that they do no participate or fulfil return to work plans.

Concluding remarks

The UK is at a relatively early stage in how it uses insurance premiums as an incentive for health and safety. The evidence from overseas and from recent events in the UK suggests that this does provide a new "lever" to influence employers. Other countries have developed sector specific schemes and schemes tailored to small businesses. It appears that there could be further scope for innovation in this area in the UK. It is pertinent to note that NHS costs for treating work related injuries and ill-health are not charged on to employers/insurers. Other countries also allow employers to have "excess" and, if firms are large enough, self-insurance. There have also been suggestions that there is scope for increasing the role of ELCI as an incentive by changing court civil guidance and judges guidance, such as giving greater weight to the offer and acceptance of rehabilitation or increasing awards for pain and suffering, and by the DWP providing more directive advice to benefit claimants about their right to litigate for compensation (instead of relying on state benefits). Hence, there remains scope for increasing the ELCI financial incentive.

There is also a debate to be developed about the arguments for and against regulation of rehabilitation. Whilst regulation can be an effective prompt to improve the level of rehabilitation it can also meet with concern about cost and effectiveness.

2.4.3 Reputational risk and Corporate Social Responsibility

Overview

If you exclude single person proprietorship, the majority of the British workforce remains employed by large firms. There are a number of studies that show that firms are sensitive to their public image in respect of the perceived level of internal governance (internal business risk management) and social responsibility. Many studies have reported that organisations manage health and safety due to the perceived social and moral case. This is manifested by the emergence of terms such as "Corporate Social Responsibility", "reputational risk" and "Corporate Governance". It is also clear from research that firms with "high street" names are driven by the need to maintain their public image or "brand" to proactively manage health and safety. There are emerging signs that pressure group activity is adding to the concern about brand and reputational risk.

It is thought that this offers a number of opportunities:

- Promoting health and safety as part of CSR;
- Highlighting the reputational damage to organisations who have adverse publicity due to poor health and safety;
- Prompting firms to apply pressure to their contractors.

This has led to a number of HSC initiatives, including;

- The development of a Health and Safety Performance Index for use by investors and insurers;
- A challenge to the top 350 FTSE firms to report their health and safety performance, and;
- The publication of an Offenders database.

It has also been suggested that the promotion of the social and moral case for health and safety could be implemented in the form of promotional activities that focus on the pain and suffering of work related injuries and ill-health. Such work could target all sections of society. There have also been arguments that education on health and safety should start within schools, framing and improving societal expectations from an early age. These ideas aim to increase the level of societal concern and hence condemnation of poor health and safety practices. Again this is lent support by the finding from surveys that companies are also motivated to improve health and safety by the need to ensure good staff relations and morale, by demonstrating a caring attitude to their health and well being. It is possible to interpret this to mean, in this context, it is important for employers to manage those aspects of health and safety on which their staff may judge them.

Research findings

A series of studies have reported that many large organisations (but not some much smaller firms) are prompted to manage health and safety due to the perceived reputational risk as well as the social and moral case.

- Smallman and John (2001) found in a survey of 102 senior directors that 79% cited health and safety as currently having a great or fair amount of tangible impact upon corporate reputation, with 58% seeing the impact on protection of the brand;

- Wright, Marsden & Holmes (2003) found that concern about corporate responsibility and ethical image was the second top ranked influence, following general concern about health and safety, for boards taking a directorial interest in health and safety;

- Wright et al (1998) reported on research regarding what motivates both SMEs and large enterprises to initiate health and safety improvements. The research suggests that there are two main factors, namely the fear of loss of corporate credibility and a belief that it is necessary and morally correct to comply with health and safety regulations. The vast majority of the research has been undertaken within the private sector, hence there is little research upon which to conclude that these factors are applicable within the public sector services.

There is evidence that large organisations, especially those in higher risk sectors, have responded to these pressures. For example:

- The Smallman and John (2001) study found that health and safety legal responsibility was assigned to a company director by 57% of respondents, and to another manager, by 20%.

- Wright and Marsden (2001) and with Holmes (2003) reported that the proportion of organisations that report health and safety at board level increased from 58% to 66% between their 2001 and 2003 studies.

- Peebles et al (2002) found that there has been a large increase from 47% to 91% of FTSE 100 companies publicly reporting health and safety issues, and an increase from 47% to 78% amongst UK “top companies”. They also found from a sample of 42 public bodies that 79% made reference to health and safety.

These studies consistently indicate that (1) reputational risk is a driver for large firms and (2) that this pressure leads to health and safety being directed more proactively at board level. Moreover, these studies have also reported that the HSE/C initiatives to capitalise on these drivers have had effect. Peebles et al. (2002) study noted that the improvement in reporting was associated with the HSC “Challenge” whilst Wright, Marsden & Holmes (2003) found that the HSC guidance on director’s responsibility was a significant influence on board level responsibilities.

These studies do stand in marked contrast to the finding of the 1999 survey completed as part of the Evaluation of Good Health is Good Business that found only 2% of respondents (including large firms), made improvements mainly due to the wish to improve the company image and reputation. This rose to 5% when the second main reason for making improvements was asked.

Shareholder and bank pressure, and public pressure were cited by just 1% of respondents. The difference in results may be ascribed to any of three things:

- The Evaluation of the GHGB used a different question set that may not have explored the role of reputational risk so explicitly;
- The Evaluation of the GHGB focused on occupational health, which might be perceived to be less of a reputational risk;
- The Evaluation of the GHGB covered all large organisations whilst Smallman and John, and Wright, Marsden & Holmes (2003) focused on the Top 350 and other large organisations – the different samples may have given different responses;
- The Evaluation of the GHGB was completed in 1999, predating the other two studies.

There is evidence that the fear of reputational damage is a real one. A number of studies have shown that stock market values can decline and remain below trend if a major incident causes a sustained loss of confidence in the management of an organisation (Mitchell and Maloney, 1989, Chalk, 1986). The impact of major accidents on high profile organisations such as Railtrack and Jarvis is commonly known. It is important to note that firms only suffer a sustained loss of share value if the incident(s) leads to a loss of confidence in the organisation. There are also examples of where share value recovers if investor's faith is restored in the management of the firm. Further examples include where a parent company does not suffer after a subsidiary has a major disaster, such as Bhopal and the Moura Mine disaster in Australia (Hopkins 2000). The Moura Mine was a small part of the parent company's BHP holdings. This combines with the finding from the evaluation of the Good Health is Good Business campaign that few employers are prompted by shareholder pressure to improve health and safety management. It should be noted that the vast majority of UK organisations are either owner-managed or public sector, with only a minority of publicly limited companies.

Also, the Wright, Marsden & Holmes (2003) study reported that the level of board direction of health and safety varied moderately between types of organisations. Public sector (especially education) and voluntary organisations were less likely to have board level direction of health and safety than either Top 350 firms or other large private firms. The voluntary sector respondents were less likely to cite concern for their ethical image, as well as generally rating other reasons for managing health and safety as less influential. Peebles et al. (2002) did not report any significant difference in the levels of reporting between private and public organisations, but they do not report on voluntary organisations. However, they did note that Local Authorities and NHS trusts had a higher level of reporting than Government departments and agencies.

In addition, Wright, Marsden & Holmes (2003) found that the minority of organisation that did not direct health and safety at board level were less likely to have heard of the HSC guidance or to report being influenced by it. This is judged here to be another example of where HSE/C guidance has the greatest impact on receptive organisations and less impact on organisations that lack high level direction of health and safety or concern for health and safety.

One possible flaw in the use of "reputation risk" as a lever is that organisations may focus their attention on a sub-set of health and safety risks that they believe their reputation may be damaged by. Alternatively they only manage those aspects of health and safety that they believe

they will be judged on. That these risks may not match might be identified by a more objective assessment. Indeed, there are examples of;

- Major hazard organisations managing down occupational injury rates whilst overlooking the control of less frequent major accident hazards – believing that they are judged by their reported injury rate rather than the absence of major accidents;

- Organisations with nuclear operations focusing on radiological risks without applying adequate attention to conventional occupational health and safety risks.

It is possible that, if left unmanaged, "reputational" driven health and safety management may lead to an incongruent / skewed allocation of effort. An important mediating factor is the organisations level of awareness of their full range of hazards/risks and their perception of the likely consequence for the organisation of under-performance in the management of any one of these risks.

In addition, some studies note that some firms fail to capitalise on reputation as an intangible resource due to a preoccupation with managing tangible assets, and unfamiliarity with how to exploit the value of a good reputation (Petrick et al. 1999). Finally, Smallman & John (2001) argue that occupational health and safety currently can only have a negative impact on corporate reputation. That is, whilst poor performance can disadvantage a firm, good performance may go unnoticed.

The belief that reputational risk/ concern about image of corporate responsibility is a driver for health and safety has led to a number of HSE developments, including a draft health and safety index for use by external stakeholders such as investors and the aforementioned reporting challenge. The evidence from previous studies clearly indicates that large organisations are responding to pressures to publicly report health and safety performance and to demonstrate a board level commitment. It is apparent that top firms do see poor health and safety to be a corporate risk to their performance and reputation and that this offers opportunities for levering health and safety into large organisations.

It is important to note that reputational risk is, partly, created by a fear of adverse regulatory / enforcement action. Corporations and other organisations do not wish to be seen or perceived to be in breach of regulations. Thus, the existence and enforcement of regulations is a key aspect of creating reputational risk. This may explain some of the differences between surveys where some cite regulations as the main driver whilst others cite reputational risk. That is, it is possible that the respondent may be thinking about the reputational damage of non-compliance when citing the role of regulations.

Concluding remarks

Whilst it is clear that reputational risk is an important driver from which the HSE can profit, current research does not yet provide a full understanding of where and how reputational risk influences organisations. In addition, whilst the HSE has pursued some avenues for exploiting or enabling this effect, further opportunities have yet to be explored. For example, in Australia it has been suggested that courts should be enabled to have court directed publicity of corporate offences. There has also been the suggestion that health and safety should be drawn into the concept of CSR. Research on CSR indicates that this is a developing concept. Dti commissioned

research indicates that only a small number of firms have a formal CSR policy although large firms are well represented in this group (Corporate Culture, 2002). These firms are said to be "early adopters" and that their policies are still in formation. Notwithstanding this, there is firm evidence that the majority of large organisations have or are developing some form of corporate code, whether this is termed corporate ethics, corporate governance or CSR, into which health and safety could be incorporated.

2.4.4 Supply chain pressure

There are mixed messages about the role of supply chain pressures in health and safety. On the one hand, it is reported that when clients make health and safety a precondition for their suppliers, this does have a significant impact on the suppliers. On the other hand, there is evidence that many clients do not yet effectively exert this pressure. A clear example of this is found in the construction industry (Brabazon et al. 2000). They found that:

- Whilst clients have a significant influence, they are not using this to the full;
- Clients working in the highly regulated areas such as chemicals and the prison service set high standards and expect these to be matched by other companies in the construction chain, and;
- The perception of health and safety falls through the civil engineering sector to house building sector and office refurbishment, with Local Authorities named as poor clients (unrealistic schedules and resources), Brabazon et al (2000), despite the point that Local Authorities were the first to implement construction vetting scheme.

Perversely though, it is also reported that clients can have an adverse impact on safety by creating cost and schedule based pressures on suppliers. Brabazon et al (2000) reported that many clients see health and safety as a cost and not their concern, believing that contractors use it as an excuse to raise prices. The main response by clients is to try to delegate health and safety responsibilities through the Planning Supervisor or Client Agent. Brabazon et al (2000) were unable to find any examples of other countries resolving these issues.

The suggestion that clients do not yet exert widespread pressure on employers is reinforced by other surveys, such as the Evaluation of Good Health is Good Business which reports few firms citing this as a prompt for improving health and safety.

Thus, it appears that whilst supply chain pressure can be influential if exercised, it is unclear if clients currently exert this pressure outside of the more highly regulated sectors such as chemicals.

2.4.5 Other business benefits: Cost reduction, productivity and profitability

In contrast to the evidence of organisations' response to ELCI costs, supply chain and reputational risk, there is less evidence that there has been a change in organisations perceptions of the "productivity" case for health and safety. As previously mentioned, whilst it is apparent that large firms are incentivised by concerns about reputational risk and some sectors by client demands, there is mixed evidence that organisations more generally are incentivised by the "business case" to initiate improvement in health and safety. For example, the Evaluation of the GHGB found that, on average, respondents report that work related ill-health costs between "a

little" and "nothing significant". Indeed, 42% reported that work related ill health cost nothing significant, 33% a little, and 17% a lot, and only 10% cited "business impacts" as a prompt for possibly doing more to improve health risk management.

A number of factors are thought to limit the impact of these aspects of the "business case":

- Few organisations track or account for the costs of injury, ill-health and sub-standard performance associated with poor health and safety – the internal costs borne by organisations of poor health and safety are not recorded;

- The relative cost of poor health and safety may be low compared to other costs – so that even if it is cost-effective to improve health and safety, other avenues may offer greater return on investment of time and money;

- Some organisations, especially small owner-managed ones, are not necessarily motivated to maximise profit by minimising costs.

O'Dea and Flinn (2003) found from a review of recent literature that:

- Company managers have imperfect cost information;

- They assess the costs of regulation against benefits over too short a period, and;

- They do not know either the total costs, nor understand the link, associated with broader performance.

Indeed, Hopkins (2000) argues that managers do not necessarily apply a financial optimisation line of thinking to expenditure. He contends that, firstly, managers focus on short-term costs (usually one year) rather than the longer term savings from health and safety expenditure. Secondly, employers may not be interested in evidence that the savings achieved by health and safety exceed the costs, if the savings are relatively small in absolute or relative terms compared to other activities. He makes the point that health and safety must compete with other ways of improving profits and productivity, such that health and safety may be down rated even if it is cost-effective. This is supported by the evaluation of the GHGB campaign which found that whilst profitability and customer care were the highest business priority amongst 63% of respondents, few spontaneously mentioned cost reduction or health and safety as their highest business priority.

It has also been argued by Cutler and James (1996) that as accidents that only cause equipment or property damage cost more than accidents which cause injury, the safety pays argument may lead firms to focus and prioritise non-injury accidents.

It is also apparent from the evaluation of the GHGB campaign that the perception of costs varies between sizes and sectors of organisations, as follows;

- Larger organisations rate the cost of work related ill health to be more than medium or small firms;

- Services, retail, education, agriculture and finance rated the cost of ill health lower than other sectors.

- Retail, health, education, hotels and catering, finance and post were less likely to rate health and safety as their highest business priority than sectors such as manufacturing, construction, utilities and transport.

In contrast to these findings, there is some evidence that;

- Larger organisations accept the link between health and safety and productivity (Smallman and John 2001);

- More 'sophisticated' firms view health and safety to be an integral part of productivity and profitability (Warrack and Sinah 1999). These firms view building a safer and healthier workplace environment as part of achieving excellence in quality and productivity.

Thus, it does appear that the "safety pays" argument has been accepted by a section of organisations, particularly larger and organisations in higher risk sectors.

Moreover, whilst the value of promoting the financial cost-benefit case as a prompt for improvement is unclear, it is clear that it is essential to demonstrate the business benefits of health and safety to justify the cost of health and safety improvements. Studies have shown that both the perceived affordability and proportionality of improvements is important. Thus, whilst organisations are less inclined to initiate health and safety improvements for the sake of the business benefits, the acceptance of improvements is to some degree influenced by the belief that the business benefits of health and safety improvements outweigh the costs.

Also, the occurrence of high profile 'safety related' collapses of organisations such as Railtrack, has heightened the perceived business risks of health and safety failures. As previously noted, large firms concern for their image, and the potential impact of adverse publicity on their business fortunes, is thought to be leading firms to see a "reputational" health and safety risk to their business. This is particularly so in the high hazard sectors where the firms clearly recognise the potential for catastrophic reputational damage and loss of confidence in the event of a major accident. However, there is little evidence of these pressures pervading in those sectors that do not perceive themselves as having such health and safety risks, e.g. public sector (who are not so vulnerable to financial losses or reputational damage because they are monopolies etc) and "low" risk activities such as financial services.

Concluding remarks

It could be argued that care must be taken in over-interpreting the negative findings about the impact of the "safety pays" argument on employers. The apparent mixed results of studies could be interpreted to mean that this is either a less effective motivator or that new and more effective ways of presenting the business case are needed. The latter point is supported by the outcome of the Evaluation of the Good Health is Good Business campaign, wherein some respondents did indicate that they thought the business case could be better presented. For example, it has been suggested that more individual company case studies are needed, as opposed to less personalised survey based evidence. Also, the impact of recent developments, such as the publication of the Ready Reckoner and the increased cost of ELCI on the perceived business case have yet to be assessed.

It is also possible to conclude that the impact of the business case and safety pays argument varies between employers according to their size, sector and perceived risk.

2.5 ADVISORY AND INFORMATION ACTIVITIES

2.5.1 The effectiveness and role of advisory activity

Education and advice forms a key part of the HSE's, and in some cases LA's work. They have formulated and launched numerous campaigns, guidance and forms of advice. With a few exceptions, numerous UK evaluations have indicated such work is effective in raising awareness, and awareness is an important factor in improving health and safety precautions (Wright, 2000; Bunt, 1993; Fairman and Yapp, 2003). Numerous Studies in the United States, Canada and Australia have also found that education and advice is a critical element of securing compliance and improvement in health and safety. All of the authorities in these countries cite "education" and information as a key element in their strategies. The benefit of such awareness raising extends to "new" hazards such as stress, for which the 2001 baseline study (Pilkington et al 2001) reported that the HSE raised awareness / changed attitudes to stress amongst 41% of respondents.

Education and advice is found to be important in order to:

- Raise awareness of hazards and the risk they pose;
- Ensure duty holders correctly understand the risk posed by hazards such that they will be willing to take action;
- Improve understanding of how to control risks, and;
- Improve understanding of legal duties.

There is a significant body of evidence that indicates that the propensity of firms, large and small, to take action is influenced by their perception and recognition of whether or not their health and safety standards meet latter day expectations. Hence any work that helps firms recognise whether they are out of sync is beneficial – whether this is in the form of seminars, joint working, road shows etc.

Hence, the value of educational work is not doubted. The evaluations of educational and advisory initiatives have illustrated that the effectiveness of education is dependent upon a number of variables, including;

- The size of the workforce;
- The industry sector;
- The "before" standard of health and safety (good firms are more receptive but less responsive);
- The motivation to comply;
- The level of in-house health and safety expertise;

- The organisation's perception of the level of risk posed by health and safety;
- The level of support / advice from intermediaries (trade unions, employers etc) and;
- The type of medium used to educate.

Pertinent research studies have been collated and are reviewed in relation to the following points;

- What evidence is there to support the separation of advice from enforcement within the HSE's work?
- What evidence is there about the relative success of alternative forms of "education" such as workplace advisory visits by HSE/LA officers versus help lines vs college courses etc?
- What evidence is there that "education" (such as promotional public campaigns, college based modules, advisory packs, help lines etc) works for small as well as large firms, new vs established firms, different sectors etc?
- What evidence is there about the role of access to competent advice and support in gaining compliance, and the different forms of such support (e.g. in-house staff, consultants, good neighbours etc)?
- What evidence is there that raising awareness of risks and providing evidence of their prevalence helps to secure compliance?

2.5.2 The HSE as a source of advice

Positive evidence about the role of the HSE as a source of advice

A number of studies indicate that duty holders perceive the HSE and LA's to be a source of authoritative advice and information, and expect the HSE and LA's to provide support. The HSE, specifically HSE Books, is cited as the most common source of information on health and safety by a number of studies (Horbury et al 2000, Wright et al 2003). For example:

- In the study by Horbury et al (2000) of 791 small, medium and large firms from across all sectors, the HSE was quoted as the first port of call;
- IFF found that 73% of designers obtained information from the HSE, along with 61% of clients and 33% of contractors in the construction sector (IFF 1996);
- In a study of 141 major hazard organisations in the onshore and offshore hazardous industries, Wright et al (2003) found that other than the occurrence of major accidents, the HSE was one of the main prompts for, and sources of information on, the human factors of major accident prevention. Respondents recommended that the HSE increase the promotion of human factors.

Many studies note that a key prompt for seeking information and advice is to keep up to date with regulations and regulatory requirements, leading organisations to approach the HSE.

Unsurprisingly a series of studies such as those quoted above report that HSE books, HSE website and HSE Info Line are extensively used.

Also, many studies report high levels of satisfaction with HSE advice and information. For example;

- The BMG Research evaluation of HSE Infoline reported 95% caller satisfaction. Indeed, many studies have found that employers would welcome a higher level of advice and support from the HSE.

- EuroView (2001) found that the vast majority of 14,000 customers thought HSE videos were good or very good.

- NPD (1998) found that the 'Essentials of health and safety – a route map' proved very popular amongst SME customers.

Negative findings about the role of the HSE as a source of advice

However, a number of studies provide conflicting findings. Namely, that the HSE is not a trusted source of advice amongst some employers, such as farmers (Research International), some ethnic minority businesses (Vickers et al, 2003) and some respondents to the Davies and McKinney (2001) study on how to expand HSE's ability to communicate with small firms. The latter two studies report that some respondents fear that calls to HSE InfoLine would not be confidential or that if they ask for advice the HSE may take enforcement action.

It is pertinent to note that the latter two studies both relied on small samples: 100 farmers by Research International, and 22 intermediaries and 10 focus groups by Davies and McKinney (2001). Those studies reporting a more positive attitude to HSE advice and information have involved larger samples with thousands of respondents. It is also pertinent to note that respondents to Davies and McKinney (2001) also expressed a preference for the HSE to take on a more advisory role and for inspectors to help firms comply with regulations. Thus, there are mixed results about the willingness of organisations to see the HSE as a source of advice and information. It is possible that the fear of approaching the HSE for advice may be greatest amongst "first timers" than those who have had contact with the HSE. As stated by Vickers et al. (2003);

> "Some businesses which had not experienced inspection indicated that they would welcome being visited by someone who could advise them on health and safety but that they would rather this was not somebody who also had an enforcement role"
> (p68)

The impact of different research methods

The mixed findings about employers' perception of the HSE as a source of advice may be related to the different research methods. Those studies that report a positive view of the HSE tend to (1) include large and medium sized firms as well as small and (2) use self-reporting techniques such as postal or telephone questionnaires. It is possible to speculate that there is a degree of self-selection in these studies, with a skew towards employers who have a positive or more neutral view of the HSE. Indeed, some studies have intentionally focused on HSE 'customers', such as employers who have bought HSE books. In contrast, those studies that

report a negative view of the HSE have tended to use focus groups techniques and intentionally solicited opinion from hard to reach employers. These studies may be skewed towards those employers who do not normally respond to questionnaires and who may represent a specific sub-set of employers.

Neither research technique is right or wrong. The importance of this point is that;

- Decisions regarding the role of the HSE as an educator should not be based on any one study or sub-set of studies, and;

- The mixed findings about employers' perception of the HSE probably reflect the differing attitudes of sub-sets of employers – which require different research techniques to elucidate.

Advising SMEs

Education and external advice is considered to be of particular importance in the context of SMEs who tend to lack the in-house health and safety staff and may not be able to afford external consultancy support. Some studies, such as Pilkington et al, (2001), have reported that small firms do not tend to see external experts, such as consultants, as their first step. Rather, they tend to use their own knowledge and talk to staff, small business advisors and the HSE. A variety of reasons are given for this including a perception that consultants are costly, a belief that they might take advantage of their insecurities and a lack of awareness of health and safety (Vickers et al. 2003). On the other hand, some SMEs reported that their experience of using consultants was positive in helping them understand and comply with regulations.

The majority of SME studies also suggest SMEs in particular would welcome a higher level of "prescriptive" or "specific" advice (Horbury et al. 2000, Wright et al. 2000, Wright et al. 2003, Vickers et al. 2003, Davies & McKinney 2001). The desire for "prescriptive/specific" advice arises from the point that SMEs often lack the in-house expertise to interpret goal based (non-prescriptive) health and safety regulations and thence determine how best to apply such requirements to their specific activities. Small firms would like one document that "tells them everything they need to know about their business" (Wright et al 2003) although they recognise that they may need more than one document if they have a wide range of activities and hazards. The research indicates that small firms want specific information, which is widely at odds with the risk assessment approach, which by its nature relies upon a level of competence and conversance with health and safety as a subject that may not be present within a small firm. As such, HSE information needs to be pitched at a lower level to ensure clarity of guidance, thus encourage compliance. However, there is a general level of agreement amongst small firms that publications needed to be 'hard hitting', concise, free, sector or hazard specific, and updated only when new information specifically applies to their sector or hazards.

Table 2: Summary of pro's and con's of the HSE and LA's as sources of advice

Issue	**Positive**	**Negative**	**Level of evidence of issue**
Value of advice and information	Authoritative and useful	Perception amongst some SME's that seeking advice will instigate inspection.	Many studies
Ability to influence attitudes	Can increase perception of business case for H&S and bring about change in behaviour. Regulatory status of HSE/LA gives advice greater weight and probability of application.	Some employers report adverse reactions and perceptions of contact such as overly regulatory, don't take account of SME needs etc	Many studies
Level of penetration	Seen as the first port of call by many employers. High levels of penetration amongst large and medium firms.	Level of penetration varies between sectors, lowest amongst SMEs. Employers without prior contact with HSE or LAs may fear the consequences Seen as an enforcer and focused on major incidents by some sections of population, e.g. some new immigrant groups Majority of EMBs in some ethnic groups have never heard of the HSE (Vickers et al 2003)	Many studies but evidence about specific sectors is limited
Perception of advice	Reportedly a well received source of advice and information by those employers who have had contact	HSE and LA are resource limited	Many studies

2.5.3 Lessons from overseas

America, Canada, Australia and New Zealand

There are examples overseas (America, Canada, Australia and New Zealand) of an increased level of priority being placed on the provision of advice and information by state bodies. In order to understand why greater priority has been awarded advisory activities, it is necessary to recognise the role of workers' compensation. In all four cases the cost of workers' compensation increased to a level that caused concern amongst employers and government, with demands to reform the system so as to reduce or contain the cost. In response to these concerns an increased emphasis was placed by state bodies on the provision of advice, information and financial incentives (to reward implementation of advice) as a means of helping employers improve health and safety and hence the cost of workers' compensation. Thus, the main driver for increased advisory activity was concern about the cost of workers' compensation rather than concerns about the virtues of enforcement or as an alternative to enforcement.

The organisational structures vary. However, given the link between workers' compensation and the desire for advice, the advisory role has been taken on by the state based workers' compensation boards or otherwise named state bodies in Canada, some US states and Australia. Indeed, these state bodies also take on the role of providing occupational health and rehabilitation services, as well as promoting and advising on employer implemented return to work schemes. The rationale is that the insurance, advice and support are provided by the same body.

For example;

- Canada has always had insurance, advice and rehabilitation services provided by state workers' compensation boards;

- In America, advice, rehabilitation and insurance are merged in some states (where the state worker compensation board runs the insurance scheme). In other states insurance is provided by competitive private insurers;

- In Australia Workcover provides insurance, advisory and rehabilitation services whilst championing employer based return to work schemes

However, enforcement arrangements vary. In Australia whilst Victoria merged enforcement into its Workcover body, Queensland purposefully retained enforcement within a separate body (the Department of Training and Industrial Relations). Also Australia mandated the creation by employers of rehabilitation plans and co-ordination, enforced by the state. In America enforcement is in the hands of OSHA and state bodies. In Canada, the Workers' Compensation Boards also enforce health and safety regulations.

The reported injury and rate of workers' compensation claims have declined in all of these countries. However, the increased focus on advice coincides with a raft of other reforms

including reformed benefits, reformed insurance rating schemes and incentives. Hence it is difficult to isolate the impact of improved advice.

One study in Oregon (Gardner et al. 1996) did separate out the workers' compensation cost reduction resulting from reforms. An initial round of reforms in 1987 included restrictions on the acceptability of stress claims, limited vocational rehabilitation, and limited the appeals process in 1987. A further round of reforms was enacted in 1990, including stricter definitions of compensability, encouraged comprehensive return to work and use of managed care organisations, amongst other changes. The 1990 reforms led to significant falls in premiums and the number of claims. Gardner et al. attributed;

- One to two thirds of the cost reduction to changes in safety and return to work;
- The majority of the remainder of the cost reduction to more active claims management and more frequent denials;
- Just $1/10^{th}$ to changes in employment mix and statutory limits on compensability.

It has also been reported that the incidence of more severe injuries has declined from 3 per 100 workers in 1992, to 1.7 per 100 workers in 2000, whilst the number of persons on restricted activity days has increased. It is thought that increased job safety and faster return to work accounts for these trends (Ruser, 1999). As the rate of claimants for disability insurance (many are age related impairments) rose before and during this period, the decline in severe workers' compensation claims was probably unconnected to economic cycle.

Thus, it does appear that the increased focus on prevention by state bodies along with the incentive of reduced costs was associated with safety improvements.

2.5.4 The influence of culture, size and sector on the effectiveness of advisory activities

It is clear that the level of penetration and response to HSEs advice and information varies greatly between sizes of organisations, cultural influences and industry sectors. The penetration, impact of advice and education has been found to vary between sectors according to a number of variables including;

- Whether the sector is "tight knit" – with a bigger impact amongst tight knit sectors such as agriculture;
- Whether there is a strong professional or trade association, such as dentistry;
- The before level of health and safety – wherein sectors that already display adequate standards may take note of HSE information but take less action because they are "good enough" already;
- Perceived risk- with less interest in seeking and applying advice amongst organisations that do not perceive themselves as high risk;
- Size – Paradoxically it appears that large firms are more likely to be aware of HSE advice/information and to act upon such advice due, it appears in part, to the presence

of in-house professional health and safety staff and a clear organisational structure with defined roles.

The findings from evaluations present a consistent picture about the impact of company size and employment of health and safety staff. Larger firms and those with health and safety staff (typically larger firms) are more likely to be aware of and to respond to HSE advice and information.

Sectors

The findings about the relative penetration of sectors are less consistent, with a few exceptions. It is apparent that;

- The retail sector is reported by many studies to have a low level of awareness and response to advice and information (it should be noted that the retail sector has a very high proportion of small firms);

- The "traditional" higher risk sectors such as manufacturing, construction and utilities commonly, but not universally, display higher levels of awareness of advice and information, along with public sector organisations;

- The level of penetration of advisory and information initiatives is less consistent amongst surveys for other sectors, such as services and health.

An unpublished assessment (Horbury, Jones and Wright, 2000) of the HSE's noise at work publications found that respondents operating in what were classed as lower risk sectors had far lower ownership of noise publications. This was related to company size, such that micro sized high risk firms were 3 times more likely to own a noise publication than a low risk micro firm, but the difference in ownership levels was just 10% between high and low risk large firms. Firms classed as low risk were also far less aware of what information was available.

Cultural influences

In relation to ethnic minority businesses (EMB's), Vickers et al (2003) reports that health and safety inspectors (HSE and LA's) are currently the most commonly used and preferred sources of information and advice on health and safety issues for most small businesses, and are contributing to improved awareness particularly in ethnic minority businesses, and some improvement in health and safety practices in many cases (Vickers et al 2003). There is however a perceived need for more frequent inspections.

Inspectors are successful in undertaking an educative role in relation to highlighting the financial benefits of investing in health and safety improvements for both white-owned and ethnic minority owned businesses. However, these findings may reflect the targeting criteria of the inspectors, who tend to visit higher-risk businesses more frequently. As such, lower risk companies may not report the same benefits.

One in three surveyed businesses had made some use of external sources of information and advice about health and safety, with the propensity increasing with business size. The construction and hospitality sectors were more likely to have used external sources. South Asian groups were the least likely to have used external sources.

Very few respondents reported experiencing difficulties in accessing information, however this may be correlated with the low level of perceived need for it. Approximately 50% of respondents identified that their preferred source of information was either inspectors or local authorities, however some indicated that they were wary of health and safety inspections.

With regard to using consultants, mixed reports were given in relation to the service that had been offered. Some companies were positive about their experience, whilst others believed that the consultants had taken advantage of their insecurities and lack of awareness of health and safety.

2.5.5 The medium

Education, awareness raising and advice can be provided in many forms, including direct contact inspection, mailshots, seminars, website based, college based, TV adverts. In can also be provided directly by the HSE or through intermediaries, such as Trade associations and professional bodies.

The advantages and disadvantages of each medium as noted by previous studies are summarised in Table 3 and discussed after Table 4.

Overall, comparative studies indicate that:

- Seminars and direct contact by inspectors in the form of inspection-based advice are the most effective medium, some studies ranking direct contact as much more effective than seminars (such as the evaluation of GHGB Wright et al 2000, Vickers et al 2003)
- Seminars are less likely to be attended by small firms than large ones;
- Mailshots have limited effectiveness and should be targeted on specific industries;
- Hard copy leaflets and books remained the preferred form of publication, along with internet based material, rather than electronic formats such as CD ROMs and videos;
- The internet is a growing and often preferred means of acquiring information.

It appears that whilst larger organisations are more likely to incur costs and time in seeking out and attending events, smaller organisations prefer advice and information to “come to them”.

Table 4 below shows examples of some of the key communication channels for SMEs in a sample of industry sectors. These findings have been collated from a number of research papers including Davies & McKinney (2001).

Table 3: Summary of pro's and con's of each form of advisory communication

Medium	**Pro's**	**Con's**	**Level of evidence**
Direct contact (workplace visits)	Reportedly the most effective form of communication and influence.	Resource intensive. Lower level of penetration of SMEs	Well researched, many studies
Seminars	Reportedly an effective form of communication and influence	Unclear if poor performers or reluctant compliers attend. Requires employers to be motivated enough to attend	Well researched
Internet	An increasingly used source of information by employers. Ease of access. High volume of information can be provided.	Relies on employer going to the website, requiring prior knowledge and interest. Lower levels of penetration of SMEs and EMBs	A few studies of an emerging and new form of communication
Mailshots	More effective in agriculture than any other sector Wide reach	Reportedly low levels of penetration and influence Resource intensive	Well researched
Telephone helpline	Reported as being a valuable source of information desired by organisations	Employers with no prior contact with HSE may fear using the line. Doubts raised about the level of confidentiality	Well researched

Medium	Pro's	Con's	Level of evidence
Publications (leaflets, guides, books etc)	Reportedly a good source of information, well used and received.	Information needs to be specific to sectors/hazards, concise, and free.	A series of evaluations have been completed.
Magazine / trade journal advertising and articles	Numerous sub-sector specific trade journals and magazines enables highly targeted approach. Helps to reach 'hard to reach groups'. Often reported to be a key prompt in seeking out information by organisations	Numerous sub-sector specific trade journals and magazines implies high cost of gaining general coverage. Role limited to raising awareness of (e.g.) new regulation	Reasonable
TV advertising	Wide reach	Expensive Low level of penetration if non-peak hours	Reasonable

Table 4: Examples of effectiveness of communication channels by industry sector (SME's)

Industry sector	Direct communication with HSE	Trade associations	Local business support organisations	Trade press	Other traders	Internet
Plastics	Little direct communication for fear of initiating a visit by an inspector. Awareness of HSE InfoLine is low, caution expressed about the level of confidentiality. Would benefit by being visibly independent from HSE.	Very good source of communication, however, limited because majority of small firms are not members	Business Link and Chamber of Commerce provide useful business advice, however not currently used to provide advice on health and safety	Effective channel of communication as a large number of SME's receive copies of trade press.	Strong communication channel	Good source of communication, however a web site specific to small firms within the plastics sector would be even more beneficial.
Catering	Lack of awareness concerning HSE InfoLine. EHO is the preferred route for receiving advice	Limited use as trade membership is low	Limited use for H+S advice.	Far reaching and effective channel of communication	Strong communication channel	Limited
MVR	First point of contact for provision of H+S information. General lack of awareness concerning HSE InfoLine	Very good source of communication, however membership is limited to approx 20 – 30% of small firms		Far reaching and effective communication channel.		Limited source of communication for those that have internet access within the workplace.

Industry sector	Direct communication with HSE	Trade associations	Local business support organisations	Trade press	Other traders	Internet
Car bodyshops	First point of contact for provision of advice. Preferred information to be given face to face from inspectors. General lack of awareness of HSE InfoLine.	Currently under utilised, however firms that use this source consider it to be useful	Ineffective route for information as the majority of firms do not use local business support organisations	Far reaching and effective communication channel.		Growing source of information

Mailshots, seminars and inspections

Rakel et al (1999) conducted research '*evaluating the impact of contact techniques*'. The hypothesis being tested was 'that a mailshot or seminar stimulates change leading to improved health and safety performance by dutyholders'. The research was conducted over a two-year period and involved a total of 991 small and medium sized enterprises (SME's). The FOD assessed the effects of a programme (in terms of quantity and quality of change) of 43 mailshots and 22 seminars that covered a wide range of health and safety topics in many different kinds of workplaces. The University of East Anglia acted as an independent reviewer, undertaking a critical analysis of the methodology and assessing the validity of the findings.

Although the research methodology was rigorous, one potential limitation of the study relates to the consistency of the evaluations by the inspectors. Despite the use of expert evaluators from the same institution, there was ambiguity pertaining to measuring and judging standards. As such the findings may have incorporated individual and regional biases.

Overall, inspections and seminars were found to induce considerably more action in companies than mailshots. As such, the effectiveness of mailshots is questioned.

Mailshots were found to work considerably better in agriculture than in most other sectors. This was explained by the 'close knit' community that farmers belong to. In essence, any information that is forthcoming is discussed within the farming community. Furthermore, farmers perceived that information contained within leaflets and magazines was the most sensible way of keeping people up to date. However, the information needed to be concise and relevant to their industry sector.

In contrast, mailshots to dentists, Motor Vehicle Repairers (MVR) companies and scrap dealers did not have much impact. This interpretation should reflect the background that over 80% of dentists visited were evaluated as having 'good enough standards' with or without having received a mailshot. This may be accounted for by the strong professional affiliation within dentistry which sets industry standards. In relation to the MVR and scrap dealer sectors, no explanation was given as to why this form of contact was ineffective in changing behaviour.

Overall, the proportion of assessments associated with action was only 9% for mailshots. The findings support the view that mailshots should be targeted to certain business sectors, rather than to all. Furthermore, it is reported that the inspectors engaged in organising mailshots found the activity to be much more complicated and time consuming than originally envisaged. As such, the process is more costly in terms of time and finance than originally perceived, but with limited effectiveness.

Seminars produced a much better response than mailshots, but once again the results varied between different industry sectors. Agriculture, construction and MVR appeared to be more inclined to take action after having participated in a seminar than other sectors, such as nursing homes. For agriculture and some other very specialised business sectors, this was explained by the higher degree of interaction between these tightly knit groups.

Although it was reported that seminars are less effective within nursing homes, the results illustrate that there was still a degree of impact. In fact, although the quantity of action taken was less than for other sectors, the quality of action was greater.

Overall, the proportion of assessments associated with action was 47% for seminars. However, a difficulty acknowledged with seminars is that they tend to attract businesses that are motivated to comply. Therefore, it is difficult to assess the true impact of seminars because the reluctant or non-complier is unlikely to attend such events.

Direct contact in the form of inspections was shown to create a large impact in stimulating action in all the businesses that participated, although seminars appeared to be able to generate a similar response rate. However, questions remained pertaining to whether the action taken as a response to inspection is of the quality one would expect. In essence, businesses may be taking action for actions sake, without truly understanding why a particular measure was necessary. As such, it is difficult to assess the durability of the enforcement action and whether behavioural changes continue once the inspection is completed.

The study concluded that;

- Mailshots are most effective when targeted to specific 'close knit' industry sectors such as agriculture. They are least effective in industries where standards are already very high, perhaps as a result of trade / professional affiliations, or in contrast, in industry sectors that are historically reluctant or not motivated to comply.

- Seminars are effective forms of contact for influencing compliant organisations, however, reluctant compliers are the least likely to attend seminars, hence another contact technique such as inspection is needed.

- Direct contact in the form of inspections impact upon stimulating action in all businesses, however, the longevity of the change in terms of behaviour is still questioned. Inspection should incorporate education so that businesses understand the reasons why action should be taken rather than just being told it should.

Leaflets

In general, the research findings illustrate that leaflets provide a valuable source of information for businesses, providing the information is clear and concise. This medium has proved particularly successful in penetrating industry sectors that have historically proved 'hard to reach'.

The 'Absolutely Essential Health and Safety Toolkit – for the small construction contractor' has been reported as providing clear and specific information relevant to this high risk sector (Atkins, 2003).

Davies, (1998) reported on the results of a market research project in measuring the impact and effectiveness of the Introduction to Health and Safety leaflet within the SME sector. This approach was found to be more effective than mailshots in raising awareness of issues that impact upon small businesses. Furthermore, it was reported as being particularly useful because it provided clear signposting to other relevant publications.

HSL (2002) reported that home workers would appreciate brief leaflets as a form of educating and raising awareness of health and safety issues that they face. Considering that there are approximately 650,000 home workers equating to 2.3% of the workforce, this sector appears to be overlooked.

Mixed media campaigns

Wright et al (2000) evaluated the impact of the HSE's Good Health is Good Business (GHGB) campaign on the attitudes and behaviours of organisations. Comparisons were made of the attitudes and behaviours of employers who were or were not 'aware' of the GHGB campaign and between small, medium and large organisations.

The key findings of the study included;

- The penetration of the campaign varied greatly according to the size of the organisation. 73% percent of large organisations could recall promotional materials etc compared to only 28% of small organisations. As such, future campaigns should aim to reach smaller organisations more successfully.

- In relation to specific industry sectors, the percentage of surveyed organisations that recalled the campaign varied greatly between sectors. 85% of utilities, 72% of telecoms, 60% of manufacturing, 55% of construction, 64% of health, 59% of transport and 65% of local authorities recalled the campaign. A minority of respondents in other sectors recalled the campaign, only 36% of retailers, 39% of hotels/catering and 41% of other services – which together account for about 40% of UK employment.

- The report claimed that 'aware' organisations made more changes in health risk management. Furthermore, 'aware' organisations were more likely to apply the types of methods advocated by the GHGB campaign, such as risk assessment and audits.

- The most effective form of contact that brought about increased awareness that led to change in views was cited as visits by the HSE or local Environmental Health Officer changing views in 33% of firms contacted by the HSE. This was followed by literature and training by consultants.

- Seminars were attended by 8% of respondents.

- The campaign had an effect primarily by 'educating' employers' about occupational health risks, regulations and their management, thus increasing their competence.

- Respondents indicated that the campaign could have been improved. Examples of proposed improvements include;

    - Presenting the business case in a more powerful manner by showing the cost of individual cases of ill health or accidents. Profitability was cited as the highest business priority across the majority of industry sectors who were both aware and unaware of the GHGB campaign, thus any link that could be made between the cost of ill health or accidents upon profit could prove to be a powerful medium.

    - Using more direct methods of communication, such as internet, trade journals and mail shots.

    - Ensuring that information is presented in a cohesive manner.

    - Making the guidance short, simple and more industry specific.

The study concluded that:

- Campaigns such as GHGB can make a significant contribution to improvements in occupational health. However, future campaigns should aim to attract the attention of 'unaware' organisations, particularly SME's that do not have health and safety personnel in-house.

- Occupational health should be included in general education and training to improve employers' competence before they enter business, and also to increase the general societal concern for health.

- Improvements should be made with regards to presenting the business case and increase the fear of individual prosecution. It was proposed by respondents that the latter would most effectively be achieved by increasing the number of inspections and prosecutions.

These findings were supported by research such as that conducted by Aspect Marketing (2000), Kovacs (1995), and Bunt (1993) in their evaluations of other campaigns and studies.

It has also been noted that the receipt of training by other organisations, such as NEBOSH courses, can also prompt action and improve understanding in firms. This reflects the finding from studies that the presence of an informed individual in an organisation is associated with greater awareness and action on health and safety risks (such as Thomson-MTS and Building Use studies, 1993). Training sources such as consultants, colleges and training boards such as Agricultural and Construction Industry have been cited.

Television adverts

Television adverts have more mixed results. The Research International assessment of the Killing field II campaign found a high level of spontaneous recall but an ambivalent attitude, such as it happens to others. The evaluation of the GHGB found low levels of recollection of TV adverts although other studies found that they had an impact amongst the audience it did reach.

The internet

Care must be taken in the above findings as many studies predate the increased use of the internet. The recent study of Wright et al 2003 found an increased interest in internet based support from the HSE. This was supported by Business and Market Research (2000) who predicted that the internet would become increasingly important in meeting small firms needs, providing that the information presented needed to be clear, easy to understand and tailored to meet immediate needs.

There is strong evidence to support that small companies are increasingly using ICT. In 2000, approximately 25% of small firms did not have access to computers and did not envisage that this would change in the immediate future (Business and Market Research Ltd, 2000). However, this figure is now reported to be reduced to approximately 15%, thus indicating that 85% of small companies do have access to this medium (Wright et al, 2003).

In a recent study, Wright (2003) reported that out of a total 802 companies surveyed, 56% use the internet to access health and safety information. Furthermore, 87% of the respondents

indicated that they would be happy to be placed on a mailing list in order to receive information and 71% would be happy to receive e-mail updates.

With regard to small companies, Davies & McKinney (2001) reported that the HSE website did not provide obvious links to the small firms pages, and this was reported as an obstacle in accessing relevant information by smaller companies.

The study by Wright et al (2003) identified many ways in which the HSE's website could be further developed to meet the growing expectations and requirements of organisations.

Videos

Videos can be used as a powerful medium to educate. However, this medium is more applicable to larger organisations who are more likely to have the resource in terms of time and facilities to show these. However, smaller companies are less likely to have video recorders at work, or be willing to allocate the time during working hours to watch them (Davies & McKinney, 2001).

2.6 WORKING WITH AND VIA NON-GOVERNMENTAL INTERMEDIARIES

2.6.1 Overview

Given that there is a plethora of sectors and firms, especially small firms, this line of thinking leads to the conclusion that the HSE needs to work via other organisations, especially those that have direct contact with a specific sector of organisations, e.g. Business Link, DTi Small Business Service, trade associations etc. It is thought that the HSE can achieve more influence by working with and/or via other organisations.

Accordingly, there has been a series of pilot studies and national initiatives aimed at improving the knowledge base of SMEs and providing access to advice through intermediaries. In each case, the evaluations have demonstrated that such schemes are effective, to varying degrees, and welcomed by SMEs, with many reporting improvements enacted in response to such advice and information. Few studies have compared the relative benefits of intermediaries.

The key findings are:

- There are a wide range of intermediaries who are willing and able to work with the HSE;
- Working with intermediaries is clearly an effective way of amplifying the effect of the HSE, it can bring about change in attitudes, awareness and employer behaviours;
- The level of interest shown by intermediaries varies greatly;
- The ability of intermediaries varies greatly, with some having greater penetration of their constituencies than others;
- Research on the benefit of working with each type of intermediary is at an early stage in some cases;

- There have been few comparative studies of the relative benefits of working with each type of intermediary, so it is difficult to conclusively state which ones offer the best partnership opportunities;
- Work with partners is useful for all sizes of organisations and sectors;
- Working with intermediaries is particularly needed in the context of reaching the large number of SMEs, but paradoxically SMEs are represented by a large number of intermediaries and have variable level of contact with intermediaries;
- The HSE's resourcing and systems need to be developed to support working with intermediaries.

Table 5 provides a summary of the research on the advantages and disadvantages of working with each type of intermediary. From this it is apparent that the factors which influence the relative advantages of intermediaries include;

- Penetration and degree of representation of organisations;
- Intermediary's level of interest in and attitudes towards health and safety;
- Level of activity and resources possessed by the intermediary;
- Employers attitudes towards the intermediary, i.e. it is a respected source.

It appears that the following types of intermediaries offer value, in no particular order;

- Trade associations, such as Paper Federation, Chemical Industry Association, Food and Drink Federation;
- Training and enterprise organisations;
- Trade Unions and worker safety advisors;
- Professional bodies.

Little empirical research has been completed on the potential role of the DTI's Small Business Service in promoting health and safety.

It is also clear that the arrangements and resourcing within the HSE are a key factor. Haslam and James (2001), as part of a wider study on working with intermediaries, found that for example, a more clearly defined role for Workplace Contact Officers is important and that the systems in FOD for working with intermediaries are also important. Similarly studies such as that by the Small Firms Enterprise Development Initiative (2001) notes that the HSE need to produce a body of information and products for use by intermediaries.

Furthermore, it has been proposed that the requirement for small businesses to register with HSE or local authority would provide an opportunity to establish an information exchange, and potential relationship with new businesses. This opportunity is not currently exploited.

Table 5: Pro's and con's of intermediaries as sources of advice and influence

Intermediary	**Pro's**	**Con's**	**Level of evidence**
DTI Small Business Service	Nationwide Works with key advisory bodies e.g. Ethnic Minority Business Forum and Small Business Council	Role lacks definition and sense of priority (Fairburn and Patel, 2003)	Limited in respect of health and safety
Business Link	Potential source currently under-utilised	H&S not seen as a priority by clients in start up businesses Reported to offer limited opportunity (Fairburn and Patel, 2003)	Limited
Trade Associations	Can achieve good level of penetration in tight nit sectors. Help to develop common sets of standards and guidance. Able to facilitate networking and cross sector initiatives	Variable level of membership across sectors & only 28% of enterprises Low level of ethnic minority representation (40% of white firms vs. 24% of EMBs, Vickers et al 2003) Variable level of association activity. Variable level of association interest in H&S	Reasonable level of evaluation
Manufacturers and suppliers	Achieves common standard for all new machinery	Limited to safety of equipment and materials	Reasonable

Intermediary	Pro's	Con's	Level of evidence
of equipment	and materials		
Chamber of Commerce	Nationwide Most common business organisation (61% of those who belong to one, Vickers et al 2003)	Variable level of activity across regions.	Limited
Training and Enterprise councils, agencies and trusts, e.g. Learning and Skills Council	Can achieve good level of penetration within SME's. High level of trust from SME's Can be influential Have high level of training expertise	Level of interest and commitment to health and safety varies between areas	Reasonable
Professional bodies, e.g. Institute of Railway Signal Engineers	Examples of licensing of safety critical workers, e.g. signal engineers, train drivers, radiation protection advisors etc. Provides assured level of in-house health and safety expertise Administered and enforced by the professional body	Limited to specified roles	Limited
Banks and accountants	High level of penetration. May be SME's only contact with intermediary	H&S not seen as a priority Reported to offer limited opportunity (Fairburn	Limited

Intermediary	Pro's	Con's	Level of evidence
		and Patel, 2003)	
Trade unions	Can be influential Highly motivated and interested in health and safety Many trained safety representatives National network	Low levels of representation in some sectors and SMEs Only represent 7.5 million workers out of 28.5 million Success depends on employee-employer relationship Can be problems in getting staff to volunteer to be safety representatives	Reasonable
Worker safety advisors	Provides representation for non-union firms covering 21 million workers	Success depends on employee-employer relationship	One successful pilot
Consultants, ROSPA, etc	High level of contact with larger and high risk sectors	Cost and affordability limits use amongst SMEs	Limited
Insurers	High level of contact with all sectors and sizes of firms. Some examples of proactive health and safety requirements and advice	Cost and affordability limits use by SMEs Level of interest amongst employers and insurers depends on cost of insurance.	Reasonable, but very recent post-ELCI potential role of insurers is uncertain due to currency of events
Good Neighbour Forum (large firms helping neighbours)	High level of contact between SME's within the same sectors	Advice may not be accurate. Very little evidence to illustrate that improvements in H&S are made as a result	Reasonable

Intermediary	Pro's	Con's	Level of evidence
		(Fairburn and Patel, 2003).	
Safety Information Centres	Advice did lead to improvements in SMEs	Mixed results Minimalist approach	One pilot evaluation

2.6.2 Collaborative sector initiatives

There have been a number of sector specific "collaborative" initiatives, including Recipe for Safety for food and drink, PABIAC for paper and board and the Step Change initiative for offshore sector. In each case there is a strong body of evidence that these initiatives have met with significant success in a number of respects, including;

- Significant quantitative improvements in injury rates;
- Audited improvements in health and safety management arrangements;
- Improved understanding of health and safety expectations, and;
- Improved levels of worker participation.

It is reported that these initiatives succeeded due to a combination of factors, including;

- The HSE provided leadership and guidance, and secured the commitment of senior management amongst industry;
- Employers and employee representatives (trade unions in particular) agreed to work together;
- The use of injury rate benchmarking to promote improvement and measure progress against targets;
- The active involvement of workers.

There is strong evidence that trade associations and professional bodies can have a significant beneficial impact on organisations. However, successful studies are related to those sectors which are tight knit, have a single association and common activities.

However, it is thought that the effectiveness of this approach is influenced by the nature of the sector. In particular, previous evaluations suggest that they are most effective where;

- There is a tight knit industry with one or two employer associations and one or two trade unions that represent the majority of members;
- The operations carried out by organisations are very similar, and perceived to be so, such that it is feasible to develop common health and safety standards and systems;
- It is accepted by the industry that there is a need to improve health and safety –because they are relatively poor compared to other sectors.

One particular initiative introduced by the Glass and Glazing Federation involves businesses submitting a safety improvement plan and details of accident statistics. In return, members receive best practice guidelines, training and access to information and advice, all of which is free. No evaluation of this initiative is available for comment yet.

It is uncertain whether such initiatives would operate so effectively in less homogenous sectors or sectors that perceived themselves to be low risk. It is also apparent that in some sectors the majority of organisations do not belong to a trade association, such as plastics manufacture and catering.

The 'Recipe for Safety' initiative

The initiative began in the early 1990's following the Safety Commission's concern that injury rates in the food and drinks industry were too high. The initiative involved consultation with the Food and Drink Federation and the main trade unions represented in the food industry. The HSE's actions included;

- Agreeing with the food and drink industries how injuries might be reduced, then publishing industry-specific and sector-specific guidance;
- Securing agreement with trade associations and working groups on the priority health and safety issues;
- Getting all players to sign up to change over a prolonged period;
- Negotiating standards and promulgating these through industry specific guidance;
- HSE working with key players on specific issues;
- Raising awareness through joint national conferences, seminars and trade exhibitions and through trade publications, media and trade union/trade association networks;
- Keeping inspectors informed of strategy, agreed actions and co-ordinating field activity.

The core publication was 'A recipe for safety' booklet.

The success of the initiative has included:

- Fatal injuries have more than halved over the ten-year period 1991 to 2001.
- The total number of injuries reported each year to HSE has decreased by 27%;
- The major injury rate dropped by 21% between 1995 and 2000.

The success of this initiative was attributed by the HSE to the high level of trade union support, the high level of specific guidance, and by adopting a partnership approach towards addressing the problems. It should be noted, however, that no evaluation has been undertaken to date to confirm this.

The PABIAC initiative

The PABIAC initiative was introduced as a result of the unacceptably high level of injury rates within the paper industry, in particular, the fact that 10 mills accounted for approximately 30% of the major injuries. The Graphical, Paper and Media Union, and the Paper and Board Industry Advisory Committee sponsored the research to investigate both the high injury rate and the apparent disparity between mills.

Horbury et al (2002) reported on the outcomes of the initiative in terms of improving safety performance across the industry.

The PABIAC initiative was considered a success in terms of improvement in the standards of safety culture and safety management. The success was in part attributed to the following:

- Recognition by the entire paper industry of the imperative to improve;
- A clear statement from both the HSE and the trade unions that they considered the industry's safety performance to be unacceptable;
- A shared vision across the industry that facilitated improvements.

2.6.3 Employee and trade union representatives

The vast majority of research indicates that the involvement of employee and trade union representatives in safety initiatives is a positive one, such as the work by Litwin (2000). The evidence pointing to the beneficial impact of worker involvement has been summarised in a paper by Neal Stone and Matthew Holder of the HSE (Stone and Holder, 2003). The beneficial impact of trade union activity on accident rates is 'masked' by the improved level of accident reporting in unionised workplaces and the higher level of union representation in higher risk sectors. It is important therefore to note that the Litwin study was a cross sectional analysis that indicated that trade unions gravitate to "accident prone" workplaces and then reduce injury rates.

Also, not only was the involvement of unions essential for the success of the aforementioned sector initiatives, but other studies have shown that trade unions can generally have a positive role in promoting workplace health and safety.

However, the beneficial role of unions implicitly relies on several factors;

- Firstly, that the relationship between employers and trade unions is sound;
- Secondly, that the trade union is strong enough to have an influence – trade unions represent 60% of the public sector employees but only 20% of the private sector;
- Thirdly that the industry is in agreement regarding the requirement to improve – as witnessed by the successful collaborations in the paper and food and drink initiatives.

The importance of sound employee-employer relationships was demonstrated by the 1995/96 TGWU project aimed at providing roving safety representatives in the agricultural industry in south and south-east England. Walters (1997) reported that whilst it was a small project, thereby requiring caution in over playing the conclusions, it was reported that in general the representatives were unable to gain access to farms. This was attributed to a lack of support from the NFU.

Walters (2001) conducted research to establish the significance of trade union training in stimulating and supporting the workplace activities of trade union health and safety representatives. The methodology employed was predominantly a postal questionnaire that stimulated response from 1,400 health and safety representatives. The majority of the

respondents worked in the public sector and for employers with more than 1,000 employees, hence the research findings may not be applicable to the private sector or SME's. The findings provide powerful evidence of the extent to which trade union training supports workplace activities and achievements of health and safety representatives. The results demonstrated the positive impact of trade union health and safety training in several ways:

- Training had encouraged representatives to undertake health and safety activities within their workplace. In essence, training was put into practice.

- Training had restored representatives' confidence and enthusiasm and developed their skills to tackle problems at the workplace.

Alder et al (2000) reported on examples of best practice drawn from small and large firms, contractors and clients, manufacturers, storage and haulage operations in the chemical sector. The sample included 10 sites representative of the above. Workforce participation has been found to have a wide range of benefits within the petro-chemical industry for both small and large firms. Demonstrable results were claimed to be achieved in six months to two/three years. These results include:

- Improved health and safety performance;

- Improved health and safety culture;

- Improved communication/relations between management and staff in the area of health and safety;

- Reduced onus of professional safety staff to manage day to day health and safety problems, and;

- The benefits far outweigh the costs;

Work by Reilly et al. (1995) also found that organisations with union safety committees have lower (50% lower) injury rates, but also that organisations with non union safety committees have lower (40% lower) injury rates. This reinforces the point that employee involvement is beneficial in both union and non-union workplaces.

2.6.4 Insurers

A series of studies in the 1990's, such as the Evaluation of the Good Health is Good Business Campaign and the Thomson-MTS and Building Use Studies study of noise management (1993), found that few employers regarded insurers to be a significant influence on their behaviour. Few insurers took an interest in the health and safety arrangements of firms, especially small firms. The 2002 study by Wright et al found that the average cost of ELCI premiums did not justify the cost of company specific assessment, except for larger and higher risk firms. As discussed in the next section of this report, this position may have now changed due to the increased cost of ELCI. It is probable that insurers could now take a greater role in helping to promote health and safety, in a number of respects;

- Requiring employers to demonstrate they have a minimum standard of health and safety management to be granted an ELCI policy;

- Introducing more risk-based premium rating, especially amongst small firms;

- Promoting rehabilitation and return to work amongst employers as a means of containing costs – and offering such services to their clients.

As discussed in the next section, the most recent study (Wright et al 2003) has found that insurers have sought greater information from firms on how they manage health and safety, and firms are responding to these demands.

2.6.5 Manufacturers and suppliers of equipment

There are some examples of working with manufacturers to produce inherently safer workplace equipment. This includes the regulation driven improvement in the design of machinery required by the Supply of Machinery Regulations (1992), and the Provision and Use of Work Equipment Regulations (1998) – where the HSE worked with trade associations to advise and agree on the appropriate design of (for example) lifting equipment and mobile equipment such as fork lift trucks (Wright et al 2003, Raafat and Nicholos 1999).

2.6.6 Safety information centres

Tait, R (2000) conducted a project to assess the effectiveness of an intervention designed to help small businesses establish and operate a simple health and safety management system. Two RoSPA affiliated Safety Information Centres operate the intervention. It is based on the introduction of a health and safety policy statement and on a risk assessment. The project took the form of assessment of the health and safety management systems of 24 companies that had been assisted by means of this intervention. The assessments were carried out between February and June 2000.

The sample size is small (24), therefore the findings may not be representative of all small firms. Furthermore, the research findings have been based on companies that were willing to participate, therefore they may have above average awareness of health and safety. However it does not allow evaluation of this approach with companies who were unwilling to participate, and may have below average awareness of health and safety. The bias that their absence might give to the findings is difficult to assess.

The study found that the safety centre approach is more successful for giving help to small businesses with preparing a policy statement and carrying out a risk assessment. Furthermore, it enables small businesses to develop a more coherent understanding of health and safety management. In particular, this approach has proven most effective in the following circumstances:

- Within small companies where the senior management / owners are unfamiliar with UK legislation but are motivated to comply;

- Within companies who have recently been involved in an accident and civil claims have been either made or threatened against them.

- When intervention and advice is given in the early stages of the development of the health and safety management system.

- When specific targeted advice is sought.

- Within companies who have received improvement notices.

This approach has proved least effective in the following circumstances:

- When Owners / Senior management are not motivated to comply;

- In larger organisations where a designated health and safety representative has been appointed;

- In most organisations where the owner/manager has previous knowledge of health and safety.

2.6.7 Business Links and TECs

A number of studies (see Fairburn and Patel, 2003) found that;

- Business Links represent only a limited opportunity to influence large numbers of small firms because they focus on growth companies, and health and safety is very low on their agenda;

- In contrast, the Training and enterprise council (TEC) represents largely untapped potential to multiply HSE influence amongst small firms. Training programmes such as NVQ and LiP are currently not exploited as vehicles of health and safety messages. TEC's have a strong interest in developing and maintaining mailing lists.

2.6.8 Ethnic minority business intermediaries

The evidence suggests that some ethnic minority business intermediaries have a potentially valuable role to play in some localities in reinforcing health and safety messages. This is particularly evident in respect to ethnic groups who tend to be more mistrustful of authority and experience most difficulty around compliance as a result of a lack of familiarity with the UK system and language barriers. With regard to language barriers, these findings are supported by COI Communications (cited by Atkins 2003). More specifically, some ethnic minority businesses requested that leaflets be translated in their language, and that helplines in mother tongue would be useful.

2.6.9 European Agency for Safety and Health at Work

The European Agency for Safety and Health at Work (2001, 2002, 2003) have collated and published a series of studies and conferences (e.g. THE WIND OF CHANGE – New Approaches and Strategies in Safety and Health at Work, A+A 2003 Congress, Düsseldorf) regarding how to best support and advice firms, especially SMEs.

Some examples of European schemes are noted below. It is pertinent to note that many of the initiatives are sector specific and involve partnership with trade associations. The agency concludes that:

- "Social dialogue between employers, employees or their representatives at the enterprise levels, and unions and employers' associations at the sector, regional or national levels, is

an important condition for success" (p19, 2001), citing the UK's Recipe for success as an example.

- These approaches are applicable to all sectors, but require adaptation to the means and capabilities of each sector.

These conclusions tend to support and reinforce the findings from evaluations of UK partnership initiatives.

Dutch covenants

Henk Schrama, a Member of the Board of the European Agency for Safety and Health at Work and Dutch Ministry of Social Affairs and Employment, reports that Sector Agreements in the Netherlands (Covenants) have been effective, greatly reducing the figures for sickness and absence in the different sectors in the Netherlands. The covenants cover a very wide range of sectors such as childcare, construction, graphical media, hospitals or even the furniture industry.

Occupational Health and Safety covenants are agreements that are made between the government, employers' organisations and trade unions for a certain sector. Initially agreements were informal, but since 1999 Holland has agreed Occupational Health and Safety covenants in a 'new style'. These have a task setting nature with measurable targets, for example that sickness absence must be reduced by 20% and that the influx percentage for Disability Benefits must be reduced by at least 20%. By October 2003 a total of 45 Occupational Health and Safety covenants had been signed.

French sector specific schemes

The European Safety and Health Agency report two sector specific schemes covering concrete production and meat processing, the former of which is reported to have helped reduce the severity of injuries. As with Holland the schemes involves sector level agreements and partnership between employers and employees.

Alliance for work safety in German dry cleaning industry

An alliance between the trade federation and an OSH organisation provided technical support, exchanges of ideas and experiences. Companies have to comply with certain standards to be awarded a label and regular checks are carried out by the alliance.

2.7 WORKING WITH OTHER GOVERNMENTAL BODIES

2.7.1 Overview

There are a number of pressures on the HSE and HSC/E goals that lead to the idea that they could achieve more by working with and via other governmental bodies. These pressures and objectives include;

- The objective of improving the level of occupational health advice and support, and, more recently vocational rehabilitation;

- Improved implementation of current goals, such as prosecutions;
- Calls for involvement in new areas such as clinical error and work related road traffic accidents.

To date the HSE has worked with the police, local authorities, DWP and Department of Health. RHS also promotes the idea of the government using its influence as a client to promote health and safety via the supply chain.

In many respects, whilst the occupational health and rehabilitation strategy is supported by a series of in-depth and comprehensive scoping and planning studies, many of the proposed arrangements are relatively new and as yet comprehensive post-implementation or pilot projects evaluations are not available.

In the case of the HSE work the police and Crown Prosecution Service on the work related deaths protocol, it does appear that this has been followed by a significant change in the number of manslaughter prosecutions (Centre for Corporate Accountability, 2003).

It appears that the idea of working with other government bodies is of great benefit but whose potential has yet to be fully explored and evaluated. Other potential areas of involvement that have been mentioned include;

- Working with the Lords Chancellor to develop the way in which the work of the courts influence the provision of rehabilitation by employers/insurers and its acceptance by claimants in work related compensation claims, and collaborating on the guidelines pertaining to the level of damages awarded to claimants (especially for pain and suffering)
- Working with the legal profession on the same point as above;
- Working with the police services on work related traffic accidents.

2.7.2 Working with Local Authorities

It has also been proposed to develop the way of working with Local Authorities in respect of enforcing health and safety. There are a number of points of evidence related to this point;

- Employers report that the application of inconsistent standards by enforcing officers undermines the legitimacy of health and safety regulations, caused confusion and resentment;
- The co-ordination of HSE and Local Authority work made a positive contribution to the Recipe for Safety initiative;
- Local Authorities enforce in many of those sectors which are dominated by SMEs, who are obviously a priority area;
- Surveys have found that employers give a positive report on their contact with Local Authority environmental health officers.

Moreover, initial feedback from synergy projects is positive (Fairburn and Patel, 2003), wherein the HSE provided central support, information and training, whilst LAs dealt with local delivery of initiatives. It is also pertinent to note that Wright et al (2003) in their evaluation of the HSE website and published material noted that a large body of sector specific guidance (local authority circulars) was available via the HSE website but were not presented or promoted for use by employers. This was considered to be an example of where the HSE could better support the information needs of specific Local Authority enforced sectors.

2.7.3 Occupational health

It is clear that the resource implications of increasing the level of competent occupational health advice and support requires the involvement of health care organisations such as NHS Plus and primary care organisations. A series of studies have identified, assessed and scoped out the need for a major increase in the provision of occupational health advice and support, such as;

- The Survey of Use of Occupational Health Support (Pilkington et al 2001);
- The Occupational Health Advisory Committee Report and Recommendations on Improving Access to Occupational Health Support in 1999;

In addition, there are a series of reports laying out, in detail, the proposed strategy, including the initial feasibility study for the construction industry (Amey Vectra 2002) and the HSE 'Developing an occupational health strategy for Great Britain' which has been consulted on.

NHS Plus has been further developed as a way of encouraging NHS Occupational Health departments to sell services to the private sector or other parts of the public sector, thereby helping to make OH services more widely available. Obviously Securing Health Together has been pursued, as has the Scottish 'Safe and healthy working' scheme. A number of Cities have City Occupational Health Projects.

It is difficult to provide a view of the evidence about the effectiveness or impact of these schemes as they have either just been launched or have not been fully evaluated. Indeed, the construction industry occupational health support pilot scheme was only launched in March 2003. The Securing Health Together report on 'A vision for health, safety and rehabilitation support in work for Great Britain' was only issued in October 2003.

The studies used to develop the strategy and pilots consistently identified the need for access to low cost advice and services. For example, a study of SMEs prepared by the Focus Group Business Consultants (2001) quoted in the HSE's OH strategy report found that;

- Most respondents would welcome an OH service;
- SMEs will always need external help due to lack of resources and are cost sensitive.

A MORI study quoted in the HSE's OH strategy report on improving SME access to OH support confirmed the need and desire for OH support.

Hence, it is unsurprising that the strategy and pilots are designed to meet these expressed needs.

The need for evaluation of the success of these pilots and schemes is also clear. For example, consultation responses to the HSE proposed strategy identified potential obstacles such as;

- There is a need to demonstrate the business benefits of OH to secure commitment and financial incentives would help;

- Some respondents felt that it should be mandatory for employers and employees to have access to OH advice;

- SMEs either cannot afford to buy OH advice or do not recognise a need for it;

- Concern was expressed about the variation in OH services between trusts and authorities;

- Hard to reach employees such as home workers may be at a disadvantage.

It has also been noted that primary care organisations, such as GPs, do not always possess occupational health expertise or resources. Training for GPs contains little or no OH content.

Whilst the strategy has been developed with these concerns uppermost, there is little evidence available to date on which to evaluate the success of the strategy in achieving a greater uptake of OH advice and support. Some examples though are noted below;

- It is reported that the DoH is developing a portfolio of OH services and that there has been a good response from trusts, thereby providing confidence in the level of service availability and capability – indicating that the level of service is increasing;

- The Staffordshire University's evaluation of the Workwell project in Sandwell. (May 2000 to April 2002) shows that Workwell has developed from a modest sized project in 2000, into a distinctive occupational health service provider catering for small and medium sized enterprises (SMEs) and their workforces in Sandwell. Workwell has delivered on key performance results in line with the plans agreed by the HAZ, Steering Group and Project Team and has gained national recognition for its work.

- Burnett and Hawkins (2001) reported on the evaluation of provision of a nurse practitioner-led health service to the farming community of North Lancashire and South Cumbria. The results illustrated that 100% of users found the service useful and 51% commented favourably on ease of access compared to conventional GP consultation.

- There are dozens of documented examples of NHS trusts/primary care organisations and NHS Plus assisting firms with occupational health matters, quoted as part of the Back in Work initiative and Securing Health Together work, including documented examples of NHS Plus helping small firms. The examples cite improved health performance such as reduced absence, less long term absence and fewer reportable cases of (for example) musculoskeletal disorders.

There is evidence that the higher levels of occupational health and rehabilitation in other countries are associated with improved rates of return to work. In particular, the IUA-ABI bodily injury study of 1999 found higher rates of return and reviews of return to work schemes overseas (Wright et al 2003) have found significant improvements subsequent to the implementation of new arrangements.

It is pertinent to note that two of the emerging lessons from the Scottish Safe and Healthy Working scheme launched in July 2000 (over 3 years) were;

- It took 18 months to set up the structures for the scheme, and;
- Clear objectives for evaluation need to be put into place before the service rolls out in order to assess the impact of the service.

A number of evaluations projects are due to report, including The Evaluation of Occupational Health Advice in Primary Care and an evaluation of the City OH Projects.

3 APPLICATION OF EVIDENCE BASE TO THE HSC'S STRATEGY FOR 2010 AND BEYOND

3.1 GAPS AND UNCERTAINTIES IN THE EVIDENCE BASE

There is a strong evidence base to support the continuation of established HSE and LA activities. This is in part because such activities have been in effect for long enough to be the subject of research and evaluation. Unsurprisingly, there is a weaker evidence base on which to evaluate new HSE / LA activities. In many cases they have been limited to one pilot and initial evaluations.

Some specific gaps and uncertainties are;

- Little research on the role of prosecutions as a deterrent to others, as a precedent setting activity or as an awareness raising activity;
- Little research on the role of preventive enforcement, such as Improvement Notices, as a deterrent to others, as a precedent setting activity or as an awareness raising activity;
- The extent to which financial, reputational and supply chain levers influence employers in higher versus lower sectors, and how reputational risk impacts employers in the public sector;
- How to influence health and safety amongst home workers;
- Whether the impact of enforcement is the same in the Local Authority and HSE enforced sectors;
- Whether the priority awarded one set of regulations, such as food safety, add or detract from the attention awarded other safety related regulations;
- Whether enforcement has a lasting impact on the behaviour of organisations;
- The relative benefits of working with alternative intermediaries to amplify the HSE's awareness raising work, and whether working via intermediaries could water down the HSE brand;
- How best to amplify the impact of prosecution and preventive enforcement activities;
- There is little evidence on which to gauge the relative effect of alternative mixtures of education, incentives and enforcement, although it is clear that all three are mutually reinforcing rather than mutually exclusive;
- It is very uncertain whether self-regulation occurs without the proactive direction, support and real prospect of enforcement by the regulator even amongst major hazard organisations that recognise the business consequences of major accidents;

- There has been little research into the role of employment law provisions, tax rules, regulation and subsidies etc for promoting rehabilitation in the UK.

Whilst it is clear that there are benefits of working with intermediaries, the current evidence base does not provide definitive pointers of which intermediaries offer the best opportunity or to what extent these intermediaries can help to amplify the impact of the HSE. Similarly, whilst it is clear that new drivers such as the cost of ELCI and reputational risk offer significant potential, these phenomenons are at an early stage of development. It is clear that the potential role played by certain "levers", such as ELCI and reputational risk, is currently evolving and developing. It is unclear at this stage exactly what role and how important a role such levers could play. Evidence to date though indicates that they have more to offer.

3.2 RANKING OF INITIATIVES IN TERMS OF THEIR RELATIVE EFFECTIVENESS

It is difficult to suggest a ranking of awareness raising, incentives and enforcement as the research indicates that these three activities are mutually supportive and reinforcing. Regulations tend to not be complied with if employers either lack awareness, do not believe the business or safety case, or if there is little prospect of enforcement. On the other hand, awareness of risks alone does not necessarily lead to action in the absence of regulatory, financial or other motives.

However, it is clear that SMEs have a relatively lower level of awareness and that such awareness is a pre-requisite to compliance. Hence, in the case of SMEs it is apparent that awareness raising is a prior requirement. However, it is also SMEs who reported (prior to the ELCI cost increases) that the absence of a financial incentive is a problem and that the lack of tangible business benefits is a demotivator. Hence the need to create and advertise the financial incentives is greatest amongst SMEs. It is also SMEs that report the greatest need for specific advice and direction on what they need to do to comply with regulations, and who report that more inspection would be a benefit. Thus, it is again difficult to rank any one type of intervention above another, even for SMEs.

It is also apparent that education, advice and information initiatives may have less impact on individual "reluctant" compliers, especially for those mediums that require the duty holder to "go to" the HSE for advice and information. There is some evidence that advice and information is of less benefit to organisations that do not take a proactive approach to health and safety responsibilities, and which do not perceive a great need to comply. HSE advice, information and campaigns are more likely to penetrate those organisations that have in-house health and safety staff.

3.3 LESSONS FROM OVERSEAS

A large body of research has been completed in Europe, USA, Canada and Australia on the effectiveness of health and safety regimes. These studies support the view that a mixture of enforcement, financial incentives and awareness raising are required. The European Agency for Safety and Health at Work's review of member states regimes indicates that all states have a mixed regime and that each element plays an important role. However, whilst a mixed regime is generally supported, some countries or individual states have adopted an alternative balance. It

is difficult though to provide firm conclusions about the relative impact of alternative balances of enforcement, incentives and education because, in the case of USA, Canada and Australia, reforms of the health and safety regime have been accompanied by changes in the structure and level of workers' compensation benefits. It is important to realise that injury statistics are based on workers' compensation claims. Hence, when benefits levels are changed, usually downwards, and claims criteria are tightened, it is unsurprising that the reported number of cases also fall. Indeed, in some cases certain categories of claims, such as chronic stress, are entirely excluded. Thus, it is difficult to partition out the impact of reforms and the impact of workers' compensation benefit changes.

In addition, all of these countries report a fall in injuries despite adopting different balances of awareness raising, incentives and enforcement. For example some Australian states have merged insurance with enforcement and advice, whilst enforcement is separate from insurance / advice in the US. Both countries report improved health and safety performance.

It is apparent that other countries place a greater emphasis on the role of financial incentives, particularly workers' compensation, than the UK. Care must be taken in interpreting this point. In all cases, worker' compensation forms a much higher proportion of employers' payroll than in the UK. Furthermore, in all cases these countries operate no fault compensation schemes into which a far higher proportion of costs are borne. Hence, it is possible that due to the higher absolute cost of workers' compensation, greater reliance can be placed on it as a financial incentive.

3.4 TARGETING OF INTERVENTIONS

It is perhaps paradoxical that those sectors that are least aware of health and safety and least receptive to HSE advice tend to be those sectors generally characterised as lower risk, such as retailing and other services. Thus, if interventions are prioritised only on the basis of current levels of awareness this could lead to lower risk sectors gaining top ranking. This comes about due to the point that organisations' interest in health and safety appears to be linked to their perception of the significance of the health and safety risks.

This could also be interpreted to imply that organisations that wrongly perceive the risk to be low require top priority, and / or that hazards wrongly perceived by organisations as low risk require cross sector prioritisation, such as focusing on assault risks in those high street businesses otherwise regarded as lower risk. In these situations employers may show inadequate interest in comparison to the measured risk, and hence warrant action to realign their level of action with the level of risk.

It is also problematic that SMEs display the greatest need for support, due to their relative lack of in-house expertise, but whom also present the greatest challenge in respect of contact techniques. Direct contact is challenged by the number of SMEs. Working via intermediaries is challenged by the variable level of contact SMEs have with intermediaries.

Whilst larger and high risk organisations present an easier challenge in terms of access, receptiveness and in-house competence, they nonetheless seek out, require and welcome HSE advice, direction and support. Larger and higher risk organisations tend to make more use of HSE advice and guidance and present less of a challenge in respect of contact. Targeting only on the basis of which organisations will respond the most to HSE advice would lead to the prioritisation of large and higher risk organisations/sectors.

3.5 SME'S

It is reasonable to conclude that none of the research indicates that any one activity (education, incentives, reputational risk, supply chain pressure or inspection/ enforcement etc) meets the needs of small firms, or is particularly effective in the context of small firms. Much of the research indicates that small firms are hard to reach, less receptive to awareness raising activities, too numerous to secure compliance via inspection and often unreceptive to the business case for health and safety due to the intangibility of the costs and benefits. This can be interpreted to mean that a multi-dimensional strategy is needed for small firms. It can also be interpreted to mean that such activities may have a lower 'return' amongst small firms than large firms, and that a higher level of activity is required per small firm than per large firm to prompt the same level of compliance. There is no research that any one strategy will solve the issue of how to secure compliance amongst small firms. There is evidence that the relative (to larger firms) awareness, motivation and health and safety capability of small firms is low.

Whilst a multi-dimensional strategy is also argued for large firms by the research, it is reasonable to conclude that education, incentives, reputational risk, supply chain pressure or inspection/ enforcement etc enjoy a greater impact amongst large firms.

3.6 INCENTIVES AND DRIVERS

3.6.1 The role of enforcement and regulations

It is apparent that:

- The application of enforcement and regulations is an effective means of securing compliance, creating an incentive for self-compliance and a fear of adverse business impacts such as reputational damage in all sectors and sizes of organisations, including major hazard sectors.

- As the fear of enforcement is a significant motivator for organisations, there may be value in exploring new types of penalties, charging regimes and enforcement strategies so as to maximise the deterrent effect of enforcement, such as court ordered publicity.

- There is evidence that enforcement and HSE and Local Authority leadership is an important element in prompting major hazard firms to manage health and safety, including major accident prevention.

- Enforcement supported by advice and guidance is considered to be of equal benefit to health hazards, such as noise, passive smoking, manual handling and stress, as it is to safety risks.

- New regulations are reported to have had an effect on the management of health hazards, such as noise, manual handling, workplace smoking and health surveillance, as well as safety issues.

- Studies have shown that hazard specific regulations can lead to greater improvements of risk management compared to hazards only covered by general regulations.

- There is some evidence that advice and information is less effective in the absence of the possibility of enforcement.

The HSE is an active actor in the creation of reputational risk for organisations, including its enforcement work and the published findings of audits and reviews.

On the matter of regulation, whilst our review did not aim to spot any particular gaps in UK regulations, there is one area where this review does highlight a possible area for further review, namely vocational rehabilitation. It is pertinent to note that Australia, which based its health and safety regime on the UK's, has recently introduced specific rehabilitation regulation. We are unaware of any regulations covering occupational rehabilitation for work related injury or ill-health in the UK. Given that there is evidence that regulation and inspection works, and that there is scope for a major improvement in rehabilitation in the UK, this may be one area of regulation that warrants further consideration.

3.6.2 The role of financial and other business incentives

Whilst earlier research provided mixed messages on the effectiveness of financial incentives, there is emerging evidence that with the increased cost of insurance that some organisations are starting to respond to insurance premiums by trying to improve health and safety. Research has also found that small firms would be more likely to be incentivised if they saw a clearer link between their premiums and their health and safety performance. This provides support for the idea of developing a more risk based method of setting SMEs insurance premiums, and for further developing the role of insurance as an incentive for better health and safety.

This may also facilitate an expanded role for insurers in advising their clients on health and safety, or at least setting standards for their clients. As these events and developments are recent, there remains uncertainty about the potential scope for this type of incentive.

However, it is clear from other countries that, once the cost of insurance reaches a certain level, that it does lead organisations to initiate health and safety improvements. Moreover, it is apparent that the main incentive and driver for other countries (Australia, Canada, USA and New Zealand) introducing Return to Work and Vocational Rehabilitation has been the wish to contain or reduce the cost of insurance. Thus, there is a strong case for exploring the role of ELCI premiums as an incentive for greater uptake of Return to Work and vocational rehabilitation amongst employers.

Notwithstanding the latter, it is also clear that many organisations are not motivated by the business benefits to improve health and safety, and that many organisations do not improve rehabilitation in response to the cost of insurance. There are many reasons for this. The implications though, is that financial incentives alone do not assure universal adoption of (for example) rehabilitation. On the other, it is also clear that increased regulation does not assure universal compliance in the absence of a convincing business case. The lessons from other countries is that a combination of persuasion, financial incentives and regulation is applied to achieve adoption of new arrangements, commonly without achieving universal compliance.

Thus, in summary;

- Whilst it appears that progress has been made in convincing organisations of the business case, the results are mixed and hence further work in promoting the business case is needed.

- It is also clear that certain aspects of the business case, specifically the financial cost of Employers' Liability Insurance and reputational risk, are emerging as powerful and widely

recognised incentives. Greater use could be made of financial and reputational incentives to promote both better health and safety management and better rehabilitation. Indeed, there is evidence that the financial cost of insurance can act as a powerful motivator for organisations to seek out and act on health and safety and rehabilitation advice.

- It is also clear that, when exercised, supply chain pressure can have a significant effect on suppliers and contractors. However, there is mixed evidence about whether such pressure is being exerted by clients. Further work to increase the exercise of client pressure appears warranted. Such pressure is currently most apparent in the highly regulated sectors, reinforcing the benefit of continued regulation and enforcement in the major hazard sectors.

3.6.3 The social and moral case

It is apparent that the social and moral case is important in many respects, including justifying regulations, creating reputational risk and increasing society's (employees, customers and members of the public) expectations, in the arena of health and safety. Public awareness and perception of risks, such as stress, leads to and facilitates an expectation of improved health and safety amongst all stakeholders.

It is apparent that the HSE is an actor in the creation of societal concern and awareness of health and safety issues. There is little evidence to date of societal concern for occupational health and safety being created by consumer or other non-governmental organisations with the exception of employee representatives (trade unions), civil suits (solicitors) and health and safety professionals/ bodies such as ROSPA.

3.7 ADVISING AND SUPPORTING

3.7.1 The role of intermediaries and the HSE as sources of advice

The research on the role of intermediaries, and whether the HSE need to develop an advisory service that is perceived to be independent of the HSE. is principally aimed at addressing the expressed fear of the HSE amongst those smaller organisations and new organisations that have not had prior contact with the HSE, and at amplifying the impact of the HSE.

It is clear that working with intermediaries can effectively amplify the impact of the HSE and that this is particularly needed amongst the large number of SMEs. It is also clear that there is a range of intermediaries that the HSE could work with, but the relative effectiveness of each type of intermediaries is less well researched. The effectiveness of some intermediaries has been subject to limited research and / or a single pilot. Whilst this provides an initial indication of their potential role, uncertainties remain.

Whilst there is some evidence that some SMEs fear to approach the HSE, it is also clear that numerous SMEs and large organisations do approach and then welcome the HSEs advice and information. Indeed, many studies indicate that organisations go to the HSE and are satisfied with their advice and information.

However, there remain a significant proportion of organisations who do not "go to" the HSE for advice and are not aware of HSEs promotional activity. It is clear that the HSE need to reach out to these organisations and develop new ways of doing this.

In summary it appears that;

- Advisory, awareness raising and educational work is of great importance for all sizes and sectors, but particularly SMEs.

- There is a need to amplify the effect of the HSE by working with and via intermediaries, especially in the case of SMEs. A wide range of intermediaries have been identified as probable "good" partners but further larger scale trials and assessment would help confirm which partners offer the best prospect, such as trade associations, clients, business advisory bodies (e.g. Business Link), professional bodies, educational and training bodies, etc. There is evidence that working with intermediaries is effective. The resource implications of working with intermediaries are uncertain.

- As the representation of SMEs by intermediaries is varied within and between sectors, it is likely that multiple avenues are needed to reach SMEs.

- A number, as yet unknown, of SMEs do not approach the HSE for advice and are not receptive to HSE awareness raising activities, possibly due to their fear of the HSE. The characteristics of these firms are uncertain but probably include firms that have not had prior contact with the HSE. This indicates there is a need to either identify new ways of providing advice for these organisations such as via intermediaries and / or allaying their fears of the HSE through promotional activity or the creation of a "virtually" separate advisory service for organisations.

- The high level of usage of HSE advice and information, the positive reviews of HSE/LA advisory work and the expressed desire for authoritative advice from the regulatory bodies provides support for the continuation, or expansion, of HSE advisory activities in all sizes and sectors of organisations. Many organisations actively seek out HSE advice because of the wish to secure authoritative information and guidance on how to comply and best manage health and safety.

- Small firms prefer "specific" advice and information that they do not need to interpret in order to apply to their activities and which identifies the control measures they need to take (without having to carry out a risk assessment to identify what they need to do). Direct contact in the workplace is preferred.

- It is clear that employee involvement is beneficial and that new ways of facilitating their involvement would particularly benefit the non-union sector, although facilitating increased uptake of safety representatives roles would also be beneficial. The Worker Safety Advisor pilot project was a successful example. It would be useful to have examples of analogous work or larger scale trials on which to judge how best to expand schemes such as WSA.

3.7.2 Provision of occupational heath and rehabilitation advice and support

There is clear evidence that there is significant scope for improvement in the provision of occupational heath and rehabilitation advice and support in the UK. A number of potential providers have been identified and incentives such as the cost of ELCI are emerging.

- It is also clear from overseas experience that employers have a critical role in initiating, supporting and facilitating early return to work by people injured or ill. Workplace focused return to work schemes initiated by employers, with professional health care support, are the principal means of reducing work related absence in many countries. However, it is also clear that there are challenges in securing employer commitment to RTW.

- It is also clear that employee incentives (and disincentives), such as linking compensation to participation in rehabilitation, are critical as the motivation of employees to return to work greatly influences the success of such schemes.

- There are also many other methods of influencing the implementation of rehabilitation, such as employment law provisions, tax rules, regulation and subsidies etc. The value of these options for the UK could be usefully explored.

3.8 AMPLIFYING HSE'S INFLUENCE

Working with Local Authorities

There is evidence that nationally co-ordinated sector based initiatives are effective in some sectors. There is also evidence that inconsistency in enforcement practices creates confusion and diminishes respect for the law. Hence there is evidence supporting the idea of greater national co-ordination of health and safety enforcement.

Working with other government bodies

There is some evidence that the HSE can successfully bring about change by working with other government bodies, as witnessed by the success of the work related deaths protocol with the police. Opportunities exist with the NHS, DWP, Lord Chancellors Department, Department of Health, Food Standards Agency, Environment Agency and others for the HSE to extend its influence by working with others bodies. It is essential for the HSE to work with the DoH/NHS to achieve its occupational health goals.

3.9 OVERALL CONCLUSIONS

The evidence available from current studies does indicate that there is a range of new ways of accessing, contacting and influencing employers, including the hard to reach SME sector. Accepting that there is a need to affect greater influence on SMEs, these avenues offer opportunities for the HSE to amplify its effect. The exact balance and composition of these methods requires further research, piloting and evaluation, before definitive conclusions can be reached on the benefit to be gained from specific types of new interventions. This is inevitable given the novel nature of some of these interventions.

There is, at the same time, evidence to support the continuation of current advisory, enforcement and regulation based activities.

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