Occupational health and SMEs: Focused intervention strategies

Part 1 - Overview report
Part 2 – Substantiating chapters

Prepared by Vectra Group Limited for the Health and Safety Executive 2004
Occupational health and SMEs: Focused intervention strategies

Part 1 - Overview report
Part 2 – Substantiating chapters

P Stephens, BSc (Hons) Applied Psychology, MErgsS
N Hickling, BSc (Hons) Ergonomics, FERgsS, Eur Erg, MSaRS
L Gaskell, MSc Ergonomics, BSc (Hons) Psychology
M Burton, MSc Organisational Psychology, BA Psychology
D Holland

Vectra Group Limited
Europa House
310 Europa Boulevard
Gemini Business Park
Westbrook
Warrington
WA5 7YQ

HSE is concerned that Occupational Health is not given the attention it deserves in Small to Medium Enterprises (SMEs). The issue for HSE is how best to initiate improvements to good occupational health practices within these businesses. The study examined psychological models of behaviour change, organisational and social characteristics of SMEs and the potential for incentives to achieve change. It is clear that the manager is a key influence on occupational health practices in SMEs and acts as a ‘gatekeeper’ to controlling change. This person is key to the success of an intervention, and therefore must be included. Additionally, direct influence on the workforce should be attempted to create an upward pressure on the gatekeeper for change. To increase the likelihood of the desired change succeeding, an effective approach would include a number of complementary interventions, where each intervention compensates for the shortcomings of others. This study includes the development of an Interventions Attribute Set that assists in assessing a proposed intervention strategy and ensuring that effective use is made of complementary interventions.

This report and the work it describes were funded by the Health and Safety Executive (HSE). Its contents, including any opinions and/or conclusions expressed, are those of the authors alone and do not necessarily reflect HSE policy.
## Contents

**EXECUTIVE SUMMARY** ........................................................................................................... vii

1 **INTRODUCTION** .................................................................................................................. 1

1.1 Project Aims ......................................................................................................................... 2

1.2 Definitions .............................................................................................................................. 2

2 **METHOD** ............................................................................................................................... 4

2.1 Literature Review .................................................................................................................... 4

2.2 Models of Behaviour .............................................................................................................. 4

2.3 Identification of SME characteristics ................................................................................... 4

2.4 Identification of Intervention Strategies ................................................................................. 4

2.5 Business Model ..................................................................................................................... 4

2.6 Identification of Incentives .................................................................................................... 4

2.7 Survey .................................................................................................................................... 5

2.8 Case Studies ........................................................................................................................ 5

2.9 Development of an Intervention Attributes Set .................................................................. 5

2.10 Testing of the Intervention Attributes Set .......................................................................... 5

3 **FINDINGS** ............................................................................................................................. 6

3.1 Literature Review .................................................................................................................... 6

3.2 Models of Behaviour .............................................................................................................. 6

3.3 SME Characteristics ............................................................................................................. 7

3.4 Brainstorming for Intervention Strategies .......................................................................... 7

3.5 SMEs and the business process ............................................................................................. 8

3.6 Identification of Incentives .................................................................................................. 9

3.7 Survey .................................................................................................................................. 10

3.8 Case studies .......................................................................................................................... 10

3.9 Intervention Attributes Set ................................................................................................. 12

3.10 Testing of The Intervention Attributes Set ......................................................................... 14

4 **DISCUSSION** .......................................................................................................................... 16

5 **CHALLENGES TO THE PROJECT: PENETRATING SMES** ............................................ 18

6 **CONCLUSIONS** .................................................................................................................... 20

7 **RECOMMENDATIONS** ........................................................................................................ 21

8 **REFERENCES** ....................................................................................................................... 22

9 **BIBLIOGRAPHY** .................................................................................................................. 24

10 **PART 2 SUBSTANTIATING CHAPTERS** ............................................................................ 33
Part 1 – Overview Report
EXECUTIVE SUMMARY

This report is the first of a two-part document. It provides an overview of the principal findings and arguments, leading to recommendations for HSE on how to develop a focused intervention strategy for Occupational Health (OH) that targets Small to Medium Enterprises (SMEs). SMEs range in size between 5 and 249 members.

The work has drawn on many and diverse sources of information, ranging from literature through to brainstorming by the authors. This has been done so that the factors influencing the adoption of an effective intervention strategy could be identified.

Factors that affect the effectiveness of an intervention strategy were found by examining and considering:

- Psychological models of behaviour concerning occupational health,
- The characteristics of SMEs that could influence the uptake of an intervention,
- Different interventions and their identified strengths and weaknesses,
- An SME business model,
- The advantages and limitations of different incentives to improve OH,
- Case Studies obtained by interviewing members of SMEs.

The information sources and Vectra’s experience of contacting SMEs has shown that SMEs are a very diverse community of businesses. In general, it appears that they do not invest much resource in improving OH. There was evidence from both the literature and case studies of resistance to improvements in OH. The regulation of OH and the prospect of later insurance claims are not manifest threats to their business and, therefore, OH is not afforded much time or attention.

The work has identified that SMEs have ‘gatekeepers’ who provide, or more often withhold, resources that would improve occupational health. Gatekeepers are key stakeholders within an SME with access to resources. The gatekeeper is often the owner, ‘boss’ or, in larger SMEs, a senior manager with assigned OH responsibilities.

An effective occupational health intervention would target the gatekeeper with the aim of persuading them to adopt improved practices. The intention of such an approach is that the gatekeeper would then propagate the good practice throughout their organisation. The ‘persuasion’ would be in the form of incentives that can promote the value of good practice or, provide a threat of negative repercussions if good practice is not followed. In addition, an incentive that targets another aspect of the business could be used where there is a secondary affect on occupational health (i.e. the change is a by-product of another initiative). However, the SME gatekeeper is often resistant to making changes to occupational health practices. In this case, they will have to be bypassed and the workforce targeted directly. This report discusses positive and negative incentives as well as the possibility of making changes in Government strategy.

Different candidate interventions for SMEs have been examined. Each is found to have relative strengths and weaknesses.

Therefore, taking the notions of the gatekeeper and interventions together it is concluded that an effective intervention strategy is one that will consist of complementary interventions,
which compensate for each others respective weaknesses. Furthermore, to maximise the impact of the intervention strategy, there should be interventions aimed at the workforce and separate interventions aimed at the ‘gatekeepers’. In this way a ‘pincer’ effect is created, with pressures on the gatekeeper coming from outside the SME and from within via a more OH-aware workforce.

The consideration of the many factors affecting intervention success in SMEs has led to the creation of an Intervention Attributes Set. The Intervention Attributes Set is the intellectual solution developed by Vectra to support HSE policy decision makers in their choices of Occupational Health interventions. The Intervention Attributes Set aims to assist HSE policy decision makers in assessing the relative strengths and weaknesses of different interventions. It is suggested that the usefulness of the Attributes Set be monitored in practice to see whether it could be usefully supplemented by more detailed guidance contained in the information sources that comprise the work reported here.
1 INTRODUCTION

This overview report has been written as Part 1 of the report - Occupational Health and SMEs: Focused Intervention Strategies, produced for HSE by Vectra Group Ltd. (Vectra). The rationale for providing an overview report arises from the large volume of information needing to be reported. This is because of the complex nature of SMEs, and hence, the diverse sources of information and the methods used to understand them that were used to undertake this research. The Part 2 report presents the evidence and background material for the conclusions of this research.

The information gathered on SMEs and the interpretation of that information has been complex. Therefore, a major objective of this Part 1 report is to clearly and succinctly summarise the major findings and the key insights that have been gained. For each method tried, there are findings. Each of the key insights, which contribute to the overall understanding of interventions and their effectiveness in SMEs, are clearly demarcated in Section 3 of this report.

Prior to the start of the project, there was an apparent lack of collected information about the attitude and understanding of Small to Medium Enterprises (SMEs) toward occupational health issues. A little was known about what was meant by an intervention, and much more was known about occupational related illness and diseases. The aim of the project was to find out how all of these factors influence individuals' occupational health-related behaviours in their workplace. More specifically, the project aimed to establish how to improve these behaviours by means of focused interventions. The premise was that an intervention would be more effective if it is focused because of the knowledge of the factors influencing behaviours.

To understand if an intervention would be effective in an SME, the authors explored and developed a number of lines of inquiry. These included reviewing psychological models of individual behaviour, defining the characteristics of SMEs, and understanding the effect of external factors, such as incentives and Government initiatives, on SMEs’ business processes. The researchers gathered information, on these factors, through published material and directly from SMEs themselves.

Another factor that would also affect the success of an intervention was identified, namely the medium used to convey it. In addition, it was also realised that one medium can have a number of routes available for the delivery to the intended target audience. In conjunction with this, the authors needed to integrate all of this information to establish a means for assessing the likely effectiveness of an intervention. Ultimately, this was achieved by creating a taxonomy of interventions.

When the research into models of individual behaviour and SME characteristics had been completed, and the list of interventions, incentives and mediums created, the Intervention Attributes Set was conceived.
1.1 PROJECT AIMS

The aim of this research project was to develop a means, by which, HSE could assess the potential for success of an intervention. This was to enable interventions/ campaigns, aimed at improving Occupational Health (OH) practices, within small to medium sized enterprises (SMEs), to be targeted more accurately. SMEs present a special challenge to HSE because there are a large number of SMEs and they are very industrially and organisationally diverse. Added to this are the resource limitations within HSE itself.

The main aims of the project were:

- To identify the key social and psycho-social pressures which play a contributory role in determining behaviour in relation to Occupational Health;
- To determine whether the size of an enterprise has any affect on the key psycho-social pressures;
- To identify practical intervention strategies for targeting Occupational Health practice within SMEs.

1.2 DEFINITIONS

1.2.1 SMEs

For the purposes of this report, the definition of SMEs is that used by the Department of Trade and Industry. The Department of Trade and Industry states that a small firm is one with 1 - 49 employees and a medium firm has 50 - 249 employees. Therefore, we have taken a SME to be a firm comprised of 5 to 249 employees.

SMEs make up over 3.7 million businesses in the UK. As a whole, these businesses employ 12.5 million people and account for 99% of all UK business stock. The Government considers these enterprises to be core businesses and a fundamental resource for the nation (DTI, 2002). The diversity of SMEs means that, while some will be autonomous in their management of OH practices, some will be managed by larger organisations, or at least be largely influenced by them. This is likely to be the case when firms work as contractors. Paradoxically, a parent company providing franchises may have an over-arching Occupational Health and Safety policy but each outlet could be responsible for its own occupational health practices.

1.2.2 Occupational Health

The definition of Occupational Health used for the purpose of this report is the avoidance of long-term (chronic) deterrents to an individual’s health, that are the result of repeated exposure to hazards that are generally, or always, present in their work place.

Addressing poor, or absent, OH practice is difficult because the effects on health, arising from exposure to a particular hazard, are not immediately apparent. The lack of a 'cause and effect' relationship makes persuading individuals to adopt new behaviours a challenge. This is especially true for many SMEs because their existence may be transient and their workforce can be very mobile.
Typically, occupational ill health may be associated with any of the following symptoms:

- **Musculoskeletal Disorders** - Stemming from manual handling of heavy or awkward objects, repetitive handling of light objects, or forceful movements.
- **Chronic Respiratory Diseases** - Exposure to substances hazardous through inhalation or persistent contact, for example; asbestos, solvents, cyanoacrylates, silica, MDF dust, wood dust etc.
- **Permanent Hearing Decrement** - Noise exposure from power tools, machinery, etc.
- **Vibration White-finger (numb, white and painful fingers)** - Frequent use of hand-held electrical tools.
- **Chronic illness or sensitivity** - Exposure to biological agents - e.g. bacteria, fungi, and sensitising substances such as Nickel.
- **Terminal illness** - Exposure to electromagnetic or ionising radiation.
- **Stress** - Exposure to psychological or physiological stressors - e.g. lack of autonomy, bullying, excessive workloads, etc.
2 METHOD

2.1 LITERATURE REVIEW

A literature review was undertaken to identify factors whose consideration would help shape an effective intervention. Relevant literature was identified and reviewed in two main areas shown below. Each of these areas then became an in-depth review and thus, reported on separately (see Part 2, Chapter 1). A third search area concerning previously implemented interventions was identified but was not productive. This was intended to identify what interventions for OH had been tried and how effective these had been.

2.2 MODELS OF BEHAVIOUR

A critical review of the key behavioural models identified in the literature review was undertaken. Models of individual behaviour relevant to occupational health were obtained from health care, social psychology and cognitive psychology literature, and considered for their appropriateness for assessing OH interventions in SMEs.

2.3 IDENTIFICATION OF SME CHARACTERISTICS

SME characteristics that influence the success of an intervention were identified. Characteristics of SMEs where extracted from several sources including Government materials, business journals and Trades Unions research. However, the literature was felt to be incomplete, somewhat piecemeal and not well integrated. In addition, some characteristics were based on unsubstantiated opinion. Therefore, the authors supplemented this information by postulating additional SME characteristics. Identifying the psychological and social aspects of SMEs was an important step and key to the ultimate development of the 'Intervention Attributes Set'.

2.4 IDENTIFICATION OF INTERVENTION STRATEGIES

Brainstorming was undertaken to identify potential intervention strategies. This was done at an early stage in the project to avoid the risk of bias and the unjustified narrowing of conceptions, induced by potentially selective literature content that could arise from information gained later on in the project. The authors of this report conducted the brainstorming meeting.

2.5 BUSINESS MODEL

The authors devised a simple business model. This was done as an attempt to characterise the many and diverse factors affecting an intervention’s likely success. Additionally, this helped to provide a 'backdrop' about SMEs to facilitate our understanding of what drivers influence the allocation of time and resources to improving occupational health practices.

2.6 IDENTIFICATION OF INCENTIVES

Brainstorming was used to identify the different incentives that, it can be postulated, would influence the likelihood of an intervention's success. The target for the incentives identified in this way were, the key stakeholders in SMEs who have access to resources and can decide whether effort will be applied to improve a situation or not. We call these individuals 'gatekeepers'.
2.7 **SURVEY**

The research programme included a survey of SMEs to collect information about the priority, levels, awareness and understanding of occupational health. The authors put a great deal of effort into contacting SMEs via phone and setting up discussion groups for this purpose. Unfortunately, this effort proved unproductive as very few SMEs wished to participate.

2.8 **CASE STUDIES**

To capture, first-hand, information about SMEs following the failure of the survey, the researchers undertook a series of case studies. These were done to verify the findings of the literature and the thought processes behind the Interventions Attributes Set development. The researchers obtained case studies by approaching SMEs directly, in an informal manner. Discussions were held on their awareness of OH matters. Observations were also possible that could back-up, or contradict, what was being said by the SME representative. The discussion was informed by knowledge from the literature search but no structured framework could be used. This was because the time available for each interview was often very limited. All the SME representatives were aware of the purpose of the discussion prior to their taking place.

2.9 **DEVELOPMENT OF AN INTERVENTION ATTRIBUTES SET**

The information gained from the preceding methods culminated in the development of an Intervention Attributes Set. The development of this set was critically influenced by the authors’ understanding of the diverse nature of SME characteristics, psychological behavioural characteristics, and overlaid by the strengths of different incentives. The Intervention Attribute Set is, essentially, a judgement guidance tree that HSE policy decision makers can use to aid the selection of interventions.

2.10 **TESTING OF THE INTERVENTION ATTRIBUTES SET**

The theory of how the Intervention Attributes Set should assist in OH decision-making was tested. This testing entailed two Vectra staff independently reviewing three planned intervention scenarios and considering the Interventions Attributes Set. A senior Vectra Human Factors specialist created the intervention scenarios based upon their knowledge of typical intervention strategies. Each scenario had different aims. The people conducting the pilot study were instructed to assume knowledge about psychological models of individual behaviour, SME characteristics and a business process model. In the information provided with the scenarios, the testers were instructed that, where deficits in proposed interventions were found, complementary or alternative interventions should be considered. Additionally, they were informed that they must be ‘familiar with the criteria required for the effective design of communications, incentives and routes for disseminating such information to persuade people to change their systems or their behaviour’. 
3 FINDINGS

3.1 LITERATURE REVIEW

The literature review for this project was extensive and comprised a review of two key areas. These key areas were models of human behaviour, and characteristics of SMEs. Because of the depth of research that took place in both, and the complexity of each area, they are reported separately (see Part 2, Chapter 1).

3.2 MODELS OF BEHAVIOUR

Research in the literature, on models of behaviour, provided insight to the psychological theories about individual behaviours related to attitudes towards occupational health and risks. A critical review of this literature however, did not provide us with any promising baselines for determining the likelihood of success of interventions. In the main, these behavioural theories do not provide substantial evidence that by changing an individual's attitude, change in behaviour will necessarily follow. Furthermore, the models focus very much on individual attitudes and beliefs, with a great deal of effort placed on determining underlying beliefs for that individual. For an overall campaign, aimed at a mass change in occupational behaviours, this would prove impracticable. The theories however, do inform us that changes in behaviour are surrounded by complex psycho-socio mechanisms. A key element of these mechanisms is that an individual makes a sequence of decisions based on a 'cost-benefit' analysis of the anticipated change in behaviour. This ‘cost-benefit’ analysis is not necessarily an explicit or consciously executed process and, as such, is very difficult to capture as part of an intervention strategy.

As part of the cost-benefit analysis, an individual may also go through a reasoning process with themselves about the risks. The authors reviewed information concerning risk-based decision-making. In general, the literature suggests that perceptions of potential loss have a greater influence on outcomes in risk-based decision-making, than perceptions of potential gains. The literature also suggests that the higher the perceived loss, the greater the strength of the belief in a need to change behaviour to minimise risk taking. However, if the consequences of a risk are particularly adverse, such as the possibility of death following emphysema, then there tends to be a denial of the existence of that particular risk. Part of the reason for this ‘denial’ appears to stem from the fact that the consequences from the risk are only realised much later in time. Hence, interventions most likely to succeed in changing behaviour are ones that increase the perceived loss/ cost of occupational ill health. This must place emphasis on high-frequency 'losses' that are tangible to the manager or workforce because, they have been experienced. Unfortunately, occupational health costs tend to be manifested over the long term and are rarely experienced. Therefore, interventions, aimed at changing behaviours of individuals who are likely have their health affected, are almost by definition, unlikely to succeed.

Key Finding from Considering Behavioural Models

Thinking about the literature and the difficulty of influencing the behaviour of an individual, whose health will be affected in the long term, led to a key insight. That is, the main point of influence within an SME must be the person who prescribes what will or will not, be done. That is an owner or manager within an SME whom we term a ‘gatekeeper’.
3.3 SME CHARACTERISTICS

Identifying the SME characteristics enabled us to understand some of the social, environmental and economic factors that might affect the OH behaviours and practices in the workplace, by both gatekeepers and employees. The most striking finding from our research is that the literature falls short of clearly identifying, or even beginning to assist in identifying, any characteristics that could suggest interventions that are more likely to succeed. This arises because of the piecemeal nature of the literature. Moreover, there appeared to be other factors of potentially equal importance that were not found in the literature. Therefore, an SME characteristics list was generated that included the factors identified in the literature strongly supplemented by the authors’ personal experiences of SMEs. The SME characteristics list is included in full in Part 2, Chapter 3.

The complexity of factors found and the lack of information with which to prioritise, has direct implications for the design of any future interventions. This outcome strongly re-emphasises the importance of undertaking this project in the first place.

**Key Findings from Considering SME Characteristics**

Two consistent and key findings clearly emerge from the consideration of SME characteristics. Firstly, SMEs are controlled by key stakeholders, usually the managers, who act as gatekeepers to the release of resources, and to change of OH practices. Unlike larger organisations, if these individuals refuse to make necessary changes that will benefit long-term occupational health, then there is no alternative ‘path of appeal’ or other mechanisms to adjust this deleterious stance. The power of the gatekeeper to promulgate or withhold information also means that an intervention by HSE intended to educate the workforce about OH will need to ‘bypass’ the gatekeeper if it is to achieve maximum success.

Secondly, SMEs are invariably short of time and resources and this affects their willingness, and, or, ability to improve OH. (This shortage is very strongly validated by the difficulties in successfully completing a planned survey - see below.)

3.4 BRAINSTORMING FOR INTERVENTION STRATEGIES

The brainstorming session provided a large number of potential intervention strategies. During the session, no constraint was placed on the type of intervention that could be suggested, or the way in which an intervention could be carried out. This resulted in a pool of unstructured ideas. This pool was then analysed and coded, in relation to the manner of their proposed operation. The result of this process was the identification of interventions that are either direct or indirect, in their nature of operation, and a list of media by which interventions can be delivered.

**Direct interventions** invoke changes to OH behaviour by force, or in ways that do not require an individual to make decisions. Such an intervention, for example, would introduce a change in the design of equipment, or a change in the work environment, or infrastructure.

**Indirect interventions** invoke changes to OH behaviour by affecting the thought and decision processes of individuals. By this we mean, that an indirect intervention will change the attitude, and thus, the behaviour of an individual. However, the literature indicates that changing the attitude of an individual does not always result in a change in behaviour. Therefore, direct interventions offer advantages to indirect ones, although the scope for such interventions may be limited.
Different means for the delivery of interventions were also identified. These ranged from advertisements and mail-shots to trade organisations and certification bodies. Intervention delivery also included those interventions made by HSE inspectors influencing either a workforce or management, to the notion of specialised ‘OH wardens’ who would call, without notice, when patrolling a city or town. This led to another key insight. This was that, an intervention might be made by some wide reaching, but inflexible, means or, by a narrow targeted intervention. A wide-reaching intervention would include, for example, a TV advertising campaign. A more narrowly targeted intervention would include a visit by an HSE inspector, which could be adapted to the precise needs of the individual and situation.

The authors grouped and then considered the advantages and disadvantages of each intervention strategy and media. This analysis, presented in a table (see Part 2, Chapter 4), describes the advantages and disadvantages of each listed intervention. However, the table is not a definitive list. It was realised that interventions can be ‘tweaked’ or ‘tuned’ to improve their effectiveness. Accordingly, it becomes difficult to categorise interventions as exclusive phenomena.

### Key Finding about Intervention Strategies

The key insight that was derived from the consideration of intervention strategies is that any given strategy has identifiable weaknesses. Therefore, there is very often a need for complementary interventions to be applied in which one intervention compensates for the weakness of another. In turn, this leads to the conclusion that any interventions strategy that is going to be effective will consist of a number of complementary interventions.

### 3.5 SMEs AND THE BUSINESS PROCESS

The authors looked at a business process model as a potential means to systematically integrate and better understand all of the complex information gathered from behavioural models, SME characteristics and the assessment of possible interventions. Specifically, this model helped identify internal interfaces within a business and the external influences on SMEs. The nature of these internal interfaces and external influences provided further insight into what factors might influence the success of OH interventions. We found that the SME managers are likely to be the main 'gatekeepers' to implementing changes to OH practices. The business process model also assists us in appreciating the number of official bodies with whom the SMEs interact. These official bodies may be able to positively influence the uptake of good OH practice, by acting as a medium for OH interventions.

### Key Finding from Considering the Business Process Model

The key insight gained from using the business process model to rationalise diverse information was that different channels or routes could deliver an intervention. It produced a very clear realisation that an effective intervention strategy would involve complementary interventions that were directed at the ‘gatekeeper’ as well as interventions aimed at the workforce that ‘bypass’ the gatekeeper. Figure 1 demonstrates this, by showing that the overall impact of the intervention strategy is a pincer effect on the gatekeeper.
The diagram shown in Figure 1 demonstrates how an effective intervention strategy would benefit from targeting via both route A and B to ensure an overall effect on OH practice. The result will be pressure from the 'coalface' (shown by route C), and the source of the intervention on SME managers. The pressures, from routes B and C, should persuade the SME Manager to implement improved OH practices. This ‘persuasion’ may be in the form of positive incentives or threats of loss/ prosecution.

3.6 IDENTIFICATION OF INCENTIVES

A brainstorming session was used to identify incentives that would induce SME gatekeepers to change OH practices. The reason for doing this was the previous findings that SME managers are the people who control the resources within the SMEs. These SME managers are therefore, likely to understand the implications of an incentive upon their business processes, products, services and costs. When the incentives were analysed, they fell into three distinct groups, which the authors have termed positive, negative, and global.
Positive incentives provide advantages for the SME in terms of financial turnover. These range from tax relief, to emphasising the benefits of reduced sickness and absenteeism. Many potential positive incentives are however, limited by economic and market constraints.

Negative incentives impact upon the SME business through reducing productivity or profit. For example, Prohibition Notices, the levying of fines or by reducing the reputation of a business.

Global incentives provide financial relief to an SME, but for an aspect of their business not directly OH-related. The theory is that by reducing a business burden in one area of the SME, more resource becomes available to address OH matters. The major forms of global incentives identified are high-level political changes, such as changes in corporation tax, and employment law. As with the positive incentives, there are likely to be economic constraints of the scope for such incentives.

Key Findings from Considering Incentives

Two key insights come from considering incentives. The first is that SMEs generally perceive that HSE only deliver negative incentives in the form of fines or prohibition notices. It appears that HSE’s positive incentives, such as advice and training, have little impact on the business model held by the SME manager.

The second key insight is that whilst global incentives can be attractive to SMEs there is no guarantee that the money saved will not be assigned to profits rather than ploughed back into OH improvements.

3.7 SURVEY

As a method for gaining information about SMEs, the survey was not successful. The researchers experienced significant difficulty in penetrating SMEs when doing the survey for this project. These difficulties, and the reasons behind them, support the SME characteristics generated (see Part 2, Chapter 3). Overall, this experience provides strong evidence to suggest a need for SME workplace contact advisors for future work of this nature. The evidence that suggests this is found in the results of the survey conducted (details are in Part 2, Chapter 7). The ‘Workplace Contact Advisor’ role is one that HSE has piloted recently, but was not well known or available to the researchers at the time of conducting the survey. These individuals, could well be a very effective mechanism for initially penetrating SMEs in work of the kind reported here.

Key Finding from the Survey

Very few SMEs were willing to give time to discuss the problems and possibilities of improving Occupational Health. The researchers’ experience was that initial commitments to attend discussion groups were reneged upon, as the SME manager perceived that they had to attend to more pressing immediate commitments.

3.8 CASE STUDIES

Managers in 13 small to medium sized companies, known personally to the research team, were interviewed. The companies approached ranged in the number of permanent staff they employed from 3 to 55, with an average of 16 employees. However, there were two companies with three permanent staff, and one company with 55. Excluding these from the sample, the remaining companies had 6 to 25 members of permanent staff. Most of the SMEs used in the
case studies had been in business for several years and included manufacturing, catering and engineering companies.

None of the companies approached worked as sub-contractors to larger organisations, but two companies employed contractors themselves during times of high demand, several others employed additional staff on a temporary basis.

Simple and approximate analyses of the case studies examined both manager and employee OH awareness levels. However, it is important to emphasise that the results presented here can only reflect what was recorded. Because the interviews were not systematic, there is, inevitably, a lot of ‘missing’ data. For example, for six of the 13 companies approached, there is no information about employees. It is also important to emphasise that some results are derived from inferences taken from comments offered by interviewees, rather than the result of a response to a direct question.

The interviews with the SME representatives were conducted in an informal manner, with questions firstly establishing the interviewees’ knowledge and awareness of occupational health. Further questioning asked if the interviewee knew the occupational hazards present within their business and what steps they could do to reduce risks from such hazards. Wherever possible, the interviewer observed what was happening in practice at the SME site to determine if the stated practice was being followed in practice.

Based on the responses of the SME representative, the researchers made a thematic qualitative judgement on the awareness of OH within that SME. The results from this analysis show that 46% of managers have only a low level of OH awareness. Managers with moderate OH awareness make up 31% of the sample, with high levels of awareness making up 23% of the sample.

Considering the 7 case studies with information about employees, there appears to be a low to moderate level of awareness of occupational health issues amongst employees. However, the only two individuals who were interviewed as employees had very high levels of OH awareness. It is of some concern that both these individuals have been ridiculed by their managers for wearing appropriate PPE (personal protective equipment). Conversely, one interview found that although the manager had a high level of OH awareness and was keen to implement good practice, he had come across resistance to good practice by some staff. This contradiction illustrates the diversity of the OH picture amongst SMEs.

We looked at the case study content of the four companies whose managers scored moderate OH awareness. This review investigated whether the demonstrated attitude was supported by practical evidence. Two out of the four companies demonstrated reasonable practice by carrying out risk assessments and providing PPE, or other appropriate equipment, to minimise the OH risk. However, two who had demonstrated moderate awareness showed only minimal evidence of appropriate practice. For example, one of the two companies made employees attend training in their own time. This suggests low commitment in practice and so, is unlikely to engage the staffs’ full attention and commitment. The other SME only provided PPE on request, and observation by the interviewer showed it to be poorly maintained or old and likely to be ineffective.

The case studies tend to confirm the beliefs about SMEs generated from the literature and the researchers’ prior knowledge about SMEs. In particular, the results underpin notions that there is a low awareness of good OH practice and that there can be resistance, by both employers and employees, to implementing good practice. Even though the SME sample is small, these results strongly illustrate the diversity, contradictions and paradoxes that exist within SMEs.
The case studies are presented in full in Part 2, Chapter 8.

### Key Findings from Considering the Case Studies

The case studies reinforce the notion that SMEs hold a range of views about occupational health. Furthermore, there is often a difference between the stated views on occupational health management and the implementation of that practice. In some cases, Occupational Health was not simply neglected but steps were taken that positively ensured that OH standards were lower than they could easily have been.

### 3.9 INTERVENTION ATTRIBUTES SET

The researchers developed the Intervention Attributes Set when all the information obtained in the study was considered as a whole. This information came from:

- The results from the case study,
- Psychological Behavioural Models,
- The catalogue of SME characteristics,
- The business process model for an intervention,
- The analysis of pros and cons for possible interventions, and
- The forms of incentives available to change OH behaviour.

It was realised that all the diverse information that had been gathered and analysed contained a means to classify an intervention and, therefore, to establish the likelihood of its being successful in practice. The result is a succinct set of intervention attributes. These can be systematically applied to identify which interventions should be used during an OH campaign and what their weaknesses and strengths are likely to be. For a diagram of the Intervention Attributes Set, see Figure 2.

The intervention attributes are those key features of an intervention that will alter its effectiveness in practice. If these are considered, the likely success and limitations of an intervention can more easily be identified. The researchers propose that intervention design be assessed by consideration of the 'Task Influences', the 'Incentive Type', and 'Targeting'. The consideration of Task Influence, Incentive Type, and Targeting should be carried out by persons who are well acquainted with psychological models of individual behaviour, SME characteristics and the business process model.
Task Influences are those features of an intervention that will, or are intended to, change the manner in which a task is undertaken. Tasks influences themselves are in two distinct categories, direct and indirect. Direct refers to the way that change is instigated, by changing the design or provision of equipment, or by making changes in the working environment. For example, provision of appropriate equipment may be a high filtration 'Airstream' helmet for use with sprayed chemicals. A change to the working environment might be the installation of a new ventilation system for indoor use, or improvement to lighting etc. These influences are termed direct because they have an immediate and deterministic relationship with the occupational health risk. Alternatively, the way that a task is undertaken may be changed by indirect means, by attempting to alter the behaviour of the workforce. Because indirect task influences are aimed at behavioural change, they tend to be less robust than direct Task Influences. This is because they are affected by changes in motivation, levels of resource and
other factors affecting compliance behaviour. Indirect Task Influences cannot be supposed to have a deterministic effect upon the level of risk, whereas, direct ones can.

**Incentives** are related to the notions contained within behavioural modification models that postulate positive and negative utilities. The role of an incentive is to ‘persuade’ a person to change their attitudes, beliefs or behaviour. Thus, a positive incentive is one with positive utility whereas a negative incentive has negative utility on OH practices. **Positive** incentives promote the benefits of following good occupational practices, e.g. reducing sick absenteeism, reduced insurance premiums etc., or it provides assistance to comply with good practice, e.g. a grant towards occupational health compliant equipment. **Negative** incentives emphasise the potential costs of not adopting good occupational health practices. Therefore, negative incentives include the levying of financial premiums or fines, increasing the likelihood of an inspection, raising awareness of the cost to the company of absenteeism. A third category is included, because some interventions may have no immediately related OH incentives but may release resources that do, these are termed **global**.

**Targeting** is the property of intervention that expresses its efficiency. A well-targeted intervention will be one, which affects all members of a specific working population experiencing the occupational health risk. For example, HSE undertake a very specific campaign whereby they inspected every printing shop. In contrast, a poorly targeted intervention is one that does not impinge upon all members of the target workforce. For example, rather than visit all the printing shops a billboard information poster is used on its own. In the well-targeted campaign, there is a greater likelihood of having direct contact with all employers and employees. The poorly targeted intervention relies on the person seeing the poster and taking the time to read and comprehend its message. In addition, targeting can be considered the ability of the intervention to bring about change. This property arises from the degree of match or mismatch existing between the information in the medium and the characteristics of the target recipient. For example, an advertising campaign can be focused by its appeal to the needs, motivations and perceptions of a specific target audience. However, for a well-focused advertising campaign to become a well-targeted intervention it is critical that the appropriate route is used so that the intended target audience have exposure to the intervention.

The **medium** is the vehicle by which the intervention is delivered. It could consist of a regulatory visit, advertising, educational material, television advertising, single-issue occupational health wardens, etc. To provide guidance on the use of media, a list containing the advantages and disadvantages of some is contained in Part 2, Chapter 4, in conjunction with some of the routes considered.

The **route** of an intervention is an expression of the likelihood that the intervention will hit the target. For example, when using advertising as a medium, a trade journal may be an accurate route when seeking to influence SME management, whereas when seeking to influence a scattered workforce, advertising in the tabloid or local papers may be a more accurate one.

### 3.10 TESTING OF THE INTERVENTION ATTRIBUTES SET

The researchers piloted the usefulness of the Intervention Attributes Set, as a means to assess the likely effectiveness of a proposed intervention. Three proposed intervention scenarios were ‘tested’ during the pilot assessment by two members of Vectra staff who had no previous knowledge of the Set’s content. This was done to assess the Set's usefulness, usability and face validity. The Scenarios examined were deliberately designed to have strong and weak features in their make up.
The staff undertaking the pilot assessment were instructed to assume some knowledge of individual behaviour models, SME characteristics and the business process model. In the information provided with the scenarios, the testers instructions were to identify any deficits and identify any complementary or alternative interventions.

Both people who used the Intervention Attributes Set to assess the proposed interventions found it to be very good at identifying deficits in the planned interventions. For example, Scenario 1 was found to be weak in providing incentives, whereas, Scenario 2 was found to be, "a very comprehensive list of interventions [that] covers most categories required for a good intervention." However, one weakness was identified, which, if addressed, would enable the intervention to be improved upon had it been a real proposal. Scenario 3 produced a similar result to Scenario 1 in that deficiencies were clearly identified and modifications suggested.

The Intervention Attributes Set provided a very useful taxonomy from which an intervention can be critiqued. The weaknesses of a proposed intervention were identified with relative ease. However, the testers found that thinking of alternatives or additional interventions to complement those proposed was more difficult. Therefore, the Interventions Attribute Set provides a useful framework for assessing a proposed intervention, but it is currently not good at generating the intervention in the first instance.

The manifest difficulties in obtaining penetration into SMEs means that any application of this framework, to design a set of complementary interventions, should also be supplemented by performance measures. These measures should be designed to establish how effective the intervention has been in practice. The literature review (reported earlier) showed that few interventions, applied within health and safety, have measures taken to prove that the outcome has been an improvement in OH. Other work by the researchers, undertaken on behalf of HSE, has developed rating scales HSE inspectors can apply when visiting premises. These rating scales measure changes in the provisions and practices for noise control and protection. It is suggested that similar measures should be employed for evaluating any changes in OH practice, which result from an OH intervention.

The intervention attributes set has shown that it is a compact and effective means of identifying any weaknesses within a proposed intervention. However, whilst it is effective at identifying weakness in a proposed intervention, it is less effective in supporting the synthesis of complementary alternatives. Nevertheless, it is believed to be the only framework in existence that brings together the necessary attributes that must be considered when designing a focused and effective intervention.

<table>
<thead>
<tr>
<th>Key Findings from Testing the Intervention Attributes Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two key points emerged from testing the Intervention Attributes Set. Firstly, the intervention attributes are an effective systematic means to identify weaknesses in a proposed intervention. They also provide some support for designing alternative or complementary interventions that may make an overall intervention more effective. Second, any proposed intervention should have measures designed to evaluate its effectiveness in practice so that any unexpected consequences or revealed weaknesses can be addressed.</td>
</tr>
</tbody>
</table>

15
4 DISCUSSION

There are a great many findings in this work that could be discussed. The literature on behavioural models and on SMEs stimulated thought about effective interventions, but was in itself insufficient to draw definitive conclusions. However, the researchers have discovered much about the detailed characteristics of SMEs and their approach to OH that provides direction for developing intervention strategies. Similarly, a great deal of experience has been accumulated in the difficulties of penetrating SMEs to obtain information about their approach to OH. However, the discussion here is confined to the key findings that have been highlighted throughout this report. These findings lead to recommendations about how to achieve a focused intervention strategy with SMEs.

The main point of influence within an SME must be the person who prescribes what will, and will not, be done. This person is usually an owner or manager within an SME, whom we term a ‘gatekeeper’. They are the key stakeholders, who act as controllers to the release of resources, and to change of OH practices. Unlike larger organisations, if these individuals refuse to make necessary changes that will benefit long term occupational health then there is no alternative ‘path of appeal’ or other mechanisms to adjust this deleterious stance. SMEs are invariably short of time and resources and this affects their willingness, and, or, ability to improve OH.

Very few SMEs are willing to give time to discuss the problems and possibilities of improving Occupational Health. The researchers’ experience was that initial commitments to attend discussion groups for our survey were reneged upon, because attendees were usurped by apparently more pressing immediate commitments.

The case studies reinforce the notion that many SMEs invest little time and attention to ensuring good OH and implementing improvements. In some cases, Occupational Health was not simply neglected, but steps were taken that positively discouraged those attempting to use appropriate protective equipment or clothing.

The power of the gatekeeper to promulgate or withhold information means that an intervention by HSE intended to educate the workforce about OH will need to ‘bypass’ the gatekeeper if it is to achieve maximum success. If the information is channelled at the manager or owner of an SME, there is a good chance that it will not be passed on to the workforce. To do so would be to invite the expenditure of resources (time and money) that are considered scarce and better spent elsewhere. In addition, there seems to be little perceived threat of regulatory intervention that would provide an incentive to pass on information and seek to change OH practices.

Mostly, SMEs perceive HSE as only delivering negative incentives, in the form of fines or prohibition notices. This is because information that tries to make a business case for OH may not be convincing for SMEs. However, positive incentives and global incentives in the form of tax initiatives can be generated through taxation policy and other mechanisms of Government. Nevertheless, with 3.5 million SMEs in the UK it is not realistic to expect that HSE, as it is currently structured and resourced, could form a palpable regulatory threat to SMEs.

The title of this project, ‘Focused Intervention Strategy’, advertises a prior assumption that one form of intervention would stand out as more effective for intervening in an SME than another intervention. In practice, there is insufficient literature to suggest that such an intervention exists. This is hardly surprising when the sheer diversity of products, services, organisational structures and attitudes of gatekeepers to health and safety are considered.
In addition, any given intervention strategy will have identifiable weaknesses when considered against the intervention attributes set. Therefore, there is very often a need for complementary interventions to be applied in which one intervention compensates for the weakness of another. Thus, any interventions strategy that is going to be effective consists of a number of different and complementary interventions. Fortunately, different channels or routes can be followed to deliver an intervention strategy. For example, direct targeting of the workforce to improve their knowledge may be complemented by information sent to gatekeepers. These in turn can be reinforced by an increased perceived likelihood of prosecution for non-compliance that is achieved by making sure that local HSE prosecutions are well publicised.

Global incentives can be financially attractive to SMEs. In addition, they are a means that could be used to provide an incentive to SMEs for improvement that does not directly involve HSE resources in achieving their success. Generally, global incentives would require the co-operation of other Government Departments. Global incentives are complex and require consideration of competition law and the possibility that the SME may direct money saved through the incentive to non-occupational health use. However, such incentives could be used as ‘sweeteners’, supplementing more direct occupational health interventions. For example, if a requirement for upgrading protective equipment is introduced at a cost to the SME, then a wider tax-break could be used to balance this new expenditure.

The Intervention Attributes Set appears to be an effective and systematic means to identify weaknesses in a proposed intervention. The interventions, used in the testing of the Interventions Attributes Set, were themselves complementary interventions. They also provide some support for designing alternative or complementary interventions that may make an overall intervention more effective. However, it is recognised that the Interventions Attributes Set is underpinned in practice by the user having a considerable degree of knowledge about the different facets invoked by the listed attributes. Use of the Set, over the longer term, may suggest the need for the general framework, presented here, to be supplemented by more detailed guidance on its application and use.

Notwithstanding the support that the Intervention Attributes Set provides to designing an effective intervention strategy that consists of a number of complementary interventions, any proposed intervention should have measures designed to evaluate its effectiveness in practice. This feedback can have two benefits. Firstly, it provides an opportunity to understand whether an intervention strategy is successful, and secondly, if the intervention is not entirely successful then further steps can be taken to compensate for the revealed weaknesses.
5 CHALLENGES TO THE PROJECT: PENETRATING SMES

One of the original methods planned for this project was to conduct a survey of SMEs. The survey was intended to collate information about their current OH practices and to find out what might motivate SMEs to adopt good OH practices in general. It was intended that discussion groups would provide a forum for SME representatives to converse informally about their awareness of OH issues. It was particularly hoped that the opinions of SME managers toward occupational health issues would be identified. Managers of SMEs are the key people, or gatekeepers, to establishing good OH practices. It was considered important to establish how occupational health fits into their business priorities. A further aspect to the survey was to determine, to what types of intervention SME managers would respond.

The background research to this project identified a number of facets of SMEs in relation to OH practices. Principle among these was the legal requirement versus knowledge of OH. The case for many SMEs is that OH requirements are not well understood. In addition, the requirements are seldom reinforced through good information, or Regulatory Inspections. Therefore, OH becomes removed from the day-to-day activities of individual SME business. It is further likely that health and safety matters, which include occupational health, are viewed as another costly burden on the SME. Hence, the survey had to capture subtle information about the perception of occupational health and where it sat within the overall management of the business in terms of priority.

The use of questionnaires was considered. However, from professional experience, and past observation, simply determining that someone has the knowledge of health and safety issues, it does not necessarily translate into good practice. It was for this reason that a questionnaire approach was ruled out. Therefore, in consultation with HSE, it was agreed that a series of discussion groups would be run.

It was decided that, 100 representatives (one from each of 100 companies) would provide an adequate sample size. The researchers spent a large amount of time and effort contacting relevant SMEs and organising the discussion groups.

Venues were booked prior to invitations being sent to the SMEs to ensure availability. Where possible, venues were booked at, or near to, Chambers of Commerce (CoC) buildings due to the close relationship between SMEs and the CoC. To minimise disruption to SME managers/representatives working day, and to maximise the turn-up rate, all meetings were expected to start at 17:30 hours. For logistical reasons coverage was kept to the North West region.

For the Discussion Groups to be successful it was necessary to contact a large number of businesses in a relatively short space of time. In attempt to achieve this, the researchers identified a number of ‘co-ordinating’ bodies that have access to SMEs, and could have facilitated initial contact and invitations. The identified bodies included all the following:

- The British Chamber of Commerce,
- The Department of Trade and Industry,
- The Federation of Small Businesses, and
- Business Link North West.

However, none of these organisations could provide the specific SME contact information required.
The British CoC, was particularly difficult to communicate with, and was not willing to co-operate in any way, except to suggest contacting the Department of Trade and Industry (DTI). The DTI has a department solely concerned with small businesses. Although a long succession of call transfers took place to reach the appropriate person in authority, the DTI were willing to assist in informing SMEs of the discussion groups. However, client confidentiality meant that they were unable to provide the researchers with contact details of individual SMEs. Following this, the researchers approached individual local CoCs, corresponding to the discussion group venues. These local CoCs were willing to help in a similar way to the DTI, but only if a room for the discussion group had been booked through them. The researchers issued posters, which the CoCs placed on their notice boards. In addition, information leaflets were posted in pigeonholes of SMEs who used the CoC building.

Unfortunately, in the case of the DTI, the researchers were aware that invitations to the discussion group would only be issued to SMEs that had already expressed an interest in occupational health. The major drawback of this route of invitation delivery is that, the researchers had no way of knowing which SMEs had received invitations or, any means of follow-up.

The Federation of Small Businesses (FSB) was also approached. However, after a very long series of telephone calls, to speak to people at the right level of seniority, it was felt that the content of our discussion group was inappropriate for insertion into their newsletter. Despite this, the FSB offered to forward details of the discussion groups to their North West associates. However, with no response from any of the North West members, and no way of following up this route, this attempt was fruitless.

Finally, the researchers contacted Business Link North West (BLNW). They were unable to assist us, unless we held the groups in partnership with them. The researchers were willing to form such a partnership and, after some discussion, BLNW’s requirements for the working relationship were identified. However, the time necessary to complete the reference checks, that BLNW would have required, meant that this route became untenable.

Cold calling was then used as a safety net to the low response rate anticipated by the previous attempts to contact SMEs. This was a time-consuming and long-winded process, which used the Yellow Pages and the Internet as sources of contacts. Obviously, it was not known prior to the calls being made whether the company would fall into the definition of a SME or not. However, after some initial experience was gained, the researcher was able to achieve a one in three, to, one in four success rate. In total, 96 SME were identified using this method, and 17 were initially interested in attending discussion groups. A large number of the 96 companies, over 40%, were 'too busy' to participate.

The first two discussion groups held had no attendance by an SME representative. Following this result, the remaining SMEs, who had expressed an interest in attending the discussion, were contacted to confirm their attendance. In all but one case, the SME representative contacted declined to attend the discussion, informing the researcher that they were 'too busy'.

As it can be seen from the preceding information, about the attempts made to make contact with SMEs, SMEs are a very difficult sector of employers to work with. The difficulty lies predominantly with their limited workforce, and the capacity at which they need to operate, to maintain productivity and sales. For future work of the same nature as this report to be successful, there needs to be a more reliable route into SMEs. The researchers had to rely on the good will of their colleagues, to approach local SMEs directly, and gain information via impromptu discussions. These discussions have been written up as 'case studies' in Part 2 of this report.
6 CONCLUSIONS

SMEs have multi-faceted characteristics and are diverse and complex. However, one characteristic that consistently emerges, from the work reported here, is the generally low level of awareness of OH, what constitutes good practice and a resistance to change. Where there is occupational awareness, the researchers believe that good occupational health practice does not always follow.

These conclusions mean that SMEs have poor adherence to OH regulations and guidance. The reasons for this are due to the pressures of time and resources. Many SMEs are in a stage of change and growing or shrinking. In growing organisations, there is a drive for survival and expansion in a field of other highly competitive rivals. In a shrinking business sector, there is a drive to minimise any ‘unnecessary expenditure’ of money, time, or other resource. In many SMEs that choose to remain stable in size and business products or services, there is a long history of doing things a particular way. These motivations prevail over, and above, the requirements for safe long-term OH practices. In larger organisations, a department or specific person has responsibility to oversee OH and budgets to support these activities are more likely to exist. Furthermore, they are more likely to be subjected to regulatory scrutiny.

Designers of interventions that intend to change the behaviours of individuals ‘at the coalface’ need to be well informed of the enormity of such a task. It has been shown that merely changing the attitudes of an individual may not be enough to bring about a change in action. When considering proposed interventions the designer must bear in mind the multiple routes that are available, this may also represent the hurdles to be overcome. By this, we mean that the interventions designer needs to be conversant with the influences that peer groups, family and friends, may have upon an individual changing their behaviour or expectations about occupational health. Likewise, the effect of the SME manager as a gatekeeper and the strong resistance to change that is likely to be encountered needs to be recognised and addressed.

From the tests carried out on the Intervention Attributes Set, the researchers confirmed their initial thoughts. That is, no one intervention can address all the facets of a SME in the delivery of OH information, and therefore, cannot hope to make a significant impact on its own.

The Intervention Attributes Set developed provides an invaluable structure for analysing the strengths and weaknesses of a proposed intervention and helps support the philosophy of designing complementary interventions.

Vectra believes that a successful strategy should be based on complementary interventions. Complementary interventions are considered essential because of general diversity of SMEs, their nature of business, methods of operation etc., and above all, the people who make SMEs what they are.
7 RECOMMENDATIONS

The recommendations given here on achieving a focused intervention strategy follow on directly from the discussion above.

Given the ratio of HSE inspectors to the 3.5 million SMEs in the country, the researchers recommend that:

1. Develop incentives that seek to improve OH through Government initiatives that go outside regulation and inspection. For example by the use of tax incentives.

2. Adopt a philosophy that an effective strategy, implemented by HSE for influencing Occupational Health in an SME, will consist of a number of complementary interventions. Each intervention will compensate for the weakness of others.

3. Design an intervention strategy, which includes different elements, that targets both the gatekeeper and the workforce. At least one of the interventions aimed at the workforce should bypass the gatekeeper. Such an incentive should educate the workforce on OH matters, or provide familial or social pressure, by public advertising so that social and upward pressure on the gatekeeper is also achieved. The 'bypass' interventions should be complementary to the suite of other complementary interventions that are aimed at the gatekeepers. In effect, an effective strategy is likely to consist of a ‘pincer movement’ around the gatekeeper.

4. Increase the perception of SMEs that they are likely to receive HSE inspection. Such an intervention should consider ‘naming and shaming’ any miscreant SME gatekeepers, so that other SMEs become aware that the threat of HSE inspection is real, not virtual.

5. To complement the negative incentive from inspections, identify the positive incentives HSE could supply, to which SMEs would respond. Despite a number of HSE initiatives, SMEs appear to be unaware of the potential benefits HSE offer their businesses.

6. Use the Intervention Attributes Set to assess the strengths and weaknesses of each proposed intervention to ensure that it is likely to be effective in practice.

7. Ensure that any complementary interventions launched are monitored for their success/effectiveness in achieving improvements in the OH practice of SMEs.

8. In the longer term, consider whether the Intervention Attributes Set would be usefully supplemented by selective and more detailed guidance that is contained within the reporting of this work.
8 REFERENCES


9 BIBLIOGRAPHY


26. European agency for safety and health at work safety in small and medium sized enterprises, issue 20020903.


43. HSE (2003) *Evaluation of the implementation of the use of work equipment directive and the amending directive to the use of work equipment directive in the U.K*. HSE research report 125.


56. Ignatov, M. *Subjective norms and procedural non-compliance in nuclear power plants.*

57. Improving the procedures for the selection and use of PPE at work. TUTB newsletter number 9 (1998).


60. LaMontagne, A.D. *Improving occupational health and safety policy through intervention research.* Melbourne University.


Part 2 – Substantiating Chapters
PREFACE

This second part of the report of 'Occupational Health and SMEs: Focused Intervention Strategies' provides the documentation that substantiates the information provided in Part 1: The Overview Report. This substantiation is achieved by reference to literature and other research activities such as interviews and the brainstorming of ideas. The intellectually complex nature of this work meant that a mixture of information gathering and original thought was required. The use of brainstorming has been particularly useful in facilitating divergent thinking about SME characteristics, the creation of interventions and formulating intervention scenarios. The researchers made effort by to be creative and divergent in thinking and not simply to take a reductionist approach.

Meeting the project aims went well beyond simply restating what had been attempted or stated in the past. However, it is noted that past interventions may offer the key to future successful interventions. The scope also led the researchers to cast the net wide and not to be constrained by the historical approach of the HSE, or other organisations, to their methods for implementing interventions.

The information contained in this Part 2 Report is presented in separate chapters. These chapters are cross-referenced from the Part 1 report. It should be noted that it is not intended that this Part 2 Report should be read as a standalone document.

All references made throughout this Part 2 report are given fully in the Part 1 report as well as a bibliography.

The contents are:

Chapter 1  Literature review........................................................................................................ 1
Chapter 2  Models of Behaviour ............................................................................................ 5
Chapter 3  SME Characteristics ........................................................................................... 19
Chapter 4  Identification of Intervention Strategies .................................................. 37
Chapter 5  Development of Business Model................................................................. 53
Chapter 6  Identification of Incentives ............................................................................... 57
Chapter 7  Survey .................................................................................................................. 65
Chapter 8  Case Studies ...................................................................................................... 79
Chapter 9  Development of the Intervention Attributes Set............................................. 106
CHAPTER 1: LITERATURE REVIEW
TABLE OF CONTENTS

1  LITERATURE REVIEW................................................................. 3
1 LITERATURE REVIEW

Literature was identified and reviewed in the following areas:

- Models of behaviour from health care, social psychology and cognitive psychology were found and considered for their appropriateness for occupational health interventions in SMEs.

- Characteristics of SMEs where extracted from several sources including Government materials, business journals and Trades Unions research. It was thought that SME characteristics should help shape the format and content of potential interventions.

- Searches were undertaken for evidence-based experience of interventions. As part of the study it was intended to identify what interventions for Occupational Health and Safety had been tried and how effective had these been.

Literature was identified through a search of the British lending Library and via the Internet using key words (e.g. SME, Occupational Health, interventions, behaviour change etc.).

The results of the literature review are not reported separately; rather, the results have been integrated into the areas covered throughout this report. Thus, information about cognitive models, behavioural models and decision-making are discussed in Chapter 2. Information about the nature of SMEs is incorporated into Chapter 3. Literature about experience of occupational health interventions for has been included throughout the chapters.

A list of the literature used in the development of this research is included in the Bibliography section of this report.
CHAPTER 2: MODELS OF BEHAVIOUR
TABLE OF CONTENTS

2 MODELS OF BEHAVIOUR................................................. 7

2.1 Method for Review of Models of Behaviour ........................................... 7

2.2 Findings for Models of Behaviour.......................................................... 7

2.3 Discussion for Behavioural Models.......................................................... 17
2 MODELS OF BEHAVIOUR

2.1 METHOD FOR REVIEW OF MODELS OF BEHAVIOUR

There are numerous 'behavioural models' available in literature that attempt to describe a range of human behaviours. Due to the number of these models, this literature review has been treated as a separate activity. A critical assessment was undertaken of the most commonly appropriate models, for their applicability to creating changes in occupational health behaviours.

2.2 FINDINGS FOR MODELS OF BEHAVIOUR

A large number of behaviour models pervade the academic literature. Here, only those models that were thought to be of most relevance to occupational health are discussed. These models were sourced from the social, cognitive and health psychology literature. The aim of reviewing these models was to consider whether they offer any insights into the effectiveness of behaviour change methods.

2.2.1 Cost - Benefit Models

The Health Belief Model

The Health Belief Model (e.g. Rosenstock, 1990) is a relatively unsophisticated model. It is based upon an individual’s perceptions of their susceptibility to a health threat and the likely severity that such a threat might pose. The model’s major failing stems from the fact that the model was poorly researched in the early stages and there is no substantive documentation available to clarify how the components combine to provide any predictive power.

[Diagram of Health Belief Model]

Despite the understandable limitations of the original model, its inclusion in this current work is justifiable because it does identify many of the key psychosocial factors behind why humans do or do not employ safe behaviours.
Interestingly, the model was elaborated by Siebold & Roper (1979), who suggested the following mathematical equation as a means of explaining, the reasoning behind the theory:

\[ LA = f[PVw_1 + PSw_2 + (PB - PC)w_3] \]

LA is the likelihood of a person taking preventive action as a function, ‘f’, of the following:

- \( PV = \text{perceived vulnerability to the disease/ health risk} \)
- \( PS = \text{perceived severity of the consequence associated with the disease/ health risk} \)
- \( PB = \text{perceived benefit of adopting the healthy behaviour} \)
- \( PC = \text{perceived cost of behaving healthily} \)

The ‘w’ values are associated weights that are empirically determined to adjust the rated values for each of the three functions, as reported by respondents, to obtain the measured likelihood.

There are two fundamental flaws in the model. The first is that the formula contains a simplistic assumption that the likelihood of action is a function of a simple arithmetic relationship. In particular, the utilities of costs, PC and benefits PB can be balanced against one another in a linear fashion. In addition, the majority of technical models would have multiplicative relationships between cost/ benefits, consequences and risk or threat. This is clearly not the case, in this model. The second limiting factor is one that affects virtually all the theoretical models, namely it presupposes that individuals perform such an analysis in the first place, whereas, there appears to be no basis for this postulation in terms of facts.

**Protection Motivation Theory**

The Original Model

Unfortunately, this model is a case of ‘two steps forward and one back’. The original Protection Motivation Theory put forward by Rogers and Mewborn (1976) aimed to build on the Health Belief Model but incorporated the more usual multiplicative relationships between probabilities and consequences. However, it failed to incorporate the personal cost of adopting the recommended response (PC).

The Revised Model

The model was revised by Rogers (1983) to take account of the criticisms levelled at it. In particular, the belief that the various factors combine by multiplication and its failure to incorporate the concept of ‘self-efficacy’.

Self-efficacy is based on the idea that a person believes that he/ she is capable of performing certain actions. Thus, they make choices about their response to a hazard based on this belief. For example, a person may not attempt to give up smoking because they believe they would be too weak to carry it through (i.e. the costs are too great) despite acknowledging the dangers they face by continuing.

The clear inclusion of self-efficacy is the redeeming feature of the revised theory. Without it, there is little value to be derived from attempting to practically apply the model. However, understanding why a person may say, ‘I can’t’, or ‘I won't’ is crucial to the validity of any future model that is developed.

To further increase, the power and applicability of the revised theory, Rogers made two additional inclusions. The first was the inclusion of the so-called ‘Response Costs’ as found in the Health Belief Model. The Health Belief Model is based on the idea that, the individual considers what they might personally lose if they adopt a particular response to the perceived
threat. The second, is related, and considers what rewards might be available for adopting a ‘maladaptive’ response to that threat, (e.g. the pleasure that might be gained by continuing the behaviour). Figure 2.2 depicts the joint influences on behaviour of Self-efficacy and Vulnerability.

**Figure 2.2 The impact of perceived vulnerability and self-efficacy on behaviour**

**Summary of Cost-benefit Models**

The key assumptions of cost-benefit models are:

- That there is a perceived threat to the individual usually from an external source (i.e. that the individual is in some way vulnerable from a given hazard or risk)

- That the consequence of the threat is severe or potentially severe

- That there are perceived benefits to adopting a suggested response

- That there is a potential personal cost to adopting a suggested response

- That the individual has the ability to perform a coping strategy that is effective in reducing the threat

Stroebe (2000) argues that there is little benefit in the application of these models because there is little empirical evidence that supports their validity. In addition, it can be argued that the absence of any immediate risk to health, which is an inherent characteristic of occupational health, may make the models invalid for this reason too. Therefore, overall, the two cost benefit models considered (and, indeed other cost-benefit models not considered here) are not effective in predicting behaviour. However, they do draw attention to the important notion of, self-efficacy, and this should be included in any augmented model that represents personal behaviour relating to an occupational health issue.
2.2.2 Personal Predictive Models

Theory of Reasoned Action

This model is based upon the premise that we hold an intention to behave in a particular way (e.g. Fishbein & Ajzen, 1975). It is made up of:

- A personal attitude towards performing a given behaviour,
- What we believe other people might expect us to do in a given situation, and
- The motivation to actually do anything.

The latter two are generally grouped together under a heading of ‘Subjective Norms’. The first covers the issues of, ‘do I believe in what I’m going to do?’ and ‘what are the perceived benefits to doing it?’

This model has been extensively tested and is apparently a good predictor of behaviour. However, the correlations between what people think, in terms of their intentions, and what they actually do is still only around 0.65. It seems a weak statistical outcome on which to base a model of behaviour, i.e. the predictive chance is not much better than 50:50.

The predictive value of the model is based on 'knowing' a person’s intention(s). It states that if we can know what a person’s attitude is and their likely intention to act, we can predict what their chosen behaviour will be. If the model is to be applied as part of an intervention strategy then it is necessary to influence the person’s intention.

This may appear sound in principle but it relies heavily on an understanding of the individual(s) intentions. If this model were applied to SMEs there would need to be a very comprehensive understanding of how people were likely to behave. However, SMEs employ a very diverse range of people. This diversity of individual intentions and attitudes makes the utility of such a model for predicting behaviour within SMEs very poor.

Theory of Planned Behaviour

The Theory of Planned Behaviour was developed by Ajzen (1988) from the Theory of Reasoned Action on the grounds that the former fails to take account of a person’s past behaviours, nor does it accommodate the possibility that people do not have complete control over all their behaviours. This current theory, therefore, adds in the notion of perceived behavioural control, which Stroebe (2000) suggests is similar to the idea of self-efficacy, i.e. are you capable of carrying out the selected behaviour/ action? This is another theory that describes influences on the behaviour of the individual, and as such retains the same criticisms as before.

Models that focus on the individual rather than on a group appear not to offer any real value as models, on which to base interventions, or for assessing the value of an intervention.

2.2.3 Modification Models

There are many endeavours in society to modify behaviour. These include new ways to improve compliance with legal constraints as well as marketing, advertising and selling. Given the levels of investment by business in promoting products and services, it might be expected that models for behavioural change – especially for mass markets – might exist. However, if they do, they appear to be a closely guarded, commercially confidential, secret. Standard texts on marketing, for example Berkowitz, Kerin, & Rudelius (1989), do not
contain detailed psychological theories or models of effective influencing techniques. Similarly texts on selling, focus only on persuasion through direct interpersonal interactions. Hence, the literature open to us is again from the psychological domain.

Precaution Adoption Process Model

The Precaution Adoption Process Model draws on both the Health Belief Model, and the Protection Motivation Theory. It was created during the late 1980’s by Weinstein, (1988). It is a progressive stage model that proposes some logical stages through which a person might be supposed to go before taking precautions against a perceived risk. The model does not address feedback loops or iterations, and has been criticised for this reason (Stroebe, 2000). Figure 2.3 illustrates the model, while Table 2.1 provides some detailed descriptions.

![Figure 2.3 The Precaution Adoption Process Model](image)

Table 2.1 Descriptions of the stages in the Precaution Adoption Process Model

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Required factors for change between stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>An individual is unaware of a particular health risk.</td>
<td>Being informed of some previously unknown risk</td>
</tr>
<tr>
<td>2</td>
<td>An individual first learns about a given risk but is not really concerned about it.</td>
<td>Being informed of some previously unknown risk</td>
</tr>
<tr>
<td>3</td>
<td>An individual becomes convinced that the risk is real and that he/she is personally at risk.</td>
<td>Information, which shows vulnerability and effectiveness of remedial action.</td>
</tr>
<tr>
<td>4</td>
<td>Individual decides not to take any action (the model ends for this individual if this route is taken).</td>
<td>Model does not really address the information requirements to move an individual out of this dead end.</td>
</tr>
<tr>
<td>5</td>
<td>Individual decides to adopt some form of precautionary measure.</td>
<td>Information on how to overcome obstacles and constraints.</td>
</tr>
<tr>
<td>6</td>
<td>Individual initiates the required action.</td>
<td>Information on how to overcome obstacles and constraints.</td>
</tr>
<tr>
<td>7</td>
<td>Individual may have to initiate repetitive actions to reinforce the modification in behaviour.</td>
<td></td>
</tr>
</tbody>
</table>

In some health research areas, the model is thought to be very useful, especially in understanding prophylactic health behaviours, (Blalock et al, 1996).
2.2.4 Summary

The stage model described:

- Adds little to the now growing pool of behaviour models
- Purports to represent behaviour change without supporting evidence to show that these elements or stages are detectable in practice
- Has not been academically validated
- But has been shown to have construct validity in real world scenarios

2.2.5 Behavioural Models Summary

A criticism often levelled at interventions that have been applied, is that they are frequently not based on a sound theoretical framework (McAfee and Winn, 1989). However, although the models discussed above capture the rudiments of behaviour, they do little to help identify the specifics that would be relevant to interventions. In addition, it is difficult to postulate cost effective interventions that would work on a wide scale (i.e. that can be applied to a significant number of SMEs).

The models focus on individuals and on ways of changing attitudes. A change in attitudes is postulated to lead to a change in behaviour. However, this is not always the case. This was shown by Lusk et al (1999) where, following an intervention behaviour changes were noted, (e.g. starting to use ear defenders), but the measured attitudes of the individuals showed little if any sign of shifting. The results found by Lusk et al suggest that other motivating factors may be responsible for the behaviour change.

The main problem with changing attitudes is that one needs to understand the current attitudes and how these are structured in a person’s information processing/ decision-making system. There is a need to understand the relative importance of attitudes and other influencing factors that drive behaviour (e.g. factors of social acceptance such as behavioural norms and peer pressure). There are many complex reasons why people behave in the way they do, that are seemingly independent of attitudes.

One of the repeated features in the models is the postulation of cost/ benefit judgements being made by the individual about the behaviour that will be adopted. This is important as it provides an insight into an aspect of the requirements for interventions.

However, the models do not provide a framework on which, to base interventions.

2.2.6 Risk Decision-Making Behaviours

Risk decision-making is similar in concept to that of cost/ benefit judgements found in the behavioural models. For this reason it is explored here with respect to the impact it may have in changing occupational health behaviours. In modelling how workers shape their behaviour in carrying out their tasks, it is important to consider how they determine the risks to themselves, and to colleagues, plant and the business (i.e. ultimately their jobs). The theoretical models of behaviour previously discussed suggest that the individual’s decisions about the cost and benefits, associated with certain actions, ultimately shape their behaviour. Thus, with respect to following good occupational health practices, and thereby minimising risks, we shall look at the theory behind risk decision-making.
**Hazard/ Risk Relationship**

In terms of losses and gains (cost-benefits) the following hypotheses are proposed:

- The subjective assessment of risks and the magnitude of the actual hazardous outcome are not linearly related.

- A potential loss is viewed as having greater consequences than a perceived gain (of roughly equivalent positive consequences). Therefore, perceptions of potential loss have a greater influence over decisions than potential gains.

- Larger losses have disproportionately greater influence on decision-making, whereas, conversely, perceived benefits tail off as they become greater.

A study conducted using bus drivers, reported that in situations where the probability of an accident was actually low, drivers assumed the risks to be greater than they actually were. Conversely, when accident likelihood was high, drivers perceived risks to be lower than they actually were (Cohen, Dearnaley, and Hansel, 1956). Similar reasoning was revealed in a study of railway and marine crews. The study showed, that rules were violated, such that, rules for mildly unpleasant high probability events were complied with, whereas, rules associated with highly unpleasant low probability events were more often ignored (Zeitlin, 1994).

From this study, it can be concluded that as the perceived probability of a consequence occurring decreases, then risk taking increases. This decision-making appears to be linked to the decision-maker’s familiarity with the hazard. Such familiarity will be a function of the frequency of the risk being realised and its immediacy. Thus, it can be predicted that immediate, mildly unpleasant injuries (minor cuts, bruises, strains, burns etc.) will shape behaviour more than knowledge that long term exposure to a chemical is likely to result in some illness (cancer, emphysema etc.). If we extend this hypothesis, then as workers become older and start to show the effects of cumulative risks (such as chronic hearing detriments) then they will begin to use appropriate safety equipment to reduce the risk exposure. Lusk et al (1999), demonstrate this in a study, where older construction workers tended to be more receptive to using hearing protection than were younger workers. Similarly, the same was reported in operating engineers and carpenters.

Thus, the implications of considering peoples’ response to risks for designing interventions are:

- Ensure that benefits of following good occupational health practices are emphasised.

- Increase the perceived likelihood of a low probability risk being realised, particularly for ‘remote’ hazards (i.e. longer-term health hazards) or for low frequency high consequence hazards.

- Increase the perceived costs of hazards.

- Increase the emphasis of the benefits of compliance with occupational health practices both in terms of reduced risks of injury/ illness and in terms of production values of importance to and rewarded by management.
**Control**

*The acceptance of risk depends on the degree of choice or perceived control the individual has over the possibility of adverse consequences occurring in the situation.*

People tend to accept risks where they have a choice of whether or not to be exposed to them and their ability to rectify the situation if events unfold that presage the onset of adverse consequences. In contrast, not providing a choice leads individuals to be less tolerant of taking risks (Star, 1972). The tolerance of risk seems not to be based solely on the perceived risk itself, but rather on the degree of control over that risk, and the ability to manage it. Of course, this finding must be taken together with that for the non-linear relationship between the magnitude of consequences and the perception of risk.

It is postulated here that in some instances the use of personal protective equipment (PPE), or the application of required occupational health practices, could be perceived by a worker as a symbol of poor risk control in the eyes of his peers. Thus, in some instances, increased experience in performing the task will lead to less compliance with safety requirements. Clearly, interventions must take account of factors related to risk perception and cost-benefit decisions. However, the notion that experienced workers are less likely to follow good safety practice is born out by Zeitlin’s (1994) study. Zeitlin's study found, that more experienced chain saw users complied less with safety practices than less experienced users.

Therefore, the implications for the design of interventions are that:

- Strategies should seek to remove any stigma associated with following good occupational health practices.

- Workers should be persuaded that they do not have perfect control over the risks to which they are exposed.

**Costs of Compliance**

*If the cost-benefit health theories are valid, then the perceived costs of following good occupational health practice will influence the decision about behaving in a way that limits consequences.*

If we accept that risky decisions are based on the perceived costs/ benefits of following certain actions, then the higher the personal costs of compliance, the greater the likelihood of deviation from good practice.

However reducing the perceived cost may not influence the outcome of risk–avoiding behaviours. The outcome is also dependent upon the perceived benefits.

Perceived costs can be multidimensional and will include:

- Convenience of following the safety practice,

- Time required to comply,

- Self image projected by compliant behaviour,

- Peer acceptance according to whether the behaviour is the norm or the exception,
• Difficulties in task performance engendered by wearing personal protective equipment, and

• Discomfort, such as heat, or headaches, engendered by wearing personal protective equipment.

Therefore, intervention designers must consider these types of factors when delivering compliance requirements or selecting PPE.

**Individual Difference and Social Factors**

*Risk taking behaviour is influenced by both individual and social factors.*

The decisions taken about dealing with a risk are influenced by personal characteristics of the individual and by social factors. These variables include:

• Age,
• Sex,
• Experience,
• Personality type,
• Culture,
• Peer pressure,
• Group norms, and
• Beliefs about group/ peer expectations.

The influences of these factors on risk taking behaviours (i.e. failures to adopt good occupational health) are varied. It is not possible to explore these in detail within the scope and resources of this work. Unfortunately, as has been seen the results of studies examining these influences are contradictory. For example, Lusk *et al* (1999) suggests that risk taking reduces as age increases. However, (Zeitlin, 1994) suggests that greater experience also tends to lead to less compliance with good occupational health practices.

**Time Pressures**

*Time pressure leads people to give more weight to the negative aspects amongst choices of alternative actions than to the positive aspects.*

Thus, if occupational health precaution requirements slow down production, and there is time pressure to achieve production, then it is predicted that the costs (negative) of compliance are perceived as higher than during ‘normal’ production times. This is balanced with a perception that failure to produce in time is also given a higher cost. It is postulated that the driver for behaviours during time-pressured production are the avoidance of costs (of not meeting a deadline) rather than the benefits of meeting the demand.

Thus, interventions must not overly slow down production or lead to increases in workloads/ time pressures.

**Immediacy of Effect**

*If an action has no immediate feedback that suggest an occupational illness might or will arise, then the risks from any hazards present will tend to be ignored.*
This is considered the major obstacle to providing effective interventions for reducing hazards related to occupational health. This fundamental difficulty arises, because feedback is one of the primary learning and behaviour shaping mechanisms for humans.

Thus, it is predicted that workers will have a tendency to disregard long-term consequences for health. This could also be related to beliefs that:

- One's behaviour can be changed later.
- One can mitigate or control the risks by other compensating behaviour.
- Advances in medical science and biotechnology will make the risk disappear, or cure the illness.

Humans have a seemingly innate ability to believe in their own immortality, that is until a close friend or family member demonstrates the reality. Therefore, the implications for interventions may be that this vulnerability should be tapped.

2.2.7 Risk Decision-Making Behaviours Summary

Consideration of the theoretical models about risk decision-making leads to some unresolved issues for the design of interventions:

- The variables that affect risk-taking behaviour can be identified in a collection of behaviour models. However, the relative importance of these in shaping risk-taking behaviour needs to be determined.
- Some variables appear to suggest the need for very person-specific interventions. However, interventions must address many people, so it might not be possible to design effective interventions that generalise.
- The literature gives little indication of how the characteristics of tasks and business performance requirements affect risk decision-making.

However, consideration of the theoretical models does lead to some clear requirements for the design of interventions:

- Increase the operators’ perception of the risks involved in their duties;
- Undersell the risks involved in performing frequent tasks;
- Oversell the infrequent and long-term risks associated with tasks;
- Ensure the consequences of failing to follow good occupational health practices are clearly identified and communicated to all involved;
- Point out the nature of the injuries that could be sustained;
• Do not provide horror stories that are too graphic as this may lead to personnel adopting defence mechanisms such as psychological denial (Sell, 1977);

• Minimise the benefit of gains that could be made by non-compliance with good occupational health practice. This can be done by adding additional costs, i.e. penalties or by underplaying the gains;

• Use valued role models in promoting the use of occupational health practices (e.g. wearing PPE). Ensure all manuals/ instructions show people wearing appropriate equipment or taking the necessary precautions;

• Ensure that all occupational health precautions are easy to comply with (i.e. minimise the inconvenience and discomfort cost of compliance);

• Ensure that working arrangements and rewards systems compensate for any time/difficulty in applying occupational health practices (e.g. ensure time is available to don equipment etc.);

• Emphasise that safety equipment should be conveniently sited and, measures to avoid bureaucracy in issuing equipment etc. should be in place;

• Make safety equipment ‘fashionable’ or desirable (e.g. designer label safety shoes);

• Play down safety features of equipment – but stress the hazards that can be avoided by good occupational health practices;

• Ensure management systems reward compliance with good occupational health practices and punish non-compliance;

• Ensure occupational health messages are reinforced at regular intervals, and vary the medium and content of the delivered message so that it remains ‘fresh’;

• Accommodate the characteristics of the target audience (e.g. the differences shown in age groups).

2.3 DISCUSSION FOR BEHAVIOURAL MODELS

The recommendations made from the behaviour models and risk decision-making model focus very much on factors influencing an individual worker. In reality, individuals are part of the wider SME management system. It may only be possible to influence a worker exposed an occupational health intervention if their manager (the provider or withholdor of resources, i.e. gatekeeper), allows the required changes to behaviour to take place. Additionally, we need to take into consideration the nature of SMEs, and discover if there are individual differences between SMEs that would have further implications for the design of interventions.
CHAPTER 3: SME CHARACTERISTICS
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Method for the Identification of SME Characteristics</td>
<td>21</td>
</tr>
<tr>
<td>3.2</td>
<td>Findings for SME Characteristics</td>
<td>21</td>
</tr>
<tr>
<td>3.3</td>
<td>Discussion of SME Characteristics</td>
<td>36</td>
</tr>
</tbody>
</table>
3 IDENTIFICATION OF SME CHARACTERISTICS

3.1 METHOD FOR THE IDENTIFICATION OF SME CHARACTERISTICS

SME characteristics that influence the success of an intervention were identified. Characteristics of SMEs were extracted from several sources including Government materials, business journals and Trades Unions research. This was achieved by studying the available literature. However, the literature was felt to be incomplete, somewhat piecemeal and not well integrated. Therefore, this information was supplemented by Vectra project members who postulated additional characteristics. Identifying the psychological and social aspects of SMEs was an important step and key to this analysis.

Some understanding of SMEs' characteristics and features are required if a proposed intervention is to be effective. This project process considered the SME as a business system within the wider economy. It also considered the management and organisational factors of SMEs, affecting investment decision and priorities, and the individuals that are employed there.

3.2 FINDINGS FOR SME CHARACTERISTICS

From the information established within the literature, the consideration of SME characteristics is a relatively novel and new approach to assessing the likely effectiveness of interventions.

The single most significant finding from the identification of SME characteristics is their diversity. Thus, not all the characteristics identified apply universally to all SMEs.

The range of literature reviewed indicated that Small to Medium Enterprises differ from larger organisations. Here we consider the multiple factors that make up SMEs and generate criteria for effective interventions that incorporate these factors.

Table 3.1 provides a list of the characteristics of SMEs plus, the implications of these characteristics for OH intervention requirements. These characteristics do not necessarily apply universally to all SMEs because SMEs vary widely in terms of the risks to which employees are exposed. The risks to which employees are exposed may depend on, their socio-economic characteristics, as well as individual differences within their workforce. These may be wider than those encountered in larger organisations, which tend to have selection that is more stringent and training policies. However, by providing such a list it is possible to specify criteria that must be considered for interventions to be effective.

In devising the list of characteristics, it was noted that some seem to be mutually contradictory. This contradictory result is a reflection of the diversity between SMEs and the business domains that they span. However, we consider there are several characteristics common to all. This is particularly so with respect to the limited time and resources available to SME management, to implement and reinforce good occupational health practices.
To help structure the characteristics of SMEs the following classification scheme has been applied to the factors described.

\[
\begin{align*}
i &= \text{individual} \\
e &= \text{equipment, process, etc.} \\
g &= \text{group} \\
r &= \text{general risk} \\
b &= \text{business} \\
m &= \text{management}
\end{align*}
\]

Note that, the identified characteristics have been drawn from the literature, and have been found during the case studies made, in addition to those that Vectra thought were important.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>b</strong> Many SMEs are used by larger organisations as part of outsourcing. This</td>
<td>Contracted labour in large organisations (i.e. an SME being used as sub-contractor) shows higher accident rates than equivalent full-time employees (Rebitzer, 1995). The work is likely to be very competitively costed (undercutting is likely) and with output orientated payments. These lead to pressures to cut overheads as much as possible to meet the tight budget and time scales imposed upon the SME. Therefore, OH is likely to suffer because it is seen as an overhead. Difficulty in long-term planning. Reliance on success (and demand) and strategy regarding sub-contracting or the larger organisation.</td>
<td>Intervention aimed at improving the larger organisation’s management of sub-contractors. Intervention to target contractor management, OH responsibilities etc. Note that the larger organisation should be limited in the responsibilities for OH that they can divest (i.e. no transfer of risk). Intervention aimed at ensuring selection of contractors is based on both quality and their compliance with good OH practices. Intervention aimed at reducing the reliance on sub-contractor in larger organisations.</td>
</tr>
<tr>
<td><strong>b</strong> SMEs that are used as sub-contractors by larger organisations are likely</td>
<td>Accidents (which we believe include poor OH practice) are higher within the first 12 months of employment (greater in the first 6 months). Therefore, it has been suggested that SMEs undertaking short-term contracts are more exposed to accidents (McKnight, Elias, and Wilson, 1999)</td>
<td>Intervention aimed at reducing a ‘contractor culture’. Intervention aimed at improving larger organisation’s management of sub-contractors.</td>
</tr>
<tr>
<td><strong>b</strong> SMEs working within a larger organisation are likely to encounter very</td>
<td>This provides an environment where responsibilities for OHS can become blurred or divided between several parties.</td>
<td>Interventions aimed at larger organisations simplifying contract terms about OH responsibilities.</td>
</tr>
</tbody>
</table>

Key: i = individual; g = group; b = business; e = equipment, process, etc.; r = general risk; m = management
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>In order to survive, the SME often has to be very reactive and dynamic in the face of changing demands.</td>
<td>Such a state of flux introduces health and safety management issues because there may not be time to assimilate good practice in time to meet productivity demands.</td>
</tr>
<tr>
<td>b</td>
<td>SMEs may be using old equipment that does not provide good risk reduction or is too expensive to replace.</td>
<td>Risks remain present in the workplace. Reliance on secondary risk protection.</td>
</tr>
<tr>
<td>b</td>
<td>SMEs may only have a short business life expectancy. There are a large number of start-up SMEs in the UK, but there is also a low survival rate amongst them.</td>
<td>This means that company learning and maturation is restricted. This will include the management of health and safety.</td>
</tr>
<tr>
<td>b</td>
<td>SMEs are disparate, heterogeneous organisations.</td>
<td>Difficult to coordinate interventions through SME collectives. Distribution of interventions will be intense to ensure coverage of SMEs.</td>
</tr>
</tbody>
</table>

Key: i = individual; g = group; b = business; e = equipment, process, etc.; r = general risk; m = management
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>b</strong> The SME may be: <strong>r</strong> owing in size. Therefore investments in staff and equipment take priority, remaining static therefore budgets are constrained, or shrinking so there is no budget for OH investment.</td>
<td>Primary risk reduction will not take place – reliance on secondary protection or limited exposure lifetime arguments. Unavailability of safety equipment (PPE) or safety equipment in poor condition.</td>
<td>Interventions should not put cost pressures on business but should ideally, provide opportunities for cost reduction. Interventions must recognise the balance between the provision of protection, versus survivability of the business (this raises fundamental questions about balance between H&amp;S and business economics).</td>
</tr>
<tr>
<td><strong>b</strong> The SME may have limited ability to invest in <strong>e</strong>quipment (i.e. measures to eliminate or reduce the risks through engineering).</td>
<td><strong>OH hazard will remain in place.</strong> Reliance on secondary protection – e.g. PPE or limitation of exposure time.</td>
<td>Interventions should not make the business insolvent (unless the OH risks are intolerable). Note that this requires a definition of ‘tolerable’ in the context of SMEs and perhaps a simple method for deriving an ‘ALARP’ case. Interventions should be aimed at eliminating risks at source. Therefore, they should be aimed at equipment providers and also process design engineers and consultants who provide OH/ process/ business advise. OH Specialist advisers should be known to exist and free/ cheap to reduce business costs.</td>
</tr>
<tr>
<td><strong>b</strong> There is a belief in SME management that they will not be pursued and prosecuted for failure to provide adequate protection for their workforce – both in the short and long term. <strong>Note that in the long term the SME may no longer be in business.</strong></td>
<td>No ‘incentive’ to address OH matters where there is no obvious (immediate) return for the business.</td>
<td>Interventions to increase the perceived likelihood of prosecution for failure to adopt adequate OH provisions. Increase liability on employers for the consequences of OH (at the business level and at the individual level).</td>
</tr>
</tbody>
</table>

Key: **i** = individual; **g** = group; **b** = business; **e** = equipment, process, etc.; **r** = general risk; **m** = management
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>There is a far lower likelihood of detection by the Regulator of breaches in OH practices in SMEs, unless an accident occurs.</td>
<td>No incentive to try to address hazards unless there is an immediate business return.</td>
</tr>
<tr>
<td>b</td>
<td>There are poor statistics on the occurrence and costs associated with OH in SMEs</td>
<td>This makes a business case for interventions difficult. This suggests the need for fundamental changes to government policy, provision of resources to regulate etc.</td>
</tr>
<tr>
<td>b</td>
<td>There will be considerable cultural and ethnic diversity between SMEs. These elements are likely to shape the attitude toward health and safety as part of the overall management style and organisational culture.</td>
<td>A ‘one package fits all’ approach to communicating with SMEs may be limited in effectiveness.</td>
</tr>
<tr>
<td>bc</td>
<td>SMEs are put under little pressure from insurance companies to manage OH risks (what focus there is will tend toward safety rather than long term health issues).</td>
<td>No ‘incentive’ to address OH matters where there is no obvious (immediate) return to the business.</td>
</tr>
<tr>
<td>m</td>
<td>A significant number of SMEs are family businesses where there is a blurring of paid and unpaid time devoted to work and there is informality about dealing with OH issues (Eakin, and MacEachen, 1998).</td>
<td>Such a working environment is probably not responsive to conventional H&amp;S approaches that rely on top-down management and supervision of H&amp;S issues.</td>
</tr>
<tr>
<td>m</td>
<td>Many SMEs are run by entrepreneurs who, by their nature, are more likely to be risk takers.</td>
<td>A ‘willingness’ to take the risk of not being caught or, of not realising the risks.</td>
</tr>
</tbody>
</table>

Key: i = individual; g = group; b = business; e = equipment, process, etc.; r = general risk; m = management
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
</table>
| m             | Low potential for the challenge if management ‘bully’ the workforce into going without adequate OH provision. | Workforce cowed so they are not willing to speak out to address problems.  
Culture becomes one of acceptance of risks. | Interventions should focus on the manager and the consequence to them of not implementing good OH practices. There needs to be ‘punishment’, for failing to implement good OH practice and a regime whereby the errant SME manager can be caught. |

Key: i = individual; g = group; b = business; e = equipment, process, etc.; r = general risk; m = management
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>m</td>
<td>Often, there is no one person who has clear responsibility for Occupational Health and Safety.</td>
<td>Nobody takes overall responsibility for knowing about, informing, or reinforcing good OH practices. The management and employees may not be aware of the OH hazards they face and the control measures that can be adopted.</td>
</tr>
</tbody>
</table>

Key: i = individual; g = group; b = business; e = equipment, process, etc.; r = general risk; m = management
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>m</td>
<td>Often there is no one person who has clear responsibility for Occupation Health and Safety.</td>
<td>Within an SME, safety and OH is perceived as every individual’s personal responsibility rather than that of the organisation.</td>
</tr>
<tr>
<td>m</td>
<td>The SME manager has little motivation to find out about OHS requirements and good practice</td>
<td>Without some prompt, informed OH management will remain neglected.</td>
</tr>
<tr>
<td>m</td>
<td>SME managers often do not know where to start looking for information.</td>
<td>The SME managers will not come across the available information.</td>
</tr>
<tr>
<td>m</td>
<td>It is postulated that many SMEs will employ people on or just above the minimum wage, where there may be poor job security because the business is running on narrow margins and because it is relatively easy to ‘hire and fire’ staff without there being a challenge.</td>
<td>This is likely to put pressure on the employees to: Meet ‘production’ targets at any cost Not to ‘rock the boat’</td>
</tr>
</tbody>
</table>

Key: i = individual; g = group; b = business; e = equipment, process, etc.; r = general risk; m = management
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>m Managers of SMEs can be patronising and autocratic.</td>
<td>The suggestion of alternatives to the way they manage any element of their business is more likely to be seen as a personal criticism of them. Note that it is recognised that these kinds of managers may also invite suggestions – but in this case, they are taking the lead and not responding.</td>
<td>Interventions should be couched in terms that are not perceived to be preaching or patronising. Autocratic power may only be moderated by there being a perceived threat arising from continued non-compliance.</td>
</tr>
<tr>
<td>m Some managers of SMEs tend to have a business model (or business case) that is not built on high profitability and expansion goals, but is based on ‘self-fulfilment’ and maintaining a level of involved control in the business by keeping a constant size.</td>
<td>Arguments emphasising reduction in business costs may not be appropriate for this kind of manager.</td>
<td>Interventions should not rely on business case arguments to be effective persuaders for change. Interventions should emphasise benefits to better workplace (e.g. care of workforce).</td>
</tr>
<tr>
<td>m An authoritarian approach to investment leads to under provision for risk management because there are fewer other people to act as checks or balances.</td>
<td>Risk management remains a low priority.</td>
<td>Interventions should offer a high likelihood of detection and emphasise the penalties for failing to implement good OH practices. These interventions should be directed at the manager and ensure that the responsibility for OH upon them is stressed.</td>
</tr>
<tr>
<td>Characteristic</td>
<td>Implication</td>
<td>Intervention requirements</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>m OH has to compete with other facets of the business.</td>
<td>Given that there are many elements to running an SME that rest upon one person’s shoulders, the management is unlikely to have any occupational health and safety training/background. With the pressures to tackle the wide variety of other aspects of the business, there will be little incentive to develop such knowledge and skills. There may also be a reluctance to call in external occupational health and safety specialists to help as this is a cost. It may also be the case that, the company does not know where to get the relevant specialist advice or if it is any good!</td>
<td>The intervention must be easily understood and in a language and format that non-specialists understand (i.e. minimal effort to absorb and implement). Interventions could be aimed at reducing the costs associated with hiring OH specialists (e.g. subsidised). Specialist OH consultants should be readily identifiable and easy to contact. Interventions could be aimed at providing a referral service. Specialist OH consultants could be certified in a nationally recognised scheme. All SMEs could be required to have an OH assessment in order to register (or for some essential part of running the business). This would be like a car MOT. It could be linked to the provision of banking accounts etc.</td>
</tr>
</tbody>
</table>

Key: i = individual; g = group; b = business; e = equipment, process, etc.; r = general risk; m = management
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>m Owner Managers of SMEs tend to value their sense of autonomy and are therefore wary or resentful of externally imposed state burdens (Genn, 1993). This may be a reaction to keeping abreast with requirements and learning the necessary skills to undertake risk management, time pressures, economic pressures and lack of understanding (Mori, 1998).</td>
<td>There may be reluctance to fully engage with external parties who are perceived as intruding upon the SMEs business.</td>
<td>Interventions should lead the manager to accept the need for help if required – or should be so simple that they can be undertaken with little or no prior knowledge of OH issues.</td>
</tr>
<tr>
<td></td>
<td>There is likely to be reluctance to employ an external specialist to undertake OH assessments, as this will be seen as an unnecessary expense.</td>
<td>Interventions must emphasise the importance of OH, especially the requirement to comply with legislation.</td>
</tr>
<tr>
<td></td>
<td>Reliance on information available at no cost.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Information would need to be ‘forced’ upon the SME – i.e. the SME will not be a proactive information seeker.</td>
<td></td>
</tr>
<tr>
<td>m SME management believes that OH requirements are too onerous and that they would be unable to comply without jeopardising the business.</td>
<td>Attitude of ‘sweeping it under the carpet’.</td>
<td>Interventions need to ensure that the burden of compliance is minimised.</td>
</tr>
<tr>
<td></td>
<td>Unwillingness to seek help from the HSE through fear of prosecution – by drawing issues to the Regulator’s attention.</td>
<td>Interventions need to emphasise the positives of compliance.</td>
</tr>
</tbody>
</table>

Key: i = individual; g = group; b = business; e = equipment, process, etc.; r = general risk; m = management
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMEs are unlikely to have formal, detailed written occupational health and</td>
<td>OH information, like other business information, is likely to be cascaded to</td>
<td>Interventions aimed at business level should allow for ease of cascade throughout the</td>
</tr>
<tr>
<td>safety procedures.</td>
<td>the employees' thorough direct communications, generally oral.</td>
<td>organisation by providing the briefing and awareness materials and tools to facilitate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>this information cascade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interventions cannot be aimed at changing formal management systems if these are not in</td>
</tr>
<tr>
<td></td>
<td></td>
<td>place.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interventions should become a formal process within the SME (i.e. the structure of the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>intervention provided fits with the way the SME business functions so that it can be</td>
</tr>
<tr>
<td></td>
<td></td>
<td>readily adopted and integrated within the business).</td>
</tr>
<tr>
<td>SMEs in general have, a lean management structure, with the owner/manager</td>
<td>There is great time pressure on SME managers to fit in all the elements</td>
<td>Interventions must not demand much management time to understand and implement. It must</td>
</tr>
<tr>
<td>handling all (or most) of the aspects of running the business. Therefore,</td>
<td>perceived to be necessary. Health and safety is perceived to be a non-return</td>
<td>enable the management to cascade the OH good practice requirements with the minimum of</td>
</tr>
<tr>
<td>there are other elements of the business that are perceived as more pressing,</td>
<td>element of the business. Therefore it is likely that less attention will be</td>
<td>effort.</td>
</tr>
<tr>
<td>e.g. employment laws, productivity, reducing overheads, marketing, taxes etc.</td>
<td>directed towards OH</td>
<td>Interventions must compete equally with other pressing business matters i.e. become</td>
</tr>
<tr>
<td></td>
<td></td>
<td>higher within the manager’s priorities than at present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interventions could be linked to other business demands such as reduced tax/insurance –</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or some other positive return</td>
</tr>
</tbody>
</table>

Key: i = individual; g = group; b = business; e = equipment, process, etc.; r = general risk; m = management
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher levels of individual choice and risk taking are tolerated in small, dynamic, new and growing SMEs.</td>
<td>The social environment will reinforce the practices in place whether these are good or poor.</td>
<td>Interventions need to appeal to the social group and remove any stigma attached to taking a safer option. Alternatively, the intervention should aim to make OH risk taking socially non-acceptable (e.g. drink driving campaigns).</td>
</tr>
<tr>
<td>Large numbers of SMEs – especially family businesses are run by, and/or employ, people with Eastern religious and cultural backgrounds. Cultures originating from the Asiatic continent often have a more fatalistic view of life than traditional Western ones.</td>
<td>Lower belief in the ability to moderate risks. A philosophical approach towards death or injury whilst fulfilling familial duties as a breadwinner.</td>
<td>Interventions to consider ethnic/cultural and religious beliefs – consider having same underlying message expressed in different ways. For example an emphasis upon the immorality of harming others or withholding information from others, which lead them into believing that they are not being harmed by their work.</td>
</tr>
<tr>
<td>SMEs staff will often have a wider variation in aptitudes, knowledge and ‘intelligence’ than large organisations who can ‘pick and choose’ personnel. SME staff aptitudes will range from very low ‘intelligence’ (e.g. stereotypical manual labourers), to highly qualified researchers (e.g. biotechnologists, computer programmers etc., who have a high self-regard and tend to assume ‘they know what they are doing’, even in fields in which they are not qualified, i.e. OH).</td>
<td>The nature and content of OH intervention materials will need to address the widely differing abilities of the workforce to which it is targeted.</td>
<td>Interventions must recognise different skills intelligence and attitudes of target audiences. The interventions should seek to target attitudes and understanding that are perceived by the recipient to be important.</td>
</tr>
<tr>
<td>Some SMEs tend to have an informal style of employee relations with personal contact between employees and also employer-employee</td>
<td>More difficult to enforce certain types of practices that are seen as inconvenient or uncomfortable, especially if the manager does not agree/understand the policy.</td>
<td>Intervention should emphasise the individual's own responsibility with the possibility of punitive measures for non-compliance with appropriate OH practices.</td>
</tr>
</tbody>
</table>

Key: i = individual; g = group; b = business; e = equipment, process, etc.; r = general risk; m = management
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Implication</th>
<th>Intervention requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>i</strong> Limited representation of workers through autonomous organisations such as Trade Unions.</td>
<td>Little protection for workforce who wish to speak out against an adverse OH situation.</td>
<td>Intervention to seek to provide autonomous organisation to empower and protect workforce.</td>
</tr>
<tr>
<td><strong>i</strong> Work force may have expectation that their jobs are transitory with the view that they will soon change jobs.</td>
<td>This may mean that, they believe exposure to certain risks will only be for a limited period, so there will be no significant irreversible consequences.</td>
<td>Interventions should not have probabilities of adverse OH outcomes stated – they should not allow for any doubt as to the consequences of failing to adopt good OH practice. For example, ‘Smoking causes lung disease, heart disease and early death’ rather than ‘Smoking can damage your health’.</td>
</tr>
<tr>
<td><strong>e</strong> Maintenance budgets and 'in-house' skills for equipment may be limited.</td>
<td>Hazards remain in place or become greater.</td>
<td>Intervention should seek to reduce maintenance burden (e.g. Provide grants to replace or upgrade equipment).</td>
</tr>
<tr>
<td><strong>r</strong> Many processes may be ‘traditional’ with accepted practices and either tolerance of risk or outdated perceptions of risk.</td>
<td>There is a failure to assimilate emergent risks (as our knowledge of OH risks increases and as materials change).</td>
<td>Interventions to show link between what was tolerated and the resulting adverse consequences.</td>
</tr>
<tr>
<td><strong>r</strong> Within an SME the interval between absenteeism due to accidents or ill health is generally longer than in large organisations, therefore providing no direct penalty in terms of cost or consequence to the employer or employee.</td>
<td>The likelihood of a serious incident leading to health-related injuries is probably seen as remote, and therefore little attention will be paid to it. Therefore, the self-interest business case for addressing OH issues is less compelling for SMEs.</td>
<td>Interventions should be repeated to reinforce the message. Interventions cannot rely on a self-interest business approach to persuade management to invest in OH protection, unless there is a penalty for non-compliance and this is likely to be enforced in the short term.</td>
</tr>
</tbody>
</table>

Key: i = individual; g = group; b = business; e = equipment, process, etc.; r = general risk; m = management
3.3 DISCUSSION OF SME CHARACTERISTICS

There is a wide diversity in SMEs. This diversity indicates that, while some of the interventions might be applicable to all SMEs, for example, the delivery of an information leaflet covering OH in general terms, others might not. It could be that, industry specific OH issues need to be addressed, in which case the content might have to be quite different depending on the nature of specific SMEs within a homogenous set. Some meaningful advance grouping of SMEs would be required, to ensure that an intervention was appropriate to all members of the target group. Other interventions might be completely independent of the character of an SME. An example of such an intervention would be a site inspection campaign. In this instance, the heterogeneity would be addressed by the flexibility of the inspector.

In having listed the SME characteristics, we have uncovered some key points that will assist in the design of OH interventions. These key points are:

1. SMEs are likely to have more individual and wider differences within their workforce than those encountered in larger organisations, which tend to have more stringent selection and training policies.

2. Characteristics common to all SMEs are limited time and resources available to SME managers to implement and reinforce good occupational health practices. This is because SMEs in general have a lean management structure, with the owner/manager handling all (or most) of the aspects of running the business. Therefore, other elements of the business that are perceived as more pressing, e.g. productivity, reducing overheads, marketing, taxes, employment laws, etc. means that OH has to compete with the other facets of SME business.

3. Often, there is no one person who has clear responsibility for Occupational Health and Safety.

The overall conclusion that is deduced from these key points is that if the manager does not instigate good OH practice, then the likelihood is that no one will. This realisation produces a further key point:

4. The SME manager/owner is the resource withholder, or releaser, for OH who Vectra have called the 'GATEKEEPER' to good OH practice.

A solution to this could be an intervention aimed at providing the SME with an OH ‘manager’. That is, a person who will visit the smallest SMEs on a regular basis to enforce and educate good OH practices. Alternatively a specialist OH consultant could be provided, who is readily identifiable and easy to contact. Interventions using this concept could be aimed at providing a referral service.

It has also been realised from the identification of SME characteristics that, the wide variation in these characteristics makes a ‘one size fits all’ approach inappropriate. Therefore, it would seem efficacious for there to be a range of different interventions, if all SMEs were to be addressed effectively.
CHAPTER 4: IDENTIFICATION OF INTERVENTION STRATEGIES
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>IDENTIFICATION OF INTERVENTION STRATEGIES</td>
<td>39</td>
</tr>
<tr>
<td>4.1</td>
<td>Method for the Identification of Intervention Strategies</td>
<td>39</td>
</tr>
<tr>
<td>4.2</td>
<td>Findings from Brainstorm for Intervention Strategies</td>
<td>39</td>
</tr>
</tbody>
</table>
4 IDENTIFICATION OF INTERVENTION STRATEGIES

4.1 METHOD FOR THE IDENTIFICATION OF INTERVENTION STRATEGIES

The researchers undertook brainstorming to identify potential intervention strategies. This was done at an early stage in the project to avoid the risk of bias and the unjustified narrowing of conceptions, induced by potentially selective literature content that could arise from information gained later on in the project.

4.2 FINDINGS FROM BRAINSTORM FOR INTERVENTION STRATEGIES

The brainstorming session undertaken, provided a large number of potential intervention strategies. During the session, no constraint was placed on the type of intervention that could be suggested, or the way in which an intervention could be carried out. This resulted in a pool of unstructured ideas, which were then analysed and coded, in relation to the manner of their proposed operation. The result of this process was the identification of interventions that are either direct or indirect, in their nature of operation.

Direct interventions were identified as, those that invoke changes to OH behaviour by force, or in ways that do not require an individual to make decisions; for example, by a change in the design of equipment, or a change in the work environment, or infrastructure.

Indirect interventions were identified as, those that invoke changes to OH behaviour by affecting the thought and decision processes of individuals. By this we mean, that an indirect intervention will change the attitude, and thus, the behaviour of an individual. However, we have already seen that changing the attitude of an individual does not always correlate to a change in behaviour. Therefore, direct interventions may offer advantages to indirect ones.

During the brainstorming session, a list of means by which interventions can be delivered was also revealed.

When the intervention strategies and the means of delivery had been grouped, the advantages and disadvantages of each were identified. These are presented below. Where the means of delivery became apparent in documenting the direct and indirect interventions these were recorded in conjunction as 'forms'.

4.2.1 Direct Interventions: Changing the Workplace

Direct interventions are those that are directed at the workplace by the removal of, or reduction, of the OH hazards at source.

Direct interventions aimed at changing the workplace consider the following:

- Design of equipment,
- Design and provision of PPE,
- Task design and work arrangements,
- Improved training on tasks,
• Staff numbers (i.e. to manage workload), and

• Procedures and instructions.

Table 4.1 details possible interventions that could be made within the workplace.
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Form</th>
<th>Benefits</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design Specifications</strong></td>
<td>Standards with associated ‘kite mark’ against which equipment can be evaluated.</td>
<td>It may be possible to design out certain OH hazards through specifying limits.</td>
<td>Extensive review of all possible equipment required.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provides clear guidance to managers when purchasing equipment.</td>
<td>Standards need writing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raises awareness if managers ask ‘why?’ they have to purchase certified equipment.</td>
<td>Often good OH practice requires combination of practices to be effective.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier could make modifications during maintenance.</td>
<td>Requires certification body and process.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Difficult to enforce retrospectively.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>May only have limited impact in removal or reduction of hazard.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Modifications to equipment may be made at the workplace (or in deviations to operating procedures).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cost of new equipment meeting standard may become too expensive for SMEs.</td>
</tr>
<tr>
<td>Intervention</td>
<td>Form</td>
<td>Benefits</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Design Specifications</strong></td>
<td>Design standards as above. These may include interlocking (so the user can only use the equipment if they have carried out certain steps), warning that cannot be easily avoided (or are so annoying it is easier to comply).</td>
<td>Removes need to initial attitude change. User would have to positively violate rules. If alarms used then these provide feedback and 'penalty' for non-compliance.</td>
<td>As above. May be possible to work around design features (e.g. alarm may be disabled).</td>
</tr>
<tr>
<td><strong>Restrict or ban materials used by SMEs</strong></td>
<td>Legislation</td>
<td>Removal of specific OH hazards</td>
<td>Limitations to what can be banned. Only removes substances when many hazards are process orientated (e.g. dust, noise, stressors). An alternative may not be available.</td>
</tr>
<tr>
<td><strong>Improvements to labels and warnings.</strong></td>
<td>Improved design of warnings. Warnings specifically identifying OH hazards. Alarms on equipment</td>
<td>As per awareness interventions discussed previously detailed. Immediacy of information.</td>
<td>Passive information (unless alarmed as above). Too many warnings and other information already present – so message is masked.</td>
</tr>
<tr>
<td>Intervention</td>
<td>Form</td>
<td>Benefits</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>-------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Improvements to packaging/handling</strong></td>
<td>Design standards.</td>
<td>As per other design changes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Voluntary codes of practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design changes to packaging of materials to minimise risk exposure.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design changes to components of equipment whereby hazardous substances (or processes to remove component) are sealed from the worker.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Provision of equipment to reduce risks.</strong></td>
<td>Standards and guidelines for risk reduction equipment measures.</td>
<td>Benefits are as changes to the design of specific equipment used in process.</td>
<td>As per design solutions, requires standards, enforcement of legislation etc.</td>
</tr>
<tr>
<td>E.g. provide additional ventilation, noise baffling etc.</td>
<td>Legislation requiring provision of hazard reducing systems.</td>
<td></td>
<td>If not compulsory requires manager to make decision to install.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unless interlocked, then hazard-removing equipment may not be used.</td>
</tr>
<tr>
<td>Intervention</td>
<td>Form</td>
<td>Benefits</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Improve PPE</td>
<td>Improvements to standards.</td>
<td>More likely to be worn if more comfortable.</td>
<td>Requires initial purchase (i.e. provision by SME).</td>
</tr>
<tr>
<td></td>
<td>Guidance on comfort factors</td>
<td></td>
<td>Still requires workforce to use (so likely enforcing mechanism is also necessary).</td>
</tr>
<tr>
<td></td>
<td>Making PPE more attractive (e.g. branding, radio in ear defenders,</td>
<td>Kite marking makes selection for purchase and use easier.</td>
<td>PPE requires inspection and proper use so regime also needs to be in place.</td>
</tr>
<tr>
<td></td>
<td>less cumbersome etc.).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emphasise benefits of PPE (e.g. excessive noise is tiring, wearing</td>
<td>Provide indications of status of PPE (i.e. when it no longer functions as</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ear defenders reduces this — i.e. identify secondary benefits to the</td>
<td>minimise cost of PPE.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>user).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staffing Issues</td>
<td>Provision of training/information about working routines (e.g. take a</td>
<td>Raise awareness of simple self-help measures.</td>
<td>Requires working pattern to be conducive to introducing ‘breaks’</td>
</tr>
<tr>
<td></td>
<td>break after x minutes when using a computer). These are aimed at</td>
<td></td>
<td>Requires management to be sympathetic to such breaks.</td>
</tr>
<tr>
<td></td>
<td>workforce and must be simple and easy to introduce themselves into</td>
<td></td>
<td>Requires the task to be such that routine changes will reduce risks.</td>
</tr>
<tr>
<td></td>
<td>their tasks.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention</td>
<td>Form</td>
<td>Benefits</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Staffing Issues – Unions</strong></td>
<td></td>
<td>Unions can provide collective and powerful force in changing management</td>
<td>Possibility of militant-type Union.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>practices as well as potentially being pragmatic.</td>
<td>Unions perceived by management as problematic and troublesome (rather than</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide a degree of protection to</td>
<td>potentially an asset).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>individuals with OH related grievances.</td>
<td>Cost to staff.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unions can facilitate individuals’ pursuit of damage claims through</td>
<td>Politics or culture of staff may not welcome Union representation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Court processes.</td>
<td></td>
</tr>
</tbody>
</table>
4.2.2  Indirect Interventions: Changing the Workforce

Indirect interventions are generally considered those targeted at the workforce, and therefore we must recognise the restrictions on the individuals that affect compliance. The workforce, i.e. the individual, usually has the least influence in the overall SME policy and practice toward occupational health. This is because they do not have the recourses or authority to make such changes. However, the interventions proposed recognise the social aspects of the workforce and the group dynamics.

The interventions should:

- Seek to raise awareness of occupational health issues and the appropriate behaviours to reduce the risk to oneself and to others around you.

- Reinforce the responsibilities of the person for minimising the occupational risks to which they are exposed (and inform them of the SME’s responsibilities in this area).

- Inform the employees of where help and assistance can be found.

- Inform the employees where to report flagrant breaches by the SME of compliance with OH good practice.

- Inform the employee of ‘tools’ to help reduce exposure to OH hazards (‘tools’ could be PPE, work routines etc.).

- Seek to restrict the ability for employees to not comply with good practice. In other words, force them to follow good OH practices.

Examples of Indirect Interventions are shown in Table 4.2. Each intervention is presented with a suggestion as to the form and medium in which it could be delivered, along with the advantages and disadvantages for that medium.
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Form</th>
<th>Benefits</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising</td>
<td>Use of various media outlets: TV, Radio, Newspapers, Billboards, Letters</td>
<td>Avoids need for managers to promote good practice. Potential to be relatively cheap compared to other interventions. Wide coverage can be achieved. Greater awareness in general population raised. Possible to influence employee empowerment (if they can talk to their manager). Can be used as a ‘priming’ mechanism for other interventions. Could seek to target group leaders and use them to influence their peers.</td>
<td>No guarantee of reaching target audience (not exposed to advert). No guarantee that the employee would listen/absorb/understand the information. Change directed at attitudes and not behaviour – assumes there is a direct causal mechanisms. Person may be restricted in their place of work – so is unable to comply. Requires effort on the person to assimilate, understand in order to create potential driver for behaviour change. Requires source of information to be credible. Requires constant reinforcement to avoid regression to old attitudes.</td>
</tr>
<tr>
<td>Intervention</td>
<td>Form</td>
<td>Benefits</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Use of Role Models</strong></td>
<td>TV or radio productions</td>
<td>As above plus:</td>
<td>As above, plus:</td>
</tr>
<tr>
<td></td>
<td>Film</td>
<td>Role model scenario could help reduce the amount of effort to change attitudes.</td>
<td>People have very different role models.</td>
</tr>
<tr>
<td></td>
<td>Newspaper articles</td>
<td>Role model could change the ‘acceptance’ of using risk reduction methods (e.g. through wearing PPE).</td>
<td>Role model has to be consistent (in all situations, e.g. as actor, in real life).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Through Management Actions</strong></td>
<td>Through management</td>
<td>Potentially the most powerful influence on the workforce.</td>
<td>Requires the manager to understand OH issues and have time/ inclination to enforce.</td>
</tr>
<tr>
<td></td>
<td>observations and actions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reported findings</strong></td>
<td>Reports of consequences of poor OH practice on individuals reported in media (HSE could publish more material).</td>
<td>As above, plus:</td>
<td>Factors as above, plus:</td>
</tr>
<tr>
<td></td>
<td>Reports of prosecutions.</td>
<td>Increase knowledge of real-world impact of poor practice.</td>
<td>We are saturated by medical statistics – so impact and credibility may be reduced.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If prosecutions can be served to individuals then raise fear of being caught and prosecuted.</td>
<td></td>
</tr>
<tr>
<td>Intervention</td>
<td>Form</td>
<td>Benefits</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>--------------</td>
<td>------</td>
<td>----------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>Training courses</strong></td>
<td>Provision of training in OH matters to individual SME workforce, or via seminars to more and wider audiences.</td>
<td>OH Message can be directed at target audience. Potential for interaction and engagement with workers.</td>
<td>Requires permission from employer to attend. Requires effort to attend outside of paid work. Cannot guarantee coverage of target population</td>
</tr>
<tr>
<td><strong>Via Family, friends (outside of workplace)</strong></td>
<td>Family, Friends</td>
<td>Action can be seen as an altruistic act, safeguarding his/her family from financial hardship in the future.</td>
<td>No guarantee message will be passed on. Message may become distorted. Family and friends may not be perceived to be credible sources of OH information.</td>
</tr>
<tr>
<td><strong>Provision of Help/ Reporting</strong></td>
<td>Advisory service at end of telephone, or by letter, email, internet etc. Service whereby individual can report SME for poor OH practice. For example a 'whistleblowing' reporting framework (whistleblowing.org, 2003)</td>
<td>Advice can be tailored to caller. Quick mechanism by which HSE can determine effective inspections etc.</td>
<td>Requires individual to make the effort (so need to be aware of need, or the service etc.). Reporting only useful if resources available to follow up (visit and penalties) Individual in SME could be identifiable and suffer job less etc.</td>
</tr>
</tbody>
</table>
4.2.3 Means of Delivery

The medium selected and the route of delivery is another important factor for the success of an intervention, or set of interventions. For example if using an advertisement to be placed in a newspaper, one should consider not only whether you intend to 'hit' the workforce, or the SME manager; but additionally what type of industry it is and what the likely age of the target audience will be. It might be that to cover the workforce of construction companies, you chose to put an advertisement in the tabloid papers. In comparison, to target the SME managers you might put an advert in the trade press instead. The tone of the advert would also be different depending on what the 'route' consisted of. Table 4.3 provides a list of media, while Table 4.4 provides the possible routes that could be used to deliver an intervention. Each has its advantages and disadvantages highlighted.

**Table 4.3 Advantages and disadvantages of media for interventions**

<table>
<thead>
<tr>
<th>Medium</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advertisement:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bill Board Advert</td>
<td>Relatively cheap</td>
<td>Limited message potential (no detail therefore requiring further effort from manager)</td>
</tr>
<tr>
<td>Ad in newspaper</td>
<td>Potentially wide reaching</td>
<td>Not guaranteed to be noticed</td>
</tr>
<tr>
<td>Ad in trade magazine</td>
<td>Raises awareness in wider population</td>
<td>Needs to be part of wider interventions programme.</td>
</tr>
<tr>
<td>Ad on TV</td>
<td>Can be used as a ‘prime’ for introduction of other change.</td>
<td></td>
</tr>
<tr>
<td>Ad on radio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As part of programme on TV/ radio</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mailshot</strong></td>
<td>Can be specifically targeted to individual.</td>
<td>May not get read.</td>
</tr>
<tr>
<td></td>
<td>Can be targeted to type of industry (or logically written to allow ease of use for all).</td>
<td>Requires further follow up action by manager.</td>
</tr>
<tr>
<td></td>
<td>Can contain detailed information, checklists.</td>
<td>Would require many different contents to match SME business sectors.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Individual target – so may not have good network support to provide impetus.</td>
</tr>
<tr>
<td>Routes</td>
<td>Advantages</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Via Trade Organisation (or similar organisation)</td>
<td>Influential and self-help bodies provide momentum. Can reach wider audience who will generate momentum. Interactive forum could be used and good basis for follow up visits.</td>
<td>Not all SMEs belong to such organisations. Requires resource to provide follow up support.</td>
</tr>
<tr>
<td>OH evidence included as part of other business requirement (e.g. tax returns)</td>
<td>If compulsory section on other business requirements, manager will need to pay attention.</td>
<td>More red-tape criticism Needs information and other help prior to inclusion.</td>
</tr>
<tr>
<td>Via insurance companies</td>
<td>Potential to provide reduced premiums. Integrated into other necessary business processes so difficult to avoid.</td>
<td>Needs co-operation of insurance companies. Requires there to be some penalty/ advantage according to OH practices for both insurer and insured.</td>
</tr>
<tr>
<td>Via funding bodies</td>
<td>Integrated into funding requirements – so part of existing processes.</td>
<td>Funding bodies will need to be trained to make OH assessments. SME needs to be applying for funding. Funding may be before business has started up (so based on promises).</td>
</tr>
<tr>
<td>Via Licensing bodies</td>
<td>Integrated into licensing requirements.</td>
<td>SME needs to be ‘licensed’ in the first instance. License provider requires OH knowledge and ability to audit compliance.</td>
</tr>
<tr>
<td>Via Certification Bodies</td>
<td>Introduce OH criteria as part of Certification programme. Use of existing infrastructure to conduct OH checks.</td>
<td>SME may not want or need Certification. Certification Body needs to co-operate (who for examples picks up the cost?)</td>
</tr>
<tr>
<td>Routes</td>
<td>Advantages</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Direct contact with HSE (or HSE representative) - Seminar</strong></td>
<td>Seminar targets OH issues.</td>
<td>Not guarantee of high attendance.</td>
</tr>
<tr>
<td></td>
<td>Potential for interaction.</td>
<td>Attendees may already be the ‘converted’</td>
</tr>
<tr>
<td></td>
<td>Relatively few HSE resources needed to meet wider audience.</td>
<td>How to follow up?</td>
</tr>
<tr>
<td><strong>Direct contact with HSE (or HSE representative e.g. Workplace Contact Advisors) - site visit.</strong></td>
<td>Direct, personal and targeted.</td>
<td>Expensive and labour intensive.</td>
</tr>
<tr>
<td></td>
<td>Can be used to provide guidance and advise as well as Notices and penalties.</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 5: DEVELOPMENT OF BUSINESS MODEL
# TABLE OF CONTENTS

5 DEVELOPMENT OF BUSINESS MODEL.................................55
  5.1 Method for Developing a Business Model ..........................55
  5.2 Findings for the Business Model..................................55
  5.3 Discussion of Business Model......................................55
5 DEVELOPMENT OF BUSINESS MODEL

5.1 METHOD FOR DEVELOPING A BUSINESS MODEL

The researchers devised a simple business model. This was done as an attempt to characterise the many and diverse factors affecting an intervention’s likely success. Additionally, this helped to provide a 'backdrop' about SMEs that was used to facilitate our understanding of what drivers influence the allocation of time and resources to improving occupational health practices and where they come from.

5.2 FINDINGS FOR THE BUSINESS MODEL

The business model developed suggests that there is a chain of influence on SMEs. This chain starts with factors external to the SME that determine the scope of the business, and places requirements on the way the business operates legally, and is conducted commercially. Having gained entry through the ‘front door’ of the SME, these external factors are filtered and shaped by the SME manager, the ‘gatekeeper’. The managers are seen as the hub of the system, as they make the decisions about the direction of the company, its resources, and, more critically, have power in directing the behaviour of staff in occupation health matters. The SME may have equipment, use materials, or undertake processes that introduce occupational health hazards. The design of these will have a direct influence on the employees as individuals. The business model represented is shown in Figure 5.1.

![Figure 5.1 Business model of an SME](image)

5.3 DISCUSSION OF BUSINESS MODEL

The business model describes the flow of factors that affect occupational health practice. However, on its own it does not adequately describe the affect this represents for the use of occupational health-focussed interventions. What the model did provide the researchers with was a springboard to the realisation of what is crucially important in the design of occupational health-focussed interventions.

The crucial factor in intervention design is ensuring that the individual workers are reached, either directly or indirectly, by bypassing the gatekeeper, i.e. the SME manager. Additionally, by targeting both the SME manager and the 'coalface' workers at the same time a better uptake of improved occupational health practice is likely to
result. The diagram shown in Figure 5.2 demonstrates the *pincer* effect targeting both the SME manager and the workforce will have.

**Figure 5.2 Reaching the coalface by bypassing the SME manager**

Line A represents the pathway of an intervention targeted specifically on the individual workers. If the intervention is direct, the workers will have no option in improving their occupational health practice because of the nature of direct interventions. If the intervention is indirect, social and family pressures may persuade the individual that the benefits of safe occupational health practices outweigh the disadvantages and, in turn, put pressure on the SME manager to comply with regulations as shown by line C.

Line B illustrates the interventions targeted at the SME manager, these may or may not affect the uptake of good occupational health practice within the company given that the manager holds the key to the resources and makes the decisions about any changes of occupational health practice. Any intervention targeted solely at the SME manager has the potential of being completely ineffective at benefiting the workers at the coalface for this reason. However, if the SME manager is receptive to the intervention he/she may take action and put pressure on the workforce to adopt safer working practices. It must be stressed that the success of any intervention aimed at the SME manager is thought to be interdependent on another having been launched targeting the workforce.
CHAPTER 6: IDENTIFICATION OF INCENTIVES
# TABLE OF CONTENTS

6  IDENTIFICATION OF INCENTIVES .......................................................... 59

6.1  Method for the Identification of Incentives .................................. 59

6.2  Findings of the Identification of Incentives ............................... 59

6.3  Discussion of Incentives ................................................................. 64
6 IDENTIFICATION OF INCENTIVES

6.1 METHOD FOR THE IDENTIFICATION OF INCENTIVES

Brainstorming was used to identify incentives that will influence the likelihood of an intervention's success. The target for the incentives identified in this way, were the key stakeholders in SMEs, i.e. the managers, who we call the 'gatekeepers'.

6.2 FINDINGS OF THE IDENTIFICATION OF INCENTIVES

The brainstorming session undertaken, provided a large number of potential intervention strategies. During the session, no constraint was placed on the type of intervention that could be suggested, or the way in which an intervention could be carried out. This resulted in a pool of unstructured ideas. This pool was, then analysed and coded, in relation to the manner of their proposed operation. The result of this process was the identification of interventions that are either direct or indirect, in their nature of operation, and a list of media by which interventions can be delivered.

Direct interventions were identified as, those that invoke changes to OH behaviour by force, or in ways that do not require an individual to make decisions; for example, by a change in the design of equipment, or a change in the work environment, or infrastructure.

Indirect interventions were identified as, those that invoke changes to OH behaviour by affecting the thought and decision processes of individuals. By this we mean, that an indirect intervention will change the attitude, and thus, the behaviour of an individual. However, we have already seen that changing the attitude of an individual does not always correlate to a change in behaviour. Therefore, direct interventions may offer advantages to indirect ones.

Different means for the delivery of interventions were also identified. These ranged from advertisements and mail-shots, to trade organisations and certification bodies; through interventions made by inspectors influencing either a workforce or management, to the notion of specialised inspections by, for example, ‘OH wardens’ who would call without notice when patrolling a city or town. This led to another key insight. This was that, an intervention might be made by some wide reaching but inflexible means such as TV advertising or by a narrow targeted intervention such as the visit by an HSE inspector, which could be adapted to the precise needs of the individual and situation.

When the intervention strategies and media had been grouped, the advantages and disadvantages of each were identified and considered. This analysis is presented in a table that describes the advantages and disadvantages of each listed intervention; however, the table cannot be considered a definitive list.
### Positive Incentives

#### Table 6.1 Positive Incentives

<table>
<thead>
<tr>
<th>Positive Incentives</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income (i.e. money in)</strong></td>
<td></td>
</tr>
<tr>
<td>Grants for workplace changes</td>
<td>Provision of grants and other financial mechanisms to implement OH measures.</td>
</tr>
<tr>
<td><strong>Reduced Cost</strong></td>
<td></td>
</tr>
<tr>
<td>Free or subsidised consultancy support</td>
<td>Intervention must ensure SMEs know of support. Funding of support - numbers of consultants required, scope of advise, expertise Clear brief as to what they can and cannot report to HSE</td>
</tr>
<tr>
<td>Favourable OH-related loan terms</td>
<td>Loans against improvement to OH scheme.</td>
</tr>
<tr>
<td>Reduced tax</td>
<td>It may be possible to isolate certain taxation items to provide tax breaks.</td>
</tr>
<tr>
<td>Reduced National Insurance</td>
<td>Given that the objective of interventions is to reduce OH ill heath, then there will be a reduced demand on the NHS. Therefore, it may be possible to reduce the NI contributions paid by employers.</td>
</tr>
<tr>
<td>Insurance Premium Reduction</td>
<td>If the likelihood of claims against the company for OH-related illness are reduced then there is potential for insurance companies to pass these saving on.</td>
</tr>
<tr>
<td><strong>Benefits of Good OH</strong></td>
<td></td>
</tr>
<tr>
<td>Improved productivity</td>
<td>If reducing OH-related illness improves attendance at work, a fitter workforce etc., then productivity has the potential to improve. This benefit would need to be spelt out to the SME.</td>
</tr>
<tr>
<td>Improved working conditions (making SMEs desirable places to work)</td>
<td>If the SME is a good place to work, then recruitment would be easier, and also there is potential to hold salaries down to some degree. It also improves the SMEs standing in the business and potential customer community.</td>
</tr>
<tr>
<td>Improved perception of societal benefits</td>
<td>Whilst not a business benefit directly, some people respond to having ethical policies and practices that lead to improvements in society as a whole.</td>
</tr>
<tr>
<td>Reduced sick-leave</td>
<td>Improved OH practice should make the likelihood of absenteeism through sickness decrease. This ensures that overheads and loss of productivity are reduced.</td>
</tr>
</tbody>
</table>
### 6.2.2 Negative Incentives

#### Table 6.2 Negative Incentives

<table>
<thead>
<tr>
<th>Negative Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Immediate Impact</strong></td>
</tr>
<tr>
<td>Penalties for poor OH practice – fines, prison</td>
</tr>
<tr>
<td>Increase insurance premiums</td>
</tr>
<tr>
<td>Levying of Health Care premiums</td>
</tr>
<tr>
<td>Higher NI contributions</td>
</tr>
<tr>
<td><strong>Intermediate Impact</strong></td>
</tr>
<tr>
<td>Bad publicity</td>
</tr>
<tr>
<td>Expulsion from Trade Association/Other Certified Body</td>
</tr>
<tr>
<td><strong>Longer Term</strong></td>
</tr>
<tr>
<td>Increased absenteeism</td>
</tr>
</tbody>
</table>
**Longer term**

| Ill health | In some cases the managers themselves may become ill through exposure to OH hazards. Note that this ‘incentive’ is effectively the same as the interventions aimed at individuals, in that it tries to change beliefs. It is likely to be of low impact, especially when compared to the financial incentives. |

**Detection**

| Increased risk of detection of poor practice within SME through formal inspections | Identify who carries out inspections – e.g. HSE or use of third party organisation such as Certifying Body. Resources to visit SMEs (consider how many need to be inspected before wider knock-on impact). Risk of detection considered a high motivating factor for compliance (but requires penalties to be enforced for non-compliance). |

| Increased detection through ‘whistleblowers’ | Ability of workforce or other people to inform on SMEs that are clearly showing poor OH practices. Recent data suggests that people are slowly becoming more willing to report in this manner (whistleblowing.org.uk, 2003). Whistleblowers not seen to be overly effective, especially in SMEs where it is likely the individual could be identified. |

| Reported via medical professional | If a GP identifies that the cause of a patient’s illness is OH related, then this could be reported to HSE (allows for targeted inspection). Problem with patient confidentiality. Problem with cause and effect of illness. However, potentially a very useful source of data (this could be reported with no link to individuals). |
Reported through other assessments (e.g. insurance evaluations).

| Detection through Certification Body audit (cf. with ISO 9001-type system) | If the insurance companies assess SMEs to set premiums, then if the HSE make them more aware of the costs of OH-related illnesses, then the insurance form could include it in their assessment. Note that costs to the insurers would need review (especially if certain costs could be transferred to them such as medical insurance).

The detection relies on the Insurer reporting poor practice to the HSE.

| As with insurance above. |

### 6.2.3 Global Incentives

So far, we have considered interventions that have an OH theme and are very specific in attempting to change OH practices directly. However, it is worthwhile briefly considering whether there are other interventions that, whilst not directly related to OH, are aimed at freeing resources with SME that can be directed at OH matters.

When considering these interventions, it should be borne in mind that there would need to be sufficient incentives that any saving gained by the SME are transferred to OH matters. So, for example if there were a high likelihood of detection and punishment then the manager would (in all likelihood) be considering ways to avoid detection or avoid a penalty. By giving them more resource they are perhaps, better able to attempt to address any OH issues that the SME faces.

The problem with considering these interventions is that they have very wide-ranging impacts on both the SME and the wider economic and social fabric of the UK. Nevertheless, these are likely to be raised as potential barriers by SME and bodies representing SMEs, as potential barriers to compliance with good OH practices.

The types of interventions envisaged include:

- Changes to corporation tax - rather than have tax incentives related to OH issues directly, it may be possible to reduce overall tax burden on SMEs.

- Changes to employment law - The introduction of more (or tougher) legislation on OH is likely to be seen as another factor in undermining UK business’ competitiveness, and therefore, need to provide some incentive to offset this and improve ability of SMEs to compete in world market.
There are inherent difficulties with indirect interventions such as:

- There is a big assumption in that any savings would be redirected by the SME into improved OH practice. This would be difficult to monitor.
- It is likely to be very difficult to persuade the Government to change taxation purely for OH reasons.
- It may not be possible under EU Law.

6.3 DISCUSSION OF INCENTIVES

In conclusion, having indirect interventions is likely to have low influence on OH practices. However, they could be used as ‘sweeteners’ targeted at the workforce if interventions are in place that also target the SME 'gatekeepers' to improve OH practices.
CHAPTER 7: SURVEY
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>SURVEY</td>
<td>67</td>
</tr>
<tr>
<td>7.1</td>
<td>Method for the Survey</td>
<td>67</td>
</tr>
<tr>
<td>7.2</td>
<td>Target Audience</td>
<td>68</td>
</tr>
<tr>
<td>7.3</td>
<td>Venues and Times</td>
<td>68</td>
</tr>
<tr>
<td>7.4</td>
<td>Identifying Attendees</td>
<td>69</td>
</tr>
<tr>
<td>7.5</td>
<td>Further Steps Taken to Engage SMEs</td>
<td>73</td>
</tr>
<tr>
<td>7.6</td>
<td>Summary Statistics</td>
<td>76</td>
</tr>
<tr>
<td>7.7</td>
<td>Discussion for Survey</td>
<td>77</td>
</tr>
</tbody>
</table>
7 SURVEY

7.1 METHOD FOR THE SURVEY

A survey of SMEs was carefully planned to collect information about the attitudes, priorities, awareness and understanding of occupational health in the SME population. The survey intended to hold a series of discussion groups. Unfortunately, despite great effort on the part of Vectra, this method failed to elicit the information the project required.

7.1.1 Data collection methods

Different methods of contact with SMEs were considered in order to get the required number of participants:

*Site visits* were believed to be very costly and time consuming. Large amounts of time would have been needed in order to train individuals to go to SMEs to interview employees or hand out questionnaires. Added to this would be the cost of travel to and from each individual company.

Interviewing members at each site visit would be time consuming for both the participant and interviewer. This, possibly, would have resulted in fewer companies being willing to participate in the survey. This would result in more time off the job. It would be hard for a small factory to let a number of their employees stop work for over half an hour to be interviewed.

Using questionnaires would also have presented problems, being impossible to determine whether the questionnaire would generate information of the correct nature. The sort of information required would be difficult to acquire using a generic questionnaire, as different business sectors would have different occupational issues and practices.

*Mail questionnaires*; notoriously have a bad return rate. The cost of getting agreement from enough companies to participate and sending out enough questionnaires to participating companies would have been high due to the anticipated poor response rate. Several factors that would add to the likelihood of return would also increase costs and time spent on the survey. Stamped addressed envelopes, follow up letters and follow up phone calls. The main problem that would have been apparent when using the mail questionnaire method was that a database of names and addresses of small companies did not exist. Without any contact information for small enterprises, it would have not been possible to send out enough emails in order to get the necessary return rate.

The response to a mail survey may be so low that the cost per completed questionnaire is higher than with a direct interview sample.

Again, it would be hard to construct a questionnaire that would cover all questions needed in order for reliable results.

Both of these methods to gain the information from the SMEs were thought to give no interaction between the participants, which would limit the amount of ideas produced
It was decided that to enable interaction between participants and to enable the survey to account for the various different workgroups the best method would be to conduct discussion groups where participants could relay information about what they thought could be done to improve occupational health.

### 7.2 TARGET AUDIENCE

The aim was to contact as many small businesses as possible to invite them to discussion groups that were to be held around the North West. The ideal was to have at least 100 representatives attend from 100 different companies. The target audience would represent a broad range of industrial sectors. It was intended that the participants should be mainly managers because these individuals have the power to provide or withhold resources for occupational health initiatives.

The North of England was chosen because of its proximity to the Vectra Warrington Office, areas around Manchester, Merseyside and Preston were particularly chosen. The HSE had revealed poor standards of health and safety on construction sites throughout these areas. The ‘weeklong construction safety blitz’ found that there was a common pattern of relaxed attitudes to health, safety and welfare.

Out of 201 sites visited by HSE inspectors in Manchester, Merseyside and Preston a total of 73 prohibition notices and 30 improvement notices had to be issued making a total of 103 notices being issued altogether. Over half of the sites visited by the inspectors resulted in a notice being issued. With these results in mind, it would be interesting to establish common views from different workgroups on occupational health (data taken from HSE, 2002).

### 7.3 VENUES AND TIMES

Before any contact with small businesses was made, dates and venues of where discussion groups would be held needed to be established. These venues needed to be booked to ensure availability before invitations could be sent out. Key criteria considered when booking the venues included:

- **Size of facility**: the aim was to achieve an attendance rate of between 8-15 SME representatives at each venue.
- **Location**: the venue needed to be located ‘centrally’ for a number of geographical areas where there were a good number of SMEs based.
- **Familiarisation**: ideally a venue that was known and used by SMEs would be chosen.
- **Availability**: was a room available for an evening meeting?
- **Hospitality**: an enticement to attend would be the provision of refreshments so each venue required catering.
Given the close links between Chambers of Commerce and SMEs, venues chosen were either, Chambers of Commerce buildings or recommended by the Chamber. The rooms made available and booked by Vectra met with the criteria above.

Meetings were planned to commence at 17:30 hr so as not to disrupt the working day and coincide with the journey home from work.

The main advantage of having the discussion groups instead of using questionnaires was to be able to get interactions between the different members of the group and therefore help to highlight the different approaches that the different organisations felt would be necessary in order to help them have a greater interest in occupational health.

Booking seven different conference rooms around the North West was not an easy task. The rooms had to be arranged so as not to clash with any other events. Initial calls had to be made to enquire about room availability and rates. After availability was established, booking forms and confirmations had to completed and dispatched. These were usually in the form of faxes or emails in an attempt to make the process quicker.

The process of booking the conference rooms became difficult as catering needed to be booked in advance. However, as numbers of participants were not known at the time of booking, approximations of attendance numbers had to be provided. Initially the catering bookings were made for 15 people at each meeting. However on confirmation the booking were reduced to only 10 people as little interest had been shown by potential participants. The rooms and catering were not cancelled on the majority of occasions, to ensure that if any participants did attend there would be hospitality available.

Payment for each room also had to be made. Each Chamber of Commerce had their preferred method of payment and this too had to be established.

7.4 IDENTIFYING ATTENDEES

In order for the Discussion Groups to be successful, it was necessary to contact a large number of businesses in a relatively short space of time. To achieve this Vectra identified a number of ‘coordinating’ bodies that would have access to SME information and would possibly facilitate contact and invitations.

The following organisations were identified and approached for their assistance.

7.4.1 Chamber of Commerce

The Chambers of Commerce and Industry (CoC) has member organisations of all sizes across the UK. Vectra contacted the Chamber to ascertain if they would be willing to provide details of SMEs or help to distribute invitations.

On attempting to contact the Chamber of Commerce several different departments had to be spoken to before someone could answer queries with regards to helping Vectra contact SMEs. After a period on-hold, finally an answer was provided.
In this instance, the CoC were unable to offer any form of contact information. As with most organisations they were unable to give out contact information about their members to outside organisations.

The British Chamber of Commerce suggested contacting the Department of Trade and Industry as they have a department solely concerned with small businesses.

Vectra also asked a number of branches of the CoC if they would place information about the Discussion Groups on notice boards or their website. Five out of the seven COC’s agreed to this and posters were designed and distributed accordingly. The Birkenhead meeting was not held in a chamber of commerce, as the Birkenhead CoC was not available.

The posters were placed on notice boards and on Internet sites and were also put in pigeonholes of the companies that use the same premises as some of the CoC; this was done to try to increase the number of people present at each meeting. It was not possible to predict how many small business personnel would come into contact with the chamber of commerce website on a regular basis. All posters asked anyone interested in attending to contact Vectra and provided several forms of contact details.

In terms of responses from contact attempted through the CoC Vectra received no returns. This was very disappointing but there was no guarantee that posters were put up in places that were easily accessible to our target audience. This may be because small businesses do not use their local Chambers of Commerce on a regular basis and may not look at notice boards if they do attend.

7.4.2 Department of Trade and Industry

The Department of Trade and Industries (DTI) phone number was supplied by the British Chamber of Commerce. However, on phoning the DTI three or four other connections had to be made before a member of the small business department was made available. This was because there are several business units within the small business department and the correct unit had to be identified. Our proposal had to be repeated several times until the relevant person was found. Even when the relevant person was identified, permission had to be given by another source before it was possible to know whether anything could be done to forward our invitations to advertise our discussion groups.

The DTI have a dedicated small business department. Specific details of SMEs could not be given out to Vectra. However, they were willing to forward details of the discussion meetings onto the members of the small business department. One limitation that was immediately apparent was that the DTI would only pass the invite to SMEs that had expressed an interest in occupational health. This put a limit on the amount of companies to whom the invitation was sent. Vectra were unable to ascertain the exact number of invitations sent out by the DTI but were informed that approximately 850 small businesses were on the DTI database nation wide. Vectra was also unable to determine to which areas the invites had been sent.

Once the invitations were forwarded by the DTI they would no longer be involved. It then became the responsibility of the SMEs to respond directly to Vectra rather than
through the DTI. These invitations were sent via land mail or email. The ratio of use of the two contact methods was not available. All members expressed the method by which they should be contacted and this choice was the sole method of reaching the members. Without any immediate direct contact with the SMEs invited, further ‘selling’ of the benefits of attending could not be undertaken unless an SME expressed an interest and replied to Vectra. However, this did not take place because no interest was shown.

Much time was spent trying to design an appropriate invitation letter. The invitation letter had to convey the importance of attending the discussion meetings. Without any personal contact with the participants, the invitation had to grab the attention of the reader and give them motivation to contact Vectra and attend a meeting. To do this the letter had to be concise enough to hold the attention of the reader but at the same time contain enough information to detail what the meetings were about.

Vectra provided the DTI with the invitation letters containing details of the discussion group objectives, why the SME should attend and dates and location information. The letters also contain details of whom in Vectra to respond to. However, Vectra did not hold much confidence in this method (i.e. no direct contact between ourselves and SMEs) for the following reasons:

- Mail shots tend to have a limited success rate especially when the recipient has little incentive to respond.

- The response rate we believe was further reduced, as the DTI could not enable Vectra to include stamped addressed envelopes. In postal surveys this has been known to seriously limit the amount of respondents.

- The DTI were unable to allow Vectra to personalise the invitation letters to the recipient. This again has been known to limit the amount of response from postal surveys. If the letters could have been addressed to each individual company it may have meant a greater response rate would have been gained.

As a means to increase the response rate, an email address was provided in the letter.

In response to invitations sent through the DTI, Vectra received three enquiries. These were all via email. This may be because the majority of contacts were made through email or it may be because, as stated, mail invitations often have a low response rate.

In following up the initial positive responses, one of the SMEs subsequently cancelled their place in the discussion group when a confirmation call was made. This was due to other work commitments. An apology was made and it was due to unforeseen circumstances that a company representative could not attend the discussion meeting. One of the contacts made through the DTI was willing to attend the meeting only to be told by the venue that the meeting was cancelled. This was not the case, the Chamber of Commerce had made the mistake, and an apology was made. The final contact made through the DTI did attend a discussion meeting. Unfortunately, as he was the only person present at the meeting there was no interaction between different SMEs. However, some very interesting points and observations were made during the meeting. Useful insights into feelings towards occupational health were uncovered,
also feelings towards the HSE. An account of this interview can be found included with the case studies.

7.4.3 Federation of Small Businesses

The Federation of Small Business (FSB) was contacted to seek their assistance in inviting SMEs to the Discussion Groups. The FSB have a regular newsletter that is sent out to all of their members. Vectra contacted the FSB with the aim to placing an advert in their newsletter.

Contacting the FSB became a time consuming process. It was very difficult to get connected with anyone with enough authority to decide whether the Vectra details could be placed in the FSB newsletter. Attempts to speak to someone that would be able to give help were redirected on about two or three occasions and kept on hold for short periods of time. It was not possible to speak to the person responsible for the content of each newsletter and contact had to be made through assistants. Vectra were informed that an outline of what was planned to be discussed had to be reviewed before a decision could be made. If the outline was found to be acceptable, it would be passed up through the organisation until the editor of the newsletter would review the content and decide if it was acceptable. The FSB were generally slow to respond to follow up emails and calls but eventually returned with a negative response after time was spent preparing outlines and proposed discussion topics.

The proposed content of our discussion group was deemed to be unsuitable for the FSB to be involved with. This therefore, meant that the poster would not be included in the FSB newsletter and that the FSB were unable to aid Vectra in contacting any of their members. Vectra received no indication of the reason behind the content of our discussion groups being rejected.

This was a major set back as the Federation for Small Businesses would have been able to target the companies with the correct number of employees needed for this project.

Despite this, the FSB offered to forward details of the discussion group to their associates in the North West. Vectra were told that their associates would make contact in the near future. However, no further contact, response or replies were received. Because no details of their associates were given, follow up phone calls or emails were not possible.

7.4.4 Business Link North West

Business Link North West were contacted to determine whether they could be of any help in forwarding on invitation or poster or giving us any contact details of their members. As with the other organisations approached, Business Link decided that they were unable to become involved in the project and that they were unable to give us any member information.

When the local branch of Business Link was contacted, help was offered only if Vectra provided suitable references. If Business Link then found Vectra to be a suitable company the discussion groups would then have to become a joint venture with business link having input into the content of each meeting. Despite our best
efforts there were delays in receiving responses from Business Link that could not be absorbed in this project’s programme. In addition, there would have been even more delay in getting Business Link to ‘approve’ Vectra references; also the discussion groups would have had to be run as joint ventures. These events again highlight the difficulty faced when attempting to contact SMEs.

Vectra were also concerned about the possible nature of a ‘joint venture’ and that the intended direction of the meeting might have been compromised. As confidentiality for all participants was promised this may have also been compromised.

7.5 FURTHER STEPS TAKEN TO ENGAGE SMES

7.5.1 Cold Calling

Following the efforts to contact SMEs through the various organisations discussed above, Vectra remained sceptical about the numbers of SMEs that would respond positively to our request. The first discussion group in St Helens had no attendees and this confirmed Vectra’s suspicions. Therefore, considerable time and effort was put into identifying and ‘cold calling’ SMEs through Yellow Pages, Telecom’s Business Pages and from the Internet. Chosen companies undertook businesses in which Occupational health was likely to be an issue. Once identified, these organisations were telephoned, given a brief overview of the discussion groups and why they should attend the discussion groups. In addition, each contact was asked approximately, how many people were employed within the company. Without reference to a database, contacting by cold calling was a slow and laborious task with many telephone calls to companies that did not meet the SME criteria. Over 650 phone calls were made with the majority of companies either being too big or too small. Each phone call took approximately 12 minutes, including the time taken to reach the relevant member of staff.

The companies that were suitable were invited to attend the discussion meetings. The phone calls were designed so that if the company was of the correct size but refused to attend the discussion meetings, then the interviewer would be able to ask why they were unable to attend. Unfortunately, the majority of companies professed to being ‘far too busy’ to let someone go to a discussion meeting that they saw as being of no benefit to themselves. Other comments made were that the business was ‘budgeted on a shoe string’ and that they ‘could not afford to take time off’ to attend such discussion groups. A large proportion of the companies stated that they had no interest in occupational health or no interest in the discussion meetings. This could have been because the companies assumed that the caller was a salesperson and that they did not want to waste time talking to sales people selling things that were of no use. However, this response could have been due to a lack of interest towards occupational health because it is seen as a problem that will just result in an extra burden on the small enterprise. Most companies that expressed an interest in attending the meetings, on further contact to confirm attendance, found they were unable to come to the meetings due to having too much work or other commitments. Table 7.1 summarises the number of calls made and the reasons given for not attending the discussion groups.
Table 7.1 Reasons for not attending discussion group in cold called companies

<table>
<thead>
<tr>
<th>Reasons for not attending</th>
<th>Companies called</th>
<th>Initial positive responses</th>
<th>Too busy</th>
<th>No budget</th>
<th>Not interested</th>
<th>Thought it was selling something</th>
<th>No reason given</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>96</td>
<td>17</td>
<td>39</td>
<td>12</td>
<td>11</td>
<td>2</td>
<td>15</td>
</tr>
</tbody>
</table>

The main reason given was that the company was too busy to allow someone to leave work early to attend a discussion meeting. However, the cold caller also got the impression that the majority of initial positive responses may have been a tactic to get the caller off the line. This would have been especially true if the company was in fact very busy, and the subject matter was of no interest to the company. Any time wasted talking on the phone, results in a loss in productivity, which is also true for taking time off to attend discussion groups.

7.5.2 Confirmation Calls

Both of the first two meetings held in St Helens and Rochdale resulted in no attendees. After this, a follow up phone call the day before each meeting was made to each of the companies that expressed an interest in attending the meetings. This was because, for the Rochdale discussion group ten companies had given an initial positive response, hence the complete non-attendance was very disappointing.

The follow up call was to confirm that the SME still intended to be at the meetings. Unfortunately, the follow up phone calls revealed more people dropping out of the discussion groups. Most found it difficult to attend because of work commitments or because of having ‘too much work on’. Most of the confirmation calls resulted in the company acting as though the meeting had slipped their mind, or something important had come up in the company. Table 7.2 summarises the response to the confirmation calls.

Table 7.2 Number of companies ‘receiving follow up calls with reasons given for not attending a discussion group

<table>
<thead>
<tr>
<th>Reasons for not attending</th>
<th>Confirmation calls made</th>
<th>Too busy</th>
<th>No budget</th>
<th>Not interested</th>
<th>Thought it was selling something</th>
<th>No reason given</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When all the confirmation calls confirmed rejection for a particular meeting, the conference room had to be cancelled along with any catering that was booked. Most of the conference rooms were booked for 10 to 15 people, and as the confirmation calls could only be made the day before the meeting was planned to take place, the
late cancellation resulted in some wasted catering and late cancellation charges. Attending the meetings would have only resulted in more time being wasted by the project team. On all fliers and adverts participants were asked to contact Vectra to book a place at the discussion group to enable catering numbers to be confirmed.

7.5.3 Local Newspaper Advert

Local newspapers were contacted with the view to placing an advert to draw the attention of small businesses. Faxes were sent to several newspaper distributors to obtain quotes on approximate prices for each newspaper. The adverts were sent either by fax or via email to enable Vectra to obtain realistic quotes for each of the different adverts. After receiving quotes for prices to place small adverts, it was concluded that prices were far too high with no guarantee of a good response rate for a newspaper advert to be useful. As the space available would have been very small, it was unlikely that this would have been a great help in increasing the number of respondents attending the meetings. The adverts, however, would have increased the amount of coverage gained by the survey. Unfortunately, as the advert could not be placed in a specific section of the paper it would have to go in the general news section meaning that there would be no guarantee of the correct people viewing the advert. A number of calls had to be placed to each of the newspaper organisations. Various local newspapers surrounding the venues for our discussion groups had to be contacted. A large amount of time was spent on trying to reduce the size of each advert by reducing the amount of copy (text) to keep costs down. Even with the minimum amount of space possible, the price of advertisement was far too high for a method with no guaranteed success. The newspaper adverts all had different price ranges. Many of the newspapers suppliers distributed to a wider area than was needed. This wide coverage accounted for the high prices but did not help the survey as most of the meetings were being held around specific areas.

7.5.4 Vectra Staff Personal Contacts

An email was sent to every member of Vectra to ask for contacts with small to medium enterprises. Instead of inviting the contacts along to discussion meetings, it was more productive and efficient to call the companies and conduct the interview over the phone because they were distributed throughout the UK. By using contacts already established by Vectra it was felt that this would increase the response rate and give a greater opportunity of establishing the views of small companies.

There was a limited response from this method of contact. Many of the contact names provided by Vectra employees did not fall into the SME category. Others found it hard to establish a convenient time to hold an interview over the telephone.

The companies that were the correct size often confirmed a time that they would be available but then cancelled due to being out of the office or something coming up to change their availability. This also supports the idea that occupational health does not feature highly on the agenda of SMEs as a whole. Again, many of the interviews planned were cancelled due to being forgotten.
7.6 SUMMARY STATISTICS

Summary statistics for the attempts made to hold discussion groups are provided in the tables below.

Table 7.3 Discussion group result summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of discussion groups proposed</td>
<td>8</td>
</tr>
<tr>
<td>Areas where discussion groups were proposed</td>
<td>St Helens, Rochdale, Preston, Bolton, Wigan, Warrington x2 and Birkenhead</td>
</tr>
<tr>
<td>Number of conference rooms booked</td>
<td>8</td>
</tr>
<tr>
<td>Number of discussion groups with catering arranged</td>
<td>8</td>
</tr>
<tr>
<td>Number of discussion groups with attendees</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 7.4 Established organisation result summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of coordinating bodies contacted</td>
<td>5</td>
</tr>
<tr>
<td>Number of coordinating bodies willing to help</td>
<td>3 (including local Business Link whose offer was not taken)</td>
</tr>
<tr>
<td>Number of CoC with posters</td>
<td>5</td>
</tr>
<tr>
<td>Number of initial positive responses due to DTI contact</td>
<td>3</td>
</tr>
<tr>
<td>Number of actual participants via DTI contact</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 7.5 Cold calling results summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of phone calls made</td>
<td>650</td>
</tr>
<tr>
<td>Time taken for each phone call</td>
<td>Approx. 12 minutes</td>
</tr>
<tr>
<td>Number of SMEs contacted</td>
<td>97</td>
</tr>
<tr>
<td>Initial positive response</td>
<td>17</td>
</tr>
<tr>
<td>Number of confirmation calls</td>
<td>7</td>
</tr>
<tr>
<td>Number of rejections upon confirmation</td>
<td>7 (all due to other work commitments or being to busy)</td>
</tr>
</tbody>
</table>

Table 7.6 Personal contact results summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of interviews via personal contacts of the project team</td>
<td>13</td>
</tr>
</tbody>
</table>
7.7 DISCUSSION FOR SURVEY

The attempt to get SMEs to attend discussion meetings failed. There were several reasons for the lack of attendance at each of the meetings.

SMEs by definition only have a limited number of employees. For it to be possible, to let a member of staff leave work for any length of time would mean a noticeable loss of earnings and profits.

The main reason cited by the majority of the companies for not attending the discussion groups was due to all the employees being too busy to take the time to participate. This could have been a result of the time of year in which Vectra were holding the discussion groups. The discussion groups were all planned in late November running up to mid December. The run up to Christmas is notoriously a busy time for lots of different businesses. It is more likely, however, that as the company has limited numbers of employees taking time off to go to a discussion meeting would be hard to justify. In addition, it was necessary that the attendee sent from each company had knowledge of the health and safety precautions implemented at each business site.

The results obtained support the view that SMEs are under pressure from various sources. It is obvious from the very low positive response rate that time and money were two main causes of strain within SMEs as with most businesses. This is apparent as all of the confirmation calls established that rejection was due to other work commitments. This may be due to the smaller companies having a less structured schedule. Everything has to be done quickly in order to get onto the next project. Therefore, the smaller companies possibly do not have an in-depth plan of what they are doing from day to day. However, larger organisations are run at a slower pace so that there is a higher likelihood of finding a convenient time to fit in a meeting in the diary. There is more structure to the larger organisations than there is to the smaller companies.

When phoning to confirm that each intended participant would still attend, an apology was received followed by the comment that, they were too busy. The caller also was given the impression that the business accepted the invitation to attend a discussion group to get the caller off the phone quickly and end the conversation with no real interest of participating in the meeting.

Contact via email or regular mail can run the risk of being discarded as ‘Spam mail’ with the invite not even being read. This is because many companies have lots of mail sent to them that will not be of interest to them the invite mite not have been looked at before being thrown away. Response rates of lower than 10% are not uncommon when conducting a postal survey. This low response rate could be increased if stamped addressed envelopes or a freepost return is provided, along with numerous follow-up phone calls.

Little or no incentive could be offered to any of the companies to make them attend the discussion groups. Not even out of pocket expenses could be offered to any of the businesses wishing to participate. This may have been partially responsible for the lack of interest in any of the discussion groups. Without giving an incentive, it is difficult to sell the idea of attending a discussion meeting even outside of company
hours. If health and safety does not register high on the priorities of the employee then they are unlikely to attend a meeting in their own time if there is no gain of any kind.

Reasons cited for not attending/ cancelling attendance:

- The time of year that the survey was conducted probably did not help in getting participants involved in the meetings. All of the discussion groups were held in the run up towards Christmas. Christmas is a time when there are many things that need to be done, both for business and personal reasons.

- The locations of the discussion groups were primarily in the local Chambers of Commerce. This may have not been an ideal location for any of the participants to get to immediately after finishing work. This may have been the reason that so many confirmation calls resulted in rejection.

- From contact with several SMEs, it is apparent that many companies subscribe to their trade magazines. These magazines are frequently used to promote health and safety issues. Information is also given on companies that have had major accidents resulting from poor health and safety practices. For future surveys adverts placed in trade magazines may produce better results. Trade magazines will only be subscribed to by companies in a certain business sector. Therefore, it would be easy to target specific workgroups via this method. If the advert were placed in a wide range of trade papers this would result in a varied spectrum of participants. Again, there would be no way of determining the amount of people that would come into contact with the advert however all readers would be possible participants whereas with a newspaper advert many readers may not be eligible.

- As the trade magazines are distributed nationally, the discussion groups or focus meeting would also have to be held in key areas through out the country. There may be high costs as a result of using trade papers to advertise and also it would be necessary to determine which sectors should be looked at and why as only certain professions would be targeted by each advertisement.

- The large number of phone calls had to be made in order to find a relatively small amount of SMEs this highlights the problems experienced in getting hold of relevant sized businesses. Much time was wasted contacting many companies that were out of the projects remit. If a database was available with company size and contact information this would have helped to increase the response rate as more time could have been put into contacting relevant companies.
CHAPTER 8: CASE STUDIES
# CASE STUDIES

8 CASE STUDIES ......................................................................................... 81

8.1 Method for Case Studies ....................................................................... 81

8.2 Findings from Case Studies ................................................................. 81

8.3 Case Studies Raw Data ......................................................................... 88
8 CASE STUDIES

8.1 METHOD FOR CASE STUDIES

Case Studies were undertaken to capture some of the information that had hoped to be gained via the survey. Conducting these involved, approaching SMEs directly via individual contacts within the Vectra group. Using this method, 13 SMEs were informally interviewed. This proved to be a very beneficial way of obtaining information. The benefits were that, verbal information could be instantly checked with the visual information of the working environment.

8.2 FINDINGS FROM CASE STUDIES

The raw data, written up following the individual interviews with SMEs, is contained at the end of this appendix. The rationale for doing this is to enable the reader to view these if wished but also to preserve the flow of the argument presented from the analyses of these results.

Simple and approximate analyses of the content of the case studies examined managers’, and employees' occupational health awareness levels. This was done using the knowledge and experience of Vectra staff, who are qualified to judge matters of occupational health and work safety. However, it is important to emphasise that the results presented here can only reflect what was recorded. Because the interviews were not systematic, there is, inevitably, a lot of ‘missing’ data. For example, for six of the 13 companies approached, there is no information about employees. It is also important to emphasise that some results are derived from inferences taken from comments offered by interviewees, rather than the result of a response to a direct question. The analyses are presented in Table 8.1.
<table>
<thead>
<tr>
<th>Case Study</th>
<th>No. permanent employees</th>
<th>Sub-contractor</th>
<th>Use contractors</th>
<th>Main occupational health risks</th>
<th>SME manager attitude to occupational health practices</th>
<th>Employee attitudes to occupational health practices</th>
<th>Practices in place to minimise occupational health risks</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>No</td>
<td>Yes</td>
<td>Cuts/amputation, Inhaled dust and carcinogens, Noise levels</td>
<td>Ignorance, Resistant due to financial loss.</td>
<td>Awareness of PPE required</td>
<td>None put in place by manager.</td>
<td>One individual provided his own but was ridiculed by the manager and labelled a 'troublemaker'.</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>No</td>
<td>No</td>
<td>Manual handling – back problems, Biological agents and Chemicals</td>
<td>Generally positive but evidence of ignorance over some occupational health issues, e.g. good on chemical and biological protection but poor on seating – back care.</td>
<td>Not known</td>
<td>Risk assessments for chemicals handled, and knowledge of biological risks from patients/to patients.</td>
<td></td>
</tr>
<tr>
<td>Case Study</td>
<td>No. permanent employees</td>
<td>Sub-contractor</td>
<td>Use contractors</td>
<td>Main occupational health risks</td>
<td>SME manager attitude to occupational health practices</td>
<td>Employee attitudes to occupational health practices</td>
<td>Practices in place to minimise occupational health risks</td>
<td>Comments</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>---------------------------------</td>
<td>--------------------------------------------------</td>
<td>---------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>No</td>
<td>No</td>
<td>Chemicals Manual-handling</td>
<td>Limited awareness, general attitude that occupational health information should be fed to him by larger organisations, or the HSE.</td>
<td>Not known</td>
<td>None in place</td>
<td>Owner had used the HSE website and found it very complicated to use - not able to find an area he felt applied to him to search under.</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>No</td>
<td>No</td>
<td>Manual handling Dust inhalation Exposure to chemicals Noise</td>
<td>Moderate understanding of the risks – evidence of providing PPE, but not enforcement or true concern.</td>
<td>Ignorance prevails</td>
<td>PPE available on request but evidence of that available showed it to be very poor quality and old.</td>
<td>Owner had heard or knew little about the HSE Interview had to be cut short and was rushed due to the business pressures.</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>No</td>
<td>No</td>
<td>Manual handling Chemicals Dust inhalation Noise Repetitive strain injuries</td>
<td>Low awareness and acceptance of the job requirements being impractical to wearing PPE.</td>
<td>As per manager due to family business</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Case Study</td>
<td>No. permanent employees</td>
<td>Sub-contractor</td>
<td>Use contractors</td>
<td>Main occupational health risks</td>
<td>SME manager attitude to occupational health practices</td>
<td>Employee attitudes to occupational health practices</td>
<td>Practices in place to minimise occupational health risks</td>
<td>Comments</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>--------------------------------</td>
<td>--------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>No</td>
<td>No</td>
<td>Manual handling Chemicals Dust inhalation Noise</td>
<td>Ignorance and resistance to doing something about the hazards that are known about Enough to deal with without occupational health issues.</td>
<td>Not known</td>
<td>PPE could be requested. No evidence of use.</td>
<td>Interview cut short due to business pressures.</td>
</tr>
<tr>
<td>7</td>
<td>10 but turnover high</td>
<td>No</td>
<td>No but take on temporary seasonal staff</td>
<td>Manual handling Dermatitis Repetitive strain injuries Noise Stress (long-hours)</td>
<td>General ignorance with the exception of dermatitis, which presents itself in an obvious way.</td>
<td>Not known</td>
<td>Gloves provided to avoid injury from dorsal fin of fish – no protection from cold, therefore no protection from strain injuries from gripping tightly in cold and slippery conditions.</td>
<td>Ear protection was not available but the manager stated ‘I don’t think we need any but if we did then I would get some.’ This sums up the attitude/approach to occupational health.</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>No</td>
<td>No but additional staff employed as required on temporary basis</td>
<td>Manual handling Slips and falls Fatigue when driving Heat exhaustion</td>
<td>Good understanding of occupational health related to manual handling Workstation in office is well set up from ergonomic aspect.</td>
<td>Not known</td>
<td>Health checks at local chiropractor On the job training in lifting.</td>
<td>Pressure of work (successful business) means that 6 day weeks are frequent and days are long.</td>
</tr>
<tr>
<td>Case Study</td>
<td>No. permanent employees</td>
<td>Sub-contractor</td>
<td>Use contractors</td>
<td>Main occupational health risks</td>
<td>SME manager attitude to occupational health practices</td>
<td>Employee attitudes to occupational health practices</td>
<td>Practices in place to minimise occupational health risks</td>
<td>Comments</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>-------------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>9</td>
<td>20</td>
<td>No</td>
<td>No</td>
<td>Inhalation of dust</td>
<td>Known only via proxy: complete ignorance.</td>
<td>One employee knew risks and had suffered from dust related illness The employee use PPE in the form of a respirator.</td>
<td>None</td>
<td>Employer has been known to openly mimic the employee who chooses to wear PPE.</td>
</tr>
<tr>
<td>10</td>
<td>25</td>
<td>No</td>
<td>No</td>
<td>Chemicals Noise Noise</td>
<td>Very high level of awareness and complete implementation of PPE.</td>
<td>Not known</td>
<td>Fume extraction unit Masks Ear defenders</td>
<td>No calibration or checking of PPE was mentioned in the interview.</td>
</tr>
<tr>
<td>11</td>
<td>6</td>
<td>No</td>
<td>Yes</td>
<td>Chemicals Dust inhalation Noise Noise</td>
<td>High level of awareness and commitment to ensuring workforce use PPE.</td>
<td>Some contractors are reluctant or unwilling to use PPE provided.</td>
<td>Q-cab tractors that filter the air supply to the cabin Purchase of quieter equipment Supervision of chemical mixing.</td>
<td>Following an HSE inspection further occupational health information had been sort via the internet but unsuccessfully. The owner feels that important information such as this should be freely and easily available.</td>
</tr>
</tbody>
</table>

85
<table>
<thead>
<tr>
<th>Case Study</th>
<th>No. permanent employees</th>
<th>Sub-contractor</th>
<th>Use contractors</th>
<th>Main occupational health risks</th>
<th>SME manager attitude to occupational health practices</th>
<th>Employee attitudes to occupational health practices</th>
<th>Practices in place to minimise occupational health risks</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>20-30 depend-ent on time of year</td>
<td>No</td>
<td>No</td>
<td>Manual handling&lt;br&gt;Dermatitis&lt;br&gt;Inhaled cleaning chemicals&lt;br&gt;Long work hours</td>
<td>Reasonable level of awareness of health and safety issues but low in relation to occupational health.</td>
<td>Low level of awareness although some training provided.</td>
<td>PPE for cleaning process.</td>
<td>The management does not provide training in work time, and some of the workforce may not understand English well when they receive training.</td>
</tr>
<tr>
<td>13</td>
<td>55</td>
<td>No</td>
<td>No</td>
<td>Chemicals</td>
<td>Recognition of responsibility shown but drive to implement good occupational health via an individual who had previously been H&amp;S officer.</td>
<td>Health and Safety officer showed high level of awareness of chemical hazards but did not refer to any manual handling issues or other occupational health risks.</td>
<td>Risk assessments for all chemicals used &lt;br&gt;Appropriate ventilation / extraction.</td>
<td>The employee thought that the HSE is a good source of information but believes that it is not widely known about. He also believes that, “Companies will not seek advice from an organisation that can provide information but whom can also prosecute as they are frightened of the latter.”</td>
</tr>
</tbody>
</table>
8.2.1 Size

Thirteen small to medium sized companies were approached via either the manager or an individual member of staff known to Vectra. The companies approached ranged in the number of permanent staff they employed from 3 – 55, with a statistical average of 16. However, there were two companies with 3 permanent staff, and one company only with 55. The remaining companies had 6 to 25 members of permanent staff.

8.2.2 Sub-contract work

None of the companies we approached worked as sub-contractors. Two companies employed contractors during times of high demand and several others employed additional staff on a temporary basis.

8.2.3 Occupational health awareness

Simple and approximate analysis of manager's, and employees' occupational health awareness levels was undertaken on the recorded case studies using the knowledge and experience of the Vectra staff, who are fully qualified to judge matters of occupational health and work safety. The results from this analysis are presented in Table 8.2 below.

<table>
<thead>
<tr>
<th>Level of occupational health awareness</th>
<th>Managers</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Medium</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>High</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Not Known</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

It can be seen from the results that 46% of managers have only a low level of occupational health awareness. Managers with moderate occupational health awareness make up 31%, whereas those with high levels of awareness make up 23%.

The results were not conclusive for employees because for the majority of companies visited, only the manager or person with managerial responsibilities was available for interview. Overall, there is a low to moderate level of awareness. The results for employees show no scores for high level of awareness. However, this is because the analysis considered the evidence for the majority attitude rather than the specific individual interviewed. This generalisation, therefore, masks the fact that a few individuals have very high levels of occupational health awareness. It is of some concern then that both these individuals have been ridiculed by their managers for wearing appropriate PPE (personal protective equipment). Conversely, one interview found that although the manager has a high level of occupational health awareness and is keen to implement good practice, he has come across resistance by some staff.

Vectra looked at those companies, whose managers scored moderate occupational health awareness to see if the demonstrated attitude was supported by practical evidence. Two out of the four companies demonstrated reasonable practice by carrying
out risk assessments and providing PPE, or appropriate equipment to minimise the occupational health risk. However, two who had demonstrated moderate awareness showed only minimal evidence of appropriate practice. For example, one company made employees attend training in their own time, which is not likely to engage the staff's full attention. Another only provided PPE on request, and the evidence of that provided showed it to be poorly maintained or just old and likely to be ineffective.

The case studies tend to confirm the beliefs about SMEs that were generated based upon literature and Vectra’s own prior knowledge about SMEs. In particular, the results underpin notions that there is a low awareness of good occupational health practice, and that there can be resistance, by both employers and employees, to implementing good practice. Even though the sample is small, these results strongly illustrate the diversity, contradictions and paradoxes that exist within SMEs.

### 8.3 CASE STUDIES RAW DATA

#### 8.3.1 SME case study No 1

This study concerns an organisation who design and install fitted kitchens. The organisation employs around 20 people and further personnel are subcontracted as self-employed individuals, when required.

Operations involve the cutting of wood using power tools and the use of a power plane. This particular organisation specialises in the provision of worktops that are made from high-density chipboard laminated with a surface of polished stone dust. The worktops are manufactured in rectangular and curved sheets and cut to size for each particular installation. This case study concerns an operator of the band saw or handheld power jigsaw used to perform the cutting task.

The worker in question is highly educated with a degree in design, who has chosen to make woodworking his profession.

From the outset of employment, he was aware that the band saw had a high noise level and that ear defenders should be worn. In line with workshop practice, he also had an expectation that the majority of dust would be handled by an extraction system. This is not only beneficial to health it also enables a far more accurate cut to be produced because surplus dust does not hide the marked cutting line. However, this was not in place.

Within a week of arriving, it became clear that the employer had no intention in providing ear defenders or any form of respiratory protection in the absence of dust extraction equipment. The employer was therefore challenged by the employee politely asking for such equipment to be provided. The response was along the lines of "it's never been a problem up to now if it's a problem for you get your own equipment and don't bother me about it." (Expletives omitted!)

Accordingly, the employee bought his own the defenders and disposable nuisance dust masks. The response of the employer was insulting and he parodied the employee.
Other workers believing equipment to have been bought by the employer also asked for equipment to be provided. It became apparent that there had previously been requests for such equipment that had been refused. However, no one had recently "stuck their neck above the parapet". The employer rounded upon the employee who had bought his own PPE and branded him a troublemaker.

The employee continued to work at the establishment because he needed the money. However, he realised that nuisance dust masks did not fit his face well and dust was simply bypassing the filter-medium and landing on his face leaving a taste in his mouth. Sometimes he experienced a dry cough. Accordingly, he assumed that he was also inhaling the dust. On one occasion, he assisted in carrying unfinished worktops into the workshop when they were delivered. He noted that there was a warning notice attached to the invoice warning of, a long-term risk to health of silicosis if adequate extraction and personal protective equipment was not used. He again asked the employer for the provision of proper extraction equipment and brought the employer's attention to the warning notice. Again, the employer was abusive and refused to take any action.

The employee visited a safety equipment shop on a Saturday morning and purchased a half-mask respirator with a silica dust cartridge. The response of the employer was as before.

The employee considers that there are no financial difficulties within the firm given that the employer drives an expensive Jaguar and has a very large house in a London suburb.

Given the psychological pressure upon him and the attitude of the employer, the employee resigned after some 15 months with the company.

I asked whether he had ever contemplated involving a health and safety regulator. He replied that he had and that a previous employee had done this and been sacked on some other pretext. It was also apparent a visit from a regulator had occurred but this had not been followed up. The employee also considered that the employer undertook other sharp practices associated with accounting and generally treated his workforce in a callous and off-handed fashion. One particular and persistent symptom of this behaviour was the habit of underpaying an employee stating that he did not believe the hours that had been claimed had been worked.

It is worth recording that the ex-employee is now self-employed and undertakes highly specialised woodwork restoration for The National Trust and other clients having listed buildings. It is abundantly clear that his past unhappy experience has led him to take health and safety matters seriously: realising that warnings about properties of materials are not always as apparent as they might be. He is aware of the dangers of wood-dust inhalation and has purchased an appropriate Airstream Helmet, which he uses regularly.

8.3.2 Case Study 2

Interview with an orthodontic practice manager 12 employees.

The practice has quality systems in place. These are primarily focused on the health and safety of patients but also the health and safety of practitioners. The practice has
potential radiological, chemical and biological hazards. In each case they have formal risk assessments in place and these have been implemented with the assistance of specialist external guidance. The formal systems have been in place for approximately six years and were initially implemented with the assistance of an external consultant who was an orthodontist.

They have in place culture assessments for all of chemicals that they use in the course of their work.

Long-term occupational health risks arising from other less than ‘obvious’ sources were also explored. In particular, the risks of back pain or injury arising from posture during the administration of orthodontic work.

No formal ergonomics assessments have been undertaken on equipment purchased but all have been labelled as ergonomic. The labelling of tools, to be ergonomic implies that they have been designed with the end user's characteristics at the forefront. However, products without evidence of meeting Human Factors standards, such as ISO, or BS standards cannot legitimately claim to be, ergonomic.

Twisting postures are unavoidable with the current arrangements when staff need to obtain instruments, adhesives etc. from the surrounding U-shaped work surface. Neither the seat used by the orthodontist, nor that used by the dental nurse, accommodated this necessary twisting by rotation of the seat pan. This is not considered by the practice to be a problem, although the issue has never been identified until now. A positive observation was that, the orthodontic workstation demonstrated that working heights are generally good.

Overall, there seems to be good recognition of the risks and hazards to safety and long-term occupational health within the practice. However, some ergonomics issues will need to be attended to, to avoid long-term back problems. It is clear that reference sources for information do not stem from the practice but rather from the providers of equipment, chemicals and the respective professional bodies for orthodontist's and dental nurse's.

Whilst the practice's manageress is nominally responsible for the administration of health and safety she acknowledges that, in practice, she's probably the least well-qualified person to undertake the role. However, the issues are associated with cost and procurement and it is considered sensible that the central role as an administrator aligns well with responsibilities for health and safety. However, in practice she considers this largely nominal, and does not considered herself likely to be exposed to any risk of prosecution or embarrassment from a health and safety regulator.

### 8.3.3 Case Study 3

Interview with the owner of a cycle shop, nine employees.

The owner considers that in principle, the health of his staff is important. After all, if they are off sick he is paying wages for no useful results. He is not aware of the specific health and safety legislation that applies to him and believes that occupational health is
simply a matter of common sense. Repairing and refurbishing cycles can involve the use of potentially hazardous chemicals including: paints, solvents, hydraulic brake fluid, and paraffin. He is aware that all these chemicals can cause long-term skin conditions and some individuals can be sensitive to them. In addition he knows that hydraulic brake fluid is corrosive and toxic. He recognises that, in principle, manual handling is an issue. Some, but not all, makes of cycles are delivered in cardboard boxes with warnings that the manual handling should be done by two people. He points out that they are delivered into the shop by the employee of a large national carrier who carries them alone. They also handle the cartons single-handed in the shops. New cycles are stored upstairs in both premises and for the carriage upstairs two people are used because otherwise it is impossible.

When cycles are being repaired there are lifted onto the working stand such that the bottom bracket may be anywhere between knee and chest height: depending on the job to be done. He recognises that some cycles, especially mountain bikes, can be heavy but the repairers (including himself) never complain about the weight. He has never weighed the heaviest specialist mountain bike, but guesses that they are around twice the weight of a racing cycle in the region and 15 to 20 kg. He was surprised to learn that this kind of mass came within the remit of the manual handling regulations. Given the number of times cycles are lifted in the shops his feeling was that the regulations were over pessimistic. He also made the point that his customers when mountain biking regularly lift their bikes and carry them over obstacles apparently, he says, without risk of back injury.

An exploration was made of other possible health issues and a potential problem with noise was also identified. He stated that, at times, it was necessary to remove mechanical assemblies from parts of bicycles by 'drifting'. This entails striking a part firmly using a hammer and some intermediate tool such as a screwdriver, block of wood or a metal punch. He reports having ringing in his ears when he has finished doing this on occasions. However, his assumption is that, having had ear infections as a child, that his ears are sensitive. I pointed out that, this experience could be symptomatic of ear damage. He was surprised but said he will ask his other employees about this issue and purchase ear defenders if necessary. Specifically, he suggested he would purchase them for his staff if they too complain about ringing in ears.

He was aware of the impending interview and had visited the HSE web site. He found the site complicated and was unable to find an area of the site he felt would apply to him. His feeling was that it would entail extensive research to find out what health and safety legislation actually applies to him and his staff. He felt that he would do this if he were likely to be subject to inspection. However, he thought that it would be very sensible if some kind of "route map" could be provided for small businesses.

His overall feeling seems to be that his suppliers, who are generally larger companies, should be providing appropriate advice and cautions to accompany their products. However, he realised that some of his most expensive mountain bikes are made by very small companies, little larger than his, who may also have the same difficulties that he feels he has. In addition, cycles come from other countries such as the USA or Taiwan where legislation would not appear to apply. Therefore, he wonders whether the large wholesale importers themselves are aware of the legislation that seems to apply.
Finally, he stated that he had been visited by an environmental health officer on one occasion following the flooding of the lower floor of one shop due to a block storm-water drain. The officer in question was on the premises for quite some time and expressed no interest in the visible stored chemicals beyond a potential concern that some could have been carried on floodwater into the storm-water drain system. He believes he is a "small fish" and does not believe that, even with a change of focus that he is likely to be inspected. In addition, he feels that there is an onus upon the regulator to provide clear and advice to businesses such as his and ensure that larger organisations that "feed" in are also complying.

8.3.4 Case Study 4

The SME was a timber yard supplying a wide range of rough sawn, planed and treated wood to builders and the general public. They also make gates, chairs etc. on site.

There are between 8 to 12 employees, 4 full-time and the remaining on part-time basis.

The site comprises of a shop with offices (the shop supplying wood-related and building products), a large storage warehouse for cut wood and a separate open storage area (treated and rough sawn wood) with an open-faced barn containing band saw, crosscut saws and treatment bath. The wood sawing area has an independent diesel generator.

This is a well-established company (approximately 20 years) but has recently changed from being primarily an architectural salvage yard to the more lucrative (and 'easier') timber supplier.

The main occupational hazards (identified by Vectra during the site visit) relate to:

- Manual handling of timber
- Dust from sawing and planning
- Exposure to chemical wood treatments
- Noise from the electric saws and diesel generator

The interview was held with the proprietor/manager. The interview was slightly rushed and cut short, as he was busy.

The general attitude toward the occupational health hazards present was that they were just part of the job and unavoidable. PPE is provided (dust masks, gloves, ear defenders) but it was up to individuals to use it or ask for it. Most people working at the yard did not bother most of the time. Observations at the site showed that most of the PPE was old and not in good condition.

Whilst the manager said he was aware of some of the hazards this was only after some prompting during the interview – the hazards were not seen as high priority. The impression was that, there was little that could be done given the equipment that they
owned and the money available for upgrading. The company has recently built a large storage barn for the cut wood as part of expansion and the existing wood saws etc., were adequate for the jobs they do to meet customer demand.

The owner had heard of HSE, but knew little about their work. He thought they just dealt with safety and not occupational health. He has never had any contact with the HSE and could not imagine an inspection at his site.

When asked if he knew where to get information about health and safety he mentioned that certain products they use have warnings – but don’t they all nowadays? He said some of the warning on chemicals and equipment did not reflect the real world demands placed upon his business (in terms of efficiency more than anything else).

The manager was aware in general terms about his health and safety responsibilities, but this was focussed on preventing accidents. He did not consider day-to-day injuries (splinters, minor cuts etc.) as accidents – they were just part of the job.

During a previous visit to the site (as a customer) one of the employees was asked about not wearing any PPE. At the time the employee was cutting a considerable amount of timber using the band saw (which is very noisy and can be high pitched). Unfortunately the inevitable reply was ‘What? Can you say that again.’ It seems that whilst he recognises that the noisy work affects his hearing immediately he did not really see a link with chronic hearing problems. He also said that ear defenders were uncomfortable and annoying because he would be putting them on and taking them off a lot.

It almost goes without saying that he wore no dust protection or gloves when handling recently treated timbers.

8.3.5 Case Study 5

The SME is a supplier of heavy-duty gardening equipment (sit-on lawn movers, chain saws, brush cutters etc.) and has a mechanics’ shop where servicing and repairs are carried out on the equipment sold and also agricultural machinery. The premises are comprised of a showroom and large workroom that has a large array of machinery in various stages of repair around the floor.

The SME is a family business, father, mother and son (parents mid-50s, son around 22 years old). The business has been established for over 15 years and is always very busy.

The main occupational hazards (identified by Vectra during the site visit) relate to:

- Manual handling of machinery
- Continued exposure to solvents, petrol, oils and fuel additives
- Some dust inhalation from metal drilling, cleaning and sound insulation packaging
• Noise from chain saws etc., when they are being tested/checked.

• Repetitive strain injuries from repeated and frequent use of hand tools.

The interview was held with the son who manages most of the sales and undertakes his fair share of the repair and servicing work.

The overall awareness of the long-term risks to exposure to petrol, oils etc., was low. As the job entailed cleaning and stripping down machinery, that has oil and fuel means that protection from it was viewed as being completely non-practicable. The presence of small components (e.g. carburettor adjustment screws) meant that gloves were not an option.

The hands are often exposed all day, being washed (or wiped) infrequently.

Lifting and manual handling hazards were not considered. If an item can be lifted by oneself then that was all that mattered.

Noise was not considered a problem, because noisy tasks were time limited (e.g. testing a chainsaw).

Being a family business the job was very much viewed as their livelihood so the hazards present were their responsibility alone.

When asked what attention they pay to warnings and instructions on the substances used, the interviewee said that not much attention was paid – they know how to use the substance and that was enough.

There was little understanding of what the HSE is and what it does (beyond investigations into railway crashes etc.). They had had no contact nor did they believe an Inspector would call.

There were no real aspirations for expanding the business (apart from being more selective in the equipment they sell) and were very much in a steady state (they have a good reputation so most revenue is from repeat business).

The other potential health problem is that they work very long hours (around 10-12 hours a day in the week, with another 8 hours on Saturday. At certain times of the year they are under considerable pressure from their customers to get repairs and servicing done quickly (e.g. at certain times or harvest when all their farmer customers want their hay-bailers serviced). This was reported as being a strain and tiring, but as with the general attitude, it was all part of the way the business ran and could not be avoided.

The following list provides examples of practical interventions to which the SME may be receptive. Note that whilst it is recognised there are other interventions available these may not be pragmatic in the working environment of the SME.

• Occupational health Issue / Possible Intervention
- Exposure to solvents: Encourage use of alternative cleaning agents that contain less harmful volatiles. Introduce forced ventilation. Encourage use of respiratory equipment.

- Long hours: Provide support in recruitment of more employees, including reducing burden of employment.

- Repetitive strain injuries: Improve design of hand tools (e.g. establish a Standard that captures good ergonomic principles).

### 8.3.6 Case Study 6

The SME is a salvage yard that specialises in reclaiming old railway sleepers, telegraph poles, etc. It comprises a yard with the timbers in large piles and a barn for stripping metal work and sawing the timbers into lengths or in sections. They also deliver the sleepers by road.

The SME employs 8 people, 3 of which are family (the owners).

This is a well-established company (20+ years).

The main occupational hazards (identified by Vectra during visit) relate to:

- Manual handling of timber
- Dust from sawing and planning
- Exposure to chemical wood treatments, particularly creosote.
- Noise from the band saws.

The interview was held with the proprietor/manager. The interview was slightly rushed and cut short, as he was busy.

The findings from this interview are very similar to the Timber Yard reported in Case Study 4.

Hazards are intrinsic to the job.

There was some idea about the hazards of exposure (particularly the creosote), but little done to avoid these hazards. Note that the creosote issue was primarily because it is now a banned substance that may affect their business. Whilst gloves are worn, this was to avoid splinters and blisters rather than as a barrier to the creosote.

A summary of the occupational health issues found during this interview is:

- Manual handling not given any thought - if one can lift it then that is okay isn’t it?
• No protection worn (ear defenders, dusk mask, eye protection) for sawing activities and none considered necessary, as they knew how to use the saw and were careful.

• The interviewee considered himself very fit and healthy so questioned the actual risks involved in their work.

• The risks they understood related to accidents and mishaps, but they had done no ‘risk assessment’ as such - ‘it’s all fairly obvious, isn’t it?’

• They did not believe they would be inspected by the HSE, but were not at all bothered if they were. They thought they had nothing to hide and would be compliant with whatever it is they should be compliant with.

• PPE would be available if any one really wanted to have some, but it was not used much.

• There was an underlying attitude that suggested they thought they had enough to deal with (business wise) without adding more needless bureaucratic attention.

occupational health Issue/ Possible Intervention

Exposure to noise: Encourage use of ear defenders – education on types and incentive regarding avoidance of hearing detriment. Provide noise dampening on machinery or enable use of machinery from a distance.

Exposure to dust: Encourage use of appropriate dust masks. Improve dust extraction around saw.

Exposure to chemicals: If possible remove hazardous chemicals from general use. Encourage use of appropriate gloves.

8.3.7 Case Study 7

The SME is a fish merchants specialising in the preparation of Dogfish. Preparation includes skinning, filleting, tabbing and packing. Skate can also be prepared on site.

A family run business with between 10 to 15 employees dependent on the time of year and demand for trade. 4 of the employees are family members that own the company. There is a high turn over of staff with many staying for short periods before leaving to competitors companies. This works both ways with employees from other companies joining the workforce.

Main occupational hazards identified during visit relate to:

• Manual handling (moving boxes of packed fish).

• Continual emersion of hands in ice cold water.
• Dermatitis related problems.

• Noise (from skate skinning machine).

• Repetitive strain injuries (due to manual skinning of dogfish).

The interview was held with the proprietor’s son/assistant manager.

The most apparent problem to the employees when working was dermatitis related problems. Many of the employees including the assistant manager had suffered from skin problems as a result of the job. There were several possible causes for these problems and most had been ‘looked into.’ However skin problems were seen as part of the job as there is ‘no way to get around the hazard’. The gloves supplied by the company were thick rubber gloves. These were to be worn at almost all times to try to prevent accidents due to the dorsal spike on the dogfish injuring the skinner. The company had tried different brands and styles of gloves but because of the high incidence of the gloves being misplaced or destroyed it was essential that gloves be cheap and virtually disposable. The company had not tried different brands of soap but they informed Vectra that the soap was ‘dermatologically tested, so there shouldn’t be a problem.’ The company concluded that the problem was a result of having hands wet for the majority of the day and that was ‘no way around the problem.’ When asked how he would find information on dermatitis the answer was ‘I suppose I would just look on the Internet, other than that, I don’t know.’

The gloves provided by the company were supposed to combat the effects of the ice-cold water in which the fish had to be stored. However, on visiting the site it was clear that the gloves could not possibly help against the cold. This was due to the employees modifying the gloves so that they were more suited to the job. As the gloves were made from a waxy rubber material, it made gaining purchase on the fish difficult. Therefore the employees cut the index finger and thumb off each of the gloves in order to help them grip the fish when preparing it to be skinned therefore negating any protection from the cold. Again, there was seen to be no way around this problem as other styles had been tried but the gloves being used were seen to be the ‘best for all round use.’ When asked whether the cold water was a problem the response was, "you get use to it after a while."

When asked about manual handling the feeling was very much that lifting boxes of fish was a specialised task. Almost no training was done with the employees in anything other than what is essential for the job. As there was a high employee turnover any training given would be money wasted. It is not uncommon for employees to move around the dock and start work for rival companies. Therefore, any training given would benefit the rival companies as much as their own company.

The assistant manager highlighted the importance of lifting the boxes correctly. However, it was seen that their way was the correct way as that got the job done. This involved two people swinging the boxes up occasionally above head height. ‘The lads are told not to lift more than they are comfortable with but as there is always two people lifting the boxes there is rarely any problem.’
When asked about researching correct lifting methods the response was that because the job varies so much with the weight and repetition that it would be hard to have a firm set of rules on lifting for their specific job.

Other potential health problems may result from long working hours usually somewhere in the region of 12 to 13 hours a day 5 or 6 days a week starting at 5 o’clock or even earlier each morning. When asked about the working hours the reply was, "no complaints were ever made because we all need the money, and those are the hours you need to work in this industry."

The noise from the skinning machine was not seen as a problem because it was not used all the time and it was kept in a separate room away from most of the workers. Ear protection was not available but the manager stated, "I don’t think we need any but if we did then I would get some."

8.3.8 Case Study 8

The SME was a removals company who operate from an office in the owners home. The company was set up 3½ years ago using a small business' bank loan, and provides the following services:

- Supply of packing materials,
- Full packing service,
- Removals to any location within the UK,
- Removals to agreed locations in France,
- Disposal of furniture to Council waste tips.

- There is a skeleton-staff of just three which comprise the owner, his partner, and another woman who is the key assistant and other driver. Additional staff work, as required, bringing the total of staff to around six depending on the volume of the job.

The office is based in Bordon in Hampshire. Mrs Hardworker manages all the Inland Revenue paper work, while Mr Hardworker produces all the quotations and invoices for customers. Mr Hardworker is also responsible for the maintenance of the vehicles, and legal obligations regarding taco graphs, along with the management of his staff.

Following some initially quiet periods, good publicity and customer service has led to growth in the business to, above, full capacity. Mr Hardworker anticipates further growth in 2004, and plans to take HGV licence training to enable larger volume removals to be possible. In addition to removals the company also provides a disposal service when required.
The main occupational hazards (identified by Vectra's consultant) relate to:

- Manual handling
- Slips and falls
- Fatigue when driving
- Heat exhaustion (during the Summer months)
- High exposure to driving hazards (in particular when loading and unloading)

The interview was held with the owner/manager at his home premises.

The attitude taken toward occupational health and protection of his staff was positive. Manual handling is recognised as the major risk to staff, and training is given on the job. Mr Hardworker has received full manual handling training via previous work (six years ago now), and imparts this knowledge to his staff. New staff are initially restricted to lifting small items only, this enables a visual assessment of the person's aptitude to lifting correctly, and advice is given as required.

Mr Hardworker sees it as his duty, to ensure that his staff are in good health regarding their backs. Staff at Camel Removals, are required to go to a chiropractic clinic in Petersfield, for a full assessment. This enables Mr Hardworker to check if there is any reason that a member of staff should not be doing heavy lifting at all.

When asked if he would know where to go to provide official training for his staff, Mr Hardworker said that he could contact one of several official transportation bodies. When asked if he would have considered contacting the HSE for advice he said, "No, I don't think so, they might want to check up on me or something!" When asked if he knew about the occupational health advice that the HSE provide he said he didn't and that in any case the information isn't usually free.

During an informal discussion with Mr Hardworker, it would appear that, his general perception of the HSE is, that they/it exists as a punitive body, and that accessing proper information about occupational health or other information is too costly for small enterprises.

8.3.9 Case Study 9

Company: Specialist Builders & Joiners established 50 years 20 employees - mainly time-served apprentices their speciality is the restoration of old listed buildings owned by English Heritage, The National Trust etc.

Person interviewed: recently recruited employee (i.e. 1 year ago) with 10 years experience specialising in woodcarving, timber pegging and plaster moulding. She is a graduate in Design.
The employee has always worn disposable dust masks for wood working because of the known hazards of wood dust. These are available for all employees but not often worn. The management do not seek to enforce their use. In addition, she has a half mask respirator that she has used in the past for the removal of old plaster with horse-hair binding. This carries a potential anthrax hazard.

In June 2003, (six months ago), she visited her GP complaining of persistent headaches and sinus problems. This had caused her to lose approximately 10 working days spread over 6 months. To her surprise, these were attributed by the GP to building dust. Given her use of dust masks she was sceptical of the diagnosis. An anti-histamine decongestant was prescribed and she was urged to use a high efficiency respirator: based upon the assertion that some people are more sensitive than others to the effects of dust.

She began to use her high efficiency respirator and found that her problems diminished and ultimately disappeared after about a month. She has approached her employer to supply replacement cartridges for her high efficiency respirator. This request has been refused on the basis that disposable masks are available and adequate if not overkill. This assertion is based on the evidence that others do not wear the masks provided and ‘have no problem’ also, that ‘dust was never a problem years ago’. As a result of her employers refusal she buys her own cartridges. Initially the employer accepted this situation but latterly has started to apply pressure by ‘taking the Mickey’ over her use of a respirator. In her terms, she considers this to be harassment. Consequently, she is seeking alternative employment for her specialised and rare skills.

An examination of the sort of half masks used was undertaken. It was noted that the alloy noseband does not mould well to her sharply defined nose bridge. The person interviewed is aware of this and has paid considerable attention to obtaining a good seal in the past with disposable masks. However, even with a new mask there were visible gaps when she had finished adjusting it. In contrast, the half mask has a reflex seal and no ill fitting or leak problems were apparent. Indeed covering the cartridge inlets with the palms of the hand and then inhaling confirmed a good seal was being obtained. She finds the mask uncomfortable and it restricts her field of vision for close work in particular. However, she takes the stance that she cannot afford to lose time from work unnecessarily.

When the person interviewed was considering respirators, she asked a supplier if they knew where she could get independent advice on the respirator. The supplier was unable to identify an advisor and included in their response a statement to the effect that there was no point trying the HSE, as they are not interested in small companies or individuals. The person interviewed has not sought any independent advice.

8.3.10 Case Study 10

The company finishes metal objects by pickling them in acid baths, plating and/or polishing. Items tend to be specialised limited run batches of objects for bespoke markets such as military or aviation equipment. Occasionally, faulty batches of mass produced items are refinished.
The company is 30 years old and its employees are, on average, 20-25 years old. The interview was with the shop floor foreman.

The processes undertaken are considered inherently hazardous. In particular, the chemicals used are of concern. Accordingly, protective goggles and gauntlets are used together with fume extraction. Masks and ear defenders are apparently used routinely for dry polishing or abrasive powder/paste polishing work. The use of protective equipment seems to be considered to be the norm and appropriate. Because, the inevitable impediment to work is accepted for acute risks to health, the additional comparatively minor burdens of PPE use for protection against longer-term health problems are also accepted.

8.3.11 Case Study 11

The company is a cereals farmer, who employs 6 permanent staff, plus contract workers; the company's current owner has worked there for 25 years. The interview was held with the owner.

This farm has been visited by HSE following a complaint about crop spraying made by a member of the public about 6 years ago. No prosecution resulted from the visit but a considerable amount of helpful advice was received at that time which has apparently changed his working practices. There also seems to have been some influence from a ‘clued up’ agriculture student who worked on the farm a couple of years go. In the past, before the current ownership, there was a history of aspergillosis (‘Farmer’s Lung’) amongst workers handling grain from silos.

The farmer felt that he was likely to be revisited by the same inspector who he knows as a ‘no nonsense’ individual. It was clear that his approach to health and safety is driven by a genuine concern for his few employees and the fear of a further potentially ‘heavy handed’ HSE visit. He has invested heavily in quieter equipment such as ‘Q Cab’ tractors and other more modern machinery.

When crop spraying is underway he supervises the first admixture process to ensure that concentrations are correct. (Some friction remains with "nimby neighbours" and he has little trust in contract workers who he considers are a “necessary evil”).

He routinely ‘nags’ workers about using PPE and often finds that it is not being used: especially by contract workers. In the past he has had to insist that contractor combine operators should use an Airstream helmet but this problem has gone away latterly because the combine cabin is now air conditioned and filtered. Having said that, he wondered out loud whether the fitted filters were effective because he can recall seeing very dusty cabins nevertheless.

He is happy to obtain HSE advice by means of printed or electronic material but considers that, the importance of such materials means that they ought to be free. Attempts to avoid purchasing advice by using the internet, he feels, have been unsuccessful. He has had difficulty searching for information, and feels that the information he has obtained, by this means, has been supplementary rather than core information. He rather wonders whether there may be some ‘income protection’ at work.
by encouraging the purchase of printed material. Of the information he has obtained he
considers the COSHH assessments that are obtained with some agri-chemicals to be the
most practical, informative and useful.

8.3.12 Case Study 12

This interview concerns a range of restaurants and catering establishments around the
North West. Experiences have been given on approximately 12 different establishments
all with fewer than 40 employees.

The range of participants being interviewed had all worked at various establishments
and had different experiences of each work place but some factors had remained
constant.

The main occupational health risks noticed across the range of businesses were:

- Manual handling
- Dermatitis from constant washing of hands
- Respiratory problems from smoke filled atmosphere
- Back problems from height of appliances
- Long shift hours with little scheduled break
- Stress

From experiences in the catering industry the participants acknowledge the lack of time
attributed to any form of occupational health training. Little or no information is
provided by most employers other than simple demonstrations on how to lift objects off
the floor. The participants claim that this lack of training may be due to the fact that so
much emphasis is placed on food hygiene and accident prevention. This is possibly due
to a real threat of inspection from the local authority.

Occupational health is not seen as a big concern for the participants as none of them
plan to stay in the catering trade for extended lengths of time. ‘As most of the work I do
is on a part time basis problems that may happen because of long periods spent on the
job should not affect me.’ This sentiment seemed to be echoed by the other participants.

The participants claimed that the lack of training on occupational health issues might be
due to the owners/managers lack of knowledge on this subject. Therefore if a more
complete guide to occupational dangers of working in a kitchen were available this
would make training each employee easier.

Many of the occupational hazards present when working in the catering industry are
unknown to the employees. ‘After a 6 hour shift of standing over the sink I would
finish work with a really sore back. I did not really think anything of the fact that it was probably due to the way I was working so came in the next day only to do exactly the same thing, I assumed the pain was mainly due to playing sport and not because of my job.’

The participants informed Vectra that training was often in the form of shadowing an established member of the work force. This can lead to incorrect advice being passed through to new employees and also establish bad habits as the norm.

Stress can also become a factor in the catering trade. Many companies do not have set breaks and employees have to take breaks when there are lulls in orders. This may mean that employees cannot take a break at anytime in their shift. This is especially apparent on weekends when restaurants can be extremely busy and there will be no chance of getting a break. In some instances, it is not unusual for a waiter to work a shift ‘out front’ and then move straight into the kitchen to do a shift in ‘the back’ without much of a break if it is a busy period. This also implies that there is a possibility that as the employee is moving to a different position different O.H risks are encountered with no further training.

Waiting on staff and kitchen staff may also be subjected to long periods in smoke filled areas. ‘At some points in the night the bar area would be covered in thick smoke because of the amount of people smoking.’ This may have many consequences to the health of each employee.

Due to hygiene being a major issue in the catering industry hand washing becomes a regular routine. Many of the employees have to wash their hands almost constantly when dealing with different food products. This may lead to skin problems from regular washing with detergents. This problem had not been discussed with the participants however they had never experienced any diseases of this kind.

The main discussion point formed from this interview was that not enough information is given to employees about occupational health risks. This may be a result of employers not having the knowledge in the first place to pass on to their staff. Therefore, more information needs to be made available to both employers and their staff.

8.3.13 Case Study 13

The SME is a water treatment consultancy that employs 55 people. Twenty-five of their employees travel to the customers’ premises to review the site and assess what treatments need to be implemented. The 30 remaining employees are stationed onsite and mostly undertake the process of chemical production. The company was founded in 1976 and has grown steadily every year in client base not in numbers of employees.

The company is one of the largest in the U.K but only has around 5% of the countries business due to multinational companies taking up the majority of the water treatment work.
The participant is a lab manager who is also the Health and Safety Officer for the treatment site. The participant was appointed as Health and Safety officer because of his experience in risk assessment while in previous jobs. With his current job involving a lot of risk assessment work on chemicals and other procedures in the laboratory, it was a natural progression to be made a Safety Officer especially when added to the strong back ground in health and safety that the participant had.

The interview was originally designed to be a discussion group with 10 or more people as part of the survey. Unfortunately, due to problems with contacting companies, and the availability of those actually contacted, the result was that only one person attended.

Comments made in this interview were general comments about the HSE and were not focussed on the water treatment industry. Observations and ideas were discussed that included general ideas on how the HSE could improve their methods of getting companies to comply with occupational health regulations.

“The trouble with occupational health is that it seems a problem that can always be put to one side. Companies will claim that they will make changes to their organisations but never actually make the changes.” This shows the attitude with which some companies may approach occupational health. It is seen as a problem with consequences much further down the line. Therefore tackling the cause of occupational health concerns may not be seen as an urgent issue.

The participant understood occupational health as meaning monitoring employees’ health over an extended period. However, he also understood that the high cost of health checks, limits the amount of monitoring that, small companies can do. Nonetheless, the company in question does give regular check ups because of the field of work conducted by the employees. The participant felt that costs of check ups and doctors fees, needs to be addressed to increase the likelihood of companies undertaking routine check ups.

The participant feels that by making regulations clearer, it would aid many businesses to comply with the rules. At present many rules and regulations are not explicit as to whom they apply, and in what cases they are relevant. Clearer legislation may also lead to companies seeking help for specific problems, and becoming familiar with improvements that may need to be made.

The participant was dismayed at the intended cut down of site visits conducted by the H.S.E. He used the analogy of speed cameras in that it is the threat of being caught that stops people speeding. Therefore, by taking away site visits, the threat of being prosecuted for failing to comply with regulations will be eliminated. “If you can ensure that people will get caught in some way then they will stop breaking rules and undertake better occupational health practices.”

According to the participant, HSE is a good source of information and good advice is available. However, he feels that HSE is not known widely enough as a source of information. In addition, there seems to be a lack of willingness to seek advice from an organisation that can also prosecute. “Companies will not seek advice from an organisation that can provide information but whom can also prosecute as they are
frightened of the latter.” “Advice will prevent prosecution but because of the dual role of the HSE, a lot of companies do not want to go to the HSE for advice.” The solution to this suggested by the participant is to have the crown prosecute companies for breaking the law at work and have HSE as a source of advice and information.

The company that the participant works for subscribes to a number of publications that give an insight into the work other organisations do. The participant sees these publications as invaluable. The publications state court cases and highlight ‘bad companies’ but also give focused advice on specific fields. The magazines are set out so that advice is given first and then ‘horror stories’ and court cases are presented at the end. Publications help make organisations such as HSE well known to small businesses and can make examples of ‘good companies’ while at the same time ‘naming and shaming’ the ‘bad companies.’ This would also help to show HSE primarily as an advisory organisation, which may help to increase the amount of companies seeking information.

In the participant’s opinion, there is “not enough drive from the top in certain companies.” If managers or executives thought that they might go to jail for not conforming to health regulations more money would probably be found to support health and safety schemes.”

A fear of ‘shopping’ a neighbouring company to HSE was also shown by the participant, because of not wanting to be the cause of a prosecution. In this particular case, it was due to self-preservation purposes but the participant assumed that this would be the same for many people. That is, that they would not want to cause trouble for another company.

The participant also claimed that even if alterations were done at a discounted price or even free many companies would still refuse to implement the changes because of the inconvenience.
CHAPTER 9: DEVELOPMENT OF AN INTERVENTION
ATTRIBUTES SET
## TABLE OF CONTENTS

9 DEVELOPMENT OF AN INTERVENTION ATTRIBUTES SET .......... 108

9.1 Attributes Set Development.............................................................. 108

9.2 Structure of Intervention Attributes Set ............................................. 108

9.3 Testing the Intervention Attributes Set............................................... 111

9.4 Findings for Testing of Intervention Attributes Set .............................. 113
9 DEVELOPMENT OF AN INTERVENTION ATTRIBUTES SET

9.1 ATTRIBUTES SET DEVELOPMENT

Vectra developed the Intervention Attributes Set following a thorough review of all the information gained from the preceding methods. This was seen as a huge step forward in providing a rationale for the selection of interventions. The Intervention Attributes Set is essentially a judgment guidance tree, which could be used by HSE policy decision makers to aid the selection of interventions.

The intervention attributes are those features of an intervention that will alter its effectiveness in practice. If these are considered, the likely success and limitations of an intervention can more easily be identified. The fundamental aspects that need to be considered are shown in Figure 9.1.

9.2 STRUCTURE OF INTERVENTION ATTRIBUTES SET

9.2.1 Task Influences

Task influences are those features of an intervention that will, or are intended to, change the manner in which task is undertaken. There are of two types of task influence, direct and indirect.

Direct Task Influences

Direct task influences are intended to have a direct and immediate affect on the provision of equipment, or the design of the environment, so that the task is safer. These influences have a deterministic relationship with the occupational health risk, and therefore, they tend to be more robust in practice.

Equipment Design/Provision: features of relevance would include engineered controls, personal protective equipment (PPE), interlocks etc.

Environment Modification: this would include such things as changes to lighting, the thermal environment, noise levels, vibration, etc.

Indirect Task Influences

These influences are termed as indirect because they cannot be supposed to have a deterministic effect upon the level of risk. Indirect influences are generally classified as those directed at changing the individual's attitude, with the hope/expectation that this will lead to a positive change in OH behaviour.
Figure 9.1 Intervention Attributes Tool
9.2.2 Targeting

Targeting is the property of a strategy of complementary interventions that expresses its efficiency. A well-targeted set of interventions will be one that affects all members of the intended SME population experiencing the occupational health risk. In addition, targeting can be considered the ability of the intervention to bring about change. This property arises from the degree of match or mismatch existing between the information in the medium and characteristics of the target recipient.

Medium

The medium is the vehicle by which the intervention is delivered. It could consist of a regulatory visit, advertising, educational material, television advertising, single-issue occupational health wardens, etc.

Route

The route of an intervention is the pathway that will be chosen for the intervention to hit the target audience description. For example, a trade journal may be a more accurate route when seeking to influence SME management, whereas, TV advertising may be a more accurate route when seeking to influence a scattered androgynous workforce.

9.2.3 Incentive Type

The type of incentive is related to the notions contained within behavioural modification models that postulate positive and negative utilities. Thus, a positive incentive is one with positive utility whereas a negative incentive has negative utility.

Some interventions may have no explicit connection to OH, either positively or negatively, but may free resources that a SME can then direct to OH improvements. These incentives are termed as global. An example of a global incentive might be a change in corporate taxation for SMEs. Note: this term does not imply that the global incentive is more or less effective than an incentive with positive or negative attributes alone, and it would be likely that, to be effective, a combination would be required.
9.3 TESTING THE INTERVENTION ATTRIBUTES SET

9.3.1 Method

The principle of how the Intervention Attributes Set should assist in OH decision-making was tested using intervention scenarios created by Vectra's Head of Human Factors. The Vectra staff conducted a pilot study by viewing three planned intervention scenarios, each with different aims, and applied the logic of the Interventions Attributes Set. The people conducting the pilot study were instructed to assume knowledge of individual behavioural models, SME characteristics and a business process model. In the information provided with the scenarios, the testers were instructed, that where deficits were found, complementary or alternative interventions should be considered. Additionally they were informed that they must be: familiar with the criteria required for the effective design of communications, incentives and routes for disseminating such information to persuade people to change their systems or their behaviour.

9.3.2 Scenarios provided for testing

The intervention proposals given were deliberately designed to be more or less complete so that weaknesses and strengths could be systematically identified through the characteristics framework.

Scenario 1

A national campaign is to be devised aimed at influencing employees in SMEs to reduce their risk of an occupational injury due to manual handling. For the purposes of the exercise, assume that it is estimated that approximately three-quarters of a million SMEs are likely to have potential risks of manual handling injury. In particular, there is anecdotal evidence to suggest that injury rates in the retail sector are higher than estimated to date.

The campaign is planned to run for three months and will consist of advertising in the tabloid press. The adverts will be a half page spread containing brief details of the following:

- The number of days lost in British industry due to back injury every year,

- The brief indication of the two main issues involved, namely, bulky objects and heavy objects.

- Descriptions of bulky and heavy objects will be given.

An invitation to contact a HSE helpline number will be given and the web site address will be provided where employees can download guidance on where manual-handling list is unlikely to arise and how they can be assessed.

The adverts will be mainly text that a series of photographs will be used in different adverts using the same words. The different photographs will illustrate some typical manual handling problems. Although the advert is aimed at the general working population photographs will have an obviously retail flavour.

To supplement the advertising there will be a radio campaign on local commercial radio and classic FM. This will consist of conversation between somebody who has been off work for months with a bad back explaining how the carton of breakfast cereal they lifted was big and
bunky, but light. The other person will express consternation at this fact and the victim will explain that he now knows that even light loads can cause injury if they are bulky. Further details to be obtained from HSE website.

Scenario 2

Fatal falls from a height continue to be a problem in the construction sector. In line with the general HSE mission of focusing more on SMEs, this campaign will be targeted at SMEs.

Trade papers such as “Construction Weekly” will carry articles heralding the new HSE campaign and its focus on SMEs. These will be generated by journalists interviewing senior members of the construction sector inspectorate. Similar articles will also be carried in the “Health and Safety Practitioner” and other safety journals.

Discussions are being held with Granada Television to see whether a Coronation Street storyline could be generated involving a member of the cast falling from a height on a construction site, because of inadequate safety provision. This line of approach seems promising but cannot be guaranteed in time for the planned HSE campaign. The campaign will commence in nine months time, or earlier if required, to help achieve this synchronicity.

A hit squad of six construction inspectors is to be formed and they will be tasked to visit construction sites that have been identified by a contract worker to exist in the area is to be visited. The intention will be to generate Instant Visit Reports using predetermined templates designed to minimise the write-up time and specifically targeted on safeguards against falls from height.

If members of the hit squad observe offences that require a Prohibition Notice, this will be immediately referred by mobile phone to local inspectorate who will not be members of the hit squad.

The results were hit squad activity will be deliberately publicised by providing press releases to local free newspapers with high circulation. In addition, agency staff will be hired to have selling capabilities who will work hard to ensure that the papers carry "name and shame" articles. In addition, the number of sites visited will be publicised. It is intended to visit 40 sites per week. Attempts will be made generate interest by local ITV television news. Each hit squad visit will have a spokesman trained to deliver an interview with appropriate content.

Local papers will also carry advertisements warning that an HSE visit is imminent. This will be deliberately timed to ensure that local organisations are unable to make changes within the period of warning given. The advert will also carry website and dedicated info-line details.

It is also intended that a hit squad minibus which is very clearly labelled will tour of each current target area to further raise the profile of the team's existence. A second minibus will have identical sign-writing and will tour the area empty during the period immediately following the publication of newspaper articles. The hit squad intervention and attendant publicity is intended to raise the perception of the likelihood of being caught for failures to comply with relevant safety regulations.

The campaign will focus on 30 provincial towns, which are chosen to ensure good publicity coverage throughout the UK.

A television advertising campaign will be run during the early evening viewing times, hopefully to coincide with the broadcast of Coronation Street. The advert will be designed to strongly appeal to the social conscience of SME managers and owners. This will make clear the social
impact of a construction industry fatality on the family and friends. In particular, the advert will be designed to contain emotional shock elements, similar to those used in recent drink driving, mobile phone and seat belt campaigns. The emphasis must be upon social consequences, not blood and gore.

Finally, billboard posters will be designed to reinforce the TV advertising with a simple visual message and minimum text. There will be a website address on the TV advert ad the poster which provides downloadable leaflets and dedicated infoline details.

All newspaper, TV and billboard advertising and the minibus will be themed so that identical typefaces, colours, the HSE general logo and the specifically designed campaign logo will be prominent. In addition, background or ambient colours will be chosen to be very similar. The effectiveness of the linkage produced by the theme will be tested by questionnaire using a subject panel who are not members of HSE.

All draft and rushes campaign material will be presented together to a focus group and its use of comprehension, rapid assimilation and emotional reaction will be assessed using formal methods administered by appropriate professionals.

Scenario 3
A policy decision is made to encourage whistle blowers working within SMEs.

A hotline will be introduced numbered no 800 944-7853 that is n0800 WHISTLE. It is decided to run a very simple advertising campaign the slogan is: "not safe? Not healthy? No joy? Then phone 0800 WHISTLE". The banner will have the HSE logo and the caption "Serving industry protecting people" underneath it in much smaller print. The campaign will be carried on the sort things and a narrow strip advert in national tabloid newspapers.

The commercial call centre will handle calls, maintaining anonymity of the caller and redirect call directly to the relevant local HSE office. The complaint will be recorded and, following the phone call, screened by the usual process to consider whether it should be investigated or not.

9.4 FINDINGS FOR TESTING OF INTERVENTION ATTRIBUTES SET

9.4.1 Scenario 1

This scenario involved trying to reduce occupational injury due to poor manual handling at work. The campaign would involve advertisement in the tabloid press and on classic FM. Further information would also be made available via the Internet.

Both participants identified weaknesses in the medium being used and that the main problems would result in not reaching all of the target population. Advertising on classic FM and local radio stations has it limitations, as pointed out by both participants. Listening to the radio while at work may not be possible and listening while on the way home from work may be ignored due to concentration being elsewhere.

The Internet is still not used by a large proportion of the population so additional information would be hard to come by for those people.

Both participants addressed the use of television advertisement. ‘Television has a bigger sphere of influence than all daily national newspapers combined.’ Television advertisement could be a better medium to use because problems due to manual handling are seen as a ‘dynamic problem.’
Interventions proposed by both participants are manual handling training for employees. One participant suggests subsidised training while the other suggests manual handling workshops. Both of these incentives would come under positive incentives, as this was an area identified as being weak when using the intervention attributes set.

**9.4.2 Scenario 2**

Scenario 2 was seen as the ‘most complete [intervention set] of the three.’ Due to the use of a ‘broad spectrum of media to get the message across.’ Scenario 2 concentrates mainly on increasing the threat of detection and punishment by increasing the profile of the safety campaigns.

The scenario involved a hit squad of six construction inspectors being formed. The hit squad would visit construction sites around a certain area issuing prohibition notices where they see fit. The results of the hit squad will be deliberately publicised by providing press releases to local free newspapers with high circulation the same local papers will relay the information that the hit squad are in the area. The hit squad will aim to visit 40 sites per week and will travel in a clearly labelled minibus. A second separate minibus will also circulate for a period after the newspaper articles are published.

Companies that have received prohibition notices will be named and shamed in the local paper. This method has been used with a degree of ‘success by the police in a number of local areas by using the local press.’

Improvements suggested were to repeat the intervention to support the perceived threat of detection. This could be sending the empty minibuses around the same area a month or so after the initial crack down to reinforce the possibility of inspection.

The weaknesses commented on by both participants were the lack of positive and global incentives. A suggestion of a positive incentive was discounted safety equipment made available for construction sites. Safety equipment could then be bought at a lower rate to help the SMEs comply with safety regulations and give an incentive to purchase the equipment.

**9.4.3 Scenario 3**

This scenario set out to expose poor health and safety standards in the work place by asking employers to ring a HSE hotline to divulge evidence of poor health and safety practice. Advertisement campaigns will be published in national tabloid newspapers with the slogan “not safe? Not healthy? No joy? Then phone 0800 WHISTLE”. A call centre will handle the call maintaining anonymity of the caller and redirect the call to the relevant local HSE office. After further consideration it will be decided whether the call should be investigated or not.

The weak areas highlighted by both participants are the medium in which the intervention is delivered. ‘The medium suggested will not reach a significant percentage of the workers and relies excessively on two forms of media.’ A suggestion of a television commercial is also discussed that would ‘highlight the rights of the employees if they do contact the hotline.’

Both participants also touch upon the lack of incentive to ring the hotline. ‘There may be little perceived incentive to ring the number given the potential consequences for the workers.’ A positive incentive needs to be provided to the employees in order to persuade them to pick up the phone. One of the participants also commented on the need to stress the fact that the callers’ anonymity will be maintained. ‘The ability of the employee to complain without feeling that their job is at risk is not emphasised.’
It is also noted that there is a lack of information for both the employees and the employers. It may be the case that the employees are not entirely certain what constitutes an unsafe workplace. Therefore, further information in the form of leaflets or advertisement campaigns would be necessary.

9.4.4 Review of intervention attributes set

The participants both state that the intervention attributes set ‘makes assessing proposed interventions much simpler’ and that ‘for a given intervention it was easier to spot weaknesses in the mechanisms proposed.’

Designing a new intervention strategy ‘may be harder to do.’ ‘However, by looking at the necessary characteristics it is easy to think of an intervention and then add extra detail to it by looking at where the weaknesses are.’ This point is also picked up by the other participant, ‘adding additional interventions or methods of intervening in order to increase the effectiveness of the proposal is also more straightforward.’

The conclusion met from both summaries of the intervention attributes set are that it will is a useful tool in determining weaknesses in interventions and makes adding extra detail to a proposal an easier process.