How best to communicate health and safety messages to young learners in vocational education and training

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How best to communicate health and safety messages to young learners in vocational education and training

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A number of industries are known to be at high risk from occupational Long Latency Diseases (LLD), including construction, engineering, plumbing, stonemasonry, quarry and foundry work. Recognising that the learners of today are the workers of tomorrow, the HSE has identified young learners in Vocational Education and Training (VET) as a key target group for reducing the incidence of LLD in some of these industries. The purpose of this research was to help the HSE improve its communications with relevant young learners to help raise awareness of risks, change attitudes and behaviours and to embed good practice about appropriate control measures.

While young learners recognise the importance of Health and Safety (H&S) information, there are a number of challenges around successfully communicating the risks of LLD. These include the complexity of LLD and a wide lack of clarity about what constitutes LLD and how they can be prevented. There are also challenges with translating what young learners learn in the classroom into practice on site because of the influence of more experienced colleagues and the pressures of resources and time. Communicating H&S messages more effectively will require greater clarity among wider stakeholders about the nature and risks of LLD. Communications could also be aided by clear, concise, visually engaging communication tools. The delivery of H&S messages by trusted messengers with experience in a young learner’s chosen vocation is beneficial as is focusing information towards more junior or ‘new’ learners not yet overwhelmed by detail on Health and Safety.

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EXECUTIVE SUMMARY

BACKGROUND
This research project was commissioned by the Long Latency Health Risks Division (LLHRD) of the Health and Safety Executive (HSE) in order to identify the most effective ways of communicating messages about the risks of Long Latency Diseases (LLD) to young learners in Vocational Education and Training (VET). The National Centre for Social Research (NatCen) carried out the research for the HSE.

Long Latency Diseases are caused by breathing in harmful substances, but the ill health can take a long time, often many years, to manifest after the point of exposure. Young learners are at particular risk from LLD both because of their inexperience and because of the distance their youth puts them from diseases that could affect them in later life. A number of industries are known to be at high risk of LLD, including construction, engineering, plumbing, stonemasonry, quarry and foundry work.

The purpose of this research was to provide evidence to the HSE which it can use to reduce future incidence of LLD by raising awareness and good practice among the young learners of today.

RESEARCH OBJECTIVES
Key aims of the research were to:
• Identify existing information about the characteristics and learning preferences of young learners in VET.
• Examine awareness and attitudes towards Health & Safety (H&S) and LLD among young learners in VET.
• Determine the key influencers, facilitators and barriers to effective communication and implementation of safe practice among young learners in VET.
• Explore the effectiveness of communication and training tools for embedding and sustaining behavioural change in young learners in VET.

METHODOLOGY
The research had three stages.
1. A scoping study involving a literature and data review, as well as telephone interviews with key stakeholders involved in the design and delivery of VET to young learners.
2. Focus groups with young learners in VET to explore views, awareness and experiences of LLD.
3. Deliberative workshops with young VET learners to explore attitudes to and effectiveness of different communication strategies.

RESEARCH FINDINGS
Literature and data review
• There was little detailed data available at the time of this research beyond the overall numbers of young learners in broad professional areas.
• A review of the literature revealed a preference among young learners for interactive and innovative ways of learning. Where written information was used, it was more effective when text was limited and pictures were included. Shock tactics were seen as a useful way of highlighting issues but worried some who said that such tactics led them to be concerned about the health effects of past exposure.
• Matching teaching to learning styles is considered to be effective. However, a more generally agreed conclusion is that presenting information in multiple formats results in the most ‘learning gains’.
What we perceive others to be doing can have a powerful effect on our own behaviour. It may therefore be undesirable for H&S communication to draw attention to others’ poor practice.

Interviews with stakeholders found that:

- Stakeholders lacked clarity about the definition of LLD and the way that young learners could be affected.
- More clarity about the link between respiratory risk factors and the working practices that could result in LLD was identified as a need.
- Responsibility for the delivery of H&S messages about LLD appeared to fall between Awarding Bodies and Training Providers, meaning that neither had overall responsibility to ensure that this area is covered.
- Stakeholders questioned whether there was sufficient focus on LLD in general training on H&S.

Health and Safety: Attitudes and awareness among young learners

- Data collected from the young learners revealed that H&S information was seen as being of core importance to their professions and a necessary requirement in order to keep people in and around their industries safe.
- Negative views of H&S were voiced by participants. These related to some challenges around implementing H&S practice as well as the way in which H&S messages were communicated to the learners.
- Young learners accepted the fact that the vocations they were pursuing entailed a certain level of risk which could not be eliminated but had to be managed effectively.
- Stage of learning had an impact on the learners’ attitude to H&S, with the more junior students, for whom the information was new, showing a greater willingness to learn than the older students who might have already received the information a number of times and be jaded by their experiences in the workplace.
- Young learners described dust, fume and gases as being bad for one’s health although they could not be more specific about associated health problems or the appropriate responses. This reflects the lack of clarity about LLD among the key stakeholders and the complexity of the subject matter.
- Knowledge of the dangers of asbestos were widespread across the sample although there were young learners who did not know what it looked like so would not be able to recognise asbestos if they encountered it on site.
- Certain high risk substances used in particular professions (e.g. silica for stonemasons, galvanised metal for welders, MDF for joiners) were also identified by young learners in those professions although this was not complete or consistent.
- Tailoring information specifically at particular professions was suggested. This would help young learners to identify what they really needed to know in the face of large amounts of information.
- It was widely believed that if a job was quick, infrequent or performed outside, the associated respiratory risks were negated.
- Clarity about what Respiratory Protective Equipment (RPE) should be used was patchy. While young learners talked about needing to wear a dust mask, they were less clear about the levels of protection offered by different types of mask and the circumstances in which these should be used.

Communication of Health and Safety

- Communication of H&S information reached young learners through three principal routes: at college, in the workplace and from general sources like family or the media.
- There was a clear preference for visually engaging materials over dense written text. Well laid out information with defined sections, headings and photographs communicating clear, concise, relevant messages were reported as being easier to absorb.
- Technical language was poorly understood.
• Young learners wanted to be able to apply H&S information to their work settings and found learning through experience particularly helpful.
• Media messages could be very effective particularly if the timing and location of these messages prompted their practice at work, radio adverts and posters were therefore cited as being particularly effective.
• Respect for the messenger was another important factor for young learners. If the information was provided by someone with knowledge and experience of doing the job it had more credibility and sway.

Implementation of Health and Safety in the workplace
• The size of a company affected the way in which H&S practice was operationalised. Big companies tended to have tighter and more visible H&S regulations while smaller companies had more discretion over implementation.
• Peer behaviour was an important factor in the implementation of H&S practices, with young learners heavily influenced by the behaviour of more experienced workers around them.
• There was much debate about the impact of implementing H&S procedures on the time taken to complete a job and therefore the overall cost. Participants described considerable pressure to be competitive, particularly in the current economic climate. This pressure could result in corners being cut in H&S practice.
• H&S resources might not be available on site or might be expensive, both of these possibilities were barriers to implementation.
• Having a clear rationale for H&S practice was seen as being very important to young learners. They wanted H&S practice to be fit for purpose and for them to have some discretion over implementation.

Ways forward: Successful communication of H&S messages
• There is a need for clarity and consistency across the key stakeholders involved in curriculum development and delivery about the risks of LLD, where they are encountered and what the appropriate responses are. Achieving this clarity will assist with communicating these risks and responses to young learners.
• Communications could be more tailored to specific professions with clear guidance on what might affect an individual and what might affect others working around them.
• Communications will work best if they are visually engaging with clear, concise, well presented information including photographs which relate the information to the young learners’ workplaces.
• Using a trusted source with industry experience to convey the messages would enhance credibility among young learners and go some way to acknowledging the challenges of implementing H&S practice in the workplace environment.
• The timing and setting for the delivery of messages should be considered. Catching learners when they are earlier on in their course and when they are on site can enhance engagement with the information.
• The findings of this research may be applicable beyond specific communications on H&S and LLD with young learners. Equally there may be wider good practice around communications that the HSE could draw on to inform any development of its communications in this area.
1 INTRODUCTION AND METHODOLOGY

This report presents the findings of a study commissioned by the Health and Safety Executive (HSE) aimed at establishing the most effective ways of communicating risks of Long Latency Diseases (LLD) to young learners in Vocational Education and Training (VET). In this chapter, we set out the research and policy context of the study, describe the study aims and research design and provide a brief overview of the report’s coverage.

1.1 RESEARCH AND POLICY CONTEXT

Findings from this research will inform the Long Latency Health Risks Division (LLHRD) (formerly the Disease Reduction Programme) at the HSE. The LLHRD’s remit is to reduce the number of cases of ill health that result from exposure to hazardous substances. It currently has a particular focus on reducing occupational respiratory disease, such as chronic obstructive pulmonary disease (COPD) and silicosis as well as occupational cancers, such as mesothelioma. These LLD could result from young learners breathing in harmful respiratory substances such as dust, fumes and gases.

Exposure of young learners to these harmful substances could happen in a wide range of vocations, including such broad areas as:

- Construction including joinery and bricklaying
- Engineering
- Plumbing
- Electrics
- Welding
- Stonemasonry

The HSE has identified that vocational training is a common way for young learners to enter into these industries. Young people are known to be a high risk group for two reasons. First, because of their inexperience, and second because of their distance from old age, the time when LLD manifest. Their training therefore represents a potential leverage point regarding the communication of information leading to behavioural change.

1.2 STUDY AIMS AND OBJECTIVES

In order to understand the best ways of communicating these messages to young learners in VET, the HSE commissioned the National Centre for Social Research (NatCen) to undertake a research study with the following four objectives:

- To identify what relevant information is already available concerning audience characteristics, communication preferences and influencers, and to establish what more needs to be done.
- To examine current levels of awareness and attitudes towards ill health among young learners in VET.
- To determine the key influencers, enabling factors and barriers to good practice in preventing work-related ill-health among young learners in VET.
- To explore the effectiveness of communication and training tools for embedding and sustaining behavioural change in young learners in VET.

By targeting the information at the young learners, the HSE hopes to persuade young learners of the rationale, and embed the need for, safe practice. Achieving this will then have a positive impact on future generations as the young learners become role models and cascade good practice down to those entering the professions behind them.
1.3 METHODOLOGY

Research design
A qualitative approach was used to answer the aims outlined above. Qualitative research enables in-depth study of the range of attitudes, experiences and motivations across a diverse population. Qualitative in-depth and interactive data collection methods can help develop understanding about how attitudes are formed and what motivates behavioural change.

This study consists of a multi-method and iterative design involving three distinct stages:

- **Stage 1: scoping study** involving:
  - A review of data relating to the characteristics of young VET learners.
  - A literature review.
  - Telephone interviews with key stakeholders to explore:
    - The structure of VET and the points at which the HSE can best target information.
    - Views of communication preferences and influencers on learning of young VET students.

- **Stage 2: focus groups** with young learners in VET to provide a greater understanding of the attitudes, awareness and motivations towards disease reduction.

- **Stage 3: deliberative workshops** with young learners to explore the perceived effectiveness of communication strategies and tools to embed Health and Safety message in young learners in VET.

This design allowed for each stage to inform the design of the subsequent stage.

Sample design

Stage 1: Scoping study
As well as providing important background and contextual information, the purpose of this stage of the research was to inform the sampling approach for the focus groups and workshops and to provide contextual information for the design and conduct of the fieldwork. To do this, the scoping study involved the following:

- A search of available data to identify numbers of young people on relevant training courses and their characteristics.
- A brief review of the existing literature relating to risks for Long Latency Diseases; how this has been assessed in terms of young peoples’ perception of these risks; and knowledge about the best way to communicate messages about Health and Safety to this group.
- Telephone interviews with key stakeholders in the relevant fields to understand the way in which Health and Safety messages are integrated into training for young learners particularly as this related to Long Latency Diseases.

Stage 2: Focus groups
Purposive sampling (Ritchie & Lewis, 2003) was used to generate the samples for this study. Purposive sampling aims to capture as wide a range of views and experiences as possible, rather than to be statistically representative. As such, key criteria are chosen that relate to the research objectives and are likely to be associated with differing views and experiences. In this study, three key criteria were identified as being the most important dimensions to sample the young learners from. These were:

- Vocational subject area
- Type of course
- Geographical location
The sampling and recruitment process for this study were challenging and time consuming for the following reasons:

1. The large number of courses available in the targeted vocations.
2. The process of identifying the educational institutions providing the courses.
3. Obtaining agreement from the colleges and institutions to help with the recruitment for the study.
4. The opt-in recruitment via gatekeepers at the schools and colleges.

**Sampling**

The first step was to choose the key vocations that could be affected by LLD to include in the sample. The aim was to select those at greatest risk of exposure to LLD hazards. Consultation with the HSE resulted in selection of the following vocational areas:

- construction;
- engineering;
- stonemasonry;
- electrical; and
- welding.

Information was taken from the Data Service. The Data Service is now the single authoritative source of data for post-16 further education. Established by the Department for Business Innovation and Skills and supported by the Learning and Skills Council, the service acts as the central point for the collection and dissemination of information on young learners in VET. This service also provides data via the Department for Children, Schools and Families on learners undertaking Diplomas aged 14-16.

The Data Service held information about the range of courses available within each vocational area, like construction or engineering. In some areas these were extensive. Within construction, for example, there were more than 500 separate courses listed. Therefore, NatCen worked closely with the HSE to identify which courses would be the most appropriate to draw the sample from.

It was also important to include a range of different types of courses to reflect the diversity of young learners that could be studying VET. So the sample targeted:

- diploma students;
- apprentices; and
- NVQ/VRQ students.

These learners were at different stages of their learning trajectories. Diploma students were at one end of the spectrum just beginning studies in these vocational areas. Apprentices were at the other. Apprentices were working as well as studying and would finish their courses as qualified professionals ready to practice. Then there were those who lay in the middle of this spectrum: those studying National Vocational Qualifications (NVQs) or Vocational Related Qualifications (VRQs) but who were not getting work experience alongside their studies. The purpose of including this range of student type was to identify any differences in learning experience and therefore inform the HSE if communication of Health & Safety (H&S) messages should be tailored according to the type of student. Regardless of the type of course being studied, the research team did not want to sample learners in their first year of study because they would have little experience to draw on.

A range of geographical locations were selected as well as urban, rural and metropolitan settings in order to reflect different living and economic circumstances across the country. In addition, the workshop participants were drawn from those young learners who had taken part in the focus group discussions. Therefore the educational institutions selected had to be close enough to each other to allow for ease of travel to a central workshop venue. Table 1 below sets out the target sample matrix.
### Table 1.1 Target sample matrix

<table>
<thead>
<tr>
<th></th>
<th>Area 1 - Midlands, town</th>
<th>Area 2 – North, city</th>
<th>Area 3 – South, rural</th>
</tr>
</thead>
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<tr>
<td>Construction</td>
<td>14-19 Diploma, 14-15 age group x1</td>
<td>Engineering – 14-19 Diploma, 14-15 age group x1</td>
<td>Construction – 14-19 Diploma, 14-15 age group x1</td>
</tr>
<tr>
<td>Stonemasonry</td>
<td>NVQs to level 3/ Apprenticeships, 16-19 age group x1</td>
<td>Construction – NVQs to level 3/ Apprenticeships, 16-19 age group x2</td>
<td>Construction – NVQs to level 3/ Apprenticeships, 16-19 age group x1</td>
</tr>
<tr>
<td>Construction</td>
<td>NVQs to level 3/ Apprenticeships, 16-19 age group x1</td>
<td>Welding – NVQs to level 3/ Apprenticeships, 16-19 age group x1</td>
<td>Electrical - NVQs to level 5/ Apprenticeships, 16-19 age group x1</td>
</tr>
</tbody>
</table>

### Recruitment

The process of selecting the educational institutions, the courses and the young learners therefore involved several steps. These were:

1) Identifying suitable geographical areas.
2) Identifying which qualifications were delivered at 14-16 and 16+ in that area.
3) Identifying that the training available was relevant to the remit of the project.
4) Ensuring that we could gain a range of qualifications and providers in a particular location that would enable us to conduct the workshops as well as the focus groups.

Once the selection process had been completed, the recruitment process could begin. Recruitment was extremely challenging and the initial response was so poor that the research team had to adopt another approach.

The first approach involved making contact with the school or college to identify staff to send an introductory e-mail to. This email set out the background to the research and asked if they would be able to assist with the recruitment of the young learners, (Appendix A item 1). The research team then followed up to find out if the college or school were able to help. The help being asked for involved handing out to the relevant students pre-packaged envelopes containing a letter, information sheet, opt-in form and pre-paid envelope (Appendix A items 2, 3 and 4) which the research team sent to the institutions. Incentive payments of £30 were offered to young learners who participated.

Students could then decide if they wanted to take part and opt in if they wanted to. As well as a written opt-in form, young learners over 16 years were also given the option of opting in via a freephone telephone line or project e-mail. Students under 16 were required to get written parental consent to take part.
Contact was made with 26 educational institutions across three geographical locations. Half of these agreed to distribute information packs to the young learners on NatCen’s behalf. However, despite sending out a total of 527 information packs, only 20 responses from young learners who met the sampling criteria had been received by the cut off date. Although it is not possible to be sure about the reasons for this, it could be because the information packs were not actually distributed to the young learners and/or because of low interest among young learners in the research.

In order to achieve the target sample of young learners, an alternative recruitment strategy was adopted. This involved targeting a new area and for a member of the research team to go in to college and speaking directly to the target student groups about the research. It was anticipated that this face-to-face direct contact would generate more interest in participation and this indeed proved to be the case, with sufficient learners opting in to allow for the fieldwork to be completed. It was agreed with the HSE that some learners who were over 18 years of age would be included because it was felt that they would still have relevant views and it could be useful to look for any differences in views and experience according to age.

The sample achieved is set out in table 2, below, with numbers indicating how many learners attended each group.

**Table 1.2 Number of learners attending focus groups**

<table>
<thead>
<tr>
<th>Area 1 Midlands, town</th>
<th>Area 2 North, city</th>
<th>Area 3 South, rural</th>
<th>Area 4 South east city</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction</strong> (bricklayers) Apprentices x2</td>
<td><strong>Engineering</strong> Diploma 14-15 age group x3</td>
<td><strong>Construction</strong> Diploma, 14-15 age group x5</td>
<td><strong>Stonemasons</strong> Apprentices, NVQ L1-3, diploma x7</td>
</tr>
<tr>
<td><strong>Construction</strong> (joiners) Apprentices x9</td>
<td><strong>Construction</strong> BTech x5</td>
<td></td>
<td><strong>Construction</strong> (mastic asphalt) Apprentices x10</td>
</tr>
<tr>
<td><strong>Welding</strong> NVQ L2 x7</td>
<td><strong>Electrical</strong> Apprentice x1</td>
<td></td>
<td><strong>Plumbers</strong> NVQ L2 x5</td>
</tr>
<tr>
<td><strong>Welding</strong> Apprentices x8</td>
<td></td>
<td><strong>Stonemasons</strong> Apprentices and NVQ L1-3 x 9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Plumbers</strong> Apprentices x8</td>
<td></td>
</tr>
</tbody>
</table>

Fieldwork was carried out between December 2009 and February 2010. Turnout at some of the groups was low, with only one or two learners attending. Bad weather and train strikes probably contributed to this low turnout.
Stage 3: Workshops

The sampling and recruitment of the workshops was more straightforward. All focus group participants were asked whether they would be willing to be contacted about the possibility of taking part in a further research workshop. It was made clear that the aim of the workshops was to focus on a range of different communication methods and discuss what participants saw as being the most effective and why. Those who took part would be given an incentive payment of £50, to reflect the greater burden on time and any travel necessary. There was a positive response from the young learners to taking part in the workshops and they took place in February 2010.

As far as was feasible from the sample available, a combination of different learners were represented so as to promote shared learning and experiences during the discussions. The sample matrix achieved is set out below.

Table 1.3 Workshop sample

<table>
<thead>
<tr>
<th>Area 1 – north city</th>
<th>Area 2 – south rural</th>
<th>Area 3 – south east city</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welders</td>
<td>Construction diploma and BTech students</td>
<td>Mastic asphalt</td>
</tr>
<tr>
<td>Joiners</td>
<td></td>
<td>Plumbing NVQ</td>
</tr>
<tr>
<td>Plumbers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n20</td>
<td>n8</td>
<td>n10</td>
</tr>
</tbody>
</table>

Fieldwork conduct

The focus groups and workshops were carried out by a moderator using topic guides, which can be found in Appendices B and C. The purpose of the topic guides was to help focus and shape the discussion, while allowing each group or individual to generate and discuss relevant issues as they arose in an open way. The groups and interviews were conducted using open, non-leading questions and answers were probed. Each focus group discussion lasted around one hour. Workshops lasted up to two hours. The broad topics discussed within the groups and interviews are outlined below:

Discussion groups:
- General views of Health and Safety.
- Awareness of LLD.
- Experiences of H&S in the workplace (facilitators and barriers to implementation).
- Modes of learning (preferences and reasons why).

Workshops
- Feedback and reflection on key findings from the discussion groups.
- Showcase of a range of communication tools (in depth discussion of learners’ views).
- Presentation of LLD.

Data management and analysis

The data in this study were analysed with the aid of Framework (Ritchie et al., 2003), a systematic approach to qualitative data management that was developed by NatCen and is now widely used in social policy research (Pope et al., 2006). Framework involves a number of stages. First, the key topics and issues which emerge from the research objectives and the data are identified through familiarisation with the transcripts. The initial analytical framework is then drawn up and a series of thematic charts or matrices are set up, each relating to a different thematic issue. The columns in each matrix represent the key sub-themes or topics whilst the rows represent individual participants. Data from verbatim transcripts of each interview are summarised into the appropriate cell. In this way, the data are ordered in a systematic way that is grounded in participants’ own accounts, yet aligned with the research objectives.
The final stage of analysis involved working through the charted data in detail, drawing out the range of experiences and views, identifying similarities and differences, developing and testing hypotheses, and interrogating the data to seek to explain emergent patterns and findings.

The findings outlined in this report reflect the range and diversity of experiences of H&S communication by young learners in VET, and so this research will give a good sense of the variety of experiences that are present in the wider population of young learners in VET training for the specific professions explored by this research. However, as is the case with all qualitative research, the numbers of participants expressing particular views or exhibiting particular behaviours is not reported as this has no statistical significance and no conclusions about the wider population can be drawn. Quotes from participants in the focus groups are attributed according to professional group and age range (14-15, 16-18 and 18 and over) but the quotes from the workshop are not attributed because there were a range of different vocations and ages represented at each.

**Structure of this report**

Chapter 2 of this report draws on findings from the data search, literature review and stakeholder interviews and looks at what research has already been done in this area. Chapter 3 explores learners’ general attitudes to Health and Safety. Chapter 4 discusses the different routes used for communicating Health and Safety information and discusses the most effective approaches. Chapter 5 looks at what happens when young learners take what they have learnt in the classroom about Health and Safety and apply it to a working environment. Finally, Chapter 6 draws some conclusions and looks at potential implications for the HSE.
2 YOUNG LEARNERS IN VOCATIONAL EDUCATION AND TRAINING IN CONTEXT

The initial stage of the study set out to establish contextual information about the characteristics of the sample population, the structure and delivery of VET and the communication preferences and influences for young learners (aged between 14 and 19) in undertaking training in the areas thought to be at risk of Long Latency Diseases.

This contextual information is drawn from the data search, literature review and interviews with stakeholders and is outlined in this chapter.

2.1 OVERVIEW OF DATA OF YOUNG LEARNERS IN VET

Type of data publicly available

The data review attempted to provide detail of the numbers of young people undertaking VET courses in the relevant subject areas in order to aid the sampling and recruitment strategy. In particular, we wanted to identify the types of learners enrolled on relevant training in particular locations and the range of training provision available.

The review revealed that publicly available data tended to concentrate on numbers of learners at a general level, with an absence of specific data on the number of young learners currently enrolled in specific areas such as construction, engineering, welding, etc.; in specific locations; and/or with particular training providers. The sections below give an indication of the type and level of data available.

The most recent information available at the time of writing indicated that there were 168,700 Further Education (FE) enrolments in construction in 2005/2006 and 218,846 equivalent enrolments in engineering, technology and manufacturing. However, these figures were not broken down by age, specific training qualification or location in a way that was helpful for the sampling or recruitment stage of the study. Other information also showed that there were 81,700 16-18 year olds who started an apprenticeship framework in 2008/2009 but again, this was not cross-referenced by subject area or location. Contact with the Data Service also indicated that the type of data that was needed for post-16 education would not be available during the lifetime of the study.

At the start of this research there was also a lack of publicly available data on the number of 14-15 year old learners enrolled on relevant Diploma courses. Contact between the research team and the Data Service indicated that there were 1,702 learners enrolled on the Diploma in Construction in 2008 with 503 at level one (foundation); 1,020 at level two (higher); and 179 at level three (advanced). There were also 2,831 learners enrolled on the Diploma in Engineering for the same period with 604 at level one; 807 at level two; 420 at level three. This information gave some indication of the Diplomas that could be included in the research but, as with FE enrolments, the data was not available in a way that allowed the research team to target specific providers offering Diplomas in exact locations.

Another area of data available through the Data Service’s Learning Aim Database was the type of NVQs available in specific subject areas. This indicated a vast range of NVQs available under the umbrella of construction, engineering and electrical, with many of these being highly specialised. During the research we therefore worked with the HSE to attempt to identify the type of training

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1 Statistical First Release: DS/SFR3, 25 June 2009
2 Source info@dcsf.gsi.gov.uk
courses that would be most at risk from Long Latency Diseases from those available, while also attempting to achieve a range of training, at different levels, within the different subject areas.

**Implications**

The implications of this lack of data were twofold. First, it made sampling and recruitment during the research study extremely difficult. Taking a NVQ in Demolition as an example, it was not possible to identify where this type of training was being delivered across the whole of England. Instead, the research team had to search by age group (e.g. 14-16, 16+) and local authority area, type of provision (NVQ/apprenticeships, Diplomas, VRQs) and level of qualification. It was then also necessary to look at specific training programmes individually in order to examine whether they would be relevant to discussion of Long Latency Diseases.

The second implication was that the lack of publicly available data makes future effective targeting of information and messages potentially very difficult. There is therefore a need to improve information about the profile of learners, types of qualifications they are undertaking and their location if Health and Safety materials are to reach the most appropriate learners.

### 2.2 LITERATURE REVIEW

The literature review explored several different avenues in terms of sources of information about Long Latency Diseases and communicating messages about them to young learners. These included a review of the HSE database, a general Internet search and a search of the following databases:

- International Bibliography of the Social Sciences (IBSS);
- Medline;
- the Applied Social Sciences Index and Abstracts (ASSIA) databases; and
- ISI web of knowledge (a collection of citation databases).

The review explored three main areas:

1. The risk of Long Latency Diseases related to specific sectors and professions.
2. Evidence relating to communicating risks about Long Latency Diseases to young learners specifically.
3. The usefulness of the concept of learning styles in the delivery and receipt of these messages.

### Risks from Long Latency Diseases

Risks from Long Latency Diseases can be seen in two ways. First, in terms of risk of disease related to particular practices in specific professions; and second, in terms of health risks associated with particular materials. It was necessary to establish these links prior to the research in order inform us about which qualifications should be targeted for the recruitment of young learners in VET and in order to inform discussions during the focus groups and workshops. Discussions with the stakeholders (described in the next section) and with the HSE suggested that while such risks were often known about, knowledge about relationships between them and specific diseases varied and was not always fully established or understood. For instance, while the link between asbestos and mesothelioma has been proven, the aetiology of other Long Latency Diseases was less clear. This section briefly draws out some of the risks related to Long Latency Diseases that young learners are likely to face in their chosen professions over the years.

### Industries at risk from Long Latency Diseases

The HSE estimates that within the UK there are currently approximately 12,000 deaths each year due to past exposures to respiratory agents. This includes 7,300 deaths due to occupational cancer, the vast majority of which are caused by respiratory carcinogens (nearly 5,000 are due to lung cancer -
about 2,000 of which are asbestos related lung cancers - and a further 2,000 are due to mesothelioma\(^3\).

The Workplace Health and Safety Survey (WHASS)\(^4\) of 10,000 workers in 2005 indicated that 29 per cent of workers regarded themselves as having to breathe in dust or fumes that could cause respiratory conditions regularly over the last 12 months in their job. A third of these (nearly 10 per cent of all workers) were quite or very concerned about this and nearly half (45 per cent) thought that risks could realistically be reduced.

The FIT3 survey\(^5\) of over 6,000 employers commissioned by the HSE in the same year showed that 21 per cent thought their employees could face a risk of breathing problems or asthma caused by working with chemicals, dust or fibres. In a similar survey of nearly 10,000 employees, 22 per cent indicated that their had job involved working where there was dust, fumes or gas in the air in the last month, and of these, over two thirds (69 per cent) considered dust and gas a risk to their Health and Safety, and nearly a third (30 per cent) were fairly or very concerned about the risk.

Statistical information currently available to the HSE indicates the industries considered to have the greatest risk of Long Latency Diseases are:

**Construction workers:** There were 449,930 construction workers exposed to high levels of crystalline silica according to CAREX for 1990-1993\(^6\). The average annual incidence rate of work-related ill-health within construction over the period 2006-2008 as measured by THOR-GP is 2038 per 100,000 people employed (2.0 per cent), higher than the average across all industries (1551 per 100,000 employed - 1.6 per cent).\(^7\)

**Stonemasons:** Potentially 42 per cent of stonemasons are exposed to silica levels above the workplace exposure limit (WEL) (Easterbrook and Brough, 2009).

**Welders** (Engineering): 74,000 workers are thought to be exposed to constituents of welding fume\(^8\). A meta-analysis of studies among shipyard, mild steel and stainless steel welders showed a 30-40 per cent increase in the relative risk of lung cancer among those exposed which could be explained by exposure to chromium, nickel, asbestos and smoking (Moulin, 1997). An update of the meta-analysis showed a 26 per cent excess of lung cancers for welders without any difference according to welding activities (Ambroise et al, 2006).

**Quarry workers:** There are approximately 88,000 employed in the industry, 50,000 employed indirectly and 33,000 employed directly. Research from 1999 suggested approximately 35,000 employees were possibly exposed to respirable crystalline silica (cited in Easterbrook and Brough, 2009).

**Foundry workers:** There are approximately 450 foundries employing approximately 24,500 workers. The majority are Small and Medium-sized Enterprises (SMEs) and almost half employ fewer than 50 people. Figures are continually decreasing but the smaller jobbing foundries remain and the potential

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3 http://www.hse.gov.uk/research/rhhtm/rr595.htm  
7 http://www.hse.gov.uk/statistics/tables/thorgp04.htm  
for employee exposures are greater. There were an estimated 29 attributable cancer registrations among steel foundry workers in 2004.

**Asbestos and associated diseases**

Any building built or refurbished before 2000 (houses, factories, offices, schools, hospitals etc) may contain asbestos. Asbestos was extensively used as a building material in the UK. It was used for a variety of purposes and was ideal for fireproofing and insulation. It is estimated that around 500,000 non-domestic buildings in the UK contain asbestos.

According to information reviewed by the HSE and available through their website asbestos-related disease accounts for around 4,000 deaths a year, the biggest single cause of work-related deaths in Great Britain. There are four main Long Latency Diseases caused by asbestos. These are mesothelioma (a form of cancer which is always fatal); lung cancer (almost always fatal); asbestosis (not always fatal, but it can be very debilitating) and diffuse pleural thickening (not fatal). The effects of asbestos can take many years materialise, and typically 30-40 years. Asbestos is inhaled and some is retained in lungs which may cause irreversible fatal damage.

The construction and maintenance trades most at risk from asbestos are carpenters and joiners, demolition workers, electricians, heating and ventilation engineers, painters and decorators, plasterers, plumbers and pipe fitters and roofing contractors. Workers' families can also be at risk from asbestos taken home on workers' clothes or shoes.

**Silicosis**

The HSE and other sources also discuss the causes and effects of silicosis. Silicosis is one of the oldest occupational diseases, which still kills thousands of people every year around the world. It is an incurable lung disease caused by the inhalation of dust containing free crystalline silica. It is irreversible and the disease progresses even when exposure ceases. Extremely high exposures are associated with much shorter latency and more rapid disease progression.

Silica dust is released during operations in which rocks, sand, concrete and some ores are crushed or broken. Work in masonry workshops, mines, quarries, foundries, and construction sites and in the manufacture of glass, ceramics, and abrasive powders are particularly risky. Sandblasting is one of the most high-risk operations for silicosis. Any abrasive blasting, even if the abrasive does not contain silica, may also pose a silicosis hazard when it is used to remove materials that contain silica, such as remains of sand moulds from metal castings. Some operations, like dry sweeping, the clearing of sand or concrete, or the cleaning of masonry with pressurised air can also generate large dust clouds that can be hazardous, even if the operations are conducted in the open air.

**Chronic Obstructive Pulmonary Disease (COPD)**

This is a lung condition that encompasses both chronic bronchitis and emphysema. Evidence suggests that the exact influence of smoking and occupational causes of COPD are unclear but occupational exposures to fumes, chemicals and dusts probably accounts for approximately 4,000 deaths annually in the UK. As with other Long Latency Diseases, there can be a considerable time between exposure and any ill health symptoms appearing.

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COPD has been particularly linked with cutting paving and kerbstones with rotary cutters, clearing and removing rubble, drilling and coring with hand-held rotary power tools and with welding.

**Other ‘long latency’ diseases**

Although not a specific focus of this research there was some literature on other diseases that had long-term effects. One of these was work-related contact dermatitis, which develops because of skin contact with hazardous substances, including chemicals and dusts, and/or ‘wet work’. Allergic dermatitis, for example, is caused by sensitisation to the hexavalent chromium (chromate) present in cement. Research has shown that between five and 10 per cent of construction workers may be sensitised to cement and that plasterers, concreters and bricklayers are particularly at risk. Once someone has become sensitised to hexavalent chromium, any future exposure may trigger dermatitis.

**Perceptions of long-latency disease risk**

Although there was research on the risks of Long Latency Diseases, this did not always link with perceptions of these risks. Some research however dealt specifically with perception and understanding of Long Latency Diseases. In a study involving depth interviews with welders it was found that long-latency diseases were not always perceived as a major risk by workers. The research found that long-term issues related to lungs were easily pushed to the back of the mind as they were felt unlikely to happen and thus not worth worrying about. Fume and gas inhalation generated much lower levels of concern than arc eye as only visible fumes and clouds were considered likely danger points. These danger points were assumed to be taken care of by the use of extractors or dismissed as unlikely to be harmful (Murphy, 2008). The greatest area of ignorance surrounded the noxious fumes generated by the welders’ work and the long-term consequences of inhalation. Only immediately discernable physical effects such as chills and black outs, seemed to be significant for these welders (ibid.).

**Young people and Health and Safety**

There was limited previous research on how young learners in VET are taught about Health and Safety messages or their views of the modes of teaching and learning. Much of the existing body of literature focused on the effectiveness of communicating Health and Safety messages more broadly to all constituents of a workforce. For instance, Schulte et al (2005) conducted a review of the integration of safety and health information in vocational training and other workforce preparation programmes in the USA. They concluded that although the various approaches such as vocational education have intuitive appeal for improving young people’s Health and Safety, there was little information on the extent of training being provided and the effectiveness of these programmes for reducing occupational injury and illness. However, there was some research on young people’s risks in the workplace and the communication of Health and Safety messages to them.

**Young people’s risk in the workplace**

Previous research has consistently suggested that young people are in a higher risk category in comparison to other workers. Young and new workers have been found to experience the highest rates of workplace accidents of all workers (Schulte et al, 2005). European statistics show that young people are more likely to suffer occupational injury than older workers. The reasons suggested for young people’s higher occupational accident rates and health problems are; lack of experience, physical and psychological immaturity and employers lack of provision of appropriate training, supervision and safeguards (European Agency for Safety and Health at Work, 2007). In addition, a review of studies by Sreenivasan (2001) found that young people were also more likely to have higher

accident rates because of an eagerness to please and lower perceptions of risk. These findings emphasise the importance of effectively communicating Health and Safety messages to young people early in their training.

**Communicating Health and Safety messages**

Research has also investigated the best ways of communicating Health and Safety messages and findings tend to focus on the best methods and channels of dissemination. One salient finding which emerges from the literature is that young people respond to the use of modern techniques in interactive and innovative ways. Young people can identify and engage with modern techniques. Techniques which emerge from the evidence base include interactive packages, Internet-based activities, CD-ROMs, videos, classroom activities and case studies including site visits (Linker et al, 2005; Sreenivasan, 2001; Sreenivasan, 2002). One study found that young people felt they should have their own specific Health and Safety guidelines which have more colour, pictures and a distinctive logo. This would appeal to young people by reflecting society’s modern trends of advertising and marketing. There was an overall feeling that more effort needs to be made to introduce interactive training packages for teaching about Health and Safety and to move away from more didactic methods of teaching (Sreenivasan, 2002).

Other research has looked at the effectiveness of more traditional methods of delivery of Health and Safety messages such as leaflets. During a study conducted with adult maintenance workers, participants were shown the HSE asbestos card and information leaflet. The majority of respondents had not seen the information before and were positive about the written information and felt it was important to have access to impartial information. It was seen to be important that leaflets did not have too much writing on them as this could put people off reading them when they are busy. Furthermore, the use of pictures was popular as it showed real life settings and could convey a lot of information without the use of written text. Older workers tended to feel the HSE materials were most relevant to younger colleagues, with less experience of working with asbestos (O’Regan et al, 2007).

There is evidence highlighting the benefit of involving young people in the development of curriculum content around health messages, as their perceptions of health typically differ to those of adults (Wills et al, 2008). Research around peer delivery of health promotion interventions provides a more mixed picture. A systematic review of both experimental and qualitative studies looking at impact on health outcomes and evaluating the intervention processes, found the effectiveness of peer-delivered health promotion for young people was unclear (Harden et al, 1999). Sreenivasan (2002) found that young people felt that the delivery of Health and Safety messages by other young people who had suffered would be beneficial in highlighting risks and demonstrating that no one is invincible.

Other research with adult maintenance workers indicated the benefit of including older workers in the delivery of Health and Safety messages because they influenced which practices were adopted and suggested that young learners picked up skills and knowledge from their colleagues. Older workers could be strong role models for younger workers encouraging either safe or unsafe working practices, depending on their views of the risks posed by asbestos. This finding highlights the potential value of involving older workers in communicating Health and Safety messages to young workers so that they are less likely to challenge important Health and Safety messages by demonstrating bad practice (O’Regan et al, 2007).

Health and Safety messages can also be promoted successfully at an organisational level. In the study of adult professional welders the best suggested route of dissemination for Health and Safety messages was to involve organisations by encouraging them to use easily deliverable materials, for example, DVDs and short presentations. It was felt these should be delivered in company time with other welders and the H&S manager present. It was also suggested that equipment and supplies manufacturers could be utilized in the delivery of H&S messages, by centring a campaign on ‘hidden dangers’ of fumes and gases (long-latency) this may be seen to help manufacturers sell more effective equipment (Murphy, 2008).
Educational establishments have been found to be a useful channel for disseminating Health and Safety information. A school-based education programme in the USA called ‘Health and Safety Awareness for Teens’ used interactive exercises to engage students. Evaluations of the programme found student knowledge increased after exposure to the curriculum (Linker et al., 2005). Sreenivasan (2002) found that most young people thought they should be taught about Health and Safety at school, although some young people felt Health and Safety should only be taught when starting work as the issues are job specific.

The use of shock tactics in training and government campaigns was also evaluated. The Institute for Employment Studies, for example, conducted a study for the HSE which investigated maintenance workers knowledge and behaviour around asbestos. The research found that shock tactics were used in some formal training to convey the dangers of asbestos. Such tactics were considered difficult by some workers who were led to think about previous exposure and to worry about the damage it may have already caused. However, it was acknowledged that shock tactics could be useful in drawing the attention of young people to Health and Safety issues, although there were also concerns that it could act as a deterrent for young people thinking about entering construction related trades (O’Regan et al, 2007). Sreenivasan (2002) found that young people are aware of the use of ‘shock tactics’ in government campaigns and most believed that they were an effective route for conveying the dangers of not adhering to Health and Safety guidelines. However, some young people felt that trying to shock people into behaving in a certain way may not work.

**The influence of learning styles**

There was interesting evidence on whether receipt of messages such as those related to Health and Safety would be affected by learning styles. The concept of learning styles relates the preference of individual learners for particular modes of learning or for the presentation of information in particular ways. Becta (2005) notes that there is no single definition of ‘learning styles’ and that the term is often used loosely and interchangeably with terms such as thinking styles, cognitive styles and learning modalities. In relation to ‘cognitive styles’, for example, learners are seen in terms of a verbal-imagery dimension (Riding and Read, 1996). Verbalisers represent information in the form of words, while imagers tend to think pictorially. Similarly, in terms of ‘learning modalities’ the theory is that all learners have a preference for receiving and storing information through one or more sensory modalities: visual, auditory or kinaesthetic (tactile). Visual learners learn best from pictures or written text, auditory learners prefer the spoken word and kinaesthetic learners think in terms actions and bodily movement (Becta, 2005).

The logic and appeal of learning styles is that teaching can be matched to the learning style preferences of particular students enabling them to learn better. At the same time, ‘students will become more motivated to learn by knowing more about their own strengths and weaknesses’, particularly in relation to ‘independent’ learning (Coffield, et al., 2004). While differentiating between learning styles may seem appealing, it is not without its problems. In a review of learning styles Becta (2005) notes that ‘there is no secure evidential base to support any one theory of learning styles’ and that learning styles ‘are at best one of a range of factors determining how learners react to learning opportunities’, with ‘environment, culture (of both learner and institution), teaching methods and curriculum requirements’ all playing a part.

One particularly controversial aspect of learning styles is the extent to which they are thought to be stable, or influenced by a learner’s environment, experiences and curriculum design. In this respect there is a danger of labelling students as particular types of learners in all circumstances, which can be a simplification of the way in which students learn. While there is some evidence of the existence of cognitive styles, the advantages of matching teaching to learning styles is less clear (Ford and Chen, 2001). Constantinidou and Baker (2002) found that pictorial presentation helped all learners taking an item recall test, with this being even more so for learners with a strong preference for verbal processing, rather than imagers as might be expected.
The significance of learning styles may be in the fact that matching learning styles to learners has been found to be ‘most beneficial for lower ability students’. A number of tutors commented during the recruitment stage of this research that students undertaking VET in the areas under investigation were not particularly academically orientated. The benefit of matching has been found to be particularly useful when ‘presenting difficult material’ to such students (Becta, 2005). Having said this, however, a more generally agreed conclusion is that representing knowledge ‘in multiple formats’ appears to result in the most ‘learning gains’, thereby accounting for a diversity of learning styles and the different ways in which varied information needs to be communicated (ibid.). In this respect a more varied approach to communicating messages is more likely to produce behavioural change related to Health and Safety information for all.

**Receipt of messages designed to change behaviour**

Other useful research has looked at the way in which attitudes are formed and affected, both by the nature of communications and by psychology. Included within this literature is the point that the very act of persuasion can be enough to cause people to reject messages. Brehm and Brehm have suggested that this is because an individual can feel as though their free will to believe whatever they want is jeopardised by someone trying to persuade them that a particular view is correct. As a result, high pressure tactics or ‘shock tactics’ as outlined earlier in this chapter can be less persuasive than more subtle messages (Brehm and Brehm 1981).

Literature also suggests that what we perceive others to be doing has a very powerful effect on our own behaviour. Cialdini et al conducted an experiment which attempted to discourage visitors from stealing wood from a petrified forest in Arizona using two different signs. The first of these read ‘please don’t remove the petrified wood from the park’; the second read, ‘many past visitors have removed the petrified wood from the park changing the state of the natural forest’. When the first sign was used, theft was less than a quarter of what it was when the second sign was used (Cialdini et al 2003 cited in Newman and Lewis 2007). The implication is that because the second sign tells the visitors what other visitors do, it normalises this behaviour and makes it more acceptable. In the case of Health and Safety information the implication of this sort of research is that it may be undesirable in Health and Safety communications to draw attention to others’ poor practice (such as not wearing hats or using PPE) as doing so may make such practice seem acceptable.

Finally it is important to note the importance of where a message comes from. Research, such as that by Eagly et al (1981), suggests that individuals are prone to making an assessment of the motives of any particular messenger. So a message communicated directly by the HSE may be received differently to one given by a course tutor. In general, literature suggests that where the message is at odds with what we might expect a messenger to say, it is more powerful. While it is both expected and understood that the HSE will communicate messages on Health and Safety, it is perhaps less expected that experienced or older workers might do this and this may in part explain why Health and Safety information conveyed by older colleagues can often be influential on young learners. The implication of this for the HSE is consideration of the voice given to Health and Safety information and, as will also be highlighted below, the importance of joint working with stakeholder organisations and learning institutions in delivering these messages.

### 2.3 **STAKEHOLDER INTERVIEWS**

In addition to the literature review we conducted scoping interviews with a number of stakeholders involved in the development, design and funding of training in VET. These interviews served two key purposes. First, to gain an overview of the structure, provision and design of VET available to young learners in the relevant subject areas. Second, to ascertain both how Health and Safety messages, particularly those relating to Long Latency Diseases, were embedded into the learning process and how effective stakeholders felt this was.
Stakeholder roles

Previous work undertaken by the HSE identified a large range of stakeholders potentially involved in influencing the delivery of Health and Safety messages to learners. Key among these were Sector Skills Councils, bodies involved in the funding of education and training, Awarding Bodies involved in the accreditation and certification of training providers and specific awards and various training providers. Other stakeholders also include trade unions and associations, government departments, industry stakeholders and employers, teacher/tutor training colleges and other relevant forums.

Roles of stakeholders interviewed in this study included:

- **Funding bodies** – setting policy for learner Health and Safety for training providers receiving funding.
- **Sector Skills Councils** – having a portfolio for a particular industry sector or age group of young learners and liaising with employers, trade associations and Awarding Bodies to ensure that training meets employer needs; researching Health and Safety issues arising in relation to the particular industry.
- **Awarding Bodies** – project managing the development of a range of qualifications based on requirements presented by the Sector Skills Councils; external assessment of training providers in relation to the accreditation of qualifications and assessment of the delivery of programmes.
- **Training Provider** – ensuring the delivery of ‘on the job training’ provided by employers and co-ordinating ‘off the job training’ provided by colleges.

The interviewees represented a wide range of sectors in terms of their current roles and past experience. These included cement and concrete production, construction, electrical, engineering, heating, manufacturing, mining, plumbing, quarrying, street works, stonemasonry, venting and waste management.

Recruiting and carrying out interviews with these stakeholders was challenging. In many cases, it took some time for the organisations approached to identify who would be the right person to speak to. The nature of the areas outlined for discussion appeared often to cross-cut different roles, so while one stakeholder might have a Health and Safety brief, they might not be involved in educational design and delivery. Health and Safety specialists also sometimes described themselves as one step removed from the design and delivery of education and/or from the materials used to communicate detailed Health and Safety messages. This suggests that the HSE will need to influence messages in relation to Long Latency Diseases both through stakeholders with Health and Safety roles and through those with more direct involvement in the development of standards and curricula for particular sectors.

Structure of the VET field and the influence of stakeholders

As discussed above, there are a large number of different organisations and bodies that play a role in the development and delivery of vocational training to young people. It is a complex and fast changing field that clearly presents challenges in terms of streamlining Health and Safety messages for young learners. However, broadly speaking, the interviews indicated that the process involves:

- **The Sector Skills Councils** working with employers and trade associations to draw up National Occupational Standards which provided the broad areas of study that an individual must undertake as part of a learning programme; acting as a ‘catalyst’ between employers and awarding bodies to ensure that the curriculum meets the needs of employers.
- **Funders** using their procurement procedures to ensure the Health and Safety of learners is included in the design and delivery of the training they fund.
- **Awarding Bodies** working with the Sector Skills Councils to use ‘functional maps’ and National Occupational Standards to design the course structure, specifying the broad outline of curriculum coverage; assessing employers to ensure that their Health and Safety standards are sufficient to take on apprentices and assessing training providers such as colleges to ensure that they are able to provide qualifications such as NVQs and Diplomas; and external review and assessment of the delivery of training on site and quality assurance of internal assessment by colleges and other training providers.

- **Training Providers** such as FE colleges and private training centres designing or choosing the teaching materials that would be delivered to learners based on the broad curriculum outlines provided by the Awarding Bodies, Sector Skills Councils and influenced by the Health and Safety requirements of funders.

Perhaps the most significant finding in relation to the structure of VET was that responsibility for the delivery of Health and Safety messages about Long Latency Diseases appeared to fall between Awarding Bodies and Training Providers so that neither had overall responsibility to ensure they were included. Interviewees from the Awarding Bodies noted that they would only be involved in the ‘top level’ broad categories of Health and Safety to be covered by training providers. The exact messages and materials to be used would be left to colleges and to employers who provided apprenticeships. On the one hand this approach has the advantage of allowing messages to be tailored to specific industry sectors, qualifications and occupations. However, on the other it is possible that this results in inconsistency in the level and quality of information provided about various practices and their connection with Long Latency Diseases.

Although stakeholders saw themselves as one step removed from the delivery of Health and Safety messages, they still felt that they had a role in influencing them. Interviewees from awarding bodies said that they would not normally stipulate the exact messages to be covered but thought they could indicate broad areas such as Long Latency Diseases to be included in training if there was a clear need to do so. Funders also discussed the possibility of using their leverage to ensure that information about issues related to Long Latency Diseases were included in curricula if there was a clear steer from the HSE that this needed to be done. The vital role that the Sector Skills Council played in influencing messages was discussed in terms of the extent of influence they had over what was contained in NVQs. In particular, some interviewees thought that there was more scope for broader knowledge on Health and Safety issues to be covered in more college-based vocationally related qualifications, rather than competence based qualifications like NVQs. This was because the latter were more highly specified in terms of what must be taught, leaving less room for additional new knowledge.

**The delivery of healthy and safety messages in VET**

The central role of Health and Safety learning was acknowledged by stakeholders as being reflected in the raft of Health and Safety legislation and policies that had to be addressed. Four key routes for the delivery of Health and Safety messages were identified by stakeholders:

- By integrating Health and Safety messages into college-based and on the job training relating to key competencies for learners’ chosen qualification.
- Through induction by employers or supervisors prior to being allowed in a working environment.
- Supporting college-based learning and employer inductions through the use of materials such as workbooks, guidance notes, Internet webpages and DVDs.
- External assessment by awarding bodies of internal assessments to ensure that Health and Safety messages are being taken on board by employers, tutors and learners through the materials being used and in the delivery of training.

This section briefly explores each route in turn.
Health and Safety learning was largely integrated into learners’ daily practice and woven into existing competencies rather than being delivered in separate modules or units. The exception to this was thought to be BTEch diplomas where a more unit-based approach is applied. The integrated approach was identified by stakeholders as preferable to an ‘atomised’ style of learning as it encouraged learners to really look at the materials they used, how they would use them and how this would affect them and the environment around them. The separation of Health and Safety from teaching about core competencies was not supported and was seen by some stakeholders as an outdated way of teaching such issues.

The importance of employers delivering Health and Safety messages on site was emphasised by stakeholders. A basic understanding of Health and Safety was seen as critical for young learners before being allowed on site or in a workshop environment. This basic understanding not only ensured young learners’ safety but assisted training providers and employers in avoiding litigation. Briefings from each new employer were seen as important because they allowed learners to be introduced to the specific risks and hazards in each new working environment. It was noted that smaller employers were worse than larger employers at ensuring that Health and Safety messages learnt during training were continued in practice.

Learning materials and resources such as leaflets, workbooks and DVDs were identified as crucial in supporting Health and Safety learning. The interviewees noted that their own organisations produced versions of these materials for use by young learners. The HSE can therefore influence Health and Safety messages by working with these organisations to design these materials and target the most appropriate training providers.

The competence of learners to undertake their work safely and the quality assurance procedures in place in order to assess this were seen as the main ways of evaluating the effectiveness of the teaching materials on Health and Safety. It was thought that whether Health and Safety messages were being delivered effectively would be picked up through quality assurance procedures related to assessment and certification of learners.

**Extent to which LLD is covered in the Health and Safety messages delivered**

The key issues to arise in relation to education about Long Latency Diseases in VET courses were:

- Whether there was sufficient focus on LLD within the topics covered on Health and Safety, particularly in college-based learning.
- The exact nature of what qualified as a Long Latency Disease.
- The level of existing research, information and knowledge about the relationship between specific materials, practices and Long Latency Diseases that could be taught.
- Possible ways in which stakeholder bodies could facilitate future consistency on teaching about Long Latency Diseases.

This section explores each of these issues in turn.

Stakeholders questioned whether there was sufficient focus on LLD in general training on Health and Safety, particularly in college or training centre environments. It was thought that training outside of a work environment was more likely to focus on Health and Safety messages in general. The specifics of how materials or practices related to Long Latency Diseases would be left to employers because of the vast range of different workplaces young learners could find themselves in. Key areas of general Health and Safety covered that were highlighted by stakeholders ranged from working at heights to the use of personal protective equipment (PPE), control of substances hazardous to health (COSHH), reporting of injuries, accidents, diseases and dangerous occupations regulations (RIDDOR). Notably, one stakeholder thought that there was a tendency to focus on issues that were
'easy to see' rather than hazards such as Long Latency Diseases that could be hidden or regarded as having less instant effects.

A lack of clarity around the exact nature of Long Latency Diseases was apparent among stakeholders. This manifested in two keys ways. First, the stakeholders were not necessarily clear about the definition of Long Latency Diseases and whether, for example, problems like hearing loss resulting from noise in the workplace or dermatitis from skin contact with chemicals or cement, would be included. Subsequent discussion with the HSE indicated that there was a shift in definition in relation to Long Latency Diseases and that current thinking referred to diseases resulting from substances that are breathed in. This has been the focus of this research (although wider issues of other illnesses caused by prolonged exposure to risks may still need to be addressed through other campaigns).

Second, it was hard for stakeholders and learners to consistently make links between Health and Safety practices and LLD risks. Wearing RPE in the presence of dust and fumes was not automatically linked to preventing specific LLD for example, but seen by stakeholders as simply reflecting good Health and Safety practice. This lack of clarity about how LLD are caused and prevented points to a need a need for more detailed and specific guidance on why specific Health and Safety practices are adopted.

Improvement in the level of research, information and knowledge about the relationship between specific materials, practices and Long Latency Diseases among stakeholders and learners was also an issue. While asbestos was widely cited as a long latency risk, other risk substances were not. There were stakeholders who had awareness of Long Latency Diseases related to their fields, for instance the potential link between quarrying and silicosis. However, overall there was thought to be a need for greater knowledge in this area including more evidence and detail on the type of diseases that young learners could be affected by in their chosen areas of employment.

The role of relevant stakeholder bodies and the HSE was identified as key in ensuring that high quality information was applied consistently across all training providers in relation to long latency risks. In some cases this might mean Sector Skills Councils broadening the Health and Safety messages associated with teaching key competencies. In others it may require a more imaginative approach to teaching the links between material hazards, specific practices and equipment and reduction of risks of Long Latency Diseases.

**Views on Health and Safety and young people**

In line with the literature in this field discussed earlier, stakeholders generally held the view that young people were potentially more at risk of Long Latency Diseases than older workers. They gave two main reasons for this. The first was that young people did not perceive risks in the same way as older people because they thought they were invulnerable and that they ‘would live for ever’. Associated with this was an element of cultural ‘bravado’ that was considered to be particularly evident among young men (‘male bravado’). This bravado was considered to lead learners to do things that would put themselves and others around them at risk. The second was that young people had to be ‘continually badgered’ to use PPE because this was ‘alien’ to them and because they needed to ‘get used’ to doing it.

Our own findings suggest that both these views may be at least in part wrong in that there were instances where young people were more willing than older workers to adopt Health and Safety practices. Our research also indicates that young learners are very receptive to initial Health and Safety messages about PPE but that repeating the same messages over and over could reduce engagement (please see chapters 3 and 4 for details of our findings on this).

There were stakeholders who identified a high level of engagement by young learners with Health and Safety messages. Indeed, one stakeholder thought that the level of Health and Safety information provided to young people now compared to that provided in the past meant that learners were able to
be ‘their own Health and Safety officers’. Our findings suggest that, with some caveats related to the quality of messages communicated and the influence of older workers, this may in fact be the case.

The only other view expressed in relation to Health and Safety and young people in particular was that young people were likely to require a range of different ways of communicating Health and Safety messages to meet with a range of different learning needs and styles. Again, this research supports that view.

2.4 SUMMARY

Existing literature indicates that:

- Young learners respond well to interactive and innovative learning approaches.
- Written learning tools such as leaflets may be more effective when limited text and pictures are used.
- Older workers can be strong role models for young learners and can encourage either safe or unsafe H&S practice.
- Shock tactics have received a mixed response. They’re seen as useful for highlighting issues by some but worrying by others since the tactics led them to be concerned about the possible effects of past exposure.
- Matching teaching to learning styles is considered to be effective. However, a more generally agreed conclusion is that presenting information in multiple formats results in the most ‘learning gains’.
- What we perceive others to be doing can have a powerful effect on our own behaviour. It may therefore be undesirable for H&S communication to draw attention to others’ poor practice.

Interviews with stakeholders found that:

- Responsibility for the delivery of H&S messages about LLD appeared to fall between Awarding Bodies and Training Providers, meaning that neither had overall responsibility to ensure that this area is covered.
- Stakeholders questioned whether there was sufficient focus on LLD in general training on H&S.
- Stakeholders lacked clarity about the exact nature of LLD.
- Stakeholders felt there needs to be more information about the link between specific materials, practices and LLD and on the specific diseases that young learners could be affected by.
- Stakeholders felt that young people were generally more at risk of LLD due to a different perception of risks to older workers and a resistance to using RPE. However, the primary research undertaken for this report does not support this view.
3 HEALTH AND SAFETY: ATTITUDES AND AWARENESS

The following three chapters draw on the primary data collected from the sample of young learners in VET who participated in the focus groups and the workshops. To start with, in order to understand how best to communicate messages about Long Latency Diseases (LLD), it was important to find out what these young people thought and knew about Health and Safety generally and LLD specifically. This data allows the research team and the HSE to understand the awareness underpinning the H&S behaviours of young learners in VET and to identify where the points of change could be.

This chapter explores the young learners’ awareness by focussing on the following areas:
- General attitudes to Health and Safety.
- Perception of risk.
- Awareness of Long Latency Diseases (LLD).
- Awareness of Respiratory Protective Equipment.
- Awareness by sector.
- Stage of learning.

3.1 GENERAL ATTITUDES TO HEALTH AND SAFETY

Young learners’ views of Health and Safety generally were wide ranging, mixed and at times contradictory. Health and Safety was seen to play a central role in the vocations covered by the research, regardless of the students’ age, subject, type of course or geographical location. Learners acknowledged the purpose of H&S being to stop people hurting or killing either themselves or those around them. As such, it was seen as important information that they needed to know about, even if it was not considered the most interesting subject.

‘It was pretty boring …having to sit there listening to the tutor go on, but obviously you have got to listen’ [Male diploma student, 15-16]

During initial discussions of what Health and Safety meant, participants focused on the practical safety aspects, such as personal protective equipment (PPE):
- high visibility vests;
- hard hats;
- steel toe capped boots;
- gloves; and
- masks.

Understanding signs, adhering to regulations, undertaking risk assessments, filling out accident forms and knowing the location of fire extinguishers were also highlighted. Identification of the less visible respiratory risk factors tended to be after further reflection and probing, for example, asbestos and other harmful substances that could be breathed in.

The extent of the young learners’ engagement with the subject of H&S was, not surprisingly, linked with the extent of their vested interest in their chosen course. So the apprentices, who were investing a lot of time and energy into gaining their qualification, were more engaged with the topic of H&S – whether positively or negatively – than those who were studying a vocation with less likelihood of future employment in that field.

The view that H&S measures could be excessive, impractical and costly to implement was also strongly expressed by participants. This tension between recognising the importance of H&S on the one hand, and the challenges of actually translating that theory into safe practice on the other is a key issue that is addressed in Chapter 5.
3.2 PERCEPTION OF RISK

Across the sample of young learners that we talked to, there was an acceptance that the vocations they were pursuing entailed an inherent element of risk. The comparison was made with people working on oil rigs or soldiers: the jobs are risky and you embark on a career in that area knowing that. A group of BTech students articulated this as follows:

*M2: ‘There’s always risk no matter what you’re going to be doing...’*

*M1: ‘It’s like going in the army expecting not to be shot. [Laughter]’*

*M2: ‘Working on an oil rig and getting blown up, it’s just one of those things, it’s work.’ [Male BTech students 16-18]*

These views were matched by a degree of fatalism about the risks of life more generally, with people talking about the dangers you face every minute of every day. You were probably more likely to be killed crossing the road than in an accident at work was a typical comment illustrating this attitude.

The abstract nature of respiratory risks made them harder for young people to assess than immediate and visible risks. ‘Respiratory accidents’ is not a concept that is easy to engage with and their harmful effects are not experienced instantly in the same way as if someone gets their hand cut off on site. This was reflected by the types of examples given by the young learners of H&S incidents encountered at work, which were of people falling from ladders or scaffolding; being injured by equipment or getting an electric shock.

3.3 AWARENESS OF LONG LATENCY DISEASES (LLD)

During the research, we explored students’ knowledge of Long Latency Diseases (LLD). A lot of debate about the nature of these risks and the appropriate protective responses ensued. This reflects the complexity of the subject. As our work with the HSE and key stakeholders has highlighted, LLD is an evolving area in which a lot of unknown variables remain, particularly the aetiology in terms of the precise nature of the link with occupational respiratory risk substances. It is therefore not surprising to find this reflected in varied levels of knowledge and awareness among the young learners themselves. As a term, Long Latency Disease was not familiar to the young learners.

Asbestos awareness

Overall awareness of asbestos was very high. However, real understanding of how the disease manifested and indeed how asbestos could be identified, varied. The disease was mentioned spontaneously by participants with the HSE’s ‘Hidden Killer campaign cited as a key source of information. Participants spoke of the poster of the man drilling a hole in the wall as well as the TV and radio adverts. There was also a widely mentioned anecdote of a woman who used to wash her husband’s overalls after he had been working with asbestos and who became ill as a result.

While participants did not necessarily know in detail what asbestos did to your lungs, the general view was that once inhaled it was not possible for the body to get rid of it and it could make you fatally ill many years later. However, probing by researchers revealed that despite knowing the dangers associated with exposure to asbestos, the young learners did not necessarily know what it looked like and were therefore not able to recognise it if they did encounter it at work, as this young learner explained:

‘Like you’ve smashed through a wall and someone might pop in and say that’s asbestos like. I’ve done that.’ [Male joinery apprentice, 16-18]
Awareness of dust, fumes and gases

Potential respiratory risks such as dust, fumes and gases were also discussed. However, there was less spontaneous mention of them (often only after some probing and prompting from the researchers), than asbestos and less clarity about what the risks and the health implications were. Apart from the mention of mesothelioma by some individuals in some groups across the sample and silicosis among the stonemasons, the young learners did not know what illnesses could result from exposure to respiratory risk substances. A vague notion that breathing in dust isn’t good for you was a typical level of response, as illustrated by this construction apprentice’s comment:

‘It’s obviously bad for your health’ [Male construction apprentice, 16-18]

In addition, the following examples were given as circumstances in which respiratory risks were believed to be very low:

- **Speed**: if a job was quick and therefore exposure short, the risk was widely perceived to be minimal.
- **Working outside**: if a job could be done outside in the open air (e.g. sawing, welding), there was seen to be no need to protect yourself. Even when working inside, opening a window was sometimes reported as providing sufficient ventilation.
- **Infrequent work**: if a job was undertaken only occasionally, young learners linked limited exposure with limited risk.

The following quotes illustrate the types of circumstances young learners believed there to be no respiratory risk:

‘It doesn’t matter so much if you are outside welding, it just gets blown away, don’t it?’ [Male NVQ welding student, 16-18]

‘Obviously sometimes I don’t wear a mask, when I’m just doing one [cement] mix or something...’cos we’re not doing it all day. If you’re just doing one mix with a bit of lime, sand and cement, I wouldn’t put gloves on especially, I wouldn’t think nothing of it. [Male construction apprentice, 16-18]

A strongly held view across the sample of young learners was that they should be able to take personal responsibility for their H&S practice. This was based on the belief that they had sufficient knowledge to make informed decisions about their practice and that if they chose not to implement recommended measures, that was their choice, as illustrated by this joinery apprentice:

‘...It’s up to you. If we are aware of the hazards what we are working in, it’s up to us to put our masks on’. [Male joinery apprentice, 16-18]

However, the evidence above suggests that there are significant knowledge gaps that need to be plugged before young learners are actually in a position to make these informed choices.

### 3.4 Awareness by Sector

Levels of awareness and knowledge did vary depending on the particular profession being studied. The table below provides an overview of the respiratory risks identified spontaneously by young learners from the different groups as the key risks they could encounter in their line of work.
Table 3.1 LLD risks identified by sector

<table>
<thead>
<tr>
<th>Profession</th>
<th>Respiratory risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plumbers</td>
<td>Asbestos</td>
</tr>
<tr>
<td></td>
<td>Chemicals: drain acid</td>
</tr>
<tr>
<td></td>
<td>Fumes: soldering</td>
</tr>
<tr>
<td></td>
<td>Dust: plaster</td>
</tr>
<tr>
<td>Electricians</td>
<td>Asbestos</td>
</tr>
<tr>
<td></td>
<td>Fumes: carbon monoxide</td>
</tr>
<tr>
<td>Welders</td>
<td>Welding fumes: galvanised metal, titanium, copper</td>
</tr>
<tr>
<td>Stonemasons</td>
<td>Silica</td>
</tr>
<tr>
<td></td>
<td>Dust and fumes</td>
</tr>
<tr>
<td>Mastic asphalt</td>
<td>Cement dust</td>
</tr>
<tr>
<td>Joiners</td>
<td>Asbestos</td>
</tr>
<tr>
<td></td>
<td>MDF</td>
</tr>
<tr>
<td></td>
<td>Chemicals: brick acid</td>
</tr>
<tr>
<td></td>
<td>Fumes: steel saw</td>
</tr>
<tr>
<td></td>
<td>Gases: nail guns</td>
</tr>
<tr>
<td></td>
<td>Dust</td>
</tr>
</tbody>
</table>

Some of the professional groups were small in number so wider inference should not be drawn from this table. However, it does illustrate a different focus on respiratory risks across the professions sampled. This can be accounted for by their prominence in the curriculum, the likelihood of young learners encountering them at work as well as their profile among colleagues in terms of their awareness and experience. Students themselves certainly showed more interest in issues that were perceived as relevant to their chosen profession. Therefore, targeted information for the actual risks they might encounter in their line of work specifically could be a beneficial approach to successful communication of these messages.

Students nearer the beginning of their courses and without a work-based learning element understandably had less knowledge and awareness than those who had been doing it for longer. Diploma and BTech students were also looking at broader areas: general construction or engineering. Nevertheless, they identified a wide range of respiratory risks: asbestos, gases, dust, sawdust, fumes from welding and chemicals.

It is worth pointing out that some learning took place as a result of this research. For example, in a group of joiners, one or two raised the issue of MDF as being a respiratory risk, which was new information to other participants in the group, as this discussion among a group of construction apprentices shows:

*M: I didn’t know how bad it [MDF] could be*

*M: Did you not know that?*

*M: No.*

*M: Right bad is MDF.*

*M: Is it?*
M: Aye.

M: Is that skirting board?

M: Skirting board, aye.

M: Ah, bloody hell, best get a mask next time. [laughter] [Male joinery apprentices, 16 and over]

Learners also spoke about how the discussions had made them reflect on practice and highlighted the risks they face. It was not possible to know whether or not the relevant information had been covered in the young learners’ curriculum and whether their lack of awareness was because they had not absorbed the information sufficiently. However, it suggests that an in-depth discussion sharing knowledge and experience did raise awareness levels.

3.5 AWARENESS OF RESPIRATORY PROTECTIVE EQUIPMENT

Levels of awareness of Respiratory Protective Equipment (RPE) were low among the plumbers, electricians and construction students. These young learners talked in general terms about the need to wear masks for jobs generating dust, fumes or gases, and spoke of using disposable dust masks that cover the nose and mouth. They had little knowledge of the specific requirements necessary to protect themselves in different circumstances. One student gave the following illustration of this:

‘I were outside, saw the Health and Safety man and thought ‘I’d best put my mask on’, I am outside but don’t matter. I got wrong type mask on! FFP3 or something I should have had on. But I had FFP2 on. I thought ‘What’s the difference?’ [laughter]’ [Male joinery apprentice, 16-18]

The welders and the stonemasons were better informed. The welding apprentices included in the sample were working in big companies where respirators and air flow masks had to be used when welding and extraction equipment was in constant use. Stonemasons talked about the need for wearing respirators when working with certain types of high risk stone, for example, flint or slate, as this quote illustrates:

‘We’re learning about how poisonous all the stones are. Just say I had a job that had to be done quickly and it was Portland [stone]. I need to cut out, I wouldn’t really be too worried about not wearing a respirator for what, five minutes. But if I had the likes of flint or slate, I would make sure that I had a respirator because I know how poisonous those two are.’ [Male stonemason apprentice, over 18]

3.6 ATTITUDES BY STAGE OF LEARNING

There was a direct relationship between learners’ stage of study and their attitude to Health and Safety information. Generally speaking more junior learners were more open to learning than those who had been studying for a while. This may be because the information was new to the junior learners. Even those who described H&S as ‘boring’ recognised and accepted that it was a core part of the vocation and that they needed to know about it, as this female diploma student illustrated:

‘It was obviously…useful because some people might…have known a few things but not all the things because…we were not used to working in…workshops….when we started the course.’ [Female diploma student, 14-15]

Junior learners may also have been more open to learning because of the appeal of the practical aspect of the diploma course. This practical element was a stark and welcome contrast to the more traditional
and abstract academic subjects taught in school, and learning which they could apply in a real-life work setting. As discussed in chapter 1, the diploma students included in this research were taught off school site. Being out of the school environment and treated more like adults led to a positive overall approach to learning.

In contrast, the more experienced participants’ attitudes were underpinned by two factors. First, they felt that they had heard it all before. These were learners who were likely to have received H&S training on many different occasions. Much like frequent flyers not listening to the safety talk on aeroplanes, they felt that they already knew the relevant information and were less likely to engage with the subject again. However, as highlighted in section 3.above, there was a mismatch between learners’ perceptions of risk and the reality, which is a key issue for the HSE to try and address and which the findings from this research project respond to.

Second, they had workplace experience to draw on which indicated a mismatch between the H&S theory and the reality on site resulting in them taking a more jaded approach to Health and Safety messages. This is explored fully in Chapter 5.

3.7 SUMMARY

• H&S was widely regarded as important and necessary among young learners.
• Risk was seen as an inherent part of the vocations that learners had chosen to pursue.
• Overall awareness of asbestos was high, however awareness of other dust, fumes and gases and their potential to trigger Long Latency Diseases (LLD) was mixed and varied by vocation and among different young learners within a particular vocation.
• Stage of learning can have an impact on receptiveness to messages about H&S, with an advantage identified at the initial learning point, before students have heard messages repeatedly and think they’ve heard it all.
• There are young learners who believe themselves to be well informed and practising safely. However, the evidence from this research suggests that learners may be exposing themselves to risks and that therefore perceptions of their knowledge may need to be challenged.
4 COMMUNICATION OF HEALTH AND SAFETY

This chapter explores different approaches to communicating Health and Safety (H&S) and messages about Long Latency Diseases (LLD) to young learners and looks at learners’ views on the most effective routes.

Three main routes of communication about H&S messages were identified by learners: through college, through work based learning and from general information and media campaigns. Young learners talked about the sheer amount of information they were exposed to and the challenge for them of focusing on the most relevant aspects to them. Effective communication was considered to have four key dimensions:

- Visually engaging materials were preferred.
- Experiential learning was described as being an effective way to illustrate and embed messages about H&S.
- Media campaigns, repeated prompts; real life examples and shock tactics were highlighted.
- Respect for the person conveying the message.

These routes of communication and dimensions of effective communication are explored in this chapter.

It is important to highlight the fact that good communication is a skill in and of itself. Many of the findings about what young learners find effective were drawn from their experiences of general communication of H&S messages, not Long Latency Diseases specifically. Indeed, young learners’ views of anti-smoking campaigns were also sought, to identify any helpful comparisons about getting messages of LLD across. The findings from this chapter may therefore be applicable beyond the communication of H&S and LLD alone.

4.1 ROUTES OF COMMUNICATION

Three distinct routes of communication were identified and within each a number of approaches to learning about H&S were discussed. Views of what made the teaching effective are explained in detail in section 4.2 below.

College based learning

In a school or college setting, students described two principal ways of learning about H&S at college: in the classroom and in the workshop.

Classroom teaching incorporated the following:

- Tutor led teaching – taught sessions, group discussions, presentations.
- Individual work – worksheets, taking notes, using books, doing risk assessments.
- Media resources – doing Internet research, DVDs, posters, photos.
- External visitors – talks from professionals, experts or H&S executives.
- Site visits – to local building works, landmark sites or large scale projects.

Learning in the workshops encompassed the following:

- Experiential learning – learning through practice with the guidance of the tutor.
- Identifying hazards that were set up deliberately by the tutor.
Work based learning

Those with a work based learning component to their course were learning about H&S at work:

- Experiential learning – learning through practice.
- Peer learning – through observation, discussion and mentoring among colleagues.
- Top down learning – direction from site managers, HSE personnel, employers.
- Formal teaching – toolbox talks, specific training for example, about asbestos.

General information

Family involvement in a trade meant that learners had grown up hearing some of the health concerns and issues relating to particular jobs. Media campaigns also played a role in awareness. The principal ones mentioned were posters, radio and television adverts relating to asbestos and smoking.

4.2 VIEWS OF THE COMMUNICATION OF HEALTH AND SAFETY MESSAGES

There was recognition among the young learners that people learn in different ways. Preferences varied from person to person and participants were cognisant of the fact that what worked for one person may not be effective for another. Different levels of motivation, interest and engagement as well as the individual student’s relationship with their tutor, colleagues and peers all played a part, as did individual personalities and learning styles. Nevertheless, some recurrent themes could be identified.

Young learners did talk about the sheer amount of information that they were exposed to, both in terms of their courses generally as well as more broadly. For example, students talked about the challenges of researching a topic using the Internet, because of the breadth of information that is available and the difficulty of knowing which sources are reliable. In addition, the Internet could be very distracting because of the temptation to start using it for other activities, for example, social networking sites and instant messaging with friends. Given this context, targeting H&S information appropriately to facilitate students’ ability to focus on the most important issues will help effective communication of messages and assist learners with making informed decisions about which information from other sources might be relevant to them.

Visually engaging material

Findings about which mediums learners prefer support those identified in the literature review. The written word was not a preferred medium. Learners found written information hard to engage with and they struggled with technical language. There was open acknowledgement that reading and writing were not strengths for these groups and that one reason they had left school to pursue a vocational course was because they were not good at engaging with the written word, as the following quote illustrates:

‘We left school to be joiners like so we are not going to be reading books.’ [Male construction apprentice, 16-18]

Visual material, on the other hand, was described as being an easier way to understand and remember information and was a clearly stated preference across the sample, as illustrated by the discussion in this group of BTech students:

‘If I see a big page or writing I’ll just shut off...’

‘You go, ‘Oh, God, here it goes.’”
‘I don’t take any of it in, but if I have short bullet points it just sinks in easier for me.’ [Male construction BTech students, 16-18]

This included video/DVD clips, posters, pictures, photographs and leaflets. It stood out that participants could remember video and DVD clips relating to real life events in detail, even though they might have seen them several years previously. During the workshops, a DVD clip of a man suffering from mesothelioma held the attention of the young learners. Participants acknowledged that it had made them think and reflect on their practice, as these young learners discussed at a workshop.

‘It’s better than reading summat’.

‘Just talking is like, I don’t know, it is easier to listen to.’

‘It is actually relating to someone it has happened to not just ‘this can happen’. It is showing you that it has happened to somebody.’ [Male and female, workshop participants]

Similarly, the posters showing photographs of the hands of people suffering from dermatitis (Appendix E, item 1) made quite an impression, as illustrated by this young learner’s comment at a workshop:

‘You look at the picture and think, ‘Oh, that’s horrible’, so then you just read the writing to see what happened to it.’ [Male workshop participant]

While visual approaches were considered useful, participants did identify a need for visual information to be up to date and relevant. There were some examples given of ‘old fashioned’ video material being used, which did not appeal to this generation.

Where written information was used, participants wanted it to be clear and concise, to be written in plain English and to relate to their jobs by using pictures and photographs to illustrate a point:

‘It’s alright seeing like a description of [asbestos], but a description you still don’t know what it’s going to look like. Whereas if they showed you a description and the next thing there was a picture of which asbestos, you know what it will look like’ [Male plumbing apprentice, 16-18]

The ‘Caution: hidden killer’ leaflet about asbestos (Appendix E, item 3) was cited as an example of effective communication of an LLD risk, with some key points highlighted about why:

• Appealing layout and graphics:
  o clear, simple language;
  o good signposting of the key issues;
  o well defined sections and headings; and
  o text broken down into digestible chunks.

• Photographs of where asbestos could be encountered on site that they could relate to their jobs.

• Where to go for further information.

• Sticker highlighting key messages that they could use as constant reminder, for example by putting it on toolbox.

By contrast, participants were also asked during the workshops to read and comment on a section about PPE in a booklet used for training which consists of pages of text with black and white pictures of equipment. It was noticeable how unappealing the participants found this to be and there was a general reluctance to even pick it up. The format alone seemed to have put them off, as the following dialogue among workshop participants illustrates:
‘There is so much information for people of our age, you just look at it and think ‘I can’t be arsed to read all that’ and just chuck it away’.

‘It is not getting its point across at all, if you see that and pick it and think ‘Oh will I read that? It’s loads boring’

‘I would read the first page or look at it and just skim through it, you wouldn’t read it, just look at the pictures probably, that’s what I’d do.’ [Workshop participants]

The other example of a format that the young learners did not find easy to engage with were the HSE information sheets about wood dust and stone dust (Appendix E items 4 & 5). Not only did participants think there was too much text, they also struggled to understand some of the technical issues. The following sentence from the wood dust information sheet is an example of this:

‘Hardwood and softwood dust have been assigned a maximum exposure limit (MEL) of 5mg/m$^3$ (8 hour time-weighted average) under the COSHH regulations.’

Participants said that they did not know how this related in practice to what they might be encountering at work. Similarly, one group of welders did not know what the term Local Exhaust Ventilation (LEV) meant when we showed them the HSE leaflet ‘Time to clear the air’ about best ventilation practice during the workshops. The term they were familiar with was ‘extraction’.

The implications for the HSE in designing information materials for young learners are to aim for them to:

- Include photographs and pictures (taken from real life settings as far as possible) to illustrate written information.
- Keep written information short, concise and clearly laid out (e.g. using bullet points; having focused sections demarcating different topics).
- Relate them to experiences that could be encountered on site, bringing them life and making them relevant.

**Experiential learning**

Practice and experience were considered more beneficial and easier learning routes than classroom teaching or the written word. While the importance of having the theoretical underpinning was acknowledged, getting out into the workshop and the workplace were described as where the real learning of how to do the job took place. One participant likened it to the difference between the theory of learning to drive with the reality of being on the road once you have passed your test. Becoming familiar with the feel and weight of the materials and equipment as well as developing the required manual skills were mentioned in this context.

Those students without a significant work-based learning component to their course also described some positive experiential learning experiences they had had. One example given was of visiting sites and observing how people worked, looking out for examples of good and bad practice. Another was of a tutor who had set up the workshop with deliberate hazards in situ which the students had to identify. A third group was looking forward to visiting the London Olympic site.

**4.3 MEDIA CAMPAIGNS**

The effectiveness of using the media to communicate messages was reflected in the awareness levels reported among the young learners of some campaigns. The radio adverts relating to asbestos and the ‘Caution: hidden killer’ poster and leaflet campaigns in particular were widely mentioned, as was general anti-smoking advertising.
An important factor in the effectiveness of media campaigns in raising awareness was repeated exposure of the young learners to these messages. The anecdotal evidence provided by participants in this study suggests that this approach does work – as evidenced by the awareness levels of both the risks of smoking and asbestos. However, this has to be balanced against the danger of ‘H&S fatigue’, where young people stop paying attention to information and/or become immune to the messages being communicated.

Radio adverts were reported as being particularly effective because participants heard them while they were working. This reminded them of potential H&S risks at the time they could be exposed to them. One participant described how he heard the asbestos advert on the radio as he was about to drill into a wall:

‘Listening to the radio, I were taking down a ceiling and it was asbestos, taking it down, and that come on just after. It is just timing with those things, it could be somebody just about to take something down ‘Oh hold on a minute, what’s this?’ cos they are at work listening to the radio. It’s a good place to put it on.’ [Male workshop participant]

Another participant described how he found the audio cues in radio adverts really helpful, because he associated the noise of his tools with the sound of the tools being used in the radio ad, thus reminding him of the message about asbestos. However, it was also pointed out that radios are not allowed in some workplaces (not a very popular rule, particularly as the rationale was unclear). Television adverts on the other hand did not have the same advantage, with learners’ reporting less chance of the message translating into action when they received the message while sat at home watching TV in the evening.

Displaying posters in strategic places was also perceived to be an effective means of getting a message across. Having a captive audience helped, with posters above urinals and toilets given as one example of this. Site offices, vans and toolboxes were also mentioned as good places to put visual information and participants liked the stickers included in the asbestos leaflets, which could serve as a useful reminder.

The use of shock tactics yielded a mixed response among participants. Younger learners, with less work based experience advocated the use of shock tactics. Older and more experienced students described them as being less effective. Because they had more experience of working, they had had more exposure to the sorts of accidents that could happen on site and were therefore less easy to shock. Pictures of accidents were the most commonly cited use of shock tactics. Pictures of diseased lungs, like those used on cigarette packets, were suggestions for the kind of shock tactics that could be successfully utilised for LLD.

**Respect for the messenger**

The level of information that could be conveyed in a media campaign was recognised as being limited. Therefore, where students turn to for more detailed information is relevant. None of the young learners we spoke to had used the telephone line or website indicated in the H&S campaigns to access more information. Participants were far more likely to go to respected colleagues and tutors to seek further information about a particular issue.

Experience of the job was a key factor here, and the ability to apply knowledge realistically to a work setting. College tutors were repeatedly cited as reliable sources of further information. They were typically reported to have worked for years in the profession they were now teaching about. This earned them respect and credibility among the young learners as a result.

‘See, that’s why I think I liked Bob, ‘cos he was real. He knew everything. Man hours. He knew the implications.’
‘Yeah, he’s got industry experience.’

‘... a stonemason telling you about stonemasonry Health and Safety.’

Not someone who’s admin, pen-pusher, telling me if that makes sense. That was the key for me.’ [Stonemason apprentices, 16 and over]

Colleagues were also described as a key source of information about H&S practices. However, this was only helpful if their knowledge was up to date and accurate, otherwise they could be cascading misinformation and poor practice to the young learners. Translating the theory of H&S into the reality of the workplace setting is explored fully in the following chapter.

The Health and Safety Executive, by contrast, was not well regarded by the young learners, particularly the apprentices. The following three factors accounted for this attitude:

1. Health and Safety executives were seen as office workers who did not understand the reality of the young learners’ work environment.
2. Some H&S measures were perceived to be unreasonable, illogical or patronising.
3. Time and financial constraints were seen to be overlooked by HSE.

However, there were some positive messages and suggestions. The research team suggested that by undertaking this research project, the HSE were listening to what young learners thought and did want their suggestions of ways forward, a fact which was acknowledged. As well as the other recommendations in this section, using HSE role models and mentors with industry experience to visit and talk to young learners or feature in a DVD could be a helpful way of conveying H&S information and improving the image of the HSE.

4.4 COMPARISONS WITH SMOKING

We explored with the young learners their views of the ways in which messages about the risks of smoking had been conveyed to them to identify any lessons that could optimise communication of messages about LLD. In several ways, the views of the young learners about anti-smoking messages reflect their views of H&S communication.

There was a sense of slight weariness about the subject of the dangers of smoking with participants indicating that smoking risks are common knowledge. The argument was put forward that if you choose to continue to smoke you are legitimately exercising your right to make an informed choice about your health knowing full well what those risks are. This chimes with the argument put forward by the young learners about having discretion over what H&S measures they implement.

Just as young learners made decisions about using respiratory equipment according to the duration or location of a job involving dust or fumes, some did not feel they were at high risk of becoming ill from smoking because they did not smoke very much, or only on weekends. There was again evidence of a fatalistic attitude with young people talking about the magnitude of risk factors encountered on a day-to-day basis in general life, with the view that smoking was a known risk among many others some of which would be less known.

However, a potential lever for the HSE in terms of communicating messages about LLD could be the fact that, much like passive smoking, young learners’ behaviours and practices around respiratory risks could affect not just them but that of their colleagues. Therefore they had not just a responsibility to themselves but to others to implement safe practice.

A final interesting finding was that the pictures on cigarette packets of diseased lungs were repeatedly mentioned. Even when this was to complain about how unpleasant it was to have to look at them all
the time, this was evidence that they did play on people’s minds and have an impact, as the following quote illustrates:

‘Now you just get shit for [smoking] and ... every time you buy a pack of fags there’s a dead person there, just lying there, like, “Nice one. Cheers.”’ [Male stonemason apprentice, 16-18]

This supports the view that repeated exposure to a message is effective, even if it is not popular.

4.5 SUMMARY

• Messages about H&S were communicated through three main routes: at college, at work and through general sources such as the media and family.
• There was a danger of young learners feeling overwhelmed by the amount of information they were expected to assimilate. Therefore targeting and focusing the key messages will help, as well as the way in which they are presented.
• Young learners did not consider themselves to be big readers and expressed a preference for visually engaging material that:
  o is short, concise and clearly laid out;
  o includes photographs and pictures; and
  o relates to real-life site-based experiences.
• Getting out of the classroom and learning about H&S in a real life setting was seen as important to effective learning.
• Media campaigns were considered effective tools for learning about H&S with radio adverts being seen as particularly effective as they could be heard while on the job.
• Who delivers information about H&S makes a difference. Colleagues, tutors and people with work experience were generally well trusted messengers. The HSE was not well regarded as a messenger in this context.
5 IMPLEMENTATION

This chapter explores the factors at play when young learners made the transition from the classroom to the workplace and the impact that these factors had on their attitudes to Health and Safety. Five key factors were identified as affecting the transition of theory to practice during our research and each of them are explored in turn:

- Size of company.
- Peer behaviour.
- Time equals money.
- Availability and cost of H&S resources.
- Perception of rationale for H&S.

5.1 SIZE OF COMPANY

A big difference was reported in adherence to H&S practice according to the size of the company and/or the type of site being worked on. In big companies and sites, with site managers and H&S officials present to enforce correct application of H&S regulations, adherence to safe practice was described as being much more likely. For example, employees could be ordered off site for not wearing the right PPE. Young learners working in smaller outfits, on the other hand, were not so tightly regulated and monitored. However, examples of poor practice could happen anywhere, regardless of the type of company or site.

This could have both positive and negative outcomes. Those working on a big site could end up taking less responsibility and care for their H&S behaviours because of the assumption that there is a system in place and that someone will be looking out to make sure they are acting safely. In a small outfit, there could be greater personal responsibility and attention to implementing safe practice, but it would be dependent on sufficient knowledge of the risk factors.

5.2 PEER BEHAVIOUR

There was a strong tendency for young learners to conform to the working practices of those around them. They talked about their respect for the experience of their older colleagues.

‘If they’ve had an experience about something, say you are going to weld something and you start doing something that they’ve done before and they’ve found it wrong, they’ll tell you just to help you out. Say ‘you need to be wearing this, otherwise it will do this’.’ [Male welding apprentice, 16-18]

It was to these experienced workers that the young learners said they would turn to if they had questions or wanted more information. Consensus was that the young learners would generally take the advice of their more experienced colleagues.

This could result in positive or negative outcomes for the young people depending on their colleagues’ levels of knowledge and the safety of their work practices. Broadly speaking, the young learners working in bigger companies described more compliance to H&S measures as highlighted above.

However, there were participants who recognised that they knew more about H&S issues than their employers and colleagues and who had encountered unsafe practice at work. These situations put the young learners in a difficult position. They explained that it would not be easy to challenge their more senior colleagues. As the most junior person at work, the peer pressure to fit in is understandable. They felt that they would not be popular if they started telling their older, more experienced colleagues...
what they should be doing. There was evidence of young learners taking the path of least resistance by adopting safe practices themselves but not trying to change the practices of older colleagues.

### 5.3 TIME EQUALS MONEY

The time taken to complete a job was an important factor in whether or not Health and Safety measures were implemented on site. Young learners explained that payment was made on completion of a job, so the quicker it could be done, the more work could be completed and the more money they would receive. If implementing H&S measures was time consuming, this would hit them in their pockets and they were keen to avoid this.

An example of the process involved in using respiratory protective equipment (RPE) was given by one participant. First it was kept in the site manager’s office, which could involve trekking across a big site. Then it had to be signed out, which meant having to find the necessary person. They then had to get the equipment out, check it and sign it out. On completion of the job the same process would have to be done in reverse. For a quick job, this joinery apprentice explained that he wouldn’t bother going through such a time-consuming process:

‘So that five minutes it takes you to walk to the site office for a mask and to come back down….that job could be done, you are onto something else. Time is money.’ [Male joinery apprentice, 16-18]

Time pressure was identified as a factor that had increased recently as a result of the current economic climate, with competition for jobs fierce and pressure to deliver on time and on budget high. Taking time to implement Health and Safety measures would potentially increase both the time taken for the job to be completed and the associated cost. The consequences of this may be losing the competitive edge, and therefore, a contract.

### 5.4 AVAILABILITY AND COST OF H&S RESOURCES

In order to implement recommended H&S measures the right resources and equipment need to be available. However, this was not always the case for the following reasons:

- Lack of resource on site.
- Difficulty obtaining license to carry out work.
- Cost of supplying own H&S equipment.

Three examples of these kinds of problems were given during the research. First, participants raised the issue of water not being available on site, therefore making it impossible to damp down while sweeping up dust. This was particularly relevant to the joiners and stonemasons.

Second, the mastic asphalt apprentices talked about the time it often took for them to get their ‘hot works’ licence, which they needed before they were allowed to work. Huge frustration was expressed when participants described having to wait for hours sometimes before this was processed, resulting in a valuable loss of working time and the concomitant impact on cost of the overall job.

Finally, the plumbing, joinery and stonemason apprentices talked about the cost of having to buy their own Personal Protective Equipment (PPE), such as steel toe capped boots, thick trousers and overalls. As trainees with limited financial resource, they were inclined to buy cheap equipment, which could be providing them with less than optimal protection. This raises the question of whether provision of some kind of financial assistance or of suitable protective equipment needs to be made available to young learners in VET in order to ensure they are able to implement the recommended H&S measures. The welding apprentices were a noticeable exception to this issue because those in our sample were working in large companies and all of the necessary PPE and RPE was provided on site.
5.5 RATIONALE FOR H&S PRACTICE

The final area to have a significant impact on how likely young learners were to implement recommended H&S practices was whether or not they considered there to be a clear rationale for doing so. Analysis revealed unsafe practice to be much more likely either if the young learners did not understand why they were being asked to do something or if it was an issue they believed they should be able to have discretion over.

Fit for purpose

Several examples were given as evidence of H&S measures that were considered impractical to implement. The blanket instruction to wear gloves, for example, was considered unfeasible as learners felt that gloves could impact on the quality of the work undertaken. Stonemasons talked about the subtlety of their work and the importance of being able to feel the stone underneath their fingers in order to obtain the right result. The intricate nature of some of the jobs undertaken by electricians and plumbers was also mentioned, again, described as impossible to do while wearing gloves.

‘It’s like the glove thing. There’s some site make you wear gloves all the time now. And if you’re wearing gloves and chiselling, imagine how cack your stone would be. You wouldn’t be able to feel your stone.’ [Male stonemason apprentice, over 18]

Indeed, participants put forward the view that some of the H&S measures actually increased their risk at work, for example, high visibility vests getting caught up in equipment or a lack of dexterity from wearing gloves making it more likely for them to cut themselves.

Discretion over implementation

Health and Safety measures seen as patronising or nonsensical were particularly unpopular. Not being allowed to wear short sleeves in the summer was a good example of this. Participants said the rationale for this was so that they would not get sunburnt but that they were fully aware of the risks of sunburn and more than capable of applying sun cream.

‘Like in summer you are not meant to wear shorts and that because you might get sunburn. We are old enough to put sun cream on.’ [laughter] [Male plumbing apprentice, 16-18]

Likewise, having to use metal trestles rather than wooden ones was considered by joiners to be patronising. They felt that it was pointless trusting a joiner to build a house if you couldn’t trust them to build a trestle. Finally, the example of having to wear a hard hat when you are on a roof was raised several times as being illogical. The suggestion was that it was necessary and understandable to wear one when there were people working above you but that if you were on top of scaffolding and there was no crane overhead, the only thing that could fall on you was ‘bird shit’ and it was pointless wearing a hard hat. If you fell, they argued that a hat wouldn’t save you anyway.

These issues led to a perception that those making the rules did not understand the realities of the job.

‘You get Health and Safety people coming out saying, “Oh, you’re doing this wrong.” You don’t know my job, so piss off, do your own job [laughter] and leave me to it.’ [Male mastic asphalt apprentice, over 18]

This lack of credibility resulted in a real disincentive to implement the recommended H&S measures. The implications of this and potential solutions are discussed in chapter 6.
5.6  SUMMARY

• Young learners came up against five key barriers in the workplace which made implementation of recommended H&S practices challenging:
  o **The size of the company:** While large companies may have well established H&S practice and equipment, the same is not true of smaller outfits. However, doing a job for a large company may result in complacency about H&S procedures.
  o **Peer behaviour:** There was a strong tendency for young learners to conform to the working practices of those around them. This could result in positive or negative outcomes for the young people depending on their colleagues’ levels of knowledge and the safety of their work practices.
  o **Time equals money:** Where H&S practices were time consuming, young learners may be tempted to skip them so that the job was completed more quickly and therefore worth more money.
  o **Availability and cost of H&S resources:** Young learners cited a lack of resources on site, difficulties getting works licences and the cost of protective equipment as barriers to implementing H&S practices.
  o **Rationale for H&S practice:** Any H&S measures needed to have a clear rationale and not get in the way of carrying out a task.
6 WAYS FORWARD: SUCCESSFUL COMMUNICATION OF H&S MESSAGES

In this concluding chapter, we bring together the key findings from the three strands of this research project and identify issues for consideration by the HSE.

The key factors underpinning the safe practice of young learners in relation to Long Latency Diseases can be illustrated diagrammatically:

These factors combined and interacted differently depending on an individual’s set of experiences. For example, one apprentice plumber might be working for a big company on a new building site with strict enforcement of H&S measures but little understanding of the underpinning rationale. Another apprentice could be working in a two-man band in a private house with a good knowledge of respiratory risks but no access to the right equipment and no support from his employer.

Below we explore each of these key factors and the relevant implications arising from the research in turn.

6.1 UNDERSTANDING THE NATURE OF LONG LATENCY DISEASES

It was clear from both the stakeholder interviews and the research with young learners that there is a general lack of clarity about Long Latency Diseases (LLD). Confusion about what constitutes a Long Latency Disease was only part of the issue. The research also indicated that there is a lack of understanding about the links between Health and Safety practices and LLD risks. Wearing RPE in the presence of dust and fumes for example was not automatically linked to preventing specific LLD, but seen by stakeholders and young learners as simply reflecting good Health and Safety practice.

The research suggests that although young learners are unclear about the nature of Long Latency Diseases and the risks associated with them, they can perceive themselves to be well informed about Health and Safety risks. This disjuncture between what young learners know and what they think they know may be because they are given so much H&S information at college, at work and by colleagues. Young learners consider this information to be comprehensive however this research indicates that the full details and risks of LLD are not getting through. The reasons for this are likely to include the
wider lack of clarity surrounding LLD as well as the challenge of conveying messages about diseases that may not become apparent for years.

The research suggests that more needs to be done to both clarify the nature and risks of LLD among the wider VET sector and to convey these messages to young learners. Indications of how information about LLD may best be communicated to young learners is covered below.

6.2 HOW MESSAGES ABOUT LONG LATENCY DISEASES ARE COMMUNICATED

This research has identified some general messages about young learners’ preferred methods of receiving H&S information that may help to guide practice on communicating about H&S and LLD.

Timing of messages

There are particular points during the journey of a young learner where there appears to be a higher receptiveness to taking H&S messages on board. One of these is at the initial stages of learning, whether that be at school or college. The information being conveyed is fresh and has not been covered before and our research indicates that young learners are open, willing and interested in Health and Safety information at this stage. Partly this is because it is new information and partly because it is in stark contrast to the more traditional academic subjects studied at school and seems more relevant to the real world. Another key stage highlighted by young learners was the exam they had to take in order to get their Construction Skills Certification Scheme (CSCS) card. This is another time at which there is a particularly captive audience thus providing an opportunity to impart H&S information.

Visually engaging information

The literature highlighted the fact that young learners find it easier to engage with information that is visually stimulating, innovative and interactive (Linker et al, 2005; Sreenivasan, 2001; Sreenivasan, 2002). This was strongly reflected among the young learners who participated in this study, who explained that dense written information and technical language were difficult for them to engage with. Where written information was used, it was helpful for the language to be clear and simple, the information to be laid out in sections using clear headings and to be illustrated with pictures and photographs. For example, where participants did not know what an FFP3 mask was, it would be useful to show them how to identify one. Similarly, while welders did know what Local Exhaust Ventilation systems were, they did not know them by that name and called them simply ‘extractors’.

It was interesting that the Internet was not seen to be a key learning tool for these young learners. As well as having the potential of being a distraction, the amount of information was described as being overwhelming. This supports the preference for having a clear and uniform message about a particular risk factor.

Tailored messages

The young learners were more receptive to messages that were relevant to their specific jobs. They found it less helpful when some aspects of a Health and Safety message did not apply to them and this increased the chances of them switching off from the overall message. Therefore, having targeted information focusing on the risks and measures encountered in a particular profession, such as plumbers or bricklayers, could be more effective than classifying information by H&S topics, such as ‘dust’, ‘asbestos’ or ‘silicosis’.

However, it was acknowledged that a range of professions could be working on a site at any given time. Knowing the respiratory risk factors associated with the jobs being done by other people was
recognised as being an important component of safe working. Again, targeting this information to the trades most likely to be operating simultaneously would be one way forward.

Real life examples
The relevance of real-life examples allowed learners to engage with the information more readily than with hypothetical or theoretical teaching. Receiving talks from people with first-hand experiences were particularly powerful and can be an effective way of conveying the less visible respiratory risk factors. For example, engagement with the DVD clip of a mesothelioma sufferer shown to young learners during the workshops was strong. Similarly, the constant reminder in the radio adverts that six plumbers a week die from asbestos related disease was cited as having a significant impact.

What is particularly notable about this sort of example-based learning is that it seemed to stay with the learners for a long time and be remembered vividly. Even talks heard several years ago could be recalled. This was in sharp contrast to more limited, inconsistent engagement with written, theoretical information.

Location of messages
Proximity to work was reported as being helpful when conveying H&S messages. For some participants, hearing or seeing relevant H&S information during a working day while in the process of carrying out their job served as a potent reminder. One young learner described how well an audio cue worked for him. Hearing a drill on a radio advert accompanied by the H&S message about asbestos prompted in him a behavioural response and when he heard or used a drill himself, he thought about the asbestos message. Strategically positioning messages in places where workers are likely to pause, for example, in toilets, site offices or canteens was also advocated.

Trusted messengers
As important as the messages about H&S are the messengers who deliver them. Respected colleagues, tutors and people with experience of the job or of a Long Latency Disease were all positive messengers for young learners. Learners emphasised the need for the messenger to understand the realities of the job, something that the HSE was not seen to do. However, this does not mean that the information provided by the HSE is not trusted, rather that the challenges of translating the theory into practice were seen as being overlooked by the HSE. The implications of this for communication about LLD to young learners are that consideration needs to be given not just to the form, and timing of the information but to who delivers it and how they might be perceived by the young learners.

6.3 WHAT HAPPENS IN PRACTICE
There was a tangible dissonance between the theory of H&S and the practical reality of implementation in the workplace. Problematic issues were identified as relating to the financial implications of using the recommended H&S procedures:

- If the result was that a job tool longer to complete.
- If a student had to provide his or her own equipment which was likely to be expensive and difficult to pay for.

The circumstances surrounding a young person at work were highly influential on their resulting behaviour. Considerable pressures were articulated; both from employers expecting a job to be completed on time and on budget as well as from colleagues who might not be implementing H&S practices that the young person knows are recommended. Very different working cultures were described, with a spectrum ranging from very strict adherence to H&S measures to a very limited application. Several factors accounted for this including; the size of the company, the type of work being carried out and the knowledge and behaviours of colleagues.
The point was made by participants of the importance of targeting H&S information at older colleagues and was also a finding from the literature review (O’Regan et al, 2007). Because they act as role models for the younger, less experienced workers it is critical for the older workers to be abreast of latest H&S learning and recommended working practices.

In addition, H&S measures that either impeded the ability to carry out a job safely or were seen as patronising were described as being particularly unpopular. Examples of these were being made to wear gloves which prevented sufficient dexterity to carry out a job and not being allowed to wear short sleeves in the summer because of the risk of getting sunburned. These sorts of issues undermined the credibility of the Health and Safety Executive.

While these challenges are likely to be a constant refrain in the application of any Health and Safety measures, the young learners we spoke to explained that an acknowledgement of the challenges of implementing H&S measures in the real world of the workplace would go a long way.

6.4 CONCLUSIONS

There are significant challenges to overcome in effectively communicating messages about LLD to young learners in VET. Respiratory risk factors are neither visible to the young learners nor result in immediate injury and there is a wide lack of clarity about what constitutes LLD and what can prevent them. The structure of VET training involves a lot of key stakeholders. Curriculum content around H&S and LLD could look very different depending on the institution and profession. Those young learners who were working had an additional range of practical challenges to negotiate in the workplace around implementation of H&S practices.

However, despite these barriers, there were some positive messages about what could be helpful to young learners. The importance of Health and Safety was widely recognised. The young learners talked about wanting H&S information to be clear, concise and relevant, with an explanation of the risks and the response in language they could understand and a format that they were able to visually engage with. Reviewing existing communication tools in light of these stated preferences could be helpful.

One way forward would be to agree the key messages about the most significant Long Latency Disease risks across the key stakeholders involved in curriculum development and delivery. Information about what the risks are, where they are encountered and what the appropriate responses are could then be delivered using communication tools encapsulating the young learners’ preferences for clear, concise, visually engaging materials. This information could then be streamlined by profession, for example, plumbers, welders, electricians and so on. Having a website which signposted learners by profession and reinforced these messages with further information would also be helpful. Using credible role models who have personal experience of the industry and/or the LLD to front campaigns, deliver messages or support learners in the workplace would enhance the impact.

Young learners strongly advocated taking personal responsibility for their own H&S practice and having some discretion over their practice rather than just being told what to do. Given that it is not possible to police the practice of individuals on site at all times, this approach makes sense. However, in order for young learners to do this effectively, it is important that they have been provided with and have ongoing access to the correct information about risks of LLD and what the appropriate response should be.

Finally, the messages coming out of this research chime with wider research messages on communications. It is likely that the findings of this research may have implications beyond the communication of H&S information and beyond the audience of young learners in VET. Similarly there may be other research out there on communicating difficult messages that could be applicable to this setting. The HSE may therefore want to consider widening its research to look at effective
communications methods more broadly if it wants to develop the way that it communicates with young learners as well as its other target audiences.
REFERENCES


Coffield, F. et al. (2004) *Should we be using learning styles? What the research has to say to practice*, Learning and Skills Research Centre.


Appendix A

PARTICIPANT INFORMATION

National Centre for Social Research (NatCen)

(P6248) Communicating with young learners about health & safety

November 2009

Dear parent/guardian

I am writing to you from The National Centre for Social Research (NatCen), an independent research organisation. We have been asked by the Health and Safety Executive (HSE) to do some research into how Health and Safety messages are communicated to young people (14-19 years) doing vocational education and training. The research will help the HSE establish the most effective ways of keeping young people safe in the workplace.

In order to do this, we are going to be talking to young people in different parts of the country who are currently studying for a vocational course about their views of Health and Safety teaching and their experiences in the workplace. Some of these, like your child, will be 14 and 15 year olds and we need your consent before we can contact them.

Taking part involves your child attending a focus group discussion with up to 9 other young people also studying a vocational course at school/college. These discussions will take place in an appropriate location nearby (eg a room at a local community/sports centre) one day after school at the end of November/ beginning of December (details to be confirmed). The discussion will last for about an hour and a half. We can arrange transport to and from the venue if required. One of the research team will run the discussion. We are experienced researchers and have enhanced Criminal Records Bureau checks, the clearance level required for working with young people.

Taking part is voluntary so it is completely up to you and your child if this is something you want to be involved with. Every young person who does participate is given £30 as a thank you for giving up their time. Participation will be treated in strict confidence in accordance with the Data Protection Act, so no-one’s names or any other identifying information will be used in the report. The only time we may have to disclose what has been discussed is if we hear about something which puts your child or those around your child at serious risk or harm, for example, in the workplace.

If you have any questions about the research, please contact either myself or Martin. If you are happy for your child to be involved, please sign below and fill in the contact details for your child overleaf.

Alice Mowlam Martin Mitchell
e-mail: alice.mowlam@natcen.ac.uk e-mail: martin.mitchell@natcen.ac.uk
phone: 020 7549 9597 phone: 020 7549 9547

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Child’s name

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Parent/ guardian name

-------------------------------

Parent/ guardian signature

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35 Northampton Square London EC1V 0AX Tel: 020 7250 1866 PLEASE TURN OVER AND COMPLETE CONTACT DETAILS
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www.natcen.ac.uk

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National Centre for Social Research (NatCen)

(P6248)
Communicating with young learners about health & safety

Please fill in this form if you (and your parent/guardian if you are under 16) are happy for the study team to contact you about taking part. Put it in the free-post envelope provided (no stamp required) and return it to us by end of December. This will send your details to the research team at NatCen who may contact you about taking part.

Name of child: ........................................................................................................................................

Telephone number  Daytime: ........................................................................................................................
(including area code)

Evening: ........................................................................................................................................................

What is the name of the course are you studying for?

Diploma: ........................................................................................................................................................

Apprenticeship: ............................................................................................................................................... 

NVQ: ...........................................................................................................................................................

NRQ: ...........................................................................................................................................................

Other: ...........................................................................................................................................................

Where are you studying this course (name of school/ college/ training provider)

.............................................................................................................................................................

<table>
<thead>
<tr>
<th>Age (tick one)</th>
<th>Which of these best describes your ethnic group? (tick one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-15</td>
<td>☐ White ☐ Black or black British ☐ Asian or Asian British ☐ Chinese</td>
</tr>
<tr>
<td>16-19</td>
<td>☐ ☐ ☐ ☐</td>
</tr>
</tbody>
</table>

NB: if you are under 16 we will need your parent/guardian to sign the consent form overleaf

Are you (tick one)? Other (please specify) ☐

Male ☐ ☐ ☐

Female ☐ ☐ ☐

35 Northampton Square London EC1V 0AX Tel: 020 7250 1866
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www.natcen.ac.uk
Our responsibilities to you:

- We guard your privacy: your participation will be treated in strict confidence in accordance with the Data Protection Act. Your contribution will be used for research purposes only. Neither individual people, nor where we carry out the research will be identified in the report.

- We respect your wishes: participation in the study is voluntary and you are not obliged to answer any questions you do not wish to.

- We answer your questions: we will be happy to answer any questions you may have about the research.

Are you safe at work?

The National Centre for Social Research (NatCen) is carrying out research for the Health and Safety Executive (HSE) looking at young people's safety in the workplace.

We are talking to young people from around the country and want to hear your views and experiences.

What is the research about?

Keeping young people like you safe at work whilst you are learning is of critical importance. We want to hear from young people taking a Diploma.

- what you think of how health & safety is currently being taught
- what works well for you
- your experiences from your workplace
- your ideas about how health and safety messages can be delivered
- the HSE wants to learn from this research to be able to provide the most effective ways of teaching young people to be safe at work.

Why do you want to talk to me?

Very little research has been done into what works best when communicating health & safety messages to young people. Only by talking to young people like yourself can we find out what you really think. So we are speaking to 14-19 year olds in different parts of the country, who are taking some sort of vocational education and training course to make sure that we have a range of experiences and views.

Do I have to take part?

No - taking part is voluntary. You do not have to take part, it is completely up to you and you can change your mind at any time.

What do I have to do?

Taking part involves attending a group discussion with up to 10 other young people, some of whom might be from your college course and some from other local schools or colleges.

It will be held late afternoon/ early evening (not to clash with your work/studies) on a date that we will confirm. One of the researchers, Martin or Alice will run the discussion, which will last for about an hour and a half. They will want to hear what you think of how health & safety is being taught, what works well for you, your experiences from your workplace, your ideas about how health and safety messages can be delivered and what you think of the HSE’s welfare service.

Do I get anything for taking part?

Yes, if you decide to take part, you will be given a £20 as a thank you for giving up your time. You will also have the opportunity to take part in a workshop in January where we will be looking for more detail about how health & safety could be delivered more effectively.

Is it confidential?

Yes, taking part is confidential and anonymous. Your participation will be treated in strict confidence in accordance with the Data Protection Act. However, we will not report the issues and suggestions discussed, no one’s names or any other identifying information will be used. The only time we may have to discuss what you have said with other people is if you tell us about something which puts you or those around you at serious risk or harm, for example, in the workplace.

What do I do now if I want to take part?

If you are interested in taking part in a group discussion you need to let us know as soon as possible - latest by the end of December!

If you are under 16 we need your parent/guardian to agree to you taking part by signing and sending us the enclosed consent form along with your details. We will then contact you if it is possible for you to take part.

NB: we may not be able to include everyone who contacts us.

What if I or my parent/guardian have some more questions?

If you have any other questions, please feel free to get in touch with one of the researchers:

Alice Monahan
email: alice.monahan@natcen.ac.uk
phone: 020 7548 8987

Martin Mitchell
email: martin.mitchell@natcen.ac.uk
phone: 020 7548 8947
Appendix B

STAKEHOLDER INTERVIEW TOPIC GUIDE

P6248 – Developing Understanding:
How best to communicate with young learners

Stakeholder Topic Guide

Key aims

- To gather information about how young people in VET learn Health and Safety messages with a view to understanding how best to communicate disease reduction messages;
- Focus is on construction, engineering, manufacturing and product design, stonemasonry, electrical and welding
- Exploration of how these H&S messages are incorporated into current VET as well as how they are assessed
- To gather information that can assist our sampling strategy

NB: Each interview will be different depending on who the participant is so not all sections of the topic guide will be used in all interviews

1. Introduction

- Introduce self/ NatCen
- Sponsorship of HSE
- Brief reiteration/ explanation of the aims of the research
- Brief reiteration/ explanation of why respondent invited to take part
- Caveats around anonymity, confidentiality (given small number of interviews) - request permission to publish job title/ role in report
- Information about recording, purpose, storage, outputs
- Timetable for study
- Start recording

2. Role and Responsibilities

- Current role and responsibilities
- Background prior to current role
- Specific subject/ work areas covered as related to the study (where appropriate)
3. Involvement with VET and H&S
   • Knowledge/ experience about the inclusion/ integration of H&S information into VET for young people in terms of (as appropriate to stakeholder)
     o National standards/ policy objectives
     o Employer needs
     o Curricula
     o Specific VET, courses, training, etc.
     o Specific subject areas/ work areas
   • Knowledge about inclusion/ integration of H&S information about hazards, long latency illnesses

   • Attitudes towards inclusion/ integration – how important is it?
     o Generally
     o In relation to specific work areas/ subjects
     o In relation to long-latency illnesses/ hazards

   • Involvement in achieving inclusion/ integration of H&S information
     o Within role
     o Within own organisation
     o With other partners (e.g. LSC, SSCs, assessment boards, employers, colleges)

4. Current integration of VET into Education and Training
   • Where involved, ways in which H&S is currently included/ integrated in curricula, teaching, work-experience
   • Form that inclusion/ integration takes
     o Specific policies, curricula, courses, training, teaching, etc.
     o Administration, delivery, assessment, access
   • How inclusion ensured, monitored, assessed
   • How successful/ unsuccessful
     o From point of view of stakeholder
     o From experience of the response of YP
     o In terms of embedding the information in learners/ disease reduction
   • Ways in which inclusion/ integration of H&S information could be improved
   • How improvements could be achieved

5. Information relating to our Sampling Strategy
Briefly explain how we aim to sample YLs in three geographical locations, in different types of VET, in different age groups, etc. Ask if there is any information available that they know of that could help us achieve this.

- Availability of information related to:
  - Numbers of YLs undertaking apprenticeships/ diplomas, nationally, regionally in specific locality of stakeholder (as appropriate)
  - Numbers of YLs taking particular subjects in particular regions/ localities, colleges

6. Information related Young Learners

Briefly explain that we are also conducting a literature review of information related to the preferred learning styles/ methods of YLs in relation to H&S information. Ask if they are aware of any information that could help us.

- Current delivery of H&S information – particularly long latency illness – in curricula
- Attitudes of YLs to H&S information, inc. long latency illness
- Preferred learning styles
- Any other useful information that might be relevant

7. Other issues

- Any other issues not covered that are important
- Confirm any documents they said they will send
- Stop recording

THANK THEM FOR TIME

- Reassure about confidentiality
- Whether would like feedback on the study findings – contact details
Appendix C

FOCUS GROUP TOPIC GUIDE

P6248 Communicating Health and Safety messages with young learners

FINAL TOPIC GUIDE

Research objectives

To understand how best to communicate Health and Safety (H&S) messages to young learners engaged in vocational education and training (VET) which may lead to careers involving exposure to harmful substances and the risk of long latency diseases.

The broad research objectives are to:

• explore understanding and awareness of young learners about Health and Safety generally and long latency diseases specifically
• describe range of attitudes of young learners towards H&S information and practice
• identify range of enablers and barriers for acting on H&S information and training
• establish key influencers on young learners' disease reduction behaviour

As this is an exploratory study, we will encourage participants to discuss their views and experiences in an open way without excluding issues which may be of importance to individual participants and the study as a whole.

The following guide does not contain pre-set questions but rather lists the key themes and sub-themes to be explored with each group of participants. It does not include follow-up questions like 'why', 'when', 'how', etc. as it is assumed that participants' contributions will be fully explored throughout in order to understand how and why views, behaviours and experiences have arisen. The order in which issues are addressed and the amount of time spent on different themes will vary between groups and according to individual demographics and participants' experiences.
Introduction

* Aim: to introduce NatCen, the study and explain the focus group process *

• Introduction to researcher(s), NatCen & HSE
• Explanation of study
  o Aims and objectives
  o Timetable
• Explain details about participation
  o Voluntary
  o Confidentiality and anonymity (outline exceptions – disclosure of extreme risk or harm to young person or others)
  o Recording and data storage issues
  o Outputs/reporting
• Length (1.5 hours), nature of discussion.
• Explain how session will run
  o Respect all views
  o No right or wrong answers - looking for a range of views
  o Do not have to discuss experiences if upsetting
  o Turn taking and allow everyone to take part
  o Mobile phones off
• Check whether they have any questions
• **Background**

*Aim: to map demographic information about group participants and their VET involvement.*

• **Group introductions**
  - Daytime activities, living circumstances etc
  - VET course PROBE FOR:
    - Type of training (apprenticeship, NVQ, Diploma, VRQ e.g. BTEC), subject
    - Full or part-time, block release, college or work-based
    - When started
    - Workplace component, how much time spent in work environment to date
    - Any previous VET experience

• **Awareness of health & safety and Long Latency Disease**

*Aim: to establish what participants understand Health and Safety/Long Latency Disease to be and explore views*

• **Explore understanding of the term ‘health & safety’**
  - *Allow for spontaneous response first*
  - What springs to mind, why *(It is not necessary to discuss all the points below. These should be used as prompts only if discussion is not forthcoming)*
    - Behaving responsibly on site
    - Working at height
    - Lifting
    - Dangers and accidents
    - Power tools, plant
    - Noise and vibration
    - Fire, first aid, hygiene
    - Protective clothing and equipment
    - Hazards and hazardous substances
  
  - Where did they hear about Health and Safety issues
    - School/ college, tutor
    - Workplace supervisor, work colleagues
    - Booklet, DVD, other resource
• Other

  o Explore respiratory health & safety issues
    ▪ Dust, fumes, asbestos
    ▪ Rubble, stone, concrete, cements
    ▪ Protective clothing and equipment

• Any differences between Health and Safety: explore in full

• Attitudes towards Health and Safety
  ▪ Perceived importance
    ▪ For them personally
    ▪ Sense of personal responsibility
    ▪ In their work experience
      - supervisors of work/ work placements
      - other workers on site

• Awareness that what people breathe in (dust, fumes, etc.)
  o can harm health
  o can take a long time for impacts on health to show

• How do they think breathing in dust, fumes and chemicals have long-term effects on their health?
  ▪ Awareness of long-latency respiratory diseases
  ▪ Breathing in silica, dusts, fumes asbestos (e.g. silicosis, asthma, bronchitis, COPD (chronic obstructive pulmonary disease), lung cancer)
  ▪ Awareness of other long-latency issues
  ▪ Contact with skin from chemicals, cement, etc. (dermatitis, skin sensitivity)

• Knowledge of causes and consequences of long-latency diseases
  This section should concentrate on long-latency disease causes and consequences IN GENERAL. In section 3 the focus should be on knowledge and experience of causes and consequences in their own chosen FIELD OF WORK
  ▪ Work-related risk factors/ causes
  ▪ Consequences
    ▪ Examples include
• Dust – demolition, clearing sites, dry sweeping, sand blasting, cleaning and cutting stone, pavement and kerb cutting, installation, carpentry and joinery = silicosis, bronchitis, lung disease
• Fumes – welding fumes, painting, decorating, working in confined unventilated spaces = lung cancers, lung diseases
• Asbestos – construction, clearing buildings, demolition, electrical installation, plumbing, plastering = cancers, asbestosis
• Cement, concrete, chemicals – bricklaying, concreting, manufacturing = dermatitis and skin sensitivity

• Views of Long Latency Diseases (how what they breathe in can harm their health)
  • Perception of risk and danger
  • Compare with other long-term health risks (e.g. smoking/drinking)

• Experience of workplace Health and Safety issues

Aims: To explore what participants know about workplace health & safety and their experiences of health & safety issues encountered in the workplace

• Knowledge of key health & safety risks in their chosen field of work
  o Start general but probe long-latency disease risks e.g. inhaling harmful substances, asbestos and skin contact
  o Examples include
    o Dust – demolition, clearing sites, dry sweeping, sand blasting, cleaning and cutting stone, pavement and kerb cutting, installation, carpentry and joinery = silicosis, bronchitis, lung disease
    o Fumes – welding fumes, painting, decorating, working in confined unventilated spaces = lung cancers, lung diseases
    o Asbestos – construction, clearing buildings, demolition, electrical installation, plumbing, plastering = cancers, asbestosis
    o Cement, concrete, chemicals – bricklaying, concreting, manufacturing = dermatitis and skin sensitivity

• Knowledge of measures to reduce risk
  o Probe long-latency disease prevention/protection measures
- Equipment/practices – allow for spontaneous response and prompt for descriptions only if necessary
  - Wearing masks, respirators, face shields
  - Protective clothing, goggles, gloves
  - Proper ventilation, air vents, filters
  - Local exhaust ventilation
  - Wet cutting
  - Supervision, not using equipment they are not trained to use
- Understanding of safety signs (e.g. things they must not do, must do as mandatory, specific hazards)

- Experience of Health and Safety issues in the workplace related to Long Latency Diseases
  - Ask for specific examples here

- Experiences of acting/not acting on H&S advice
  - What happened (e.g. reporting risky behaviour or practices)
  - Who reported to (e.g. tutor, site supervisor, safe learner line)
  - Motivations for acting
  - Barriers to acting
  - Responses and outcomes

- Link between classroom/theory teaching and reality of workplace

- Factors that may influence future behaviour

- **Health and Safety learning: experience and suggestions**
  
  *Aim: To explore how participants have learnt about H&S; attitudes towards H&S info received*

- How learnt to date
  
  *NB – this might have come up earlier in discussions of H&S in the workplace*
  - Where – in school/college, induction on site, work practice, booklet/DVD, other
  - Who from, importance of who told them
  - Mode
    - Formal/informal
- Individual, group-work, on site, online
- Mode/ materials used – booklets, DVD, class, on site, work or college-based
- Interactive
- Most preferred mode/s – why, for who

- Attitudes towards info received [aim to understand what informs these attitudes]
  - Ability to retain and remember information
  - Comprehensibility and usefulness
  - Interesting (engaging)
  - Perceived relevance
    - To them
    - To their workplace
    - To their future trade or career
  - Intentions to put into practice
  - Other

- Key determinants of interest/disinterest in H&S info
  - Content/ format
  - Delivery – who delivers it, how
  - Message (perceived relevance)
  - Comparison to other health information (e.g. smoking, drinking)

- Suggestions of best way to convey long-term risks and consequences
  - Best way to get messages across
  - What would they prefer
    - What has worked in relation to smoking, alcohol, etc.

- Suggestions for improving/maximising impact of H&S info in future
- Any other important issues to note, anything else to say
**Next steps**

- Any questions for research team
- Reassure confidentiality
- Thank them for their time. Tell them that they are welcome to contact members of the research team (address on leaflet) to ask questions at a later date if they wish
- Report will be available for respondents to read if they wish
- Respondent payments
- Deliberative workshops (process, when likely to happen)
- **Obtain written consent to contact re deliberative workshops (form will request contact details)**
Appendix D  WORKSHOP TOPIC GUIDE

P6248 Communicating Health and Safety messages
with young learners

WORKSHOP FINAL TOPIC GUIDE 10.02.10
Duration: 2 hours (including introductions, refreshments & break)

Research objectives

To understand how best to communicate Health and Safety (H&S) messages to young learners engaged in vocational and educational training (VET) which may lead to careers involving exposure to harmful substances and the risk of long latency diseases (LLD).

This is the second part of the data collection taking the form of an interactive workshop. Key research objectives are to:

• get feedback from young learners about the findings from the focus groups
• hear views from any participants who did not attend focus group
• explore responses of young people to range of teaching tools being showcased: most/ least effective and why
• provide sector specific written information about LLD to explore awareness levels and response
• presentation about a long latency disease (e.g. silicosis); explore with participants how to get H&S messages across.

As this is an exploratory study we wish to encourage participants to discuss their views and experiences in an open way without excluding issues which may be of importance to individual participants and the study as a whole. Therefore unlike a survey questionnaire or semi-structured interview, the questioning will be responsive to participants’ own experiences, attitudes and circumstances.

The following guide does not contain pre-set questions but rather lists the exercises/ activities to be undertaken, the information/ stimulus materials that will be presented to participants, and the themes
and sub-themes to be explored during the workshop. It does not include follow-up questions like ‘why’, ‘when’, ‘how’ etc as participants contributions will be fully explored throughout in order to understand how and why views, behaviours and experiences have arisen.

The workshop will be digitally recorded and transcribed, and all other outputs (e.g. flip chart questions, facilitator notes) will be retained for analysis.

1. **Workshop introduction (5 mins)**
   *This will need to be adapted depending on whether all workshop participants attended a focus group or not. For those who did not, will need more detail.*

   - Intro/ reintroduction to NatCen and the research study
   - Explanation of workshop: key aims - to hear participants views & experiences
   - Length – couple of hours but actual discussion 1.5 hours
   - Explain how session will run:
     - Respect all views
     - No right or wrong answers – looking for a range of views
     - Turn taking and allow everyone to take part
     - Mobile phones off or silent
   - Confidentiality and anonymity (outline exceptions – disclosure of extreme risk or harm to young person or others)
     - How recordings/ personal information stored according to data protection regulations
   - Housekeeping: fire exit, nearest toilet, taking breaks
   - Check whether they have any questions

2. **Group introductions** (5 mins)
   *Only time we’ll go round everyone, don’t need full names, just so we all know who’s here*

   - First name, age, VET qualification being studied for, any workplace experience

3. **Feedback from focus groups** (15 mins)
   *Highlight key issues from preliminary analysis of focus groups – presentation to whole group. Emphasise that this is data from all of the groups we ran, so will include views of those present who took part as well as others from different groups and areas.*

   - After each section, explore fully participant responses to focus group findings – response, extent to which agree, disagree, additional observations, why particular responses given

   - **H&S general knowledge and views:**
     - Initial responses tend to focus on safety: PPE, use of equipment, keeping yourself and those around you safe, other general info e.g., fire extinguishers, first aid, working at heights etc
     - Probing led to identification of health hazards:
       - Asbestos: well known risk with high levels of awareness of campaign, less knowledge about what it looks like
       - other respiratory risks were mentioned, e.g. dust and fumes
       - knowledge of LLD associated with other respiratory risks limited
     - H&S core component of studies

   - **Learning styles**
     - Range of learning practices reported:
• written info, practical sessions, worksheets, individual research, group work, experiential learning in workplace, tutors’ experiences, shock tactics, talks from experts/ workers, posters, Internet, books, toolbox talks

• **Work based learning**

  • Those with experience generally accepted attitudes and behaviours towards H&S encountered at place of work
    o Reservations expressed about challenging unsafe practices observed
    o Tendency to take personal responsibility but not necessarily interfere with others’ practices
    o Big link between carrying out H&S practice if young people understand WHY they have to do it, HOW not doing so could affect them

  • **Key questions** (hope to address these at workshops) *put up on flipchart*
    o Is particular interest in respiratory risks young learners could be exposed to
    o How best to get messages across: form and content

 4. **Showcase of different teaching methods – part 1**

    **Whole group** 30-40 mins

    *Key section here to explore response of young learners to range of different teaching methods. After each example will want to explore fully participants responses. Order of materials shown to be rotated across the three workshops*

    • Play radio advert re asbestos
    • Show DVD of Ray talking about experience of mesothelioma
    • Give participants section from workbook (Construction Skills booklet – PPE section)
    • Display photos of dangerous practice on site. E.g.: [http://www.building.co.uk/story.asp?storycode=3151893](http://www.building.co.uk/story.asp?storycode=3151893)
    • Display posters (dermatitis, skin contact)

    *After all have been viewed, explore with group what has most impact and why, suggestions, improvements*

    **REFRESHMENT BREAK – 10 minutes**

  5. **Showcase of different teaching methods – part 2** 15 mins

    *Small groups focusing on trade specific leaflets/ worksheets (HSE published leaflets/ information sheets). Each group will be asked to look at the relevant information; reactions to be fully explored: extent to which information new, response and suggestions*

    • Plumbers – asbestos (*leaflet: ‘Asbestos: caution hidden killer’*)
    • Joiners – wood dust (*information sheet ‘Wood dust: hazards & precautions’*)
    • Stonemasons – stone dust (*leaflet ‘Stone dust and you’*)
    • Electrical – asbestos (*leaflet: ‘Asbestos: caution hidden killer’*)
    • Welders – LEV (*pocket guide to LEV ‘Time to clear the air’*)
    • Diploma students – (*leaflet: ‘Asbestos: caution hidden killer’*)
    • BTech students - (*leaflet: ‘Asbestos: caution hidden killer’*)
6. Presentation on dust and fumes 15 mins

*Working as a whole group: purpose of this session is to explore levels of knowledge (which we think from the focus groups is low) about silicosis/AN other dependent on which trades represented at particular workshops and responses to learning about a risk they could have been exposed to.*

- Explore fully participant responses to presentation:
  - Extent to which this was this new information
  - What do participants think: does the information make sense to them/ any concerns about having been exposed to risk/ don’t see it as a risk and if not why not (e.g. not exposed to this in work place)
  - Extent to which they might change practice in response to this information
  - Most appropriate form to communicate these messages, including how to get messages to employers and colleagues

7. Suggestions and recommendations to HSE 10 mins

*Explore with participants views of how best to communicate messages to young VET learners,*

- Mode of communication:
  - Verbal, visual, written, practical
- Length of teaching sessions
- Nature of backup/ additional support and information (college tutors, colleagues, employers, HSE, peers)
- List key messages on flip chart

- Thank participants for their time
- Reassure confidentiality
- Respondent payments
- Sort out any transport arrangements
- Find out if anyone would like to be sent research summary and ensure we have contact details
Skin checks for dermatitis

Regularly check your skin for early signs of dermatitis

Look for...

Dryness
Itching
Redness

...which can develop into flaking, scaling cracks, swelling and blisters

If you think you may have dermatitis, report it to your employer
Contact name

Your employer may need to refer you to an Occupational Health Doctor or Nurse

www.hse.gov.uk
Skin contact
Distance your skin from chemicals and wet work

Use a Safe Working Distance (SWD)

Save Your Skin

Safe Working Distance

Chemicals & wet work
- Avoid skin contact
- Do not immerse hands
- Use a tool
- Use suitable gloves

www.hse.gov.uk
Asbestos training is a legal requirement

If you work on buildings built or refurbished before the year 2000, asbestos could be present. You will need awareness training so you know how to avoid the risks.

If you plan to disturb asbestos, eg. by drilling a hole in a ducted ceiling or removing an asbestos containing fire insulation, you will need awareness training. This will give you the skills to:
- Use and fit a face mask
- Use safe work methods
- Deal with asbestos waste
- Carry out non-licensed tasks – such as painting unamended asbestos insulation board, clearing light fittings attached to asbestos insulating board and cleaning gutters on an asbestos cement roof

Visit www.ukata.org.uk or call 01246 824437
Other organisations also offer training.

HSE hotline: 0845 345 0055
www.hse.gov.uk/hiddenkiller

John le Grys: 0844 number can be called at any time at any time 24/7
A BT service. Calls charged from landlines and mobiles may vary. Calls may be recorded or monitored.

50% recycled

Health and Safety Executive

Caution hidden killer

Each week approximately 20 tradesmen die from this hidden killer

Asbestos is a hidden killer.
And it could be hidden in any building built or refurbished before the year 2000... including the one you're working in right now. Inside this pack you will find information on reducing the risks of asbestos plus a sticker for your toolbox.

Thousands of tradesmen are unknowingly working with asbestos. Are you one of them?

Avoid working with asbestos if you can. If you are not sure if there are asbestos materials where you are working, stop and check. People in charge of workplaces, buildings have a legal duty to provide you with up to date information on the location and condition of asbestos before you start work.
Common hiding places for asbestos:
1. Ceiling tiles
2. Pipe insulation
3. Boilers
4. Sprayed coatings
5. Asbestos cement sheeting
6. Board around windows, radiators, fireplaces, building columns and pillars
7. Soft fit boards
8. Textured coatings
9. Inside fire doors
10. Gaskets and sealants on pipe joints
11. Fuse boxes and electrical switchgear

Don't start work it:
- You are not sure if there is asbestos where you are working.
- The asbestos materials are sprayed coatings, board or insulation and lagging on pipes and boilers – only licensed contractors should work on these.
- You have not been trained to do non-licensed work with asbestos. Basic awareness training is not enough.

You should only continue to work it:
- The work has been properly planned and the right precautions are in place (e.g. you have the right equipment).
- The materials are asbestos cement, textured coatings and certain other materials which do not need a licence (listed in Asbestos Essentials).
- You have had training in asbestos work and know how to work with it safely.

If you work with asbestos:

Each year approximately 4000 die from asbestos.
That's more than are killed on the roads!

Stop – Think Asbestos!

Do I know it asbestos is present?
Is it high risk material that needs licensed contractor?
Have I been trained to work with asbestos?
Do I have the correct equipment?

Call 0845 345 0035 or visit www.hse.gov.uk/asbestos

Health and Safety Executive
Wood dust: hazards and precautions

Introduction

This information sheet is one of a series prepared by the HSE's Woodworking National Interest Group (NIG). Wood dust consists of tiny particles of wood produced during the processing and handling of wood, chipboard, hardboard and other composite boards. The elimination or control of risks from wood dust is required by the Health and Safety at Work etc Act 1974, the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) and the Control of Substances Hazardous to Health (COSHH) Regulations 2002.

Activities likely to produce high dust levels include:

- machining operations, particularly sawing, routing and turning;
- sanding, by machine and by hand;
- using compressed air hoses to blow dust off furniture and other articles before spraying;
- hand assembly of machined/sanded components;
- any operations involving composite boards, e.g. medium-density fibreboard (MDF);
- the bagging of dust from dust extraction systems; and
- factory cleaning, especially if compressed air is used for blowing dust from surfaces etc.

What are the hazards?

Health

The following health problems are among the effects associated with exposure to wood dust:

- skin disorders;
- obstruction in the nose, and rhinitis;
- asthma;
- a rare type of nasal cancer.

Regulation 6(1) of the COSHH Regulations requires an assessment to be made (and normally recorded) of risks to health associated with wood dust, together with any action needed to prevent or control those risks.

Regulation 7(1) goes on to say that exposure to wood dust should be prevented, or where this is not reasonably practicable, adequately controlled.

Hardwood dust and softwood dust have been assigned maximum exposure limits (MELs) of 6 mg/m³ (8-hour time-weighted average) under the COSHH Regulations. Therefore exposure by inhalation to wood dust should be reduced as far as is reasonably practicable and in any case below the MEL. In COSHH, hardwood dust is defined as a carcinogen. Regulations 7(3) and 7(5) specify additional requirements for the control of carcinogens.

Fire/explosion

Each year premises and plant are severely damaged or destroyed by wood dust fires and explosions. Concentrations of small dust particles in the air can form a mixture that will explode if ignited. Such concentrations usually occur in dust extraction equipment which can be destroyed unless special precautions are taken. Such an explosion can also dislodge dust deposits that may have accumulated on walls, floors and ledges which in turn can ignite causing a secondary explosion.

Wood dust will also burn readily if ignited. Fires can be started by badly maintained heating units, overheated electrical motors, and sparks from other sources such as open wood burning stoves and cigarettes.

Safety

Wood dust on the floor can cause tripping or slipping. Vision can be impaired by airborne chips and dust generated during machining and sanding operations.

Precautions

Health

If exposure to wood dust cannot be prevented altogether, then assess the risk to health from exposure to airborne dust by:

- finding out if exposure to dust is being adequately controlled in your workplace. A dust lamp can be used to show up the dust and where it is coming from;
- where necessary carrying out dust sampling (your trade association should be able to give advice on organisations which can do this) and determining whether workers will be exposed to airborne dust levels in excess of the MEL.

Exposure to airborne dust may be adequately controlled by:

- using a process or method of work that reduces the generation of dust to a minimum;
Stone dust and you

This leaflet explains what you should do to protect yourself and your employees from health problems caused by stone dust.

Crystalline silica is in most rocks, sands, clays and also products such as bricks, tiles and concrete. When these materials are worked, eg cut, sanded, carved, ground etc, dust is created. This dust may be fine enough to be breathed deep into the lungs. The fine dust is called Respirable Crystalline Silica (RCS).

How can RCS affect your health?

If you are exposed to RCS then you are at risk of developing silicosis. This disease makes breathing more difficult and increases the risk of lung infections. Silicosis usually follows many years of exposure to RCS, however, exceptionally high exposures over a few months or years can cause acute silicosis, which can cause death within months of exposure. Heavy and prolonged exposure to RCS under the conditions that produce silicosis can cause lung cancer.

You may also develop Chronic Obstructive Pulmonary Disease (COPD), which prevents you from breathing properly. COPD is a term that includes chronic bronchitis and emphysema.

Risks to health can be greatly reduced where exposure to RCS is controlled.

What must employers do?

Employers must comply with the Control of Substances Hazardous to Health Regulations 2002 (as amended) (COSHH).
<table>
<thead>
<tr>
<th>How could you and your employees be exposed?</th>
<th>What you need to do</th>
</tr>
</thead>
<tbody>
<tr>
<td>When no risk assessments are carried out on work processes or material.</td>
<td>Assess the risks to health. If you have more than five employees, make sure the significant findings are written down.</td>
</tr>
<tr>
<td>Where stone with a high silica content is used.</td>
<td>Think about using a stone with a lower silica content and using different work processes to reduce exposure.</td>
</tr>
<tr>
<td>Where fine dust is produced by processes such as dry grinding, polishing, drilling, cutting or chiselling etc, and proper controls of dust exposure are not in place.</td>
<td>Control dust exposure by following good practice advice (such as COSHH Baselines). Make sure exposure to RCS is below the current Workplace Exposure Limit (WEL) of 0.1 mg/m³.</td>
</tr>
<tr>
<td>Where suitable dust extraction equipment is not provided or maintained properly, and when employees do not know how and when to use it.</td>
<td>Make sure all dust extraction equipment is in good working order. Make sure all employees know how and when to use all the equipment – training and supervision is essential. Make sure all your dust extraction systems are thoroughly tested by a competent person at least every 14 months. Some processes may need to be checked more often. Keep the report.</td>
</tr>
<tr>
<td>Where suitable PPE/RPE is not provided or maintained properly and when employees do not know how and when to use it.</td>
<td>Make sure all employees use the correct PPE/RPE, that it is in good working order and that employees check their RPE every time before they use it. Make sure all employees know how and when to use all the equipment – training and supervision is essential. Make sure all your PPE is thoroughly tested by a competent person every three months. Keep the report. Make sure all your RPE is thoroughly tested by a competent person at least every three months, and that your employees check it every time before use.</td>
</tr>
<tr>
<td>Where employees and others are not fully aware of the risks of stone dust/RCS and how to protect themselves.</td>
<td>Consult and work with trade union and other employee health and safety representatives. Make sure that all employees are aware of the health risks of RCS. Allow employees to see all risk assessments, exposure monitoring reports and any general health surveillance reports. Provide health surveillance where necessary.</td>
</tr>
<tr>
<td>When dry dust is cleared by hand brushes and brooms, or material is dry shoveelled.</td>
<td>Remove dust by vacuum – if by a mobile cleaning unit, this must have a HEPA filter. Dampen materials before shovelling, and wash down floors and walls to remove residue.</td>
</tr>
<tr>
<td>Where dust is allowed to build up.</td>
<td></td>
</tr>
<tr>
<td>Where dry dust is removed from clothing by brushing down, blowing, or blasting with compressed air.</td>
<td>Launder all protective clothing.</td>
</tr>
</tbody>
</table>
Approximate quartz content of stones

<table>
<thead>
<tr>
<th>Stone</th>
<th>Quart Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granite</td>
<td>20-45% - typically 30%</td>
</tr>
<tr>
<td>Limestone</td>
<td>Less than 2%</td>
</tr>
<tr>
<td>Sandstone</td>
<td>70-90%</td>
</tr>
<tr>
<td>Slate</td>
<td>20-40%</td>
</tr>
<tr>
<td>Marble</td>
<td>Less than 2%</td>
</tr>
</tbody>
</table>

Stop, think!

Stone dust can damage your health!

- Could you use a different type of stone?
- Could you use water suppression?
- Are your dust extraction systems working properly?
- Do you use the right type of respiratory protection? Is it clean? Does it fit properly?
- Do you vacuum up the dust or wash it down after work?

Remember – keep the dust down, don’t breathe it in!

Further reading

HSE has produced simple guidance on how to control RCS exposure and health surveillance. These COSHH Essential guidance sheets are at:
www.hse.gov.uk/pubns/guidance/index.htm

Further information

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881185 Fax: 01787 313995 Website: www.hsebooks.co.uk (HSE priced publications are also available from bookshops and free leaflets can be downloaded from HSE’s website: www.hse.gov.uk)

For information about health and safety ring HSE’s Intolone Tel: 0845 345 0055 Fax: 0845 408 9566 Textphone: 0845 408 9577 e-mail: has.intolone@hse.gov.uk or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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Time to clear the air!
A workers' pocket guide to local exhaust ventilation (LEV)

Local exhaust ventilation (LEV) in your workplace should carry away any harmful dust, mist, fumes or gas in the air.

To protect your health:
- It needs to be the right type for the job.
- It needs installing properly in the first place.
- It needs regular checking and maintenance throughout the year.
- It needs testing thoroughly at least once every year.
- If you move LEV, make sure it still works.
- It needs an indicator to show it's working properly.
- You need to check that it works properly every time you use it.
- You need to use it properly.

Check for yourself to see how effective the LEV is where you work.

Daily checklist for LEV

- Does the indicator show the LEV is working properly?
- Is it taking away all the harmful dust, mist, fumes and gas? Remember, some of these may be invisible.
- Are you close enough to it so it can do its job properly?
- Are there any signs it is not working properly, like smells or settled dust?
- Are there any unusual noises or vibration coming from it?
- Has it been thoroughly tested, with a 'tested' label that is within date?
- Have you told your supervisor about anything you think may be wrong?

Further information

For information about health and safety ring HSE's Infoline Tel: 0845 045 0355
Fax: 0845 406 9666 Textphone: 0845 408 9677 e-mail: hse.infoline@fastnet.com or visit the HSE website: www.hse.gov.uk.

This pocket card contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

This pocket card is available in priced packs of 25 from HSE Books, ISBN 0715071768 6300 2. Single free copies are also available from HSE Books.

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How best to communicate health and safety messages to young learners in vocational education and training

A number of industries are known to be at high risk from occupational Long Latency Diseases (LLD), including construction, engineering, plumbing, stonemasonry, quarry and foundry work. Recognising that the learners of today are the workers of tomorrow, the HSE has identified young learners in Vocational Education and Training (VET) as a key target group for reducing the incidence of LLD in some of these industries. The purpose of this research was to help the HSE improve its communications with relevant young learners to help raise awareness of risks, change attitudes and behaviours and to embed good practice about appropriate control measures.

While young learners recognise the importance of Health and Safety (H&S) information, there are a number of challenges around successfully communicating the risks of LLD. These include the complexity of LLD and a wide lack of clarity about what constitutes LLD and how they can be prevented. There are also challenges with translating what young learners learn in the classroom into practice on site because of the influence of more experienced colleagues and the pressures of resources and time. Communicating H&S messages more effectively will require greater clarity among wider stakeholders about the nature and risks of LLD. Communications could also be aided by clear, concise, visually engaging communication tools. The delivery of H&S messages by trusted messengers with experience in a young learner’s chosen vocation is beneficial as is focusing information towards more junior or ‘new’ learners not yet overwhelmed by detail on Health and Safety.

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.